

# Changes to the National Geodetic Survey Datasheets (datasheet95 program)

## Important Announcement 04/19/2024

Over the 04/19/2024 to 04/21/2024 weekend, NGS will be transitioning shapefiles from the regular shapefiles (a.k.a. shapefile 1.0) to beta shapefiles (a.k.a. shapefile 2.0). You will notice this change in the shapefile directory [https://geodesy.noaa.gov/pub/DS\\_ARCHIVE/ShapeFiles/](https://geodesy.noaa.gov/pub/DS_ARCHIVE/ShapeFiles/).

Shapefile 1.0 files contained 34 fields. The example below is for the state of Wake Island (WQ):

```
#FeatureId,DATA_DATE,DATA_SRCE,DEC_LONG,DEC_LAT,PID,NAME,STATE,COUNTY,QUAD,LATITUDE,LO
NGITUDE,POS_DATUM,DATUM_TAG,POS_SRCE,ELEVATION,ELEV_DATUM,ELEV_SRCE,ELLIP_HT,ELLIP_SRC
E,POS_ORDER,POS_CHECK,ELEV_ORDER,ELEV_CLASS,ELEV_CHECK,ELLP_ORDER,ELLP_CLASS,FIRST_REC
V, LAST_RECV, LAST_COND, LAST_RECBY, SAT_USE, SAT_DATE, STABILITY
1,20240418,http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=DM7505,-
193.38048, 19.28707,DM7505,189 0000 L,WQ,,,19 17 13.45345(N),193 22 49.72584(W),NAD
83,(2007),ADJUSTED,3.74,LMSL ,LEVELING,21.515,ADJUSTED,B,Y,3,,Y,1980
,20101109,GOOD,NOS,Y,20101109,D
2,20240418,http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=AE4328,-
193.34639, 19.27889,AE4328,AP STA B 1964,WQ,,,19 16 44. (N),193 20 47. (W),NAD
83,(1986),SCALED,3.28,LMSL ,LEVELING,,,,,3,,Y,1964 ,19730519,GOOD,NGS,,,D
3,20240418,http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=AE4227,-
193.36056, 19.28278,AE4227,ARP,WQ,,,19 16 58. (N),193 21 38. (W),NAD
83,(1986),SCALED,2.58,LMSL ,LEVELING,,,,,3,,Y,1964 ,19730519,GOOD,NGS,,,D
4,20240418,http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=DQ3059,-
193.38257, 19.29053,DQ3059,WAKE TG CORS ARP,WQ,,,19 17 25.91432(N),193 22
57.24706(W),NAD 83,(PA11),ADJUSTED,,,,,22.869,ADJUSTED,,,,,,,,,
```

Shapefile 2.0 contains 59 fields. The example below is for the state of Wake Island (WQ):

```
#FeatureId,DATA_DATE,DATA_SRCE,PID,NAME,HT_MOD,CORS_ID,PACS_SACS,STATE,COUNTY,QUAD,LAT
ITUDE, LONGITUDE, DEC_LAT, DEC_LON, ELLIP_HT, POS_DATUM, DATUM_TAG, POS_EPOCH, POS_SRCE, ORTHO_
HT, VERT_DATUM, VERT_EPOCH, VERT_SRCE, GEOID_HT, GEOID_MOD, DYNAMIC_HT, MODEL_GRAV, N_ACC_HZ, N
_ACC_EH, N_ACC_STDN, N_ACC_STDE, N_ACC_STDH, N_ACC_CORR, POS_ORDER, VERT_ORDER, VERT_CLASS, EC
EF_X, ECEF_Y, ECEF_Z, SPC_ZONE, SPC_NORTH, SPC_EAST, SPC_CONV, SPC_CSF, UTM_ZONE, UTM_NORTH, UTM
_EAST, UTM_CONV, UTM_CSF, STABILITY, FIRST_RECV, LAST_RECV, LAST_COND, LAST_RECBY, SAT_USE, MAR
KER, SETTING, STAMPING
1,20240418,http://www.ngs.noaa.gov/cgi-
bin/ds_mark.prl?PidBox=DM7505,DM7505,189 0000 L,,,,,WQ,,,19 17 13.45345(N),193 22
49.72584(W), 19.2870704028,-193.3804794000,21.515,NAD
83,(2007),2002.00,ADJUSTED,3.74,LMSL , ,LEVELING,17.627,EGM08,,,,,,B,3,,-
5858908.220,1393679.580,2093376.187,,,,,58,2133386.216,670177.771,+0 32
06.2,0.99995799,D,1980 ,20101109,GOOD,NOS,Y,DD = SURVEY DISK,4 = OBJECT SURROUNDED
BY MASS OF CONCRETE,0000 L 1980
2,20240418,http://www.ngs.noaa.gov/cgi-
bin/ds_mark.prl?PidBox=AE4328,AE4328,AP STA B 1964,,,,,WQ,,,19 16 44. (N),193 20
47. (W), 19.2788888889,-193.3463888889,,NAD 83,(1986),,SCALED,3.28,LMSL
,,LEVELING,17.729,EGM08,,,,,,3,,,,,,D,1964 ,19730519,GOOD,NGS,,DT =
TOPOGRAPHIC STATION DISK,9 = SET IN PREFABRICATED CONCRETE POST IMBEDDED IN,AP 1964
STA B
3,20240418,http://www.ngs.noaa.gov/cgi-
bin/ds_mark.prl?PidBox=AE4227,AE4227,ARP,,,,,WQ,,,19 16 58. (N),193 21 38. (W),
19.2827777778,-193.3605555556,,NAD 83,(1986),,SCALED,2.58,LMSL
```

,,LEVELING,17.696,EGM08,,,,,,,,,3,,,,,,,,,,,,,D,1964 ,19730519,GOOD,NGS,,DT =  
TOPOGRAPHIC STATION DISK,9 = SET IN PREFABRICATED CONCRETE POST IMBEDDED IN,ARP 1964  
4,20240418,http://www.ngs.noaa.gov/cgi-  
bin/ds\_mark.prl?PidBox=DQ3059,DQ3059,WAKE TG CORS ARP,,WQSL,,WQ,,,19 17  
25.91432(N),193 22 57.24706(W), 19.2905317556,-193.3825686278,22.869,NAD  
83,(PA11),2010.00,ADJUSTED,,,,,17.620,EGM08,,,,,,,,,-  
5858735.509,1393864.219,2093738.283,,,,,58,2133767.290,669954.617,+0 32  
04.1,0.99995705,,,,,,STATION IS THE ANTENNA REFERENCE POINT OF THE GPS ANTENNA,,

*Please make a note of this when you use NGS shapefiles in your GIS software.*

## Version 8.12.5.18 updated on 04/18/2024

In this version there are 3 changes to datasheets,

### Change #1:

The default CORS Station Description was updated from:

...

```
DQ7572'DESCRIBED BY NATIONAL GEODETIC SURVEY 2019  
DQ7572'STATION IS A GPS CORS. LATEST INFORMATION INCLUDING POSITIONS AND  
DQ7572'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE  
DQ7572'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.  
DQ7572' https://geodesy.noaa.gov/corsdata/coord/coord\_14  
DQ7572' https://geodesy.noaa.gov/corsdata/station\_log  
DQ7572' https://geodesy.noaa.gov/CORS
```

to:

....

```
DQ7572 STATION DESCRIPTION  
DQ7572  
DQ7572'DESCRIBED BY NATIONAL GEODETIC SURVEY 2019  
DQ7572'STATION IS PART OF THE NOAA CORS NETWORK. LATEST INFORMATION INCLUDING  
DQ7572'POSITIONS AND VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES  
DQ7572'ACCESSIBLE AT THE WORLDWIDE WEB.  
DQ7572'https://geodesy.noaa.gov/CORS/data.shtml  
DQ7572'https://geodesy.noaa.gov/CORS
```

*Prior to this, you would have seen the below text and links:*

...

```
DQ7572'DESCRIBED BY NATIONAL GEODETIC SURVEY 2019  
DQ7572'STATION IS A GPS CORS. LATEST INFORMATION INCLUDING POSITIONS AND  
DQ7572'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE  
DQ7572'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.  
DQ7572' https://geodesy.noaa.gov/corsdata/coord/coord\_14  
DQ7572' https://geodesy.noaa.gov/corsdata/station\_log  
DQ7572' https://geodesy.noaa.gov/CORS
```

## Change #2:

State Advisor, Brian Shaw, requested that the retrieval time be added to the end of the retrieval date on a datasheet. This date is in military time and also includes the zone (e.g., GMT, EST, EDT, CST, CDT, PST, PDT, etc.). You should see the date and time near the top of a datasheet like the partial datasheet shown below:

Starting Datasheet Retrieval...

```
1 National Geodetic Survey, Retrieval Date = MARCH 22, 2024 12:14:17 EDT
AC6803 *****
AC6803 HT_MOD - This is a Height Modernization Survey Station.
AC6803 PACS - This is a Primary Airport Control Station.
AC6803 DESIGNATION - AZC A
AC6803 PID - AC6803
AC6803 STATE/COUNTY- AZ/MOHAVE
AC6803 COUNTRY - US
AC6803 USGS QUAD - LOST SPRING MOUNTAIN EAST (2018)
```

## Change #3:

Former NGS employee, Jeff Olsen requested that when one loads a file of PIDs using the [https://www.ngs.noaa.gov/cgi-bin/ds\\_pid.prl](https://www.ngs.noaa.gov/cgi-bin/ds_pid.prl) webpage, that the marks in the mark listing *not* be sorted and displayed by the default sort order of designation, but rather be displayed in the order in which they appear in the input file.

Example: An input file called pids.in, contains the following PIDs:

```
AJ7812
CG3426
DF7931
EG1870
EH3091
FF1215
GD1176
HB1315
```

Do the following steps:

1. In your favorite browser, enter the URL: [https://www.ngs.noaa.gov/cgi-bin/ds\\_pid.prl](https://www.ngs.noaa.gov/cgi-bin/ds_pid.prl).
2. Press the *[Choose file]* button and select the pids.in file, and then press the *[Load PIDs from file=]* button. The PIDs from the *pids.in* file will be loaded into the PID Box.
3. Press the *[Submit]* button. You should see the PIDs in the mark listing in the order shown below and the (default) Designation radio button should *not* be turned on.

## Station List Results for: PIDs

Help

Re-Sort-By  Dist  Pid  Set  Set\_By  H  V  Vert\_Source  Latitude  Longitude  Stab  Cond  Designation

Dist	PID	Set	Set_By	H	V	Vert_Source	Latitude	Longitude	Stab	C	Designation
...	AJ7812	2000	MSHD..	0	k	88/GPS	OBS.	N345559.56677	W0895940.75356	B...	G CHURCH
...	CG3426	1955	CGS...	0	k	88/GPS	OBS.	N343615.31378	W0892853.70027	C...	G HAMILTON RM 2
...	DF7931	2001	USACE..	0	k	88/GPS	OBS.	N372950.09548	W0902816.98056	B...	G GR 37309030
...	EG1870	1987	NGS...	0	k	88/GPS	OBS.	N344814.87677	W0893114.29787	C...	G HOLLY
...	EH3091	1987	NGS...	0	k	88/GPS	OBS.	N341400.21398	W0901720.68743	C...	G SELFS
...	FF1215	1976	NGS...	0	k	88/GPS	OBS.	N351449.46469	W0900752.37221	C...	G G 217
...	GD1176	1976	NGS...	0	k	88/GPS	OBS.	N363219.79423	W0893446.89159	C...	G P 274
...	HB1315	1981	NGS...	0	k	88/GPS	OBS.	N372959.36729	W0892852.44525	B...	G R 292

Select All

Get Datasheets (for the stations I've selected above)

Move (the above station list to a File->Print Window)

Reset

4. On the next page, if one presses the *[Select All]* button, followed by the *[Get Datasheets]* button, the datasheets will appear in same order as they did in the mark listing.

## Version 8.12.5.17 updated on 02/13/2024

In this version there are 3 changes to datasheets,

### Change #1:

NGS has updated the best height algorithm to take care of an exception where no observation date existed on some height records. This exception was found when GPS1862/A was loaded into our database. GPS1862/A spans the following states: AR, IL, KY, MO, MS, and TN.

The following PIDs are in GPS1862/A:

AJ7812  
CG3426  
DF7931  
DF7932  
DF7933  
DF7934  
DF7935  
DF7936  
DF7937  
DF7938  
DF7939  
DF7940  
DF7941  
DF7942  
DF7943  
DF7944  
DF7945  
DF7946

DF7947  
 DF7948  
 DF7949  
 DF7950  
 DF7951  
 DF7952  
 DF7953  
 DF7954  
 DF7955  
 DF7956  
 DF7957  
 DF7958  
 DF7959  
 DF7960  
 DF7961  
 DF7962  
 DF7963  
 DF7964  
 DF7965  
 DF7966  
 DF7967  
 DF7968  
 DF7969  
 DF7970  
 DF7971  
 DF7972  
 EG1870  
 EG1874  
 EH3091  
 EH3099  
 FE1881  
 FE2743  
 FE2751  
 FE2754  
 FF1215  
 GD1176  
 GD1874  
 GE1193  
 GE1210  
 HB1301  
 HB1315

Their ORTHO HEIGHT line will display the following data:

AJ7812*	NAVD	88	ORTHO HEIGHT	-	98.90	(meters)	324.5	(feet)	GPS	OBS
CG3426*	NAVD	88	ORTHO HEIGHT	-	115.33	(meters)	378.4	(feet)	GPS	OBS
DF7931*	NAVD	88	ORTHO HEIGHT	-	180.27	(meters)	591.4	(feet)	GPS	OBS
DF7932*	NAVD	88	ORTHO HEIGHT	-	226.74	(meters)	743.9	(feet)	GPS	OBS
DF7933*	NAVD	88	ORTHO HEIGHT	-	121.98	(meters)	400.2	(feet)	GPS	OBS
DF7934*	NAVD	88	ORTHO HEIGHT	-	131.62	(meters)	431.8	(feet)	GPS	OBS
DF7935*	NAVD	88	ORTHO HEIGHT	-	121.30	(meters)	398.0	(feet)	GPS	OBS
DF7936*	NAVD	88	ORTHO HEIGHT	-	97.91	(meters)	321.2	(feet)	GPS	OBS
DF7937*	NAVD	88	ORTHO HEIGHT	-	141.55	(meters)	464.4	(feet)	GPS	OBS
DF7938*	NAVD	88	ORTHO HEIGHT	-	142.64	(meters)	468.0	(feet)	GPS	OBS
DF7939*	NAVD	88	ORTHO HEIGHT	-	89.53	(meters)	293.7	(feet)	GPS	OBS
DF7940*	NAVD	88	ORTHO HEIGHT	-	86.62	(meters)	284.2	(feet)	GPS	OBS
DF7941*	NAVD	88	ORTHO HEIGHT	-	95.64	(meters)	313.8	(feet)	GPS	OBS
DF7942*	NAVD	88	ORTHO HEIGHT	-	146.60	(meters)	481.0	(feet)	GPS	OBS
DF7943*	NAVD	88	ORTHO HEIGHT	-	122.70	(meters)	402.6	(feet)	GPS	OBS
DF7944*	NAVD	88	ORTHO HEIGHT	-	139.87	(meters)	458.9	(feet)	GPS	OBS
DF7945*	NAVD	88	ORTHO HEIGHT	-	80.88	(meters)	265.4	(feet)	GPS	OBS
DF7946*	NAVD	88	ORTHO HEIGHT	-	75.79	(meters)	248.7	(feet)	GPS	OBS

DF7947*	NAVD	88	ORTHO	HEIGHT	-	80.11	(meters)	262.8	(feet)	GPS	OBS
DF7948*	NAVD	88	ORTHO	HEIGHT	-	68.42	(meters)	224.5	(feet)	GPS	OBS
DF7949*	NAVD	88	ORTHO	HEIGHT	-	73.14	(meters)	240.0	(feet)	GPS	OBS
DF7950*	NAVD	88	ORTHO	HEIGHT	-	111.75	(meters)	366.6	(feet)	GPS	OBS
DF7951*	NAVD	88	ORTHO	HEIGHT	-	125.80	(meters)	412.7	(feet)	GPS	OBS
DF7952*	NAVD	88	ORTHO	HEIGHT	-	177.73	(meters)	583.1	(feet)	GPS	OBS
DF7953*	NAVD	88	ORTHO	HEIGHT	-	74.68	(meters)	245.0	(feet)	GPS	OBS
DF7954*	NAVD	88	ORTHO	HEIGHT	-	63.37	(meters)	207.9	(feet)	GPS	OBS
DF7955*	NAVD	88	ORTHO	HEIGHT	-	62.77	(meters)	205.9	(feet)	GPS	OBS
DF7956*	NAVD	88	ORTHO	HEIGHT	-	62.06	(meters)	203.6	(feet)	GPS	OBS
DF7957*	NAVD	88	ORTHO	HEIGHT	-	127.39	(meters)	417.9	(feet)	GPS	OBS
DF7958*	NAVD	88	ORTHO	HEIGHT	-	189.49	(meters)	621.7	(feet)	GPS	OBS
DF7959*	NAVD	88	ORTHO	HEIGHT	-	162.89	(meters)	534.4	(feet)	GPS	OBS
DF7960*	NAVD	88	ORTHO	HEIGHT	-	67.00	(meters)	219.8	(feet)	GPS	OBS
DF7961*	NAVD	88	ORTHO	HEIGHT	-	64.10	(meters)	210.3	(feet)	GPS	OBS
DF7962*	NAVD	88	ORTHO	HEIGHT	-	53.54	(meters)	175.7	(feet)	GPS	OBS
DF7963*	NAVD	88	ORTHO	HEIGHT	-	102.29	(meters)	335.6	(feet)	GPS	OBS
DF7964*	NAVD	88	ORTHO	HEIGHT	-	114.89	(meters)	376.9	(feet)	GPS	OBS
DF7965*	NAVD	88	ORTHO	HEIGHT	-	106.17	(meters)	348.3	(feet)	GPS	OBS
DF7966*	NAVD	88	ORTHO	HEIGHT	-	51.00	(meters)	167.3	(feet)	GPS	OBS
DF7967*	NAVD	88	ORTHO	HEIGHT	-	47.31	(meters)	155.2	(feet)	GPS	OBS
DF7968*	NAVD	88	ORTHO	HEIGHT	-	51.59	(meters)	169.3	(feet)	GPS	OBS
DF7969*	NAVD	88	ORTHO	HEIGHT	-	104.28	(meters)	342.1	(feet)	GPS	OBS
DF7970*	NAVD	88	ORTHO	HEIGHT	-	146.32	(meters)	480.1	(feet)	GPS	OBS
DF7971*	NAVD	88	ORTHO	HEIGHT	-	68.05	(meters)	223.3	(feet)	GPS	OBS
DF7972*	NAVD	88	ORTHO	HEIGHT	-	72.88	(meters)	239.1	(feet)	GPS	OBS
EG1870*	NAVD	88	ORTHO	HEIGHT	-	160.30	(meters)	525.9	(feet)	GPS	OBS
EG1874*	NAVD	88	ORTHO	HEIGHT	-	137.09	(meters)	449.8	(feet)	GPS	OBS
EH3091*	NAVD	88	ORTHO	HEIGHT	-	49.08	(meters)	161.0	(feet)	GPS	OBS
EH3099*	NAVD	88	ORTHO	HEIGHT	-	63.25	(meters)	207.5	(feet)	GPS	OBS
FE1881*	NAVD	88	ORTHO	HEIGHT	-	79.24	(meters)	260.0	(feet)	GPS	OBS
FE2743*	NAVD	88	ORTHO	HEIGHT	-	160.12	(meters)	525.3	(feet)	GPS	OBS
FE2751*	NAVD	88	ORTHO	HEIGHT	-	184.20	(meters)	604.3	(feet)	GPS	OBS
FE2754*	NAVD	88	ORTHO	HEIGHT	-	84.02	(meters)	275.7	(feet)	GPS	OBS
FF1215*	NAVD	88	ORTHO	HEIGHT	-	74.45	(meters)	244.3	(feet)	GPS	OBS
GD1176*	NAVD	88	ORTHO	HEIGHT	-	93.69	(meters)	307.4	(feet)	GPS	OBS
GD1874*	NAVD	88	ORTHO	HEIGHT	-	158.36	(meters)	519.6	(feet)	GPS	OBS
GE1193*	NAVD	88	ORTHO	HEIGHT	-	82.87	(meters)	271.9	(feet)	GPS	OBS
GE1210*	NAVD	88	ORTHO	HEIGHT	-	80.47	(meters)	264.0	(feet)	GPS	OBS
HB1301*	NAVD	88	ORTHO	HEIGHT	-	109.93	(meters)	360.7	(feet)	GPS	OBS
HB1315*	NAVD	88	ORTHO	HEIGHT	-	112.57	(meters)	369.3	(feet)	GPS	OBS

## Change #2:

Whenever a control points in the subsidence area has “NOT PUB” on their datasheet’s ORTHO HEIGHT line, the VERT ORDER line and any ortho height messages will no longer be displayed on the datasheets.

To see these changes:

1. Go to [https://www.ngs.noaa.gov/cgi-bin/ds\\_pid.prl](https://www.ngs.noaa.gov/cgi-bin/ds_pid.prl).
2. Enter the following PIDs into the PID Box:

AJ5822  
 AU0254  
 AU3359  
 BJ1449

Check the include suspect heights in vertical motion areas checkbox, and then press the [Submit] button. When the warnings message pops up as shown below:

Warning
✕

I have chosen to include suspect heights in my query as defined by NGS which currently includes parts of TX, LA, MS, AL, FL, and American Samoa. I understand that these marks are located in areas of known or suspected significant local vertical motion due to subsidence, uplift, or displacement caused by earthquakes. I also understand that in dynamic areas such as these, NGS warns against using suspect or superseded heights as control.

I understand the risk

CANCEL MY REQUEST

press the [I understand the risk] button. On the next page, select the PID radio button, press the [Re-Sort-By] button to sort the marks by PID. Next, press the [Select All] button followed by the [Get Datasheets] button. You should see the below datasheets without the VERT ORDER or orthometric height messages on them. The ORTHO HEIGHT line is highlighted in green. Other differences on the datasheets are displayed in yellow.

Starting Datasheet Retrieval...

```

1 National Geodetic Survey, Retrieval Date = JANUARY 29, 2024
AJ5822 *****
AJ5822 TIDAL BM - This is a Tidal Bench Mark.
AJ5822 DESIGNATION - 874 7766 D TIDAL
AJ5822 PID - AJ5822
AJ5822 STATE/COUNTY- MS/HANCOCK
AJ5822 COUNTRY - US
AJ5822 USGS QUAD - BAY SAINT LOUIS (2018)
AJ5822
AJ5822 *CURRENT SURVEY CONTROL
AJ5822
AJ5822* NAD 83(2011) POSITION- 30 17 06.34303(N) 089 21 58.60155(W) ADJUSTED
AJ5822* NAD 83(2011) ELLIP HT- -25.540 (meters) (06/27/12) ADJUSTED
AJ5822* NAD 83(2011) EPOCH - 2010.00
AJ5822* NAVD 88 ORTHO HEIGHT - *(meters) *(feet) NOT PUB
AJ5822 **This station is located in a suspected subsidence area (see below).
AJ5822
AJ5822 GEOID HEIGHT - -27.281 (meters) GEOID18
AJ5822 NAD 83(2011) X - 60,968.439 (meters) COMP
AJ5822 NAD 83(2011) Y - -5,512,027.282 (meters) COMP
AJ5822 NAD 83(2011) Z - 3,197,691.464 (meters) COMP
AJ5822 LAPLACE CORR - -2.17 (seconds) DEFLEC18
AJ5822 DYNAMIC HEIGHT - 1.888 (meters) 6.19 (feet) COMP
AJ5822 MODELED GRAVITY - 979,326.3 (mgal) NAVD 88
AJ5822
AJ5822 Network accuracy estimates per FGDC Geospatial Positioning Accuracy
AJ5822 Standards:
  
```

AJ5822 FGDC (95% conf, cm) Standard deviation (cm) CorrNE  
AJ5822 Horiz Ellip SD\_N SD\_E SD\_h (unitless)  
AJ5822 -----  
AJ5822 NETWORK 1.92 5.47 0.80 0.75 2.79 -0.28271968  
AJ5822 -----  
AJ5822 Click [here](#) for local accuracies and other accuracy information.  
AJ5822  
AJ5822.The horizontal coordinates were established by GPS observations  
AJ5822.and adjusted by the National Geodetic Survey in June 2012.  
AJ5822  
AJ5822.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has  
AJ5822.been affixed to the stable North American tectonic plate. See  
AJ5822.[NA2011](#) for more information.  
AJ5822  
AJ5822.The horizontal coordinates are valid at the epoch date displayed above  
AJ5822.which is a decimal equivalence of Year/Month/Day.  
AJ5822  
AJ5822.\*\* This station is in an area of known vertical motion. If an  
AJ5822.\*\* orthometric height was ever established but is not available  
AJ5822.\*\* in the current survey control section, the orthometric height  
AJ5822.\*\* is considered suspect. Suspect heights are available in the  
AJ5822.\*\* superseded section only if requested.  
AJ5822  
AJ5822.Significant digits in the geoid height do not necessarily reflect accuracy.  
AJ5822.GEOID18 height accuracy estimate available [here](#).  
AJ5822  
AJ5822.This Tidal Bench Mark is designated as VM 13300  
AJ5822.by the [CENTER FOR OPERATIONAL OCEANOGRAPHIC PRODUCTS AND SERVICES](#).  
AJ5822  
AJ5822.Click [photographs](#) - Photos may exist for this station.  
AJ5822  
AJ5822.The X, Y, and Z were computed from the position and the ellipsoidal ht.  
AJ5822  
AJ5822.The Laplace correction was computed from DEFLEC18 derived deflections.  
AJ5822  
AJ5822.The ellipsoidal height was determined by GPS observations  
AJ5822.and is referenced to NAD 83.  
AJ5822  
AJ5822.The dynamic height is computed by dividing the NAVD 88  
AJ5822.geopotential number by the normal gravity value computed on the  
AJ5822.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45  
AJ5822.degrees latitude (g = 980.6199 gals.).  
AJ5822  
AJ5822.The modeled gravity was interpolated from observed gravity values.  
AJ5822  
AJ5822. The following values were computed from the NAD 83(2011) position.  
AJ5822  
AJ5822;  
AJ5822; North East Units Scale Factor Converg.  
AJ5822;SPC MS E - 87,144.222 248,727.947 MT 0.99998242 -0 16 07.6  
AJ5822;SPC MS E - 285,905.67 816,034.94 sFT 0.99998242 -0 16 07.6  
AJ5822;UTM 16 - 3,352,747.899 272,401.081 MT 1.00023911 -1 11 37.8  
AJ5822  
AJ5822!  
AJ5822!SPC MS E - Elev Factor x Scale Factor = Combined Factor  
AJ5822!SPC MS E - 1.00000401 x 0.99998242 = 0.99998643  
AJ5822!UTM 16 - 1.00000401 x 1.00023911 = 1.00024312  
AJ5822  
AJ5822 U.S. NATIONAL GRID SPATIAL ADDRESS: 16RBU7240152747(NAD 83)  
AJ5822  
AJ5822|-----|  
AJ5822| PID Reference Object Distance Geod. Az |  
AJ5822| | | | dddmmss.s |  
AJ5822| AJ5823 874 7766 C TIDAL 161.881 METERS 22548 |  
AJ5822|-----|  
AJ5822  
AJ5822 SUPERSEDED SURVEY CONTROL  
AJ5822  
AJ5822 NAD 83(2007)- 30 17 06.34304(N) 089 21 58.60212(W) AD( ) 0  
AJ5822 ELLIP H (02/10/07) -25.507 (m) GP( )  
AJ5822 ELLIP H (03/26/02) -25.500 (m) GP( ) 4 2  
AJ5822 NAD 83(1993)- 30 17 06.34316(N) 089 21 58.60211(W) AD( ) A  
AJ5822 ELLIP H (09/10/01) -25.500 (m) GP( ) 4 2



AJ5822 NAVD 88 (07/15/08) 1.890 (m) 6.20 (f) ADJUSTED 2 1  
 AJ5822 NAVD 88 1.89 (m) 6.2 (f) LEVELING 3  
 AJ5822

AJ5822.Superseded values are not recommended for survey control.  
 AJ5822

AJ5822.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.  
 AJ5822.See file [dsdata.pdf](#) to determine how the superseded data were derived.  
 AJ5822

AJ5822\_MARKER: DJ = TIDAL STATION DISK  
 AJ5822\_SETTING: 49 = STAINLESS STEEL ROD W/O SLEEVE (10 FT.)  
 AJ5822\_STAMPING: 7766 D 1996  
 AJ5822\_MARK LOGO: NOS  
 AJ5822\_PROJECTION: RECESSED 3 CENTIMETERS  
 AJ5822\_MAGNETIC: N = NO MAGNETIC MATERIAL  
 AJ5822\_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL  
 AJ5822\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR  
 AJ5822+SATELLITE: SATELLITE OBSERVATIONS - August 08, 2018  
 AJ5822\_ROD/PIPE-DEPTH: 11 meters  
 AJ5822

AJ5822	HISTORY	- Date	Condition	Report By
AJ5822	HISTORY	- 1996	MONUMENTED	NOS
AJ5822	HISTORY	- 19960220	GOOD	NOS
AJ5822	HISTORY	- 20010710	GOOD	NGS
AJ5822	HISTORY	- 20100708	POOR	PICINC
AJ5822	HISTORY	- 20180808	POOR	MSDOT

AJ5822 STATION DESCRIPTION

AJ5822  
 AJ5822'DESCRIBED BY NATIONAL OCEAN SERVICE 1996 (RJG)  
 AJ5822'RECOVERED AS DESCRIBED.  
 AJ5822

AJ5822 STATION RECOVERY (2001)

AJ5822  
 AJ5822'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2001  
 AJ5822'STATION 874 7766 C IS LOCATED ON THE MISSISSIPPI GULF COAST AT  
 AJ5822'WAVELAND. TO REACH THE STATION FROM THE INTERSECTION OF US 90,  
 AJ5822'ROUTE 43, AND NICHOLSON AVE. IN WAVELAND, DRIVE SOUTHEAST ON  
 AJ5822'NICHOLSON AVE. FOR 1.3 MI TO A RAILROAD CROSSING. CONTINUE ON  
 AJ5822'NICHOLSON AVE. FOR 0.4 MI TO THE T INTERSECTION WITH N. BEACH BLVD.  
 AJ5822'TURN RIGHT AND PROCEED SOUTHWEST ON N. BEACH BLVD. FOR 0.5 MI TO  
 AJ5822'STATION 7766 D ON THE RIGHT, LANDWARD, SIDE OF N. BEACH BLVD. THE  
 AJ5822'STATION IS IN THE FRONT YARD OF A HOUSE AT 231 BEACH BLVD.. IT IS  
 AJ5822'29.45 M SW OF THE CENTERLINE OF LAFITTE DR., 8.8 M NW OF THE  
 AJ5822'CENTERLINE OF BEACH BLVD., 14.65 M NE OF THE DRIVEWAY, AND 1.2 M SE  
 AJ5822'OF A POWER POLE WITH 2 TRANSFORMERS. THE ACCESS COVER MAY BE  
 AJ5822'BURIED A FEW CENTIMETERS.  
 AJ5822'

AJ5822 STATION RECOVERY (2010)

AJ5822  
 AJ5822'RECOVERY NOTE BY PICKERING INCORPORATED 2010  
 AJ5822'MARK WAS FOUND DISTURBED. THE CAP ON TOP OF THE ROD MARKER WAS BENT.  
 AJ5822'  
 AJ5822'ALSO, ANY REFERENCES TO HOUSES OR ADDRESSES IN THE DESCRIPTION ARE NO  
 AJ5822'  
 AJ5822'LONGER HELPFUL BECAUSE ALL HOUSES IN THE VICINITY OF THE MARK HAVE  
 AJ5822'BEEN  
 AJ5822'DESTROYED SINCE THE 2001 UPDATE.  
 AJ5822

AJ5822 STATION RECOVERY (2018)

AJ5822  
 AJ5822'RECOVERY NOTE BY MS DEPT TRANS 2018 (TPO)  
 AJ5822'MARK RECOVERED IN POOR CONDITION.

1 National Geodetic Survey, Retrieval Date = JANUARY 29, 2024  
 AU0254 \*\*\*\*\*

AU0254 DESIGNATION - GIBSON  
 AU0254 PID - AU0254  
 AU0254 STATE/COUNTY- LA/TERREBONNE  
 AU0254 COUNTRY - US  
 AU0254 USGS QUAD - GIBSON (2018)  
 AU0254

AU0254 \*CURRENT SURVEY CONTROL

AU0254

AU0254\* NAD 83(2011) POSITION- 29 42 20.07088(N) 090 59 30.64198(W) ADJUSTED

AU0254\* NAD 83(2011) ELLIP HT- -24.933 (meters) (06/27/12) ADJUSTED

AU0254\* NAD 83(2011) EPOCH - 2010.00

AU0254\* NAVD 88 ORTHO HEIGHT - \*\* (meters) \*\* (feet) NOT PUB

AU0254 \*\*This station is located in a suspected subsidence area (see below).

AU0254

AU0254 GEOID HEIGHT - -25.507 (meters) GEOID18

AU0254 NAD 83(2011) X - -95,975.496 (meters) COMP

AU0254 NAD 83(2011) Y - -5,543,650.043 (meters) COMP

AU0254 NAD 83(2011) Z - 3,142,055.128 (meters) COMP

AU0254 LAPLACE CORR - 0.15 (seconds) DEFLEC18

AU0254 DYNAMIC HEIGHT - 0.834 (meters) 2.74 (feet) COMP

AU0254 MODELED GRAVITY - 979,304.3 (mgal) NAVD 88

AU0254

AU0254 Network accuracy estimates per FGDC Geospatial Positioning Accuracy Standards:

	FGDC (95% conf, cm)		Standard deviation (cm)			CorrNE
	Horiz	Ellip	SD_N	SD_E	SD_h	(unitless)
-----	-----	-----	-----	-----	-----	-----
AU0254 NETWORK	3.56	20.83	1.16	1.64	10.63	0.26121615
-----	-----	-----	-----	-----	-----	-----

AU0254 Click [here](#) for local accuracies and other accuracy information.

AU0254

AU0254.The horizontal coordinates were established by GPS observations

AU0254.and adjusted by the National Geodetic Survey in June 2012.

AU0254

AU0254.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has

AU0254.been affixed to the stable North American tectonic plate. See

AU0254.[NA2011](#) for more information.

AU0254

AU0254.The horizontal coordinates are valid at the epoch date displayed above

AU0254.which is a decimal equivalence of Year/Month/Day.

AU0254

AU0254.\*\* This station is in an area of known vertical motion. If an

AU0254.\*\* orthometric height was ever established but is not available

AU0254.\*\* in the current survey control section, the orthometric height

AU0254.\*\* is considered suspect. Suspect heights are available in the

AU0254.\*\* superseded section only if requested.

AU0254

AU0254.Significant digits in the geoid height do not necessarily reflect accuracy.

AU0254.GEOID18 height accuracy estimate available [here](#).

AU0254

AU0254.Click [photographs](#) - Photos may exist for this station.

AU0254

AU0254.The X, Y, and Z were computed from the position and the ellipsoidal ht.

AU0254

AU0254.The Laplace correction was computed from DEFLEC18 derived deflections.

AU0254

AU0254.The ellipsoidal height was determined by GPS observations

AU0254.and is referenced to NAD 83.

AU0254

AU0254.The dynamic height is computed by dividing the NAVD 88

AU0254.geopotential number by the normal gravity value computed on the

AU0254.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

AU0254.degrees latitude (g = 980.6199 gals.).

AU0254

AU0254.The modeled gravity was interpolated from observed gravity values.

AU0254

AU0254. The following values were computed from the NAD 83(2011) position.

AU0254

	North	East	Units	Scale Factor	Converg.
AU0254; SPC LA S	- 133,680.955	1,033,043.699	MT	0.99993894	+0 10 14.7
AU0254; SPC LA S	- 438,584.93	3,389,244.20	sFT	0.99993894	+0 10 14.7
AU0254; UTM 15	- 3,287,848.949	694,271.462	MT	1.00006569	+0 59 43.6

AU0254

AU0254! - Elev Factor x Scale Factor = Combined Factor

AU0254! SPC LA S - 1.00000392 x 0.99993894 = 0.99994286

AU0254! UTM 15 - 1.00000392 x 1.00006569 = 1.00006961

AU0254

AU0254: Primary Azimuth Mark Grid Az  
 AU0254:SPC LA S - DONNER SAWMILL WATER TANK 125 28 19.9  
 AU0254:UTM 15 - DONNER SAWMILL WATER TANK 124 38 51.0

AU0254  
 AU0254 U.S. NATIONAL GRID SPATIAL ADDRESS: 15RXN9427187848 (NAD 83)

PID	Reference Object	Distance	Geod. Az
AU0254	AU1326 GIBSON RM 1		08552
AU0254	AH6177 GIBSON AZ MK	234.268 METERS	09138
AU0254	AU3188 DONNER SAWMILL WATER TANK	APPROX. 3.2 KM	1253834.6
AU0254	AU0255 GIBSON RM 2	33.245 METERS	16805

AU0254  
 AU0254 SUPERSEDED SURVEY CONTROL

AU0254	NAD 83(2007)- 29 42 20.07102(N)	090 59 30.64263(W)	AD( ) 0
AU0254	ELLIP H (02/10/07) -24.891 (m)		GP( )
AU0254	ELLIP H (02/21/02) -24.900 (m)		GP( ) 5 1
AU0254	NAD 83(1992)- 29 42 20.07033(N)	090 59 30.64115(W)	AD( ) 1
AU0254	ELLIP H (12/17/98) -24.857 (m)		GP( ) 4 2
AU0254	NAD 83(1992)- 29 42 20.06582(N)	090 59 30.63432(W)	AD( ) 1
AU0254	NAD 83(1986)- 29 42 20.08904(N)	090 59 30.63651(W)	AD( ) 1
AU0254	NAD 27 - 29 42 19.34000(N)	090 59 30.28500(W)	AD( ) 1
AU0254	NAVD 88 0.84 (m)	2.8 (f) LEVELING	3
AU0254	NAVD 88 (02/14/94) 0.835 (m)	2.74 (f) ADJUSTED	1 1
AU0254	NAVD 88 (06/15/91) 0.877 (m)	2.88 (f) SUPERSEDED	1 1
AU0254	NGVD 29 0.97 (m)	3.2 (f) LEVELING	3
AU0254	NGVD 29 (11/26/84) 0.922 (m)	3.02 (f) ADJUSTED	1 1

AU0254  
 AU0254 Superseded values are not recommended for survey control.

AU0254  
 AU0254 NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.  
 AU0254 See file [dsdata.pdf](#) to determine how the superseded data were derived.

AU0254  
 AU0254 MARKER: DS = TRIANGULATION STATION DISK  
 AU0254 SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT  
 AU0254 STAMPING: GIBSON 1931  
 AU0254 MARK LOGO: CGS  
 AU0254 PROJECTION: FLUSH  
 AU0254 MAGNETIC: O = OTHER; SEE DESCRIPTION  
 AU0254 STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO  
 AU0254+STABILITY: SURFACE MOTION  
 AU0254 SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR  
 AU0254+SATELLITE: SATELLITE OBSERVATIONS - January 03, 1995

HISTORY	Date	Condition	Report By
AU0254	- 1931	MONUMENTED	CGS
AU0254	- 1938	GOOD	LAGS
AU0254	- 1948	GOOD	CGS
AU0254	- 1955	GOOD	CGS
AU0254	- 1969	GOOD	CGS
AU0254	- 1977	GOOD	NGS
AU0254	- 1982	GOOD	NGS
AU0254	- 19930223	GOOD	NGS
AU0254	- 19950103	GOOD	MPHI

AU0254  
 AU0254 STATION DESCRIPTION

AU0254 DESCRIBED BY COAST AND GEODETIC SURVEY 1931 (FLG)  
 AU0254 STATION IS ABOUT 12 MILES SW OF THIBODAU, 2.2 MILES W OF THE  
 AU0254 VILLAGE OF DONNER, AND 1.4 MILES N OF GIBSON.  
 AU0254  
 AU0254 SURFACE, UNDERGROUND, AND REFERENCE MARKS ARE STANDARD DISKS  
 AU0254 SET IN CONCRETE.  
 AU0254  
 AU0254 SURFACE MARK PROJECTS 4 INCHES.  
 AU0254  
 AU0254 REFERENCE MARK NO. 1 PROJECTS 7 INCHES AND IS ON INSIDE OF A  
 AU0254 BEND IN HIGHWAY 1/8 MILE E OF CHURCH, 25 FEET S OF CENTER LINE

AU0254'OF ROAD, 200 FEET E OF A WOODEN SHED AND APPROXIMATELY 1,000 FEET  
AU0254'FROM STATION N 85 DEG 52 MIN E.

AU0254'

AU0254'REFERENCE MARK NO. 2, A FLUSH MARK, IS 144 FEET S (IN LINE WITH  
AU0254'THE STATION) FROM CENTER LINE OF HIGHWAY, 20.7 FEET SW OF SW  
AU0254'CORNER OF CHURCH, 25.2 FEET N OF S FENCE LINE OF CHURCHYARD,  
AU0254'AND 109.07 FEET FROM STATION S 11 DEG 55 MIN E.

AU0254'

AU0254'REACHED FROM THIBODAU BY ROUTE 28 WHICH IS THE MAIN GRAVEL  
AU0254'ROAD TO MORGAN CITY, PASSING THROUGH CHACAHOLA AND DONNER.  
AU0254'STATION IS ON S SIDE OF ROAD, 59.0 FEET NW OF NW CORNER OF ROSE  
AU0254'HILL BAPTIST CHURCH, 35 FEET S OF CENTER LINE OF HIGHWAY, AND IN  
AU0254'NORTH SIDE CENTER OF CHURCHYARD, 14.4 FEET S OF A WIRE FENCE.

AU0254

AU0254 STATION RECOVERY (1938)

AU0254

AU0254'RECOVERY NOTE BY LOUISIANA GEODETIC SURVEY 1938

AU0254'CHANGES AS FOLLOWS--ABOUT 12 MILES SW OF THIBODAU. 23 MILES W  
AU0254'OF HOUMA. 2.2 MILES W OF THE VILLAGE OF DONNER, AND 1.4 MILES N  
AU0254'OF GIBSON, LOUISIANA. REACHED FROM THIBODAU BY STATE HIGHWAY 28,  
AU0254'FROM HOUMA BY U.S. HIGHWAY 90. TO REACH FROM INTERSECTION OF  
AU0254'HIGHWAYS 28 AND 90, WHICH OCCURS 0.5 MILE N OF GIBSON, PROCEED  
AU0254'0.2 MILE E ON HIGHWAY 28 TO GRAVEL ROAD WHICH PASSES BENEATH  
AU0254'SOUTHERN PACIFIC RAILROAD GRADE, TURN N AND PROCEED FOR 1.2  
AU0254'MILES TO ROSE HILL BAPTIST CHURCH. STATION IS ON S SIDE OF  
AU0254'ROAD, 59.0 FEET NW OF NW CORNER OF CHURCH. 35 FEET S OF  
AU0254'CENTER LINE OF ROAD. 14.4 FEET S OF A WIRE FENCE. (FROM THIS  
AU0254'POINT ON THE ORIGINAL DESCRIPTION IS COMPETENT). THESE  
AU0254'CHANGES ARE NECESSARY BECAUSE OF THE CONSTRUCTION OF A NEW  
AU0254'CONCRETE HIGHWAY FROM THIBODAU.

AU0254

AU0254 STATION RECOVERY (1948)

AU0254

AU0254'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1948 (CWC)

AU0254'STATION AND R.M. 2 WERE RECOVERED IN GOOD CONDITION. THE 1938  
AU0254'RECOVERY NOTE BY THE LOUISIANA GEODETIC SURVEY IS ADEQUATE  
AU0254'FOR FUTURE RECOVERY, BUT THE FOLLOWING MINOR CHANGES AT THE  
AU0254'STATION SITE WERE NOTED--

AU0254'

AU0254'THE STATION IS 31.8 FEET S OF THE CENTER LINE OF A SHELL ROAD  
AU0254'AND 33.2 FEET SW OF THE GATE LEADING TO THE CHURCH.

AU0254'

AU0254'THE INTERSECTION OF HIGHWAYS 90 AND 28 IS 0.5 MILE W OF GIBSON,  
AU0254'NOT N.

AU0254'

AU0254'R.M. 1 WAS SEARCHED FOR BUT NOT RECOVERED.

AU0254

AU0254 STATION RECOVERY (1955)

AU0254

AU0254'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1955 (HDR)

AU0254'0.5 MI. W ALONG THE TEXAS AND NEW ORLEANS RAILROAD FROM THE  
AU0254'STATION AT GIBSON, THENCE 1.4 MI. N ALONG A GRAVELED ROAD,  
AU0254'31 FT. S OF THE CENTERLINE OF A ROAD, 59 FT. NW OF THE NW CORNER  
AU0254'OF THE ROSE HILL BAPTIST CHURCH, 30 FT. W OF THE CENTERLINE  
AU0254'OF A DRIVEWAY LEADING TO THE CHURCH, 2 FT. SW OF A WITNESS POST,  
AU0254'A TRIANGULATION-STATION DISK, SET IN THE TOP OF A CONCRETE POST  
AU0254'PROJECTING 0.4 FT. ABOVE THE GROUND, AND STAMPED GIBSON 1931.

AU0254'

AU0254'REFERENCE MARK 1 IS 0.1 MI. E OF THE TRIANGULATION STATION, 80  
AU0254'FT. W OF A FOOTWALK, 127 FT. NW OF THE N CORNER OF AN OLD SHED,  
AU0254'28 FT. SW OF THE CENTERLINE OF A ROAD, 17.6 FT. SW OF A WITNESS  
AU0254'POST, A REFERENCE-MARK DISK, SET IN THE TOP OF A CONCRETE POST  
AU0254'PROJECTING 0.4 FT. ABOVE THE GROUND, AND STAMPED GIBSON NO 1  
AU0254'1931.

AU0254'

AU0254'REFERENCE MARK 2 IS 109 FT. S OF THE TRIANGULATIN STATION, 20.7  
AU0254'FT. SW OF THE SW CORNER OF THE ROSE HILL BAPTIST CHURCH, A  
AU0254'REFERENCE-MARK DISK, SET IN THE TOP OF A CONCRETE POST FLUSH WITH  
AU0254'THE GROUND, AND STAMPED GIBSON NO 2 1931.

AU0254

AU0254 STATION RECOVERY (1969)

AU0254  
 AU0254'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1969  
 AU0254'1.4 MI NE FROM GIBSON.  
 AU0254'ABOUT 1.4 MILES NORTHEAST ALONG DEADWOOD ROAD FROM THE SOUTHERN  
 AU0254'PACIFIC COMPANY RAILROAD OVERPASS OVER THE ROAD AT GIBSON, IN THE LAWN  
 AU0254'OF THE ROSE HILL BAPTIST CHURCH AND CEMETERY, 59 FEET NORTHWEST OF THE  
 AU0254'NORTHWEST CORNER OF THE CHURCH BUILDING, 36 FEET SOUTH OF THE CENTER  
 AU0254'LINE OF THE ROAD, 29 FEET WEST OF THE CENTER LINE OF A DRIVEWAY TO  
 AU0254'CHURCH BUILDING, 11 FEET SOUTHEAST OF A POWER LINE POLE, ABOUT LEVEL  
 AU0254'WITH THE ROAD AND SET IN THE TOP OF A CONCRETE POST PROJECTING 3  
 AU0254'INCHES ABOVE THE LEVEL OF THE GROUND.

AU0254  
 AU0254 STATION RECOVERY (1977)

AU0254  
 AU0254'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1977  
 AU0254'RECOVERED IN GOOD CONDITION.

AU0254  
 AU0254 STATION RECOVERY (1982)

AU0254  
 AU0254'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1982  
 AU0254'THE MARK IS ABOVE LEVEL WITH ROAD.  
 AU0254'RECOVERED IN GOOD CONDITION, NEW DESCRIPTION FOLLOWS. 0.3 KILOMETER  
 AU0254'(0.2 MILE) NORTHWEST ALONG U.S. HIGHWAY 90 FROM THE SOUTHEAST END OF  
 AU0254'THE HIGHWAY BRIDGE OVER BAYOU BLACK IN GIBSON, THENCE 0.3 KILOMETER  
 AU0254'(0.2 MILE) NORTHEAST ALONG STATE HIGHWAY 20, THENCE 2.2 KILOMETERS  
 AU0254'(1.4 MILES) NORTH ALONG DEADWOOD ROAD (PARISH ROAD 30) TO THE ROSE  
 AU0254'HILL BAPTIST CHURCH AND THE MARK ON THE RIGHT, 10.97 METERS (36.0  
 AU0254'FEET) SOUTH OF THE CENTER OF DEADWOOD ROAD, 33.22 METERS (109.0 FEET)  
 AU0254'NORTH OF REFERENCE MARK GIBSON RM 2, 17.98 METERS (59.0 FEET)  
 AU0254'NORTHWEST OF THE NORTHWEST CORNER OF THE CHURCH, 8.83 METERS (29.0  
 AU0254'FEET) WEST OF THE CENTER OF THE SHELL ENTRANCE DRIVE OF THE CHURCH,  
 AU0254'3.35 METERS (11.0 FEET) SOUTHEAST OF A POWER POLE.

AU0254  
 AU0254 STATION RECOVERY (1993)

AU0254  
 AU0254'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1993  
 AU0254'0.1 KM (0.05 MI) NORTHERLY ALONG CAROLL STREET FROM THE POST OFFICE  
 AU0254'IN GIBSON, THENCE 0.7 KM (0.45 MI) WESTERLY ALONG STATE HIGHWAY 20,  
 AU0254'THENCE 2.3 KM (1.40 MI) NORTHERLY ALONG DEADWOOD ROAD, 17.9 M (58.7  
 AU0254'FT) NORTH-NORTHWEST OF THE NORTHWEST CORNER OF THE ROSE HILL BAPTIST  
 AU0254'CHURCH, 10.9 M (35.8 FT) SOUTH OF AND LEVEL WITH THE CENTERLINE OF  
 AU0254'THE ROAD, 9.0 M (29.5 FT) WEST OF THE CENTER OF A ROAD LEADING TO THE  
 AU0254'CHURCH, 3.2 M (10.5 FT) SOUTHEAST OF A UTILITY LIGHT POLE WITH A  
 AU0254'TRANSFORMER ATTACHED, AND THE MONUMENT IS FLUSH WITH THE GROUND  
 AU0254'SURFACE.

AU0254  
 AU0254 STATION RECOVERY (1995)

AU0254  
 AU0254'RECOVERY NOTE BY MORRIS P HEBERT INCORPORATED 1995 (CSD)  
 AU0254'RECOVERED AS DESCRIBED.

1 National Geodetic Survey, Retrieval Date = JANUARY 29, 2024

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AU3359 *****
AU3359 DESIGNATION - R 156 RESET
AU3359 PID - AU3359
AU3359 STATE/COUNTY- LA/ORLEANS
AU3359 COUNTRY - US
AU3359 USGS QUAD - NEW ORLEANS EAST (2018)
AU3359
AU3359 *CURRENT SURVEY CONTROL
AU3359
AU3359* NAD 83(1986) POSITION- 29 56 19. (N) 090 03 45. (W) SCALED
AU3359* NAVD 88 ORTHO HEIGHT - *(meters) *(feet) NOT PUB
AU3359 **This station is located in a suspected subsidence area (see below).
AU3359
AU3359 GEOID HEIGHT - -25.936 (meters) GEOID18
AU3359 DYNAMIC HEIGHT - 5.454 (meters) 17.89 (feet) COMP
AU3359 MODELED GRAVITY - 979,312.5 (mgal) NAVD 88
  
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AU3359  
 AU3359.The horizontal coordinates were scaled from a map and have  
 AU3359.an estimated accuracy of +/- 6 seconds.  
 AU3359

AU3359.\*\* This station is in an area of known vertical motion. If an AU3359.\*\* orthometric height was ever established but is not available AU3359.\*\* in the current survey control section, the orthometric height AU3359.\*\* is considered suspect. Suspect heights are available in the AU3359.\*\* superseded section only if requested.

AU3359  
 AU3359.Significant digits in the geoid height do not necessarily reflect accuracy.  
 AU3359.GEOID18 height accuracy estimate available [here](#).  
 AU3359  
 AU3359.Click [photographs](#) - Photos may exist for this station.  
 AU3359  
 AU3359.The dynamic height is computed by dividing the NAVD 88 AU3359.geopotential number by the normal gravity value computed on the AU3359.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45 AU3359.degrees latitude (g = 980.6199 gals.).  
 AU3359  
 AU3359.The modeled gravity was interpolated from observed gravity values.  
 AU3359  

AU3359;	North	East	Units	Estimated Accuracy
AU3359;SPC LA S	- 160,140.	1,122,680.	MT	(+/- 180 meters Scaled)

 AU3359  
 AU3359\_U.S. NATIONAL GRID SPATIAL ADDRESS: 15RYP835156(NAD 83)  
 AU3359  
 AU3359 SUPERSEDED SURVEY CONTROL  
 AU3359  

AU3359	NAVD 88 (12/05/96)	5.461 (m)	17.92	(f) ADJUSTED	1 2
AU3359	NAVD 88 (02/14/94)	5.451 (m)	17.88	(f) SUPERSEDED	1 2
AU3359	NGVD 29 (05/21/91)	5.511 (m)	18.08	(f) ADJUSTED	1 2

 AU3359  
 AU3359.Superseded values are not recommended for survey control.  
 AU3359  
 AU3359.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.  
 AU3359.See file [dsdata.pdf](#) to determine how the superseded data were derived.  
 AU3359  
 AU3359\_MARKER: DV = VERTICAL CONTROL DISK  
 AU3359\_SETTING: 31 = SET IN A PAVEMENT SUCH AS STREET, SIDEWALK, CURB, ETC.  
 AU3359\_SP\_SET: CURB  
 AU3359\_STAMPING: R 156 RESET 1988  
 AU3359\_MARK LOGO: NGS  
 AU3359\_MAGNETIC: N = NO MAGNETIC MATERIAL  
 AU3359\_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY  
 AU3359\_SATELLITE: THE SITE LOCATION WAS REPORTED AS NOT SUITABLE FOR  
 AU3359+SATELLITE: SATELLITE OBSERVATIONS - November 08, 1994  
 AU3359  

AU3359	HISTORY	- Date	Condition	Report By
AU3359	HISTORY	- 1988	MONUMENTED	LADTD
AU3359	HISTORY	- 19901119	GOOD	NGS
AU3359	HISTORY	- 19941108	GOOD	NGS

 AU3359  
 AU3359 STATION DESCRIPTION  
 AU3359  
 AU3359'DESCIBED BY LA TRANSP AND DEV 1988  
 AU3359'THE STATION IS LOCATED IN NEW ORLEANS NEAR THE NORTHWEST CORNER OF THE AU3359'THALIA STREET WHARF ON THE MISSISSIPPI RIVER FRONT UNDER THE EAST AU3359'BOUND LANES OF THE GREATER NEW ORLEANS BRIDGE IN THE FOOTING OF THE AU3359'FIRST PIER FROM THE WATERS EDGE. OWNERSHIP--LOUISIANA DEPARTMEANT OF AU3359'TRANSPORTATION AND DEVELOPMENT.  
 AU3359'THE STATION IS 16.2 M (53.1 FT) NORTHWEST FROM THE NORTHWEST CORNER OF AU3359'THE THALIA STREET WHARF, 15.2 M (49.9 FT) NORTHEAST FROM A FIRE AU3359'HYDRANT, 4.9 M (16.1 FT) SOUTH FROM THE CENTER OF THE EAST SIDE OF THE AU3359'SOUTH PIER AND 0.5 M (1.6 FT) NORTH-NORTHEAST FROM A RETAINING WALL AU3359'FOR THE THALIA STREET DOCKS. THE MARK IS ABOUT 0.30 M (1.0 FT) BELOW AU3359'THE DOCKS.  
 AU3359  
 AU3359 STATION RECOVERY (1990)  
 AU3359  
 AU3359'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1990  
 AU3359'IN NEW ORLEANS, AT THE INTERSECTION OF THALIA STREET AND THE NEW AU3359'ORLEANS PUBLIC BELT RAILROAD, IN THE SOUTHEAST CORNER OF THE PILE CAP AU3359'FOR THE 1ST PIER (WEST OF THE RIVER) OF THE WESTBOUND GREATER NEW AU3359'ORLEANS BRIDGE SPANNING THE MISSISSIPPI RIVER, 21.0 M (68.9 FT) EAST

AU3359'OF THE NEAR RAIL, 4.1 M (13.5 FT) SOUTHEAST OF THE SOUTHEAST CORNER  
AU3359'OF THE PIER, 2.9 M (9.5 FT) NORTH OF THE EXTENDED CENTER OF THE  
AU3359'STREET, AND 0.5 M (1.6 FT) ABOVE THE LEVEL OF THE TRACK.

AU3359

AU3359

STATION RECOVERY (1994)

AU3359

AU3359'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1994 (GAS)

AU3359'IN NEW ORLEANS, AT THE INTERSECTION OF THALIA STREET AND THE NEW

AU3359'ORLEANS PUBLIC BELT RAILROAD, IN THE SOUTHEAST CORNER OF A CONCRETE

AU3359'CURB SURROUNDING THE PILE CAP FOR THE FIRST PIER WEST OF THE

AU3359'MISSISSIPPI RIVER OF THE WESTBOUND GREATER NEW ORLEANS BRIDGE SPANNING

AU3359'THE RIVER, 21.0 M (68.9 FT) EAST OF THE NEAR RAIL, 4.1 M (13.5 FT)

AU3359'SOUTHEAST OF THE SOUTHEAST CORNER OF THE PIER, 2.9 M (9.5 FT) NORTH OF

AU3359'THE EXTENDED CENTER OF THE STREET, AND 0.5 M (1.6 FT) ABOVE THE LEVEL

AU3359'OF THE TRACK.

1 National Geodetic Survey, Retrieval Date = JANUARY 29, 2024

BJ1449 \*\*\*\*\*

BJ1449 DESIGNATION - B 157

BJ1449 PID - BJ1449

BJ1449 STATE/COUNTY- LA/ORLEANS

BJ1449 COUNTRY - US

BJ1449 USGS QUAD - SPANISH FORT (2018)

BJ1449

\*CURRENT SURVEY CONTROL

BJ1449

BJ1449\* NAD 83(1986) POSITION- 30 00 36. (N) 090 01 07. (W) SCALED

BJ1449\* NAVD 88 ORTHO HEIGHT - \*(meters) \*(feet) NOT PUB

BJ1449 \*\*This station is located in a suspected subsidence area (see below).

BJ1449

BJ1449 GEOID HEIGHT - -26.118 (meters) GEOID18

BJ1449

BJ1449.The horizontal coordinates were scaled from a map and have

BJ1449.an estimated accuracy of +/- 6 seconds.

BJ1449

BJ1449.\*\* This station is in an area of known vertical motion. If an

BJ1449.\*\* orthometric height was ever established but is not available

BJ1449.\*\* in the current survey control section, the orthometric height

BJ1449.\*\* is considered suspect. Suspect heights are available in the

BJ1449.\*\* superseded section only if requested.

BJ1449

BJ1449.Significant digits in the geoid height do not necessarily reflect accuracy.

BJ1449.GEOID18 height accuracy estimate available [here](#).

BJ1449

BJ1449.Click [photographs](#) - Photos may exist for this station.

BJ1449

BJ1449; North East Units Estimated Accuracy

BJ1449;SPC LA S - 168,100. 1,126,830. MT (+/- 180 meters Scaled)

BJ1449

BJ1449\_U.S. NATIONAL GRID SPATIAL ADDRESS: 15RYP875236(NAD 83)

BJ1449

SUPERSEDED SURVEY CONTROL

BJ1449

BJ1449 NGVD 29 (11/26/84) 0.593 (m) 1.95 (f) ADJUSTED 1 2

BJ1449

BJ1449.Superseded values are not recommended for survey control.

BJ1449

BJ1449.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

BJ1449.See file [dsdata.pdf](#) to determine how the superseded data were derived.

BJ1449

BJ1449\_MARKER: DB = BENCH MARK DISK

BJ1449\_SETTING: 30 = SET IN A LIGHT STRUCTURE

BJ1449\_SP\_SET: CURBING

BJ1449\_STAMPING: B 157 1955

BJ1449\_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY

BJ1449

BJ1449 HISTORY - Date Condition Report By

BJ1449 HISTORY - 1955 MONUMENTED CGS

BJ1449 HISTORY - 1985 MARK NOT FOUND NGS

BJ1449

BJ1449 STATION DESCRIPTION

BJ1449

BJ1449'DESCRIBED BY COAST AND GEODETIC SURVEY 1955  
 BJ1449'0.55 MI E FROM NEW ORLEANS.  
 BJ1449'ABOUT 0.55 MILE EAST ALONG U.S. HIGHWAY 90 FROM BRIDGE OVER INNER  
 BJ1449'HARBOR NAVIGATION CANAL AT NEW ORLEANS, ABOUT 0.15 MILE EAST OF  
 BJ1449'INTERSECTION OF DOWNMAN ROAD, IN THE TOP OF THE CONCRETE CURBING OF  
 BJ1449'CONCRETE FOUNDATION OF GIARDINAS SHELL SERVICE STATION WHICH IS ON  
 BJ1449'SOUTH SIDE OF HIGHWAY, 1 FOOT NORTHEAST OF NORTHWEST CORNER OF  
 BJ1449'BUILDING, 1/2 FOOT EAST OF WEST END OF CURBING AND ABOUT 1 FOOT ABOVE  
 BJ1449'LEVEL OF HIGHWAY.  
 BJ1449  
 BJ1449 STATION RECOVERY (1985)  
 BJ1449  
 BJ1449'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1985  
 BJ1449'NOT RECOVERED, THE CONCRETE FOUNDATION HAS BEEN RESURFACED AT THE  
 BJ1449'NORTHWEST CORNER, CONSIDER DESTROYED.

Prior to this change, you would have seen the below datasheets with the VERT ORDER and orthometric height messages highlighted in **red**. The ORTHO HEIGHT line is highlighted in **green**.

Starting Datasheet Retrieval...

```

1 National Geodetic Survey, Retrieval Date = JANUARY 29, 2024
AJ5822 *****
AJ5822 TIDAL BM - This is a Tidal Bench Mark.
AJ5822 DESIGNATION - 874 7766 D TIDAL
AJ5822 PID - AJ5822
AJ5822 STATE/COUNTY- MS/HANCOCK
AJ5822 COUNTRY - US
AJ5822 USGS QUAD - BAY SAINT LOUIS (2018)
AJ5822
AJ5822 *CURRENT SURVEY CONTROL
AJ5822
AJ5822* NAD 83(2011) POSITION- 30 17 06.34303(N) 089 21 58.60155(W) ADJUSTED
AJ5822* NAD 83(2011) ELLIP HT- -25.540 (meters) (06/27/12) ADJUSTED
AJ5822* NAD 83(2011) EPOCH - 2010.00
AJ5822* NAVD 88 ORTHO HEIGHT - ** (meters) ** (feet) NOT PUE
AJ5822 **This station is located in a suspected subsidence area (see below).
AJ5822
AJ5822 GEOID HEIGHT - -27.281 (meters) GEOID18
AJ5822 NAD 83(2011) X - 60,968.439 (meters) COMP
AJ5822 NAD 83(2011) Y - -5,512,027.282 (meters) COMP
AJ5822 NAD 83(2011) Z - 3,197,691.464 (meters) COMP
AJ5822 LAPLACE CORR - -2.17 (seconds) DEFLEC18
AJ5822 VERT ORDER - THIRD
AJ5822
AJ5822 Network accuracy estimates per FGDC Geospatial Positioning Accuracy
AJ5822 Standards:
AJ5822 FGDC (95% conf, cm) Standard deviation (cm) CorrNE
AJ5822 Horiz Ellip SD_N SD_E SD_h (unitless)
AJ5822 -----
AJ5822 NETWORK 1.92 5.47 0.80 0.75 2.79 -0.28271968
AJ5822 -----
AJ5822 Click here for local accuracies and other accuracy information.
AJ5822
AJ5822.The horizontal coordinates were established by GPS observations
AJ5822.and adjusted by the National Geodetic Survey in June 2012.
AJ5822
AJ5822.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has
AJ5822.been affixed to the stable North American tectonic plate. See
AJ5822.NA2011 for more information.
AJ5822
AJ5822.The horizontal coordinates are valid at the epoch date displayed above
AJ5822.which is a decimal equivalence of Year/Month/Day.
AJ5822
AJ5822.** This station is in an area of known vertical motion. If an
AJ5822.** orthometric height was ever established but is not available
AJ5822.** in the current survey control section, the orthometric height
AJ5822.** is considered suspect. Suspect heights are available in the
AJ5822.** superseded section only if requested.
AJ5822
AJ5822.The orthometric height was determined by differential leveling.

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AJ5822.The vertical network tie was performed by a horz. field party for horz.  
AJ5822.obs reductions. Reset procedures were used to establish the elevation.

AJ5822

AJ5822.Significant digits in the geoid height do not necessarily reflect accuracy.

AJ5822.GEOID18 height accuracy estimate available [here](#).

AJ5822

AJ5822.This Tidal Bench Mark is designated as VM 13300

AJ5822.by the [CENTER FOR OPERATIONAL OCEANOGRAPHIC PRODUCTS AND SERVICES](#).

AJ5822

AJ5822.Click [photographs](#) - Photos may exist for this station.

AJ5822

AJ5822.The X, Y, and Z were computed from the position and the ellipsoidal ht.

AJ5822

AJ5822.The Laplace correction was computed from DEFLEC18 derived deflections.

AJ5822

AJ5822.The ellipsoidal height was determined by GPS observations

AJ5822.and is referenced to NAD 83.

AJ5822

AJ5822. The following values were computed from the NAD 83(2011) position.

AJ5822

AJ5822;		North	East	Units	Scale	Factor	Converg.
AJ5822;SPC MS E	-	87,144.222	248,727.947	MT	0.99998242	-0 16 07.6	
AJ5822;SPC MS E	-	285,905.67	816,034.94	sFT	0.99998242	-0 16 07.6	
AJ5822;UTM 16	-	3,352,747.899	272,401.081	MT	1.00023911	-1 11 37.8	

AJ5822

AJ5822! - Elev Factor x Scale Factor = Combined Factor

AJ5822!SPC MS E - 1.00000401 x 0.99998242 = 0.99998643

AJ5822!UTM 16 - 1.00000401 x 1.00023911 = 1.00024312

AJ5822

AJ5822 U.S. NATIONAL GRID SPATIAL ADDRESS: 16RBU7240152747 (NAD 83)

AJ5822

AJ5822	PID	Reference Object	Distance	Geod. Az
AJ5822				dddmss.s
AJ5822	AJ5823 874 7766 C	TIDAL	161.881 METERS	22548

AJ5822

AJ5822 SUPERSEDED SURVEY CONTROL

AJ5822

AJ5822	NAD 83(2007)-	30 17 06.34304(N)	089 21 58.60212(W)	AD( )	0
AJ5822	ELLIP H (02/10/07)	-25.507 (m)		GP( )	
AJ5822	ELLIP H (03/26/02)	-25.500 (m)		GP( )	4 2
AJ5822	NAD 83(1993)-	30 17 06.34316(N)	089 21 58.60211(W)	AD( )	A
AJ5822	ELLIP H (09/10/01)	-25.500 (m)		GP( )	4 2
AJ5822	NAVD 88 (07/15/08)	1.890 (m)	6.20 (f)	ADJUSTED	2 1
AJ5822	NAVD 88	1.89 (m)	6.2 (f)	LEVELING	3

AJ5822

AJ5822.Superseded values are not recommended for survey control.

AJ5822

AJ5822.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

AJ5822.See file [dsdata.pdf](#) to determine how the superseded data were derived.

AJ5822

AJ5822\_MARKER: DJ = TIDAL STATION DISK

AJ5822\_SETTING: 49 = STAINLESS STEEL ROD W/O SLEEVE (10 FT.+)

AJ5822\_STAMPING: 7766 D 1996

AJ5822\_MARK LOGO: NOS

AJ5822\_PROJECTION: RECESSED 3 CENTIMETERS

AJ5822\_MAGNETIC: N = NO MAGNETIC MATERIAL

AJ5822\_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL

AJ5822\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

AJ5822+SATELLITE: SATELLITE OBSERVATIONS - August 08, 2018

AJ5822\_ROD/PIPE-DEPTH: 11 meters

AJ5822

AJ5822	HISTORY	- Date	Condition	Report By
AJ5822	HISTORY	- 1996	MONUMENTED	NOS
AJ5822	HISTORY	- 19960220	GOOD	NOS
AJ5822	HISTORY	- 20010710	GOOD	NGS
AJ5822	HISTORY	- 20100708	POOR	PICINC
AJ5822	HISTORY	- 20180808	POOR	MSDOT

AJ5822

AJ5822 STATION DESCRIPTION

AJ5822  
 AJ5822'DESCRIBED BY NATIONAL OCEAN SERVICE 1996 (RJG)  
 AJ5822'RECOVERED AS DESCRIBED.  
 AJ5822  
 AJ5822 STATION RECOVERY (2001)  
 AJ5822  
 AJ5822'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2001  
 AJ5822'STATION 874 7766 C IS LOCATED ON THE MISSISSIPPI GULF COAST AT  
 AJ5822'WAVELAND. TO REACH THE STATION FROM THE INTERSECTION OF US 90,  
 AJ5822'ROUTE 43, AND NICHOLSON AVE. IN WAVELAND, DRIVE SOUTHEAST ON  
 AJ5822'NICHOLSON AVE. FOR 1.3 MI TO A RAILROAD CROSSING. CONTINUE ON  
 AJ5822'NICHOLSON AVE. FOR 0.4 MI TO THE T INTERSECTION WITH N. BEACH BLVD.  
 AJ5822'TURN RIGHT AND PROCEED SOUTHWEST ON N. BEACH BLVD. FOR 0.5 MI TO  
 AJ5822'STATION 7766 D ON THE RIGHT, LANDWARD, SIDE OF N. BEACH BLVD. THE  
 AJ5822'STATION IS IN THE FRONT YARD OF A HOUSE AT 231 BEACH BLVD.. IT IS  
 AJ5822'29.45 M SW OF THE CENTERLINE OF LAFITTE DR., 8.8 M NW OF THE  
 AJ5822'CENTERLINE OF BEACH BLVD., 14.65 M NE OF THE DRIVEWAY, AND 1.2 M SE  
 AJ5822'OF A POWER POLE WITH 2 TRANSFORMERS. THE ACCESS COVER MAY BE  
 AJ5822'BURIED A FEW CENTIMETERS.  
 AJ5822'  
 AJ5822  
 AJ5822 STATION RECOVERY (2010)  
 AJ5822  
 AJ5822'RECOVERY NOTE BY PICKERING INCORPORATED 2010  
 AJ5822'MARK WAS FOUND DISTURBED. THE CAP ON TOP OF THE ROD MARKER WAS BENT.  
 AJ5822'  
 AJ5822'ALSO, ANY REFERENCES TO HOUSES OR ADDRESSES IN THE DESCRIPTION ARE NO  
 AJ5822'  
 AJ5822'LONGER HELPFUL BECAUSE ALL HOUSES IN THE VICINITY OF THE MARK HAVE  
 AJ5822'BEEN  
 AJ5822'DESTROYED SINCE THE 2001 UPDATE.  
 AJ5822  
 AJ5822 STATION RECOVERY (2018)  
 AJ5822  
 AJ5822'RECOVERY NOTE BY MS DEPT TRANS 2018 (TPO)  
 AJ5822'MARK RECOVERED IN POOR CONDITION.  
 1 National Geodetic Survey, Retrieval Date = JANUARY 29, 2024  
 AU0254 \*\*\*\*\*  
 AU0254 DESIGNATION - GIBSON  
 AU0254 PID - AU0254  
 AU0254 STATE/COUNTY- LA/TERREBONNE  
 AU0254 COUNTRY - US  
 AU0254 USGS QUAD - GIBSON (2018)  
 AU0254  
 AU0254 \*CURRENT SURVEY CONTROL  
 AU0254  
 AU0254\* NAD 83(2011) POSITION- 29 42 20.07088(N) 090 59 30.64198(W) ADJUSTED  
 AU0254\* NAD 83(2011) ELLIP HT- -24.933 (meters) (06/27/12) ADJUSTED  
 AU0254\* NAD 83(2011) EPOCH - 2010.00  
 AU0254\* NAVD 88 ORTHO HEIGHT - \*(meters) \*(feet) NOT PUB  
 AU0254 \*\*This station is located in a suspected subsidence area (see below).  
 AU0254  
 AU0254 GEOID HEIGHT - -25.507 (meters) GEOID18  
 AU0254 NAD 83(2011) X - -95,975.496 (meters) COMP  
 AU0254 NAD 83(2011) Y - -5,543,650.043 (meters) COMP  
 AU0254 NAD 83(2011) Z - 3,142,055.128 (meters) COMP  
 AU0254 LAPLACE CORR - 0.15 (seconds) DEFLEC18  
 AU0254 VERT ORDER - THIRD  
 AU0254  
 AU0254 Network accuracy estimates per FGDC Geospatial Positioning Accuracy  
 AU0254 Standards:  
 AU0254 FGDC (95% conf, cm) Standard deviation (cm) CorrNE  
 AU0254 Horiz Ellip SD\_N SD\_E SD\_h (unitless)  
 AU0254 -----  
 AU0254 NETWORK 3.56 20.83 1.16 1.64 10.63 0.26121615  
 AU0254 -----  
 AU0254 Click [here](#) for local accuracies and other accuracy information.  
 AU0254  
 AU0254.The horizontal coordinates were established by GPS observations  
 AU0254.and adjusted by the National Geodetic Survey in June 2012.  
 AU0254

AU0254.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has AU0254.been affixed to the stable North American tectonic plate. See AU0254.[NA2011](#) for more information.

AU0254

AU0254.The horizontal coordinates are valid at the epoch date displayed above AU0254.which is a decimal equivalence of Year/Month/Day.

AU0254

AU0254.\*\* This station is in an area of known vertical motion. If an AU0254.\*\* orthometric height was ever established but is not available AU0254.\*\* in the current survey control section, the orthometric height AU0254.\*\* is considered suspect. Suspect heights are available in the AU0254.\*\* superseded section only if requested.

AU0254

AU0254.The orthometric height was determined by differential leveling.

AU0254.The vertical network tie was performed by a horz. field party for horz.

AU0254.obs reductions. Reset procedures were used to establish the elevation.

AU0254

AU0254.Significant digits in the geoid height do not necessarily reflect accuracy.

AU0254.GEOID18 height accuracy estimate available [here](#).

AU0254

AU0254.Click [photographs](#) - Photos may exist for this station.

AU0254

AU0254.The X, Y, and Z were computed from the position and the ellipsoidal ht.

AU0254

AU0254.The Laplace correction was computed from DEFLEC18 derived deflections.

AU0254

AU0254.The ellipsoidal height was determined by GPS observations

AU0254.and is referenced to NAD 83.

AU0254

AU0254. The following values were computed from the NAD 83(2011) position.

AU0254

AU0254;		North	East	Units	Scale Factor	Converg.
AU0254;SPC LA S	-	133,680.955	1,033,043.699	MT	0.99993894	+0 10 14.7
AU0254;SPC LA S	-	438,584.93	3,389,244.20	sFT	0.99993894	+0 10 14.7
AU0254;UTM 15	-	3,287,848.949	694,271.462	MT	1.00006569	+0 59 43.6

AU0254

AU0254! - Elev Factor x Scale Factor = Combined Factor

AU0254!SPC LA S - 1.00000392 x 0.99993894 = 0.99994286

AU0254!UTM 15 - 1.00000392 x 1.00006569 = 1.00006961

AU0254

AU0254:	Primary Azimuth Mark	Grid Az
AU0254:SPC LA S	- DONNER SAWMILL WATER TANK	125 28 19.9
AU0254:UTM 15	- DONNER SAWMILL WATER TANK	124 38 51.0

AU0254

AU0254\_U.S. NATIONAL GRID SPATIAL ADDRESS: 15RXN9427187848(NAD 83)

AU0254

AU0254	PID	Reference Object	Distance	Geod. Az
AU0254				dddmmss.s
AU0254	AU1326	GIBSON RM 1		08552
AU0254	AH6177	GIBSON AZ MK	234.268 METERS	09138
AU0254	AU3188	DONNER SAWMILL WATER TANK	APPROX. 3.2 KM	1253834.6
AU0254	AU0255	GIBSON RM 2	33.245 METERS	16805

AU0254

AU0254 SUPERSEDED SURVEY CONTROL

AU0254

AU0254	NAD 83(2007)-	29 42 20.07102(N)	090 59 30.64263(W)	AD( )	0
AU0254	ELLIP H (02/10/07)	-24.891 (m)		GP( )	
AU0254	ELLIP H (02/21/02)	-24.900 (m)		GP( )	5 1
AU0254	NAD 83(1992)-	29 42 20.07033(N)	090 59 30.64115(W)	AD( )	1
AU0254	ELLIP H (12/17/98)	-24.857 (m)		GP( )	4 2
AU0254	NAD 83(1992)-	29 42 20.06582(N)	090 59 30.63432(W)	AD( )	1
AU0254	NAD 83(1986)-	29 42 20.08904(N)	090 59 30.63651(W)	AD( )	1
AU0254	NAD 27	- 29 42 19.34000(N)	090 59 30.28500(W)	AD( )	1
AU0254	NAVD 88	0.84 (m)	2.8 (f)	LEVELING	3
AU0254	NAVD 88 (02/14/94)	0.835 (m)	2.74 (f)	ADJUSTED	1 1
AU0254	NAVD 88 (06/15/91)	0.877 (m)	2.88 (f)	SUPERSEDED	1 1
AU0254	NGVD 29	0.97 (m)	3.2 (f)	LEVELING	3
AU0254	NGVD 29 (11/26/84)	0.922 (m)	3.02 (f)	ADJUSTED	1 1

AU0254

AU0254.Superseded values are not recommended for survey control.  
AU0254  
AU0254.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.  
AU0254.See file [dsdata.pdf](#) to determine how the superseded data were derived.  
AU0254  
AU0254\_MARKER: DS = TRIANGULATION STATION DISK  
AU0254\_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT  
AU0254\_STAMPING: GIBSON 1931  
AU0254\_MARK LOGO: CGS  
AU0254\_PROJECTION: FLUSH  
AU0254\_MAGNETIC: O = OTHER; SEE DESCRIPTION  
AU0254\_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO  
AU0254+STABILITY: SURFACE MOTION  
AU0254\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR  
AU0254+SATELLITE: SATELLITE OBSERVATIONS - January 03, 1995  
AU0254  
AU0254 HISTORY - Date Condition Report By  
AU0254 HISTORY - 1931 MONUMENTED CGS  
AU0254 HISTORY - 1938 GOOD LAGS  
AU0254 HISTORY - 1948 GOOD CGS  
AU0254 HISTORY - 1955 GOOD CGS  
AU0254 HISTORY - 1969 GOOD CGS  
AU0254 HISTORY - 1977 GOOD NGS  
AU0254 HISTORY - 1982 GOOD NGS  
AU0254 HISTORY - 19930223 GOOD NGS  
AU0254 HISTORY - 19950103 GOOD MPHI  
AU0254  
AU0254 STATION DESCRIPTION  
AU0254  
AU0254'DESCRIBED BY COAST AND GEODETIC SURVEY 1931 (FLG)  
AU0254'STATION IS ABOUT 12 MILES SW OF THIBODAU, 2.2 MILES W OF THE  
AU0254'VILLAGE OF DONNER, AND 1.4 MILES N OF GIBSON.  
AU0254'  
AU0254'SURFACE, UNDERGROUND, AND REFERENCE MARKS ARE STANDARD DISKS  
AU0254'SET IN CONCRETE.  
AU0254'  
AU0254'SURFACE MARK PROJECTS 4 INCHES.  
AU0254'  
AU0254'REFERENCE MARK NO. 1 PROJECTS 7 INCHES AND IS ON INSIDE OF A  
AU0254'BEND IN HIGHWAY 1/8 MILE E OF CHURCH, 25 FEET S OF CENTER LINE  
AU0254'OF ROAD, 200 FEET E OF A WOODEN SHED AND APPROXIMATELY 1,000 FEET  
AU0254'FROM STATION N 85 DEG 52 MIN E.  
AU0254'  
AU0254'REFERENCE MARK NO. 2, A FLUSH MARK, IS 144 FEET S (IN LINE WITH  
AU0254'THE STATION) FROM CENTER LINE OF HIGHWAY, 20.7 FEET SW OF SW  
AU0254'CORNER OF CHURCH, 25.2 FEET N OF S FENCE LINE OF CHURCHYARD,  
AU0254'AND 109.07 FEET FROM STATION S 11 DEG 55 MIN E.  
AU0254'  
AU0254'REACHED FROM THIBODAU BY ROUTE 28 WHICH IS THE MAIN GRAVEL  
AU0254'ROAD TO MORGAN CITY, PASSING THROUGH CHACHAHOULA AND DONNER.  
AU0254'STATION IS ON S SIDE OF ROAD, 59.0 FEET NW OF NW CORNER OF ROSE  
AU0254'HILL BAPTIST CHURCH, 35 FEET S OF CENTER LINE OF HIGHWAY, AND IN  
AU0254'NORTH SIDE CENTER OF CHURCHYARD, 14.4 FEET S OF A WIRE FENCE.  
AU0254  
AU0254 STATION RECOVERY (1938)  
AU0254  
AU0254'RECOVERY NOTE BY LOUISIANA GEODETIC SURVEY 1938  
AU0254'CHANGES AS FOLLOWS--ABOUT 12 MILES SW OF THIBODAU. 23 MILES W  
AU0254'OF HOUMA. 2.2 MILES W OF THE VILLAGE OF DONNER, AND 1.4 MILES N  
AU0254'OF GIBSON, LOUISIANA. REACHED FROM THIBODAU BY STATE HIGHWAY 28,  
AU0254'FROM HOUMA BY U.S. HIGHWAY 90. TO REACH FROM INTERSECTION OF  
AU0254'HIGHWAYS 28 AND 90, WHICH OCCURS 0.5 MILE N OF GIBSON, PROCEED  
AU0254'0.2 MILE E ON HIGHWAY 28 TO GRAVEL ROAD WHICH PASSES BENEATH  
AU0254'SOUTHERN PACIFIC RAILROAD GRADE, TURN N AND PROCEED FOR 1.2  
AU0254'MILES TO ROSE HILL BAPTIST CHURCH. STATION IS ON S SIDE OF  
AU0254'ROAD, 59.0 FEET NW OF NW CORNER OF CHURCH. 35 FEET S OF  
AU0254'CENTER LINE OF ROAD. 14.4 FEET S OF A WIRE FENCE. (FROM THIS  
AU0254'POINT ON THE ORIGINAL DESCRIPTION IS COMPETENT). THESE  
AU0254'CHANGES ARE NECESSARY BECAUSE OF THE CONSTRUCTION OF A NEW  
AU0254'CONCRETE HIGHWAY FROM THIBODAU.  
AU0254

AU0254 STATION RECOVERY (1948)  
AU0254  
AU0254'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1948 (CWC)  
AU0254'STATION AND R.M. 2 WERE RECOVERED IN GOOD CONDITION. THE 1938  
AU0254'RECOVERY NOTE BY THE LOUISIANA GEODETIC SURVEY IS ADEQUATE  
AU0254'FOR FUTURE RECOVERY, BUT THE FOLLOWING MINOR CHANGES AT THE  
AU0254'STATION SITE WERE NOTED--  
AU0254'  
AU0254'THE STATION IS 31.8 FEET S OF THE CENTER LINE OF A SHELL ROAD  
AU0254'AND 33.2 FEET SW OF THE GATE LEADING TO THE CHURCH.  
AU0254'  
AU0254'THE INTERSECTION OF HIGHWAYS 90 AND 28 IS 0.5 MILE W OF GIBSON,  
AU0254'NOT N.  
AU0254'  
AU0254'R.M. 1 WAS SEARCHED FOR BUT NOT RECOVERED.

AU0254 STATION RECOVERY (1955)  
AU0254  
AU0254'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1955 (HDR)  
AU0254'0.5 MI. W ALONG THE TEXAS AND NEW ORLEANS RAILROAD FROM THE  
AU0254'STATION AT GIBSON, THENCE 1.4 MI. N ALONG A GRAVELED ROAD,  
AU0254'31 FT. S OF THE CENTERLINE OF A ROAD, 59 FT. NW OF THE NW CORNER  
AU0254'OF THE ROSE HILL BAPTIST CHURCH, 30 FT. W OF THE CENTERLINE  
AU0254'OF A DRIVEWAY LEADING TO THE CHURCH, 2 FT. SW OF A WITNESS POST,  
AU0254'A TRIANGULATION-STATION DISK, SET IN THE TOP OF A CONCRETE POST  
AU0254'PROJECTING 0.4 FT. ABOVE THE GROUND, AND STAMPED GIBSON 1931.  
AU0254'  
AU0254'REFERENCE MARK 1 IS 0.1 MI. E OF THE TRIANGULATION STATION, 80  
AU0254'FT. W OF A FOOTWALK, 127 FT. NW OF THE N CORNER OF AN OLD SHED,  
AU0254'28 FT. SW OF THE CENTERLINE OF A ROAD, 17.6 FT. SW OF A WITNESS  
AU0254'POST, A REFERENCE-MARK DISK, SET IN THE TOP OF A CONCRETE POST  
AU0254'PROJECTING 0.4 FT. ABOVE THE GROUND, AND STAMPED GIBSON NO 1  
AU0254'1931.  
AU0254'  
AU0254'REFERENCE MARK 2 IS 109 FT. S OF THE TRIANGULATIN STATION, 20.7  
AU0254'FT. SW OF THE SW CORNER OF THE ROSE HILL BAPTIST CHURCH, A  
AU0254'REFERENCE-MARK DISK, SET IN THE TOP OF A CONCRETE POST FLUSH WITH  
AU0254'THE GROUND, AND STAMPED GIBSON NO 2 1931.

AU0254 STATION RECOVERY (1969)  
AU0254  
AU0254'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1969  
AU0254'1.4 MI NE FROM GIBSON.  
AU0254'ABOUT 1.4 MILES NORTHEAST ALONG DEADWOOD ROAD FROM THE SOUTHERN  
AU0254'PACIFIC COMPANY RAILROAD OVERPASS OVER THE ROAD AT GIBSON, IN THE LAWN  
AU0254'OF THE ROSE HILL BAPTIST CHURCH AND CEMETERY, 59 FEET NORTHWEST OF THE  
AU0254'NORTHWEST CORNER OF THE CHURCH BUILDING, 36 FEET SOUTH OF THE CENTER  
AU0254'LINE OF THE ROAD, 29 FEET WEST OF THE CENTER LINE OF A DRIVEWAY TO  
AU0254'CHURCH BUILDING, 11 FEET SOUTHEAST OF A POWER LINE POLE, ABOUT LEVEL  
AU0254'WITH THE ROAD AND SET IN THE TOP OF A CONCRETE POST PROJECTING 3  
AU0254'INCHES ABOVE THE LEVEL OF THE GROUND.

AU0254 STATION RECOVERY (1977)  
AU0254  
AU0254'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1977  
AU0254'RECOVERED IN GOOD CONDITION.

AU0254 STATION RECOVERY (1982)  
AU0254  
AU0254'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1982  
AU0254'THE MARK IS ABOVE LEVEL WITH ROAD.  
AU0254'RECOVERED IN GOOD CONDITION, NEW DESCRIPTION FOLLOWS. 0.3 KILOMETER  
AU0254'(0.2 MILE) NORTHWEST ALONG U.S. HIGHWAY 90 FROM THE SOUTHEAST END OF  
AU0254'THE HIGHWAY BRIDGE OVER BAYOU BLACK IN GIBSON, THENCE 0.3 KILOMETER  
AU0254'(0.2 MILE) NORTHEAST ALONG STATE HIGHWAY 20, THENCE 2.2 KILOMETERS  
AU0254'(1.4 MILES) NORTH ALONG DEADWOOD ROAD (PARISH ROAD 30) TO THE ROSE  
AU0254'HILL BAPTIST CHURCH AND THE MARK ON THE RIGHT, 10.97 METERS (36.0  
AU0254'FEET) SOUTH OF THE CENTER OF DEADWOOD ROAD, 33.22 METERS (109.0 FEET)  
AU0254'NORTH OF REFERENCE MARK GIBSON RM 2, 17.98 METERS (59.0 FEET)  
AU0254'NORTHWEST OF THE NORTHWEST CORNER OF THE CHURCH, 8.83 METERS (29.0  
AU0254'FEET) WEST OF THE CENTER OF THE SHELL ENTRANCE DRIVE OF THE CHURCH,

AU0254'3.35 METERS (11.0 FEET) SOUTHEAST OF A POWER POLE.  
AU0254  
AU0254 STATION RECOVERY (1993)  
AU0254  
AU0254'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1993  
AU0254'0.1 KM (0.05 MI) NORTHERLY ALONG CAROLL STREET FROM THE POST OFFICE  
AU0254'IN GIBSON, THENCE 0.7 KM (0.45 MI) WESTERLY ALONG STATE HIGHWAY 20,  
AU0254'THENCE 2.3 KM (1.40 MI) NORTHERLY ALONG DEADWOOD ROAD, 17.9 M (58.7  
AU0254'FT) NORTH-NORTHWEST OF THE NORTHWEST CORNER OF THE ROSE HILL BAPTIST  
AU0254'CHURCH, 10.9 M (35.8 FT) SOUTH OF AND LEVEL WITH THE CENTERLINE OF  
AU0254'THE ROAD, 9.0 M (29.5 FT) WEST OF THE CENTER OF A ROAD LEADING TO THE  
AU0254'CHURCH, 3.2 M (10.5 FT) SOUTHEAST OF A UTILITY LIGHT POLE WITH A  
AU0254'TRANSFORMER ATTACHED, AND THE MONUMENT IS FLUSH WITH THE GROUND  
AU0254'SURFACE.  
AU0254  
AU0254 STATION RECOVERY (1995)  
AU0254  
AU0254'RECOVERY NOTE BY MORRIS P HEBERT INCORPORATED 1995 (CSD)  
AU0254'RECOVERED AS DESCRIBED.  
1 National Geodetic Survey, Retrieval Date = JANUARY 29, 2024  
AU3359 \*\*\*\*\*  
AU3359 DESIGNATION - R 156 RESET  
AU3359 PID - AU3359  
AU3359 STATE/COUNTY- LA/ORLEANS  
AU3359 COUNTRY - US  
AU3359 USGS QUAD - NEW ORLEANS EAST (2018)  
AU3359  
AU3359 \*CURRENT SURVEY CONTROL  
AU3359  
AU3359\* NAD 83(1986) POSITION- 29 56 19. (N) 090 03 45. (W) SCALED  
AU3359\* NAVD 88 ORTHO HEIGHT - \*\* (meters) \*\* (feet) NOT PUB  
AU3359 \*\*This station is located in a suspected subsidence area (see below).  
AU3359  
AU3359 GEOID HEIGHT - -25.936 (meters) GEOID18  
AU3359 DYNAMIC HEIGHT - 5.454 (meters) 17.89 (feet) COMP  
AU3359 MODELED GRAVITY - 979,312.5 (mgal) NAVD 88  
AU3359  
AU3359 VERT ORDER - FIRST CLASS II  
AU3359  
AU3359.The horizontal coordinates were scaled from a map and have  
AU3359.an estimated accuracy of +/- 6 seconds.  
AU3359  
AU3359.\*\* This station is in an area of known vertical motion. If an  
AU3359.\*\* orthometric height was ever established but is not available  
AU3359.\*\* in the current survey control section, the orthometric height  
AU3359.\*\* is considered suspect. Suspect heights are available in the  
AU3359.\*\* superseded section only if requested.  
AU3359  
AU3359.The orthometric height was determined by differential leveling and  
AU3359.adjusted by the NATIONAL GEODETIC SURVEY  
AU3359.in December 1996.  
AU3359  
AU3359.Significant digits in the geoid height do not necessarily reflect accuracy.  
AU3359.GEOID18 height accuracy estimate available [here](#).  
AU3359  
AU3359.Click [photographs](#) - Photos may exist for this station.  
AU3359  
AU3359.The dynamic height is computed by dividing the NAVD 88  
AU3359.geopotential number by the normal gravity value computed on the  
AU3359.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45  
AU3359.degrees latitude (g = 980.6199 gals.).  
AU3359  
AU3359.The modeled gravity was interpolated from observed gravity values.  
AU3359  
AU3359;  
AU3359;SPC LA S - North East Units Estimated Accuracy  
AU3359; 160,140. 1,122,680. MT (+/- 180 meters Scaled)  
AU3359  
AU3359\_U.S. NATIONAL GRID SPATIAL ADDRESS: 15RYP835156(NAD 83)  
AU3359  
AU3359  
AU3359 SUPERSEDED SURVEY CONTROL  
AU3359

AU3359 NAVD 88 (12/05/96) 5.461 (m) 17.92 (f) ADJUSTED 1 2  
 AU3359 NAVD 88 (02/14/94) 5.451 (m) 17.88 (f) SUPERSEDED 1 2  
 AU3359 NGVD 29 (05/21/91) 5.511 (m) 18.08 (f) ADJUSTED 1 2

AU3359

AU3359.Superseded values are not recommended for survey control.

AU3359

AU3359.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

AU3359.See file [dsdata.pdf](#) to determine how the superseded data were derived.

AU3359

AU3359\_MARKER: DV = VERTICAL CONTROL DISK

AU3359\_SETTING: 31 = SET IN A PAVEMENT SUCH AS STREET, SIDEWALK, CURB, ETC.

AU3359\_SP\_SET: CURB

AU3359\_STAMPING: R 156 RESET 1988

AU3359\_MARK LOGO: NGS

AU3359\_MAGNETIC: N = NO MAGNETIC MATERIAL

AU3359\_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY

AU3359\_SATELLITE: THE SITE LOCATION WAS REPORTED AS NOT SUITABLE FOR

AU3359+SATELLITE: SATELLITE OBSERVATIONS - November 08, 1994

AU3359

AU3359 HISTORY - Date Condition Report By

AU3359 HISTORY - 1988 MONUMENTED LADTD

AU3359 HISTORY - 19901119 GOOD NGS

AU3359 HISTORY - 19941108 GOOD NGS

AU3359

AU3359 STATION DESCRIPTION

AU3359

AU3359'DESCRIBED BY LA TRANSP AND DEV 1988

AU3359'THE STATION IS LOCATED IN NEW ORLEANS NEAR THE NORTHWEST CORNER OF THE

AU3359'THALIA STREET WHARF ON THE MISSISSIPPI RIVER FRONT UNDER THE EAST

AU3359'BOUND LANES OF THE GREATER NEW ORLEANS BRIDGE IN THE FOOTING OF THE

AU3359'FIRST PIER FROM THE WATERS EDGE. OWNERSHIP--LOUISIANA DEPARTMENT OF

AU3359'TRANSPORTATION AND DEVELOPMENT.

AU3359'THE STATION IS 16.2 M (53.1 FT) NORTHWEST FROM THE NORTHWEST CORNER OF

AU3359'THE THALIA STREET WHARF, 15.2 M (49.9 FT) NORTHEAST FROM A FIRE

AU3359'HYDRANT, 4.9 M (16.1 FT) SOUTH FROM THE CENTER OF THE EAST SIDE OF THE

AU3359'SOUTH PIER AND 0.5 M (1.6 FT) NORTH-NORTHEAST FROM A RETAINING WALL

AU3359'FOR THE THALIA STREET DOCKS. THE MARK IS ABOUT 0.30 M (1.0 FT) BELOW

AU3359'THE DOCKS.

AU3359

AU3359 STATION RECOVERY (1990)

AU3359

AU3359'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1990

AU3359'IN NEW ORLEANS, AT THE INTERSECTION OF THALIA STREET AND THE NEW

AU3359'ORLEANS PUBLIC BELT RAILROAD, IN THE SOUTHEAST CORNER OF THE PILE CAP

AU3359'FOR THE 1ST PIER (WEST OF THE RIVER) OF THE WESTBOUND GREATER NEW

AU3359'ORLEANS BRIDGE SPANNING THE MISSISSIPPI RIVER, 21.0 M (68.9 FT) EAST

AU3359'OF THE NEAR RAIL, 4.1 M (13.5 FT) SOUTHEAST OF THE SOUTHEAST CORNER

AU3359'OF THE PIER, 2.9 M (9.5 FT) NORTH OF THE EXTENDED CENTER OF THE

AU3359'STREET, AND 0.5 M (1.6 FT) ABOVE THE LEVEL OF THE TRACK.

AU3359

AU3359 STATION RECOVERY (1994)

AU3359

AU3359'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1994 (GAS)

AU3359'IN NEW ORLEANS, AT THE INTERSECTION OF THALIA STREET AND THE NEW

AU3359'ORLEANS PUBLIC BELT RAILROAD, IN THE SOUTHEAST CORNER OF A CONCRETE

AU3359'CURB SURROUNDING THE PILE CAP FOR THE FIRST PIER WEST OF THE

AU3359'MISSISSIPPI RIVER OF THE WESTBOUND GREATER NEW ORLEANS BRIDGE SPANNING

AU3359'THE RIVER, 21.0 M (68.9 FT) EAST OF THE NEAR RAIL, 4.1 M (13.5 FT)

AU3359'SOUTHEAST OF THE SOUTHEAST CORNER OF THE PIER, 2.9 M (9.5 FT) NORTH OF

AU3359'THE EXTENDED CENTER OF THE STREET, AND 0.5 M (1.6 FT) ABOVE THE LEVEL

AU3359'OF THE TRACK.

1 National Geodetic Survey, Retrieval Date = JANUARY 29, 2024

BJ1449 \*\*\*\*\*

BJ1449 DESIGNATION - B 157

BJ1449 PID - BJ1449

BJ1449 STATE/COUNTY- LA/ORLEANS

BJ1449 COUNTRY - US

BJ1449 USGS QUAD - SPANISH FORT (2018)

BJ1449

BJ1449 \*CURRENT SURVEY CONTROL

BJ1449

BJ1449\* NAD 83(1986) POSITION- 30 00 36. (N) 090 01 07. (W) SCALED  
 BJ1449\* NAVD 88 ORTHO HEIGHT - \*\* (meters) \*\* (feet) NOT PUE  
 BJ1449 \*\*This station is located in a suspected subsidence area (see below).  
 BJ1449  
 BJ1449 GEOID HEIGHT - -26.118 (meters) GEOID18  
 BJ1449 VERT ORDER - FIRST CLASS II (See Below)  
 BJ1449  
 BJ1449.The horizontal coordinates were scaled from a map and have  
 BJ1449.an estimated accuracy of +/- 6 seconds.  
 BJ1449  
 BJ1449.\*\* This station is in an area of known vertical motion. If an  
 BJ1449.\*\* orthometric height was ever established but is not available  
 BJ1449.\*\* in the current survey control section, the orthometric height  
 BJ1449.\*\* is considered suspect. Suspect heights are available in the  
 BJ1449.\*\* superseded section only if requested.  
 BJ1449  
 BJ1449.Significant digits in the geoid height do not necessarily reflect accuracy.  
 BJ1449.GEOID18 height accuracy estimate available [here](#).  
 BJ1449  
 BJ1449.The vertical order pertains to the NGVD 29 superseded value.  
 BJ1449  
 BJ1449.Click [photographs](#) - Photos may exist for this station.  
 BJ1449  
 BJ1449; North East Units Estimated Accuracy  
 BJ1449;SPC LA S - 168,100. 1,126,830. MT (+/- 180 meters Scaled)  
 BJ1449  
 BJ1449\_U.S. NATIONAL GRID SPATIAL ADDRESS: 15RYP875236(NAD 83)  
 BJ1449  
 BJ1449 SUPERSEDED SURVEY CONTROL  
 BJ1449  
 BJ1449 NGVD 29 (11/26/84) 0.593 (m) 1.95 (f) ADJUSTED 1 2  
 BJ1449  
 BJ1449.Superseded values are not recommended for survey control.  
 BJ1449  
 BJ1449.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.  
 BJ1449.See file [dsdata.pdf](#) to determine how the superseded data were derived.  
 BJ1449  
 BJ1449\_MARKER: DB = BENCH MARK DISK  
 BJ1449\_SETTING: 30 = SET IN A LIGHT STRUCTURE  
 BJ1449\_SP\_SET: CURBING  
 BJ1449\_STAMPING: B 157 1955  
 BJ1449\_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY  
 BJ1449  
 BJ1449 HISTORY - Date Condition Report By  
 BJ1449 HISTORY - 1955 MONUMENTED CGS  
 BJ1449 HISTORY - 1985 MARK NOT FOUND NGS  
 BJ1449  
 BJ1449 STATION DESCRIPTION  
 BJ1449  
 BJ1449'DESCRIBED BY COAST AND GEODETIC SURVEY 1955  
 BJ1449'0.55 MI E FROM NEW ORLEANS.  
 BJ1449'ABOUT 0.55 MILE EAST ALONG U.S. HIGHWAY 90 FROM BRIDGE OVER INNER  
 BJ1449'HARBOR NAVIGATION CANAL AT NEW ORLEANS, ABOUT 0.15 MILE EAST OF  
 BJ1449'INTERSECTION OF DOWNMAN ROAD, IN THE TOP OF THE CONCRETE CURBING OF  
 BJ1449'CONCRETE FOUNDATION OF GIARDINAS SHELL SERVICE STATION WHICH IS ON  
 BJ1449'SOUTH SIDE OF HIGHWAY, 1 FOOT NORTHEAST OF NORTHWEST CORNER OF  
 BJ1449'BUILDING, 1/2 FOOT EAST OF WEST END OF CURBING AND ABOUT 1 FOOT ABOVE  
 BJ1449'LEVEL OF HIGHWAY.  
 BJ1449  
 BJ1449 STATION RECOVERY (1985)  
 BJ1449  
 BJ1449'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1985  
 BJ1449'NOT RECOVERED, THE CONCRETE FOUNDATION HAS BEEN RESURFACED AT THE  
 BJ1449'NORTHWEST CORNER, CONSIDER DESTROYED.

### Change #3:

On some datasheets, the geoid models listed in the SUPERSEDED SURVEY CONTROL were being truncated by one character. We have corrected this issue.



To see these changes:

1. Go to [https://testaws.nosngs.noaa/cgi-bin/ds\\_pid.prl](https://testaws.nosngs.noaa/cgi-bin/ds_pid.prl).
2. Enter the following PIDs into the PID Box:

AG9547  
AJ7812  
AU2196  
DJ2095  
FA4563

Check the include suspect heights in vertical motion areas checkbox, and then press the [Submit] button. When the warnings message pops up as shown below:

**Warning** ×

I have chosen to include suspect heights in my query as defined by NGS which currently includes parts of TX, LA, MS, AL, FL, and American Samoa. I understand that these marks are located in areas of known or suspected significant local vertical motion due to subsidence, uplift, or displacement caused by earthquakes. I also understand that in dynamic areas such as these, NGS warns against using suspect or superseded heights as control.

**I understand the risk**      **CANCEL MY REQUEST**

press the [I understand the risk] button. On the next page, select the PID radio button, press the [Re-Sort-By] button to sort the marks by PID. Next, press the [Select All] button followed by the [Get Datasheets] button. You should see the below partial datasheets showing only the SUPERSEDED SURVEY CONTROL section where the geoid models are highlighted in hot pink.

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. . .  
AG9547  
AG9547  
AG9547 NAD 83(2007)- 46 08 49.68105(N) 091 31 01.85344(W) AD(2002.00) 0  
AG9547 ELLIP H (02/10/07) 363.217 (m) GP(2002.00)  
AG9547 NAD 83(1997)- 46 08 49.68112(N) 091 31 01.85405(W) AD( ) 1  
AG9547 ELLIP H (12/26/02) 363.234 (m) GP( ) 3 2  
AG9547 NAD 83(1991)- 46 08 49.68092(N) 091 31 01.85294(W) AD( ) 1  
AG9547 ELLIP H (04/30/98) 363.227 (m) GP( ) 3 2  
AG9547 NAVD 88 (05/27/14) 391.12 (m) GEOID12A model used GPS OBS  
AG9547 NAVD 88 (04/30/98) 391.1 (m) GEOID96 model used GPS OBS  
AG9547  
AG9547.Superseded values are not recommended for survey control.  
AG9547
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AG9547.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.  
 AG9547.See file [dsdata.pdf](#) to determine how the superseded data were derived.  
 AG9547

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AJ7812 SUPERSEDED SURVEY CONTROL  
 AJ7812  
 AJ7812 NAD 83(2007)- 34 55 59.56692(N) 089 59 40.75416(W) AD(2002.00) A  
 AJ7812 ELLIP H (09/06/11) 71.456 (m) GP(2002.00) 4 1  
 AJ7812 NAD 83(2007)- 34 55 59.56663(N) 089 59 40.75449(W) AD(2002.00) 0  
 AJ7812 ELLIP H (02/10/07) 71.490 (m) GP(2002.00)  
 AJ7812 ELLIP H (09/08/03) 71.503 (m) GP( ) 4 1  
 AJ7812 ELLIP H (04/15/02) 71.465 (m) GP( ) 4 2  
 AJ7812 NAD 83(1993)- 34 55 59.56623(N) 089 59 40.75359(W) AD( ) B  
 AJ7812 ELLIP H (02/15/02) 71.462 (m) GP( ) 4 1  
 AJ7812 NAVD 88 (12/26/12) 98.93 (m) GEOID12A model used GPS OBS  
 AJ7812 NAVD 88 (04/05/04) 98.92 (m) UNKNOWN model used GPS OBS  
 AJ7812 NAVD 88 (02/15/02) 98.8 (m) GEOID99 model used GPS OBS  
 AJ7812  
 AJ7812.Superseded values are not recommended for survey control.  
 AJ7812  
 AJ7812.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.  
 AJ7812.See file [dsdata.pdf](#) to determine how the superseded data were derived.  
 AJ7812

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AU2196 SUPERSEDED SURVEY CONTROL  
 AU2196  
 AU2196 NAD 83(2011)- 29 55 53.38201(N) 090 08 02.34961(W) AD(2010.00) 0  
 AU2196 NAD 83(2011)- 29 55 53.38271(N) 090 08 02.34998(W) AD(2010.00) 0  
 AU2196 ELLIP H (06/27/12) -22.706 (m) GP(2010.00)  
 AU2196 ELLIP H (10/11/11) -22.713 (m) GP( ) 4 1  
 AU2196 NAD 83(2007)- 29 55 53.38277(N) 090 08 02.35071(W) AD( ) 0  
 AU2196 ELLIP H (02/10/07) -22.697 (m) GP( )  
 AU2196 NAD 83(1992)- 29 55 53.38291(N) 090 08 02.35063(W) AD( ) B  
 AU2196 ELLIP H (12/29/04) -22.700 (m) GP( ) 4 1  
 AU2196 NAVD 88 (12/26/12) 3.24 (m) GEOID12A model used GP(2009.55)  
 AU2196 NAVD 88 (01/05/06) 3.30 (m) GEOID03 model used GP(2004.65)  
 AU2196 NAVD 88 (05/09/05) 3.41 (m) USGG2003 model used GPS OBS  
 AU2196 NAVD 88 (12/05/96) 3.450 (m) 11.32 (f) ADJUSTED 1 2  
 AU2196 NAVD 88 (02/14/94) 3.435 (m) 11.27 (f) SUPERSEDED 1 2  
 AU2196 NGVD 29 (05/21/91) 3.495 (m) 11.47 (f) ADJUSTED 1 2  
 AU2196 NGVD 29 (??/??/87) 3.546 (m) 11.63 (f) SUPERSEDED 1 2  
 AU2196  
 AU2196.Superseded values are not recommended for survey control.  
 AU2196  
 AU2196.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.  
 AU2196.See file [dsdata.pdf](#) to determine how the superseded data were derived.  
 AU2196

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DJ2095 SUPERSEDED SURVEY CONTROL  
 DJ2095  
 DJ2095 NAD 83(2007)- 33 49 56.25921(N) 089 47 37.99712(W) AD(2002.00) A  
 DJ2095 ELLIP H (09/06/11) 32.658 (m) GP(2002.00) 4 1  
 DJ2095 NAD 83(2007)- 33 49 56.25867(N) 089 47 37.99766(W) AD(2002.00) 1  
 DJ2095 ELLIP H (02/15/08) 32.695 (m) GP(2002.00) 4 2  
 DJ2095 NAD 83(2007)- 33 49 56.25871(N) 089 47 37.99738(W) AD(2002.00) 0  
 DJ2095 ELLIP H (02/10/07) 32.693 (m) GP(2002.00)  
 DJ2095 ELLIP H (09/12/01) 32.682 (m) GP( ) 3 1  
 DJ2095 NAD 83(1993)- 33 49 56.25870(N) 089 47 37.99623(W) AD( ) B  
 DJ2095 ELLIP H (01/12/94) 32.736 (m) GP( ) 4 1  
 DJ2095 NAD 83(1992)- 33 49 56.26428(N) 089 47 37.98777(W) AD( ) 3  
 DJ2095 NAD 83(1986)- 33 49 56.26442(N) 089 47 37.98799(W) AD( ) 3  
 DJ2095 NAD 27 - 33 49 55.84708(N) 089 47 37.73194(W) AD( ) 3  
 DJ2095 NAVD 88 (02/15/08) 59.26 (m) GEOID03 model used GPS OBS  
 DJ2095 NAVD 88 (02/15/02) 59.2 (m) GEOID99 model used GPS OBS

DJ2095 NAVD 88 (04/06/99) 59.2 (m) GEOID96 model used GPS OBS  
 DJ2095 NAVD 88 (01/12/94) 59.2 (m) GEOID93 model used GPS OBS  
 DJ2095 NGVD 29 (09/20/88) 59.3 (m) RAPSU86 model used GPS OBS

DJ2095  
 DJ2095.Superseded values are not recommended for survey control.  
 DJ2095  
 DJ2095.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.  
 DJ2095.See file [dsdata.pdf](#) to determine how the superseded data were derived.  
 DJ2095

. . .

FA4563 SUPERSEDED SURVEY CONTROL  
 FA4563  
 FA4563 NAD 83(2007)- 35 14 17.58635(N) 080 40 17.44851(W) AD(2002.00) 0  
 FA4563 ELLIP H (02/10/07) 196.669 (m) GP(2002.00)  
 FA4563 NAD 83(2001)- 35 14 17.58630(N) 080 40 17.44856(W) AD( ) B  
 FA4563 ELLIP H (01/30/03) 196.679 (m) GP( ) 4 2  
 FA4563 NAD 83(1995)- 35 14 17.58665(N) 080 40 17.44827(W) AD( ) B  
 FA4563 ELLIP H (09/11/96) 196.676 (m) GP( ) 4 1  
 FA4563 NAD 83(1986)- 35 14 17.60145(N) 080 40 17.45777(W) AD( ) 1  
 FA4563 NAVD 88 (08/04/17) 226.9 (m) GEOID12B model used GPS OBS  
 FA4563 NAVD 88 (12/02/04) 226.939 (m) 744.55 (f) SUPERSEDED 2 2  
 FA4563 NAVD 88 226.94 (m) 744.6 (f) LEVELING 3  
 FA4563 NAVD 88 (08/02/04) 226.94 (m) GEOID03 model used GPS OBS  
 FA4563 NAVD 88 (06/02/98) 227.0 (m) GEOID96 model used GPS OBS  
 FA4563 NAVD 88 (09/11/96) 227.0 (m) GEOID93 model used GPS OBS  
 FA4563 NGVD 29 (11/20/91) 227.2 (m) UNKNOWN model used GPS OBS

FA4563  
 FA4563.Superseded values are not recommended for survey control.  
 FA4563  
 FA4563.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.  
 FA4563.See file [dsdata.pdf](#) to determine how the superseded data were derived.  
 FA4563

*Prior to this you would have seen the below partial datasheets showing only the SUPERSEDED SURVEY CONTROL section where the geoid models are highlighted in red.*

. . .

AG9547 SUPERSEDED SURVEY CONTROL  
 AG9547  
 AG9547 NAD 83(2007)- 46 08 49.68105(N) 091 31 01.85344(W) AD(2002.00) 0  
 AG9547 ELLIP H (02/10/07) 363.217 (m) GP(2002.00)  
 AG9547 NAD 83(1997)- 46 08 49.68112(N) 091 31 01.85405(W) AD( ) 1  
 AG9547 ELLIP H (12/26/02) 363.234 (m) GP( ) 3 2  
 AG9547 NAD 83(1991)- 46 08 49.68092(N) 091 31 01.85294(W) AD( ) 1  
 AG9547 ELLIP H (04/30/98) 363.227 (m) GP( ) 3 2  
 AG9547 NAVD 88 (05/27/14) 391.12 (m) GEOID12 model used GPS OBS  
 AG9547 NAVD 88 (04/30/98) 391.1 (m) GEOID96 model used GPS OBS

AG9547  
 AG9547.Superseded values are not recommended for survey control.  
 AG9547  
 AG9547.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.  
 AG9547.See file [dsdata.pdf](#) to determine how the superseded data were derived.  
 AG9547

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AJ7812 SUPERSEDED SURVEY CONTROL  
 AJ7812  
 AJ7812 NAD 83(2007)- 34 55 59.56692(N) 089 59 40.75416(W) AD(2002.00) A  
 AJ7812 ELLIP H (09/06/11) 71.456 (m) GP(2002.00) 4 1  
 AJ7812 NAD 83(2007)- 34 55 59.56663(N) 089 59 40.75449(W) AD(2002.00) 0  
 AJ7812 ELLIP H (02/10/07) 71.490 (m) GP(2002.00)  
 AJ7812 ELLIP H (09/08/03) 71.503 (m) GP( ) 4 1  
 AJ7812 ELLIP H (04/15/02) 71.465 (m) GP( ) 4 2  
 AJ7812 NAD 83(1993)- 34 55 59.56623(N) 089 59 40.75359(W) AD( ) B  
 AJ7812 ELLIP H (02/15/02) 71.462 (m) GP( ) 4 1

AJ7812	NAVD 88 (11/08/21)	98.90	(m)	GEOID18	model used	GPS OBS
AJ7812	NAVD 88 (04/05/04)	98.92	(m)	UNKNOWN	model used	GPS OBS
AJ7812	NAVD 88 (02/15/02)	98.8	(m)	GEOID99	model used	GPS OBS

AJ7812  
 AJ7812.Superseded values are not recommended for survey control.  
 AJ7812  
 AJ7812.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.  
 AJ7812.See file [dsdata.pdf](#) to determine how the superseded data were derived.  
 AJ7812

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SUPERSEDED SURVEY CONTROL						
AU2196	NAD 83(2011)-	29 55 53.38201(N)		090 08 02.34961(W)	AD(2010.00)	0
AU2196	NAD 83(2011)-	29 55 53.38271(N)		090 08 02.34998(W)	AD(2010.00)	0
AU2196	ELLIP H (06/27/12)	-22.706 (m)			GP(2010.00)	
AU2196	ELLIP H (10/11/11)	-22.713 (m)			GP( )	4 1
AU2196	NAD 83(2007)-	29 55 53.38277(N)		090 08 02.35071(W)	AD( )	0
AU2196	ELLIP H (02/10/07)	-22.697 (m)			GP( )	
AU2196	NAD 83(1992)-	29 55 53.38291(N)		090 08 02.35063(W)	AD( )	B
AU2196	ELLIP H (12/29/04)	-22.700 (m)			GP( )	4 1
AU2196	NAVD 88 (12/26/12)	3.24 (m)			GEOID12 model used	GP(2009.55)
AU2196	NAVD 88 (01/05/06)	3.30 (m)			GEOID03 model used	GP(2004.65)
AU2196	NAVD 88 (05/09/05)	3.41 (m)			USGG200 model used	GPS OBS
AU2196	NAVD 88 (12/05/96)	3.450 (m)		11.32 (f)	ADJUSTED	1 2
AU2196	NAVD 88 (02/14/94)	3.435 (m)		11.27 (f)	SUPERSEDED	1 2
AU2196	NGVD 29 (05/21/91)	3.495 (m)		11.47 (f)	ADJUSTED	1 2
AU2196	NGVD 29 (??/??/87)	3.546 (m)		11.63 (f)	SUPERSEDED	1 2

AU2196  
 AU2196.Superseded values are not recommended for survey control.  
 AU2196  
 AU2196.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.  
 AU2196.See file [dsdata.pdf](#) to determine how the superseded data were derived.  
 AU2196

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SUPERSEDED SURVEY CONTROL						
DJ2095	NAD 83(2007)-	33 49 56.25921(N)		089 47 37.99712(W)	AD(2002.00)	A
DJ2095	ELLIP H (09/06/11)	32.658 (m)			GP(2002.00)	4 1
DJ2095	NAD 83(2007)-	33 49 56.25867(N)		089 47 37.99766(W)	AD(2002.00)	1
DJ2095	ELLIP H (02/15/08)	32.695 (m)			GP(2002.00)	4 2
DJ2095	NAD 83(2007)-	33 49 56.25871(N)		089 47 37.99738(W)	AD(2002.00)	0
DJ2095	ELLIP H (02/10/07)	32.693 (m)			GP(2002.00)	
DJ2095	ELLIP H (09/12/01)	32.682 (m)			GP( )	3 1
DJ2095	NAD 83(1993)-	33 49 56.25870(N)		089 47 37.99623(W)	AD( )	B
DJ2095	ELLIP H (01/12/94)	32.736 (m)			GP( )	4 1
DJ2095	NAD 83(1992)-	33 49 56.26428(N)		089 47 37.98777(W)	AD( )	3
DJ2095	NAD 83(1986)-	33 49 56.26442(N)		089 47 37.98799(W)	AD( )	3
DJ2095	NAD 27	- 33 49 55.84708(N)		089 47 37.73194(W)	AD( )	3
DJ2095	NAVD 88 (02/15/08)	59.26 (m)			GEOID03 model used	GPS OBS
DJ2095	NAVD 88 (02/15/02)	59.2 (m)			GEOID99 model used	GPS OBS
DJ2095	NAVD 88 (04/06/99)	59.2 (m)			GEOID96 model used	GPS OBS
DJ2095	NAVD 88 (01/12/94)	59.2 (m)			GEOID93 model used	GPS OBS
DJ2095	NGVD 29 (09/20/88)	59.3 (m)			RAPSU86 model used	GPS OBS

DJ2095  
 DJ2095.Superseded values are not recommended for survey control.  
 DJ2095  
 DJ2095.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.  
 DJ2095.See file [dsdata.pdf](#) to determine how the superseded data were derived.  
 DJ2095

. . .

SUPERSEDED SURVEY CONTROL						
FA4563	NAD 83(2007)-	35 14 17.58635(N)		080 40 17.44851(W)	AD(2002.00)	0
FA4563	ELLIP H (02/10/07)	196.669 (m)			GP(2002.00)	
FA4563	NAD 83(2001)-	35 14 17.58630(N)		080 40 17.44856(W)	AD( )	B

```

FA4563 ELLIP H (01/30/03) 196.679 (m) GP( ) 4 2
FA4563 NAD 83(1995)- 35 14 17.58665(N) 080 40 17.44827(W) AD( ) B
FA4563 ELLIP H (09/11/96) 196.676 (m) GP( ) 4 1
FA4563 NAD 83(1986)- 35 14 17.60145(N) 080 40 17.45777(W) AD( ) 1
FA4563 NAVD 88 (08/04/17) 226.9 (m) GEOID12 model used GPS OBS
FA4563 NAVD 88 (12/02/04) 226.939 (m) 744.55 (f) SUPERSEDED 2 2
FA4563 NAVD 88 226.94 (m) 744.6 (f) LEVELING 3
FA4563 NAVD 88 (08/02/04) 226.94 (m) GEOID03 model used GPS OBS
FA4563 NAVD 88 (06/02/98) 227.0 (m) GEOID96 model used GPS OBS
FA4563 NAVD 88 (09/11/96) 227.0 (m) GEOID93 model used GPS OBS
FA4563 NGVD 29 (11/20/91) 227.2 (m) UNKNOWN model used GPS OBS
FA4563
FA4563.Superseded values are not recommended for survey control.
FA4563
FA4563.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
FA4563.See file dsdata.pdf to determine how the superseded data were derived.
FA4563

```

...

## Version 8.12.5.16 updated on 08/03/2023

There is one change to datasheets with this release.

If a control point is a height modernization (HTMOD) station and also is a primary or secondary airport control station (PACs or SACs) then the paragraph:

```

<PID>.GPS derived orthometric heights for airport stations designated as
<PID>.PACS or SACS are published to 2 decimal places. This maintains
<PID>.centimeter relative accuracy between the PACS and SACS. It does
<PID>.not indicate centimeter accuracy relative to other marks which are
<PID>.part of the published vertical control network.

```

will no longer appear on its datasheet. Example PIDs that fall into this category are:

```

AM0539
BL2014
FE2751
EB2716
DD0765

```

## Version 8.12.5.15 updated on 05/02/2023

There are three main changes to datasheets with this release.

For the first change, if a control point is a primary or secondary airport control station (PACS or SACS) then the paragraph:

```

<PID>.GPS derived orthometric heights for airport stations designated as
<PID>.PACS or SACS are published to 2 decimal places. This maintains
<PID>.centimeter relative accuracy between the PACS and SACS. It does
<PID>.not indicate centimeter accuracy relative to other marks which are
<PID>.part of the NAVD 88 network.

```

now becomes to:

```

<PID>.GPS derived orthometric heights for airport stations designated as

```

<PID>.PACS or SACS are published to 2 decimal places. This maintains <PID>.centimeter relative accuracy between the PACS and SACS. It does <PID>.not indicate centimeter accuracy relative to other marks which are <PID>.part of the **published vertical control** network.

Example PIDs where you can see this change on datasheets are:

AA4464  
DQ2174  
JV4614  
KM0292  
TU2250  
TV0946  
UV1458

This change was made to better accomodate control points that are PACS/SACS and are *outside of the NAVD88 network* (such as AA4464 in American Samoa, DQ2174 in the Republic of Marshall Islands, TU2250 in Hawaii, TV0946 in Puerto Rico, and UV1458 in Alaska).

For the second change, control points that are in the TX suspect area should now display the following text:

```
<PID>.** This station is in an area of suspected land subsidence, uplift, or
<PID>.** crustal motion. NGS recommends this and all published orthometric
<PID>.** heights in such areas be validated before use as vertical control.
<PID>.** Click here to see a list and map of nearby stations with valid
<PID>.** orthometric heights. Note: While datasheets are updated in real-time,
<PID>.** updates to archived datasheets and the SE TX Valid OH map occur
<PID>.** monthly. NGS discourages the use of scaled, VERTCON, or superseded
<PID>.** heights as vertical control as they are deemed unreliable.
<PID>.**
<PID>.** If an established orthometric height is unavailable in the survey control
<PID>.** section, it should be considered suspect. To view suspect heights,
<PID>.** (in the superseded section), select 'Include suspect heights in vertical
<PID>.** motion areas' box from the datasheet retrieval page.
```

Prior to this, the text displayed as:

```
<PID> ** This station is in an area of suspected vertical motion. Due to the
<PID> ** variability of land subsidence, uplift, and crustal motion, NGS
<PID> ** recommends that all published orthometric heights in such areas be
<PID> ** validated before used as control. In addition, NGS does not
<PID> ** recommend using the following types of orthometric heights as
<PID> ** vertical control: scaled, VERTCON, or superseded. Click here to
<PID> ** see the list of stations with valid orthometric heights in this area.
<PID> **
<PID> ** If an established orthometric height is unavailable in the survey control
<PID> ** section, it should be considered suspect. To view suspect heights,
<PID> ** (in the superseded section), select "Include suspect heights in vertical
<PID> ** motion areas" box from the datasheet retrieval page.
```

An example control point where you can see this change on a datasheet is AW0590. It's partial datasheet with this paragraph is shown below:

```
...
AW0590.** This station is in an area of suspected land subsidence, uplift, or
AW0590.** crustal motion. NGS recommends this and all published orthometric
AW0590.** heights in such areas be validated before use as vertical control.
AW0590.** Click here to see a list and map of nearby stations with valid
```

AW0590.\*\* orthometric heights. **Note: While datasheets are updated in real-time, AW0590.\*\* updates to [archived](#) datasheets and the SE TX Valid OH map occur AW0590.\*\* monthly.** NGS discourages the use of scaled, VERTCON, or superseded AW0590.\*\* heights as vertical control as they are deemed unreliable.  
AW0590.\*\*  
AW0590.\*\* If an established orthometric height is unavailable in the survey control AW0590.\*\* section, it should be considered suspect. To view suspect heights, AW0590.\*\* (in the superseded section), select 'Include suspect heights in vertical AW0590.\*\* motion areas' box from the datasheet retrieval page.  
...

The third change involves some very minor text changes to several paragraphs on datasheets. These changes were needed as NGS prepares for a future release of datasheets in JSON format. More will be written on JSON datasheets at a later date. Using the control points of:

AA3712  
AM0539  
AX2553  
BG2536  
BG5003  
BH1164  
BJ0637  
DC0409  
DE8751  
DR7033  
SZ0062  
TU2764

these minor changes are shown in the partial datasheets below.

From:

AA3712 \*\* The Pago Pago tide station is not formally a part of the current  
AA3712 \*\* national tidal datum epoch (NTDE. A Station Datum (SD) has been  
AA3712 \*\* determined by the NOS Center for Operational Oceanographic Products  
AA3712 \*\* and Services (CO-OPS), and published for the National Water Levels  
AA3712 \*\* Observation Network (NWLON) bench mark number 177 0000 W (4.345m meters  
AA3712 \*\* or 14.255 ft), located in Pago Pago. Surveys requiring vertical control  
AA3712 \*\* must incorporate bench marks around the tide gauge, preferentially  
AA3712 \*\* 177 0000 W.  
AA3712 \*\*  
AA3712 \*\* The heights of stations in this area may have changed  
AA3712 \*\* by more than 10 cm due to earthquakes. NGS strongly warns  
AA3712 \*\* against the use of such suspect heights as control.

To:

AA3712.\*\* The Pago Pago tide station is not formally a part of the current  
AA3712.\*\* national tidal datum epoch (NTDE. A Station Datum (SD) has been  
AA3712.\*\* determined by the NOS Center for Operational Oceanographic Products  
AA3712.\*\* and Services (CO-OPS), and published for the National Water Levels  
AA3712.\*\* Observation Network (NWLON) bench mark number 177 0000 W (4.345m meters  
AA3712.\*\* or 14.255 ft), located in Pago Pago. Surveys requiring vertical control  
AA3712.\*\* must incorporate bench marks around the tide gauge, preferentially  
AA3712.\*\* 177 0000 W.  
AA3712.\*\*  
AA3712.\*\* The heights of stations in this area may have changed  
AA3712.\*\* by more than 10 cm due to earthquakes. NGS strongly warns  
AA3712.\*\* against the use of such suspect heights as control.

From:

AM0539

AM0539

AM0539.This mark is at Bay City Muni (3R1) Airport (3R1)

To:

AM0539

AM0539.This mark is at Bay City Muni (3R1) Airport (3R1)

From:

AX2553 \*\* This station is in an area of suspected vertical motion. Due to the

AX2553 \*\* variability of land subsidence, uplift, and crustal motion, NGS

AX2553 \*\* recommends that all published orthometric heights in such areas be

AX2553 \*\* validated before used as control. In addition, NGS does not

AX2553 \*\* recommend using the following types of orthometric heights as

AX2553 \*\* vertical control: scaled, VERTCON, or superseded. Click here to

AX2553 \*\* see the list of stations with valid orthometric heights in this area.

AX2553 \*\*

AX2553 \*\* If an established orthometric height is unavailable in the survey  
control

AX2553 \*\* section, it should be considered suspect. To view suspect heights,

AX2553 \*\* (in the superseded section), select  Include suspect heights in vertical

AX2553 \*\* motion areas  box from the datasheet retrieval page.

To:

AX2553 \*\* This station is in an area of suspected vertical motion. Due to the

AX2553 \*\* variability of land subsidence, uplift, and crustal motion, NGS

AX2553 \*\* recommends that all published orthometric heights in such areas be

AX2553 \*\* validated before used as control. In addition, NGS does not

AX2553 \*\* recommend using the following types of orthometric heights as

AX2553 \*\* vertical control: scaled, VERTCON, or superseded. Click here to

AX2553 \*\* see the list of stations with valid orthometric heights in this area.

AX2553 \*\*

AX2553 \*\* If an established orthometric height is unavailable in the survey  
control

AX2553 \*\* section, it should be considered suspect. To view suspect heights,

AX2553 \*\* (in the superseded section), select  Include suspect heights in vertical

AX2553 \*\* motion areas  box from the datasheet retrieval page.

From:

BG2536

BG2536 \*\* This station is in an area of known vertical motion. Due to the

BG2536 \*\* variability of land subsidence, uplift, and crustal motion, NGS has,

BG2536 \*\* determined the orthometric heights for marks in these suspect

BG2536 \*\* subsidence areas should be considered valid only at the epoch date

BG2536 \*\* associated with the orthometric height. These heights must always

BG2536 \*\* be validated when used as control. All previously superseded

BG2536 \*\* orthometric heights are now considered suspect and are available

BG2536 \*\* in the superseded section. NGS does not recommend using suspect

BG2536 \*\* or superseded heights as control.

To:

BG2536



BG2536.\*\* This station is in an area of known vertical motion. Due to the  
BG2536.\*\* variability of land subsidence, uplift, and crustal motion, NGS has,  
BG2536.\*\* determined the orthometric heights for marks in these suspect  
BG2536.\*\* subsidence areas should be considered valid only at the epoch date  
BG2536.\*\* associated with the orthometric height. These heights must always  
BG2536.\*\* be validated when used as control. All previously superseded  
BG2536.\*\* orthometric heights are now considered suspect and are available  
BG2536.\*\* in the superseded section. NGS does not recommend using suspect  
BG2536.\*\* or superseded heights as control.

**From:**

BG5003

BG5003

BG5003.The horizontal coordinates were established by GPS observations  
BG5003.and adjusted by the National Geodetic Survey in June 2012.

BG5003

BG5003.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has  
BG5003.been affixed to the stable North American tectonic plate. See  
BG5003.www.ngs.noaa.gov/web/surveys/NA2011 for more information.

BG5003

BG5003.The horizontal coordinates are valid at the epoch date displayed above  
BG5003.which is a decimal equivalence of Year/Month/Day.

BG5003

BG5003.\*\* This station is in an area of known vertical motion. If an  
BG5003.\*\* orthometric height was ever established but is not available  
BG5003.\*\* in the current survey control section, the orthometric height  
BG5003.\*\* is considered suspect. Suspect heights are available in the  
BG5003.\*\* superseded section only if requested.

**To:**

BG5003

BG5003.The horizontal coordinates were established by GPS observations  
BG5003.and adjusted by the National Geodetic Survey in June 2012.

BG5003

BG5003.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has  
BG5003.been affixed to the stable North American tectonic plate. See  
BG5003.www.ngs.noaa.gov/web/surveys/NA2011 for more information.

BG5003

BG5003.The horizontal coordinates are valid at the epoch date displayed above  
BG5003.which is a decimal equivalence of Year/Month/Day.

BG5003

BG5003.\*\* This station is in an area of known vertical motion. If an  
BG5003.\*\* orthometric height was ever established but is not available  
BG5003.\*\* in the current survey control section, the orthometric height  
BG5003.\*\* is considered suspect. Suspect heights are available in the  
BG5003.\*\* superseded section only if requested.

**From:**

BH1164.\*\* This station is in an area of known vertical motion. Due to the  
BH1164.\*\* variability of land subsidence, uplift, and crustal motion, NGS has,  
BH1164.\*\* determined the orthometric heights for marks in these suspect  
BH1164.\*\* subsidence areas should be considered valid only at the epoch date  
BH1164.\*\* associated with the orthometric height. These heights must always  
BH1164.\*\* be validated when used as control. All previously superseded

BH1164 \*\* orthometric heights are now considered suspect and are available  
BH1164 \*\* in the superseded section. NGS does not recommend using suspect  
BH1164 \*\* or superseded heights as control.  
BH1164  
BH1164 \*\* The orthometric height was determined with a Vertical Time-dependent  
BH1164 \*\* Positioning (VTDP) model and has been validated through GNSS  
BH1164 \*\* observations for the epoch indicated. For additional  
BH1164 \*\* information on VTDP, please refer to the following web pages:  
BH1164 \*\* <https://www.ngs.noaa.gov/heightmod/GulfCoastProject.shtml>  
BH1164 \*\* <https://www.ngs.noaa.gov/heightmod/NOAANOSNGSTR50.pdf>

To:

BH1164 \*\* This station is in an area of known vertical motion. Due to the  
BH1164 \*\* variability of land subsidence, uplift, and crustal motion, NGS has,  
BH1164 \*\* determined the orthometric heights for marks in these suspect  
BH1164 \*\* subsidence areas should be considered valid only at the epoch date  
BH1164 \*\* associated with the orthometric height. These heights must always  
BH1164 \*\* be validated when used as control. All previously superseded  
BH1164 \*\* orthometric heights are now considered suspect and are available  
BH1164 \*\* in the superseded section. NGS does not recommend using suspect  
BH1164 \*\* or superseded heights as control.  
BH1164  
BH1164 \*\* The orthometric height was determined with a Vertical Time-dependent  
BH1164 \*\* Positioning (VTDP) model and has been validated through GNSS  
BH1164 \*\* observations for the epoch indicated. For additional  
BH1164 \*\* information on VTDP, please refer to the following web pages:  
BH1164 \*\* <https://www.ngs.noaa.gov/heightmod/GulfCoastProject.shtml>  
BH1164 \*\* <https://www.ngs.noaa.gov/heightmod/NOAANOSNGSTR50.pdf>

From:

BJ0637  
BJ0637 \*\* This station is in an area of known vertical motion. If an  
BJ0637 \*\* orthometric height was ever established but is not available  
BJ0637 \*\* in the current survey control section, the orthometric height  
BJ0637 \*\* is considered suspect. Suspect heights are available in the  
BJ0637 \*\* superseded section only if requested.

To:

BJ0637  
BJ0637 \*\* This station is in an area of known vertical motion. If an  
BJ0637 \*\* orthometric height was ever established but is not available  
BJ0637 \*\* in the current survey control section, the orthometric height  
BJ0637 \*\* is considered suspect. Suspect heights are available in the  
BJ0637 \*\* superseded section only if requested.

From:

DC0409.The height was determined by precise leveling from only one NSRS  
DC0409.bench mark. This was not adequate tie leveling to NSRS and was  
DC0409.allowed ONLY to validate the GPS-derived height.

To:

DC0409.The height was determined by precise leveling from only one NSRS  
DC0409.bench mark. This was not adequate tie leveling to NSRS and was  
DC0409.allowed ONLY to validate the GPS-derived height.

**From:**

DE8751.  
DE8751.\*\* The heights of stations in this area may have changed  
DE8751.\*\* by more than 10 cm due to earthquakes. NGS strongly warns  
DE8751.\*\* against the use of such suspect heights as control.

**To:**

DE8751  
DE8751.\*\* The heights of stations in this area may have changed  
DE8751.\*\* by more than 10 cm due to earthquakes. NGS strongly warns  
DE8751.\*\* against the use of such suspect heights as control.

**From:**

DR7033\_ROD/PIPE-DEPTH: 6.1 meters  
DR7033\_SLEEVE-DEPTH : 0.9 meters

**To:**

DR7033\_ROD/PIPE-DEPTH: 6.1 meters  
DR7033\_SLEEVE-DEPTH : 0.9 meters

**From:**

SZ0062.The positional and height information provided upon this datasheet are not  
SZ0062.officially recognized by the Government of Canada, provincial governments  
SZ0062.within Canada, nor are they intended to replace or substitute for them.  
SZ0062.The intent of sharing this data is to allow access to positions or heights  
SZ0062.recognized by the United States Government. Passive control that is used by  
SZ0062.both nations may share the same or similar designations or descriptions but  
SZ0062.do not share official positions or heights. The "Station Description" may  
SZ0062.originate from a Canadian "Station Report" and if so contains information  
SZ0062.licensed under the "Open Government License - Canada".

SZ0062

SZ0062

SZ0062.The horizontal coordinates were established by classical geodetic methods  
SZ0062.and adjusted by the National Geodetic Survey in March 1999.

SZ0062.

SZ0062.The orthometric height was scaled from a topographic map.

**To:**

SZ0062.The positional and height information provided upon this datasheet are not  
SZ0062.officially recognized by the Government of Canada, provincial governments  
SZ0062.within Canada, nor are they intended to replace or substitute for them.  
SZ0062.The intent of sharing this data is to allow access to positions or heights  
SZ0062.recognized by the United States Government. Passive control that is used by  
SZ0062.both nations may share the same or similar designations or descriptions but  
SZ0062.do not share official positions or heights. The "Station Description" may  
SZ0062.originate from a Canadian "Station Report" and if so contains information  
SZ0062.licensed under the 'Open Government License - Canada'.

SZ0062

SZ0062.The horizontal coordinates were established by classical geodetic methods  
SZ0062.and adjusted by the National Geodetic Survey in March 1999.

SZ0062

SZ0062.The orthometric height was scaled from a topographic map.

From:

TU2764  
TU2764. Significant digits in the geoid height do not necessarily reflect accuracy.  
TU2764.GEOID12B height accuracy estimate available here.

To:

TU2764  
TU2764. Significant digits in the geoid height do not necessarily reflect accuracy.  
TU2764.GEOID12B height accuracy estimate available here.

## Version 8.12.5.14 updated on 01/18/2022

Prior to this version, 4<sup>th</sup> order adjusted positions in the NGSIDB (NGS database) were transformed via the datasheet95 program into 3<sup>rd</sup> order adjusted positions on datasheets. This transformation has now been removed by the Observation and Analysis Division (OAD) in NGS. Below are some examples of partial datasheets that now will display 4<sup>th</sup> order adjusted positions:

Starting Datasheet Retrieval...

```

1      National Geodetic Survey,   Retrieval Date = JANUARY 18, 2022
DZ0734 *****
DZ0734 DESIGNATION - OPTICAL SITE 6
DZ0734 PID - DZ0734
DZ0734 STATE/COUNTY- CA/SANTA BARBARA
DZ0734 COUNTRY - US
DZ0734 USGS QUAD - SURF (2018)
DZ0734
DZ0734 *CURRENT SURVEY CONTROL
DZ0734
DZ0734 *-----*
DZ0734* NAD 83(1992) POSITION- 34 40 04.86156(N) 120 35 03.58059(W) ADJUSTED
DZ0734* NAD 83(1992) EPOCH - 1991.35
DZ0734* NAVD 88 ORTHO HEIGHT - 113.90 (+/-2cm) 373.7 (feet) VERTCON
DZ0734 *-----*
DZ0734 GEOID HEIGHT - -36.086 (meters) GEOID18
DZ0734 LAPLACE CORR - 2.55 (seconds) DEFLECI8
DZ0734 HORZ ORDER - FOURTH
DZ0734 VERT ORDER - SECOND CLASS 0 (See Below)
DZ0734
DZ0734.The horizontal coordinates were established by classical geodetic methods
DZ0734.and adjusted by the National Geodetic Survey in June 1996.
DZ0734.
DZ0734.The NAVD 88 height was computed by applying the VERTCON shift value to
DZ0734.the NGVD 29 height (displayed under SUPERSEDED SURVEY CONTROL.)
DZ0734
DZ0734.Significant digits in the geoid height do not necessarily reflect accuracy.
DZ0734.GEOID18 height accuracy estimate available here.
DZ0734
DZ0734.The vertical order pertains to the NGVD 29 superseded value.
DZ0734
DZ0734.Click photographs - Photos may exist for this station.
DZ0734
...

```

```

1      National Geodetic Survey,   Retrieval Date = JANUARY 18, 2022
EA1478 *****
EA1478 DESIGNATION - ON 38
EA1478 PID - EA1478
EA1478 STATE/COUNTY- NC/ONSLOW
EA1478 COUNTRY - US
EA1478 USGS QUAD - SWANSBORO (2019)
EA1478
EA1478 *CURRENT SURVEY CONTROL
EA1478
EA1478 *-----*

```

EA1478\* NAD 83(2001) POSITION- 34 41 14.84823(N) 077 07 01.40671(W) **ADJUSTED**  
EA1478\* [NAVD 88](#) ORTHO HEIGHT - 3.447 (meters) 11.31 (feet) ADJUSTED  
EA1478  
EA1478 GEOID HEIGHT - -37.169 (meters) GEOID18  
EA1478 LAPLACE CORR - -0.44 (seconds) DEFLECL8  
EA1478 DYNAMIC HEIGHT - 3.444 (meters) 11.30 (feet) COMP  
EA1478 MODELED GRAVITY - 979,706.6 (mgal) NAVD 88  
EA1478  
EA1478 HORZ ORDER - **FOURTH**  
EA1478 VERT ORDER - FIRST CLASS II  
EA1478  
EA1478.The horizontal coordinates were established by classical geodetic methods  
EA1478.and **adjusted** by the National Geodetic Survey in August 2005.  
EA1478.  
EA1478.The orthometric height was determined by differential leveling and  
EA1478.adjusted by the NATIONAL GEODETIC SURVEY  
EA1478.in June 1991.  
EA1478  
EA1478.Significant digits in the geoid height do not necessarily reflect accuracy.  
EA1478.GEOID18 height accuracy estimate available [here](#).  
EA1478  
EA1478.Click [photographs](#) - Photos may exist for this station.  
EA1478

...

1 National Geodetic Survey, Retrieval Date = JANUARY 18, 2022  
EC0844 \*\*\*\*\*  
EC0844 DESIGNATION - CASS RM 1  
EC0844 PID - EC0844  
EC0844 STATE/COUNTY- SC/KERSHAW  
EC0844 COUNTRY - US  
EC0844 USGS QUAD - CASSATT (2017)  
EC0844  
EC0844 \*CURRENT SURVEY CONTROL  
EC0844  
EC0844\* NAD 83(2001) POSITION- 34 21 13.94166(N) 080 28 21.73320(W) **NO CHECK**  
EC0844\* [NAVD 88](#) ORTHO HEIGHT - 90.711 (meters) 297.61 (feet) ADJUSTED  
EC0844  
EC0844 GEOID HEIGHT - -31.063 (meters) GEOID18  
EC0844 LAPLACE CORR - -2.55 (seconds) DEFLECL8  
EC0844 DYNAMIC HEIGHT - 90.622 (meters) 297.32 (feet) COMP  
EC0844 MODELED GRAVITY - 979,659.5 (mgal) NAVD 88  
EC0844  
EC0844 HORZ ORDER - **FOURTH**  
EC0844 VERT ORDER - FIRST CLASS II  
EC0844  
EC0844.The horizontal coordinates were established by classical geodetic methods  
EC0844.and **adjusted** by the National Geodetic Survey in March 2004.  
EC0844.  
EC0844.No horizontal observational check was made to the station.  
EC0844.  
EC0844.The orthometric height was determined by differential leveling and  
EC0844.adjusted by the NATIONAL GEODETIC SURVEY  
EC0844.in June 1991.  
EC0844  
EC0844.Significant digits in the geoid height do not necessarily reflect accuracy.  
EC0844.GEOID18 height accuracy estimate available [here](#).  
EC0844  
EC0844.Click [photographs](#) - Photos may exist for this station.  
EC0844

...

1 National Geodetic Survey, Retrieval Date = JANUARY 18, 2022  
JD2089 \*\*\*\*\*  
JD2089 DESIGNATION - PITTSVILLE 2  
JD2089 PID - JD2089  
JD2089 STATE/COUNTY- MO/JOHNSON  
JD2089 COUNTRY - US  
JD2089 USGS QUAD - PITTSVILLE (2017)  
JD2089  
JD2089 \*CURRENT SURVEY CONTROL

JD2089  
 JD2089\* NAD 83(1997) POSITION- 38 50 57.04318(N) 093 57 53.25631(W) **ADJUSTED**  
 JD2089\* [NAVD 88](#) ORTHO HEIGHT - 269.53 (meters) 884.3 (feet) RESET  
 JD2089  
 JD2089 GEOID HEIGHT - -32.687 (meters) GEOID18  
 JD2089 LAPLACE CORR - -1.05 (seconds) DEFLECI8  
 JD2089 HORZ ORDER - **FOURTH**  
 JD2089 VERT ORDER - THIRD  
 JD2089  
 JD2089.The horizontal coordinates were established by classical geodetic methods  
 JD2089.and **adjusted** by the National Geodetic Survey in February 2000.  
 JD2089.  
 JD2089.The orthometric height was computed from unverified reset data.  
 JD2089  
 JD2089.Significant digits in the geoid height do not necessarily reflect accuracy.  
 JD2089.GEOID18 height accuracy estimate available [here](#).  
 JD2089  
 JD2089.Click [photographs](#) - Photos may exist for this station.  
 JD2089

...

1 National Geodetic Survey, Retrieval Date = JANUARY 18, 2022  
 HV0103 \*\*\*\*\*  
 HV0103 DESIGNATION - TOWER 1  
 HV0103 PID - HV0103  
 HV0103 STATE/COUNTY- MD/TALBOT  
 HV0103 COUNTRY - US  
 HV0103 USGS QUAD - TILGHMAN (2016)  
 HV0103  
 HV0103 \*CURRENT SURVEY CONTROL  
 HV0103  
 HV0103\* NAD 83(1991) POSITION- 38 40 41.91196(N) 076 20 36.97375(W) **ADJUSTED**  
 HV0103\* [NAVD 88](#) ORTHO HEIGHT - 2.005 (meters) 6.58 (feet) ADJUSTED  
 HV0103  
 HV0103 GEOID HEIGHT - -34.226 (meters) GEOID18  
 HV0103 LAPLACE CORR - -5.02 (seconds) DEFLECI8  
 HV0103 DYNAMIC HEIGHT - 2.004 (meters) 6.57 (feet) COMP  
 HV0103 MODELED GRAVITY - 980,041.5 (mgal) NAVD 88  
 HV0103  
 HV0103 HORZ ORDER - **FOURTH**  
 HV0103 VERT ORDER - SECOND CLASS I  
 HV0103  
 HV0103.The horizontal coordinates were established by classical geodetic methods  
 HV0103.and **adjusted** by the National Geodetic Survey in January 1992.  
 HV0103.  
 HV0103.The orthometric height was determined by differential leveling and  
 HV0103.adjusted by the NATIONAL GEODETIC SURVEY  
 HV0103.in October 1997.  
 HV0103  
 HV0103.Significant digits in the geoid height do not necessarily reflect accuracy.  
 HV0103.GEOID18 height accuracy estimate available [here](#).  
 HV0103  
 HV0103.Click [photographs](#) - Photos may exist for this station.  
 HV0103

...

1 National Geodetic Survey, Retrieval Date = JANUARY 18, 2022  
 LY2282 \*\*\*\*\*  
 LY2282 DESIGNATION - FORD RESET  
 LY2282 PID - LY2282  
 LY2282 STATE/COUNTY- PA/PIKE  
 LY2282 COUNTRY - US  
 LY2282 USGS QUAD - MILFORD (2019)  
 LY2282  
 LY2282 \*CURRENT SURVEY CONTROL  
 LY2282  
 LY2282\* NAD 83(1986) POSITION- 41 20 09.73570(N) 074 46 33.18943(W) **ADJUSTED**  
 LY2282\* [NAVD 88](#) ORTHO HEIGHT - 147.51 (meters) 484.0 (feet) RESET  
 LY2282  
 LY2282 GEOID HEIGHT - -32.231 (meters) GEOID18  
 LY2282 LAPLACE CORR - -1.22 (seconds) DEFLECI8

```

LY2282  HORZ ORDER      -  FOURTH
LY2282  VERT ORDER      -  THIRD
LY2282
LY2282.The horizontal coordinates were established by GPS observations
LY2282.and  adjusted  by the National Geodetic Survey in June 2002.
LY2282
LY2282.The orthometric height was computed from unverified reset data.
LY2282
LY2282.No vertical observational check was made to the station.
LY2282
LY2282.Significant digits in the geoid height do not necessarily reflect accuracy.
LY2282.GEOID18 height accuracy estimate available here.
LY2282
LY2282.Click photographs - Photos may exist for this station.
LY2282

```

...

```

1      National Geodetic Survey,  Retrieval Date = JANUARY 18, 2022
OE0999 *****
OE0999 DESIGNATION -  CANASTOTA A
OE0999 PID          -  OE0999
OE0999 STATE/COUNTY-  NY/MADISON
OE0999 COUNTRY      -  US
OE0999 USGS QUAD    -  CANASTOTA (2019)
OE0999
OE0999                      *CURRENT SURVEY CONTROL
OE0999
OE0999* NAD 83(1996) POSITION- 43 04 10.43818(N) 075 45 59.38532(W)  ADJUSTED
OE0999* NAVD 88 ORTHO HEIGHT -   155.190 (meters)    509.15 (feet) ADJUSTED
OE0999
OE0999 GEOID HEIGHT   -          -32.926 (meters)          GEOID18
OE0999 LAPLACE CORR   -           3.74 (seconds)          DEFLEC18
OE0999 DYNAMIC HEIGHT -          155.150 (meters)    509.02 (feet) COMP
OE0999 MODELED GRAVITY -          980,358.6 (mgal)          NAVD 88
OE0999
OE0999 HORZ ORDER    -  FOURTH
OE0999 VERT ORDER    -  SECOND    CLASS 0
OE0999
OE0999.The horizontal coordinates were established by classical geodetic methods
OE0999.and  adjusted  by the National Geodetic Survey in January 1999.
OE0999.
OE0999.The orthometric height was determined by differential leveling and
OE0999.adjusted by the NATIONAL GEODETIC SURVEY
OE0999.in June 1991.
OE0999
OE0999.Significant digits in the geoid height do not necessarily reflect accuracy.
OE0999.GEOID18 height accuracy estimate available here.
OE0999
OE0999.Click photographs - Photos may exist for this station.
OE0999

```

...

```

*** retrieval complete.
Elapsed Time = 00:00:10

```

Prior to this one would have seen the following datasheets (partial datasheets shown below with “HORZ ORDER -“ highlighted in red):

### 1.1 The NGS Data Sheet

```

1.1.1.1.1 See file dsdata.pdf for more information about the datasheet.
PROGRAM = datasheet95, VERSION = 8.12.5.14
Starting Datasheet Retrieval...

```

```

1      National Geodetic Survey,  Retrieval Date = JANUARY 18, 2022
DZ0734 *****
DZ0734 DESIGNATION -  OPTICAL SITE 6
DZ0734 PID          -  DZ0734
DZ0734 STATE/COUNTY-  CA/SANTA BARBARA
DZ0734 COUNTRY      -  US
DZ0734 USGS QUAD    -  SURF (2018)

```

DZ0734  
DZ0734 \*CURRENT SURVEY CONTROL  
DZ0734  
DZ0734\* NAD 83(1992) POSITION- 34 40 04.86156(N) 120 35 03.58059(W) ADJUSTED  
DZ0734\* NAD 83(1992) EPOCH - 1991.35  
DZ0734\* NAVD 88 ORTHO HEIGHT - 113.90 (+/-2cm) 373.7 (feet) VERTCON  
DZ0734  
DZ0734 GEOID HEIGHT - -36.086 (meters) GEOID18  
DZ0734 LAPLACE CORR - 2.55 (seconds) DEFLEC18  
DZ0734 HORZ ORDER - THIRD  
DZ0734 VERT ORDER - SECOND CLASS 0 (See Below)  
DZ0734  
DZ0734.The horizontal coordinates were established by classical geodetic methods  
DZ0734.and adjusted by the National Geodetic Survey in June 1996.  
DZ0734.  
DZ0734.The NAVD 88 height was computed by applying the VERTCON shift value to  
DZ0734.the NGVD 29 height (displayed under SUPERSEDED SURVEY CONTROL.)  
DZ0734  
DZ0734.Significant digits in the geoid height do not necessarily reflect accuracy.  
DZ0734.GEOID18 height accuracy estimate available [here](#).  
DZ0734  
DZ0734.The vertical order pertains to the NGVD 29 superseded value.  
DZ0734  
DZ0734.Click [photographs](#) - Photos may exist for this station.  
DZ0734  
...

1 National Geodetic Survey, Retrieval Date = JANUARY 18, 2022  
EA1478 \*\*\*\*\*  
EA1478 DESIGNATION - ON 38  
EA1478 PID - EA1478  
EA1478 STATE/COUNTY- NC/ONSLOW  
EA1478 COUNTRY - US  
EA1478 USGS QUAD - SWANSBORO (2019)  
EA1478  
EA1478 \*CURRENT SURVEY CONTROL  
EA1478  
EA1478\* NAD 83(2001) POSITION- 34 41 14.84823(N) 077 07 01.40671(W) ADJUSTED  
EA1478\* NAVD 88 ORTHO HEIGHT - 3.447 (meters) 11.31 (feet) ADJUSTED  
EA1478  
EA1478 GEOID HEIGHT - -37.169 (meters) GEOID18  
EA1478 LAPLACE CORR - -0.44 (seconds) DEFLEC18  
EA1478 DYNAMIC HEIGHT - 3.444 (meters) 11.30 (feet) COMP  
EA1478 MODELED GRAVITY - 979,706.6 (mgal) NAVD 88  
EA1478  
EA1478 HORZ ORDER - THIRD  
EA1478 VERT ORDER - FIRST CLASS II  
EA1478  
EA1478.The horizontal coordinates were established by classical geodetic methods  
EA1478.and adjusted by the National Geodetic Survey in August 2005.  
EA1478.  
EA1478.The orthometric height was determined by differential leveling and  
EA1478.adjusted by the NATIONAL GEODETIC SURVEY  
EA1478.in June 1991.  
EA1478  
EA1478.Significant digits in the geoid height do not necessarily reflect accuracy.  
EA1478.GEOID18 height accuracy estimate available [here](#).  
EA1478  
EA1478.Click [photographs](#) - Photos may exist for this station.  
EA1478  
...

1 National Geodetic Survey, Retrieval Date = JANUARY 18, 2022  
EC0844 \*\*\*\*\*  
EC0844 DESIGNATION - CASS RM 1  
EC0844 PID - EC0844  
EC0844 STATE/COUNTY- SC/KERSHAW  
EC0844 COUNTRY - US  
EC0844 USGS QUAD - CASSATT (2017)  
EC0844  
EC0844 \*CURRENT SURVEY CONTROL



EC0844  
 EC0844\* NAD 83(2001) POSITION- 34 21 13.94166(N) 080 28 21.73320(W) **NO CHECK**  
 EC0844\* [NAVD 88](#) ORTHO HEIGHT - 90.711 (meters) 297.61 (feet) ADJUSTED  
 EC0844  
 EC0844 GEOID HEIGHT - -31.063 (meters) GEOID18  
 EC0844 LAPLACE CORR - -2.55 (seconds) DEFLECI8  
 EC0844 DYNAMIC HEIGHT - 90.622 (meters) 297.32 (feet) COMP  
 EC0844 MODELED GRAVITY - 979,659.5 (mgal) NAVD 88  
 EC0844  
 EC0844 HORZ ORDER - **THIRD**  
 EC0844 VERT ORDER - FIRST CLASS II  
 EC0844  
 EC0844.The horizontal coordinates were established by classical geodetic methods  
 EC0844.and **adjusted** by the National Geodetic Survey in March 2004.  
 EC0844.  
 EC0844.No horizontal observational check was made to the station.  
 EC0844.  
 EC0844.The orthometric height was determined by differential leveling and  
 EC0844.adjusted by the NATIONAL GEODETIC SURVEY  
 EC0844.in June 1991.  
 EC0844  
 EC0844.Significant digits in the geoid height do not necessarily reflect accuracy.  
 EC0844.GEOID18 height accuracy estimate available [here](#).  
 EC0844  
 EC0844.Click [photographs](#) - Photos may exist for this station.  
 EC0844

...

1 National Geodetic Survey, Retrieval Date = JANUARY 18, 2022  
 JD2089 \*\*\*\*\*  
 JD2089 DESIGNATION - PITTSVILLE 2  
 JD2089 PID - JD2089  
 JD2089 STATE/COUNTY- MO/JOHNSON  
 JD2089 COUNTRY - US  
 JD2089 USGS QUAD - PITTSVILLE (2017)  
 JD2089  
 JD2089 \*CURRENT SURVEY CONTROL  
 JD2089  
 JD2089\* NAD 83(1997) POSITION- 38 50 57.04318(N) 093 57 53.25631(W) **ADJUSTED**  
 JD2089\* [NAVD 88](#) ORTHO HEIGHT - 269.53 (meters) 884.3 (feet) RESET  
 JD2089  
 JD2089 GEOID HEIGHT - -32.687 (meters) GEOID18  
 JD2089 LAPLACE CORR - -1.05 (seconds) DEFLECI8  
 JD2089 HORZ ORDER - **THIRD**  
 JD2089 VERT ORDER - THIRD  
 JD2089  
 JD2089.The horizontal coordinates were established by classical geodetic methods  
 JD2089.and **adjusted** by the National Geodetic Survey in February 2000.  
 JD2089.  
 JD2089.The orthometric height was computed from unverified reset data.  
 JD2089  
 JD2089.Significant digits in the geoid height do not necessarily reflect accuracy.  
 JD2089.GEOID18 height accuracy estimate available [here](#).  
 JD2089  
 JD2089.Click [photographs](#) - Photos may exist for this station.  
 JD2089

...

1 National Geodetic Survey, Retrieval Date = JANUARY 18, 2022  
 HV0103 \*\*\*\*\*  
 HV0103 DESIGNATION - TOWER 1  
 HV0103 PID - HV0103  
 HV0103 STATE/COUNTY- MD/TALBOT  
 HV0103 COUNTRY - US  
 HV0103 USGS QUAD - TILGHMAN (2016)  
 HV0103  
 HV0103 \*CURRENT SURVEY CONTROL  
 HV0103  
 HV0103\* NAD 83(1991) POSITION- 38 40 41.91196(N) 076 20 36.97375(W) **ADJUSTED**  
 HV0103\* [NAVD 88](#) ORTHO HEIGHT - 2.005 (meters) 6.58 (feet) ADJUSTED  
 HV0103

HV0103 GEOID HEIGHT - -34.226 (meters) GEOID18  
 HV0103 LAPLACE CORR - -5.02 (seconds) DEFLEC18  
 HV0103 DYNAMIC HEIGHT - 2.004 (meters) 6.57 (feet) COMP  
 HV0103 MODELED GRAVITY - 980,041.5 (mgal) NAVD 88  
 HV0103  
 HV0103 HORZ ORDER - **THIRD**  
 HV0103 VERT ORDER - SECOND CLASS I  
 HV0103  
 HV0103.The horizontal coordinates were established by classical geodetic methods  
 HV0103.and **adjusted** by the National Geodetic Survey in January 1992.  
 HV0103.  
 HV0103.The orthometric height was determined by differential leveling and  
 HV0103.adjusted by the NATIONAL GEODETIC SURVEY  
 HV0103.in October 1997.  
 HV0103  
 HV0103.Significant digits in the geoid height do not necessarily reflect accuracy.  
 HV0103.GEOID18 height accuracy estimate available [here](#).  
 HV0103  
 HV0103.Click [photographs](#) - Photos may exist for this station.  
 HV0103

...

1 National Geodetic Survey, Retrieval Date = JANUARY 18, 2022  
 LY2282 \*\*\*\*\*  
 LY2282 DESIGNATION - FORD RESET  
 LY2282 PID - LY2282  
 LY2282 STATE/COUNTY- PA/PIKE  
 LY2282 COUNTRY - US  
 LY2282 USGS QUAD - MILFORD (2019)  
 LY2282  
 LY2282 \*CURRENT SURVEY CONTROL  
 LY2282  
 LY2282\* NAD 83(1986) POSITION- 41 20 09.73570(N) 074 46 33.18943(W) **ADJUSTED**  
 LY2282\* [NAVD 88](#) ORTHO HEIGHT - 147.51 (meters) 484.0 (feet) RESET  
 LY2282  
 LY2282 GEOID HEIGHT - -32.231 (meters) GEOID18  
 LY2282 LAPLACE CORR - -1.22 (seconds) DEFLEC18  
 LY2282 HORZ ORDER - **THIRD**  
 LY2282 VERT ORDER - THIRD  
 LY2282  
 LY2282.The horizontal coordinates were established by GPS observations  
 LY2282.and **adjusted** by the National Geodetic Survey in June 2002.  
 LY2282  
 LY2282.The orthometric height was computed from unverified reset data.  
 LY2282  
 LY2282.No vertical observational check was made to the station.  
 LY2282  
 LY2282.Significant digits in the geoid height do not necessarily reflect accuracy.  
 LY2282.GEOID18 height accuracy estimate available [here](#).  
 LY2282  
 LY2282.Click [photographs](#) - Photos may exist for this station.  
 LY2282

...

1 National Geodetic Survey, Retrieval Date = JANUARY 18, 2022  
 OE0999 \*\*\*\*\*  
 OE0999 DESIGNATION - CANASTOTA A  
 OE0999 PID - OE0999  
 OE0999 STATE/COUNTY- NY/MADISON  
 OE0999 COUNTRY - US  
 OE0999 USGS QUAD - CANASTOTA (2019)  
 OE0999  
 OE0999 \*CURRENT SURVEY CONTROL  
 OE0999  
 OE0999\* NAD 83(1996) POSITION- 43 04 10.43818(N) 075 45 59.38532(W) **ADJUSTED**  
 OE0999\* [NAVD 88](#) ORTHO HEIGHT - 155.190 (meters) 509.15 (feet) ADJUSTED  
 OE0999  
 OE0999 GEOID HEIGHT - -32.926 (meters) GEOID18  
 OE0999 LAPLACE CORR - 3.74 (seconds) DEFLEC18  
 OE0999 DYNAMIC HEIGHT - 155.150 (meters) 509.02 (feet) COMP  
 OE0999 MODELED GRAVITY - 980,358.6 (mgal) NAVD 88

OE0999  
 OE0999   HORZ ORDER       -   **THIRD**  
 OE0999   VERT ORDER       -   SECOND       CLASS 0  
 OE0999  
 OE0999.The horizontal coordinates were established by classical geodetic methods  
 OE0999.and **adjusted** by the National Geodetic Survey in January 1999.  
 OE0999.  
 OE0999.The orthometric height was determined by differential leveling and  
 OE0999.adjusted by the NATIONAL GEODETIC SURVEY  
 OE0999.in June 1991.  
 OE0999  
 OE0999.Significant digits in the geoid height do not necessarily reflect accuracy.  
 OE0999.GEOID18 height accuracy estimate available [here](#).  
 OE0999  
 OE0999.Click [photographs](#) - Photos may exist for this station.  
 OE0999

...  
 \*\*\* retrieval complete.  
 Elapsed Time = 00:00:05

Additionally, a shapefile using our example PIDs from above would display a '4' in the POS\_ORDER field if the position was of 4<sup>th</sup> order:

```
#FeatureId,DATA_DATE,DATA_SRCE,DEC_LONG,DEC_LAT,PID,NAME,STATE,COUNTY,QUAD,LATITUDE,LONGITUDE
,POS DATUM,DATUM_TAG,POS_SRCE,ELEVATION,ELEV_DATUM,ELEV_SRCE,ELLIP_HT,ELLIP_SRCE,POS_ORDER,PO
S_CHECK,ELEV_ORDER,ELEV_CLASS,ELEV_CHECK,DIST_RATE,ELLP_ORDER,ELLP_CLASS,FIRST_RECV,LAST_RECV
,LAST_COND,LAST_RECBY,SAT_USE,SAT_DATE,STABILITY
1,20220118,http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=DZ0734,-120.58433,
34.66802,DZ0734,OPTICAL SITE 6,CA,SANTA BARBARA,SURF (2018),34 40 04.86156(N),120 35
03.58059(W),NAD 83,(1992),ADJUSTED , 113.90 ,NAVD 88 ,VERTCON ,,,4,,,,,1964
,20200811,GOOD ,NGIA,Y,20200811,D
2,20220118,http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=EA1478, -77.11706,
34.68746,EA1478,ON 38,NC,ONSLOW,SWANSBORO (2019),34 41 14.84823(N),077 07 01.40671(W),NAD
83,(2001),ADJUSTED , 3.447,NAVD 88 ,ADJUSTED ,,,4,,1,2,Y,,,1982 ,20021114,MARK NOT
FOUND ,USPSQD,,,D
3,20220118,http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=EC0844, -80.47270,
34.35387,EC0844,CASS RM 1,SC,KERSHAW,CASSATT (2017),34 21 13.94166(N),080 28 21.73320(W),NAD
83,(2001),NO CHECK , 90.711,NAVD 88 ,ADJUSTED ,,,4,N,1,2,Y,,,1971 ,19990427,GOOD
,SCGS,N,19990427,C
4,20220118,http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=JD2089, -93.96479,
38.84918,JD2089,PITTSVILLE 2,MO,JOHNSON,PITTSVILLE (2017),38 50 57.04318(N),093 57
53.25631(W),NAD 83,(1997),ADJUSTED , 269.53 ,NAVD 88 ,RESET ,,,4,,3,,Y,,,1969
,20051203,GOOD ,INDIV,Y,20051203,C
5,20220118,http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=HV0103, -76.34360,
38.67831,HV0103,TOWER 1,MD,TALBOT,TILGHMAN (2016),38 40 41.91196(N),076 20 36.97375(W),NAD
83,(1991),ADJUSTED , 2.005,NAVD 88 ,ADJUSTED ,,,4,,2,1,Y,,,1945 ,20080508,GOOD
,USACE,Y,20080508,B
6,20220118,http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=LY2282, -74.77589,
41.33604,LY2282,FORD RESET,PA,PIKE,MILFORD (2019),41 20 09.73570(N),074 46 33.18943(W),NAD
83,(1986),ADJUSTED , 147.51 ,NAVD 88 ,RESET ,,,4,,3,,N,,,1980 ,20070428,GOOD
,GEOCAC,,,C
7,20220118,http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=OE0999, -75.76650,
43.06957,OE0999,CANASTOTA A,NY,MADISON,CANASTOTA (2019),43 04 10.43818(N),075 45
59.38532(W),NAD 83,(1996),ADJUSTED , 155.190,NAVD 88 ,ADJUSTED ,,,4,,2,0,Y,,,1942
,19970419,GOOD ,USPSQD,,,C
```

## Version 8.12.5.14 updated on 10/06/2021

A small subset of leveling marks across the US inadvertently displayed the following message on marks outside of Hawaii:

```
<PID>.The orthometric height was determined by differential leveling
<PID>.and adjusted by the National Geodetic Survey in July 2020
```

<PID>.holding the tidal station 161 5680 C TIDAL to the 1983/2001  
<PID>.tidal station epoch value 1.461 meters.

**Examples PIDs for marks that were affected included:**

AU2163  
BJ2052  
DG7090  
DG7091  
FY3323  
FY3330

In this datasheet version, we have fixed this issue.

**Version 8.12.5.13 updated on 07/01/2021**

There are 4 changes to datasheets in this version:

**#1:** Whenever a user retrieves datasheets with any of the retrieval options ([http://www.ngs.noaa.gov/cgi-bin/ds\\_desig.prl](http://www.ngs.noaa.gov/cgi-bin/ds_desig.prl), [http://www.ngs.noaa.gov/cgi-bin/ds\\_pid.prl](http://www.ngs.noaa.gov/cgi-bin/ds_pid.prl), [http://www.ngs.noaa.gov/cgi-bin/ds\\_county.prl](http://www.ngs.noaa.gov/cgi-bin/ds_county.prl), [http://www.ngs.noaa.gov/cgi-bin/ds\\_radius.prl](http://www.ngs.noaa.gov/cgi-bin/ds_radius.prl), [http://www.ngs.noaa.gov/cgi-bin/ds\\_mm.prl](http://www.ngs.noaa.gov/cgi-bin/ds_mm.prl), [http://www.ngs.noaa.gov/cgi-bin/ds\\_quads.prl](http://www.ngs.noaa.gov/cgi-bin/ds_quads.prl), [http://www.ngs.noaa.gov/cgi-bin/ds\\_proj.prl](http://www.ngs.noaa.gov/cgi-bin/ds_proj.prl), [http://www.ngs.noaa.gov/cgi-bin/ds\\_dates.prl](http://www.ngs.noaa.gov/cgi-bin/ds_dates.prl), and [http://www.ngs.noaa.gov/cgi-bin/ds\\_cors.prl](http://www.ngs.noaa.gov/cgi-bin/ds_cors.prl)), control points that are *not* publishable will be listed in a report that is appended to the datasheet output after the last datasheet.

**#2:** Whenever a user retrieved datasheets with any of the retrieval options listed in #1, the resulting mark listing sometimes would display duplicates if CORS were in the listing. This was due to a sort order issue. An example of the original issue is shown below.

Steps:

1. Go to [https://www.ngs.noaa.gov/cgi-bin/ds\\_mm.prl](https://www.ngs.noaa.gov/cgi-bin/ds_mm.prl)
2. Enter a MIN\_LAT of N380412, MAX\_LAT of N382432, MIN\_LON of W1041236, MAX\_LON of W1042715, leave all other field on their default settings, and then press the *[Submit]* button.
3. On the next page, scroll down the page until you see CORS with PIDs: AJ6947, DG6994, AJ6949, DJ6995. You will see that they are duplicated as shown below.

## Station List Results for: N380412-N382432-W1041236-W1042715

Help

Re-Sort-By  Dist  Pid  Set  Set\_By  H  V  Vert\_Source  Latitude  Longitude  Stab  Cond  Designation

AJ6946	.....	0	k	88/GPS OBS.	N381712.59218	W1042043.81303	.....	PUEBLO 1	CORS ARP
AJ6947	.....	0	.	.....	N381712.59221	W1042043.81303	.....	PUEBLO 1	CORS L1 PHASE CENTER
DG6994	.....	0	.	.....	N381712.59221	W1042043.81303	.....	PUEBLO 1	CORS L1 PHASE CENTER
AJ6947	.....	0	.	.....	N381712.59221	W1042043.81303	.....	PUEBLO 1	CORS L1 PHASE CENTER
DG6994	.....	0	.	.....	N381712.59221	W1042043.81303	.....	PUEBLO 1	CORS L1 PHASE CENTER
AJ6948	.....	0	.	.....	N381713.47879	W1042043.70218	.....	PUEBLO 2	CORS ARP
AJ6949	.....	0	.	.....	N381713.47882	W1042043.70218	.....	PUEBLO 2	CORS L1 PHASE CENTER
DG6995	.....	0	.	.....	N381713.47882	W1042043.70218	.....	PUEBLO 2	CORS L1 PHASE CENTER
AJ6949	.....	0	.	.....	N381713.47882	W1042043.70218	.....	PUEBLO 2	CORS L1 PHASE CENTER
DG6995	.....	0	.	.....	N381713.47882	W1042043.70218	.....	PUEBLO 2	CORS L1 PHASE CENTER
DJ3037	.....	0	.	.....	N381712.59229	W1042043.81278	.....	PUEBLO 5	CORS ARP
DJ3038	.....	0	.	.....	N381712.59220	W1042043.81288	.....	PUEBLO 5	CORS L1 PHASE CENTER
DJ3039	.....	0	.	.....	N381713.47907	W1042043.70186	.....	PUEBLO 6	CORS ARP
DJ3040	.....	0	.	.....	N381713.47898	W1042043.70196	.....	PUEBLO 6	CORS L1 PHASE CENTER
DF9377 1997	NGS...	3	.	.....	N381626.2	W1042642.7	.....	C...	G PUEBLO CBL 2 0
AJ6034 1997	NGS...	3	.	.....	N381625	W1042627	.....	C...	S PUEBLO CBL 2 1250

Select All

Get Datasheets (for the stations I've selected above)

Move (the above station list to a File->Print Window)

Reset

Return to [Datasheet Home Page](#)

This sort issue has been corrected. Enacting the same steps as above will now display these CORS without duplicates, as shown below.

## Station List Results for: N380412-N382432-W1041236-W1042715

Help

Re-Sort-By  Dist  Pid  Set  Set\_By  H  V  Vert\_Source  Latitude  Longitude  Stab  Cond  Designation

DE5881 2002	NGS...	0	I	88/ADJUSTED	N381646.03583	W1042112.56952	B...	S PUB1 B	
AJ6946	.....	0	k	88/GPS OBS.	N381712.59218	W1042043.81303	.....	PUEBLO 1	CORS ARP
AJ6947	.....	0	.	.....	N381712.59221	W1042043.81303	.....	PUEBLO 1	CORS L1 PHASE CENTER
DG6994	.....	0	.	.....	N381712.59221	W1042043.81303	.....	PUEBLO 1	CORS L1 PHASE CENTER
AJ6948	.....	0	.	.....	N381713.47879	W1042043.70218	.....	PUEBLO 2	CORS ARP
AJ6949	.....	0	.	.....	N381713.47882	W1042043.70218	.....	PUEBLO 2	CORS L1 PHASE CENTER
DG6995	.....	0	.	.....	N381713.47882	W1042043.70218	.....	PUEBLO 2	CORS L1 PHASE CENTER
DJ3037	.....	0	.	.....	N381712.59229	W1042043.81278	.....	PUEBLO 5	CORS ARP
DJ3038	.....	0	.	.....	N381712.59220	W1042043.81288	.....	PUEBLO 5	CORS L1 PHASE CENTER
DJ3039	.....	0	.	.....	N381713.47907	W1042043.70186	.....	PUEBLO 6	CORS ARP
DJ3040	.....	0	.	.....	N381713.47898	W1042043.70196	.....	PUEBLO 6	CORS L1 PHASE CENTER
DF9377 1997	NGS...	3	.	.....	N381626.2	W1042642.7	.....	C...	G PUEBLO CBL 2 0
AJ6034 1997	NGS...	3	.	.....	N381625	W1042627	.....	C...	S PUEBLO CBL 2 1250
DF9376 1997	NGS...	3	.	.....	N381625	W1042627	.....	C...	G PUEBLO CBL 2 150
AJ6033 1997	NGS...	3	.	.....	N381625	W1042627	.....	C...	G PUEBLO CBL 2 430
AC5132 1995	CO-101	0	.	88/GPS OBS.	N381102.23845	W1041627.11250	C...	S ROCHELLE	

Select All

Get Datasheets (for the stations I've selected above)

Move (the above station list to a File->Print Window)

Reset

Return to [Datasheet Home Page](#)

Please note that in the above picture, that PID AJ6947 represents the inactive L1 Phase Center for the ARP with PID AJ6946, and PID DG6994 represents the active L1 Phase Center for the ARP with PID AJ6946. Similarly, PID AJ6949 represents the inactive L1 Phase Center for the ARP with PID AJ6948, and PID DG6995 represents the active L1 Phase Center for the ARP with PID AJ6948. All four of these L1 Phase Centers (active and inactive) will never produce a datasheet as L1 Phase Centers are non-publishable. However, they will appear in the reason code report, which is displayed after the last datasheet whenever one uses any of the datasheet retrieval pages. The reason code report for the above datasheet retrieval by area (MIN/MAX LAT/LON) is shown below with the L1 Phase Centers highlighted in green.

```

-----
- This listing contains control for which complete digital          -
- data sheets were not provided. The complete data sheets were    -
- not provided for the reason listed below. The reason below is   -
- associated with a horizontal control Nonpub code shown under    -
- the heading 'H' and/or a vertical control Nonpub code shown under -
- the heading 'v'                                                -
-                                                                 -
- The format of the records are as follows:                        -
-   Pid = Station Permanent Identifier)                          -
-   Name = Station Designation                                   -
-   Lat = Approx. Latitude (Degrees, Minutes, truncated Seconds) -
-   Lon = Approx. Longitude (Degrees, Minutes, truncated Seconds) -
-   O   = Horizontal Order                                       -
-   o   = Vertical Order                                         -
-   H   = Horizontal Nonpub Code                                 -
-   v   = Vertical Nonpub Code                                   -
-                                                                 -
-   H Nonpub HORIZONTAL CONTROL NONPUB REASON                    -
-   -----
-   B      Station is a RBN antenna                               -
-   C      Not a publishable datum within the state              -
-   D      No descriptive text available                         -
-   I      No NAD83 coordinates available, only IGS08 coordinates -
-   L      CORS L1 Phase Center is not publishable              -
-   N      No geodetic control                                   -
-   O      Outside NGS publication area                         -
-   P      Purpose of position is not for network control       -
-   R      Restricted position                                   -
-   T      Station is a temporary point/bench mark              -
-   V      Station is a VOR antenna                             -
-   W      Weakly determined position                          -
-   X      Surface mark reported destroyed                     -
-   Y      Surface and underground mark reported destroyed      -
-                                                                 -
-   v Nonpub VERTICAL CONTROL NONPUB REASON                      -
-   -----
-   C      Not a publishable datum within the state              -
-   D      No descriptive text available                         -
-   F      Bench mark not yet adjusted                          -
-   N      No geodetic control                                   -
-   L      CORS L1 Phase Center is not publishable              -
-   O      Outside NGS publication area                         -
-   R      Restricted elevation                                  -
-   S      Mark is in a subsidence area                         -
-   T      Station is a temporary point/bench mark              -
-   X      Surface mark reported destroyed                     -
-   Y      Surface and underground mark reported destroyed      -
-   Z      Presumed destroyed                                   -
-                                                                 -

```

```

-
- NOTE - Stations found in this listing may still have a valid
- datasheet produced by use of other publishable values.
- For example, an ADJUSTED height may be non-publishable
- but a good GPS height might be found on the datasheet.
-
-
- If a mark/control point is in a subsidence area, you can request
- to see suspect heights in the SUPERSEDED SURVEY CONTROL section
- of its datasheet by checking the 'Include suspect heights in
- subsidence area' checkbox on the datasheet retrieval pages.
-

```

```

-----
Pid      Name                                Lat      Lon      Elev      O o Hv
-----
>CM8556  BUTLER BUTTE AZ MK                    38 07 14. /104 17 55.    DD
>CM8557  BUTLER BUTTE RM 1                    38 07 16. /104 17 55.    DD
>CM8558  BUTLER BUTTE RM 2                    38 07 15. /104 17 55.    DD
>AJ6947  PUEBLO 1 CORS L1 PHASE CENTER 38 17 12. /104 20 43.    LL
>DG6994  PUEBLO 1 CORS L1 PHASE CENTER 38 17 12. /104 20 43.    LL
>AJ6949  PUEBLO 2 CORS L1 PHASE CENTER 38 17 13. /104 20 43.    LL
>DG6995  PUEBLO 2 CORS L1 PHASE CENTER 38 17 13. /104 20 43.    LL
>DJ3038  PUEBLO 5 CORS L1 PHASE CENTER 38 17 12. /104 20 43.    LL
>DJ3040  PUEBLO 6 CORS L1 PHASE CENTER 38 17 13. /104 20 43.    LL
>DF9377  PUEBLO CBL 2 0                      38 16 26. /104 26 42.    NN
>AJ6034  PUEBLO CBL 2 1250                   38 16 25. /104 26 27.    NN
>DF9376  PUEBLO CBL 2 150                    38 16 25. /104 26 27.    NN
>AJ6033  PUEBLO CBL 2 430                    38 16 25. /104 26 27.    NN
>BO8133  TBM 11                               38 16 27. /104 26 50.    TT
>BO8134  TBM 12                               38 16 22. /104 25 56.    TT
>BO8135  TBM 13                               38 16 17. /104 25 01.    TT
>BO8136  TBM 14                               38 16 13. /104 24 08.    TT
>BO8137  TBM 15                               38 15 59. /104 22 05.    TT
>BO8138  TBM 16                               38 15 36. /104 20 11.    TT
>BO8139  TBM 17                               38 15 33. /104 19 54.    TT
>BO8140  TBM 18                               38 15 16. /104 17 51.    TT
>BO8141  TBM 19                               38 15 12. /104 17 19.    TT
>BO8142  TBM 20                               38 15 04. /104 16 23.    TT
>BO8143  TBM 21                               38 14 47. /104 14 38.    TT
>BO8144  TBM 22                               38 14 11. /104 13 14.    TT
>BO8145  TBM 23                               38 13 44. /104 12 39.    TT

```

**#3:** TU0920, a control point on Maui, HI, will now display the following text on its datasheet.

```

TU0920.The orthometric height was determined by differential leveling
TU0920.and adjusted by the National Geodetic Survey in July 2020
TU0920.holding the tidal station 161 5680 C TIDAL to the 1983/2001
TU0920.tidal station epoch value 1.461 meters.

```

**#4:** NGS has updated several links on datasheets that are listed below.

from:

```

AJ6946.Additional information on MYCS2 is available at
AJ6946.https://geodesy.noaa.gov/CORS/coords.shtml

```

...

```

AJ6946.Click photographs - Photos may exist for this station.

```

to:

```

AJ6946.Additional information on MYCS2 is available at
AJ6946.https://geodesy.noaa.gov/CORS/news/mycs2/mycs2.shtml

```

...  
AJ6946.Click [photographs](#) - Photos may exist for this station.

from:

AJ6946' <ftp://cors.ngs.noaa.gov/cors/README.txt>  
AJ6946' [ftp://cors.ngs.noaa.gov/cors/coord/coord\\_14](ftp://cors.ngs.noaa.gov/cors/coord/coord_14)  
AJ6946' [ftp://cors.ngs.noaa.gov/cors/station\\_log](ftp://cors.ngs.noaa.gov/cors/station_log)  
AJ6946' <https://geodesy.noaa.gov/CORS>

to:

AJ6946' [https://geodesy.noaa.gov/corsdata/coord/coord\\_14](https://geodesy.noaa.gov/corsdata/coord/coord_14)  
AJ6946' [https://geodesy.noaa.gov/corsdata/station\\_log](https://geodesy.noaa.gov/corsdata/station_log)  
AJ6946' <https://geodesy.noaa.gov/CORS>

### Version 8.12.5.12 updated on 03/03/2021

The Observation and Analysis Division (OAD) in NGS has updated the Southeast Texas *suspect* area to a *subsidence* area. This means that out of approximately 7500 control points in this subsidence area, only 28 are considered to have valid heights. New leveling and/or GNSS data are required in order to densify the network. Below is a list of the 28 specific control points with valid heights.

PID	EPOCH
AF9521	None
AJ8805	None
AW0590	None
AW0591	None
AW0623	None
AW0695	None
AW1082	None
AW1703	None
AW5578	None
AW5707	None
AW7078	None
AX2549	None
AX2552	None
AX2553	None
BK1739	None
BK1753	None
BK1778	None
BK2441	None



BL0169	None
BL0195	None
BL0243	None
BL0356	None
BL0358	None
BL0389	None
BL2014	None
BL2015	None
BL2340	None
DE5999	None

**Station List Results for: N380412-N382432-W1041236-W1042715**

Help  
 Re-Sort-By  Dist  Pid  Set  Set\_By  H  V  Vert\_Source  Latitude  Longitude  Stab  Cond  Designation

```

  |.....|AJ6946|.....|.....|0 k|88/GPS OBS.|N381712.59218|W1042043.81303|.....|PUEBLO 1 CORS ARP
  |.....|AJ6947|.....|.....|0 .|.....|N381712.59221|W1042043.81303|.....|PUEBLO 1 CORS L1 PHASE CENTER
  |.....|DG6994|.....|.....|0 .|.....|N381712.59221|W1042043.81303|.....|PUEBLO 1 CORS L1 PHASE CENTER
  |.....|AJ6947|.....|.....|0 .|.....|N381712.59221|W1042043.81303|.....|PUEBLO 1 CORS L1 PHASE CENTER
  |.....|DG6994|.....|.....|0 .|.....|N381712.59221|W1042043.81303|.....|PUEBLO 1 CORS L1 PHASE CENTER
  |.....|AJ6948|.....|.....|0 .|.....|N381713.47879|W1042043.70218|.....|PUEBLO 2 CORS ARP
  |.....|AJ6949|.....|.....|0 .|.....|N381713.47882|W1042043.70218|.....|PUEBLO 2 CORS L1 PHASE CENTER
  |.....|DG6995|.....|.....|0 .|.....|N381713.47882|W1042043.70218|.....|PUEBLO 2 CORS L1 PHASE CENTER
  |.....|AJ6949|.....|.....|0 .|.....|N381713.47882|W1042043.70218|.....|PUEBLO 2 CORS L1 PHASE CENTER
  |.....|DG6995|.....|.....|0 .|.....|N381713.47882|W1042043.70218|.....|PUEBLO 2 CORS L1 PHASE CENTER
  |.....|DJ3037|.....|.....|0 .|.....|N381712.59229|W1042043.81278|.....|PUEBLO 5 CORS ARP
  |.....|DJ3038|.....|.....|0 .|.....|N381712.59220|W1042043.81288|.....|PUEBLO 5 CORS L1 PHASE CENTER
  |.....|DJ3039|.....|.....|0 .|.....|N381713.47907|W1042043.70186|.....|PUEBLO 6 CORS ARP
  |.....|DJ3040|.....|.....|0 .|.....|N381713.47898|W1042043.70196|.....|PUEBLO 6 CORS L1 PHASE CENTER
  |.....|DF9377|1997|NGS|.....|N381626.2.....|W1042642.7.....|C...|G|PUEBLO CBL 2 0
  |.....|AJ6034|1997|NGS|.....|N381625.....|W1042627.....|C...|S|PUEBLO CBL 2 1250
  
```

Select All  
 Get Datasheets (for the stations I've selected above)  
 Move (the above station list to a File->Print Window)  
 Reset

Return to [Datasheet Home Page](#)

Below is a list of all of the existing

subsidence/suspect areas in US states/territories. In the table below, the Southeast Texas suspect area is now considered to be an area of *subsidence* versus a *suspect* area (changes highlighted in green and red).

**Dynamic Regions/Subsidence & Suspect Areas**

State	Latitude Range	Longitude Range	Area Type
LA	latitude ≤ N303432	longitude ≥ W0912738	Subsidence
LA	latitude ≤ N304850	W0903401 ≤ longitude ≤ W0912738	Subsidence
LA	latitude ≤ N310002	longitude ≤ W0903401	Subsidence
MS	latitude ≤ N320608	W0882650 ≤ longitude ≤ W0910952	Subsidence
AL	latitude ≤ N312344	longitude ≥ W0880000	Subsidence
FL	N301743 ≤ latitude ≤ N303716	longitude ≥ W0870744	Subsidence
TX	N282900 ≤ latitude ≤ N303000	W0934000 ≤ longitude ≤ W0961500	Subsidence (was Suspect)

Any control point residing in the Southeast Texas subsidence area,  $N282900 \leq \text{latitude} \leq N303000$  and  $W0934000 \leq \text{longitude} \leq W0961500$ , that is not one of the 28 control points with a valid height will display "NOT PUB" on the "ORTHO HEIGHT -" line of their datasheet, as shown below for PID AW1029.

```
AW1029* NAVD 88 ORTHO HEIGHT - ** (meters) ** (feet) NOT PUB
```

In order to designation that a control point is in the Southeast Texas subsidence area, the following message is displayed beneath the "ORTHO HEIGHT -" line:

```
<PID> **This station is in an area of suspected vertical motion (see below).
```

along with the paragraphs:

```
<PID> ** This station is in an area of suspected vertical motion. Due to the
<PID> ** variability of land subsidence, uplift, and crustal motion, NGS
<PID> ** recommends that all published orthometric heights in such areas be
<PID> ** validated before used as control. In addition, NGS does not
<PID> ** recommend using the following types of orthometric heights as
<PID> ** vertical control: scaled, VERTCON, or superseded. Click here to
<PID> ** see the list of stations with valid orthometric heights in this area.
<PID> **
<PID> ** If an established orthometric height is unavailable in the survey control
<PID> ** section, it should be considered suspect. To view suspect heights,
<PID> ** (in the superseded section), select "Include suspect heights in vertical
<PID> ** motion areas" box from the datasheet retrieval page.
```

An example PID showing this message is AW0590. Pertinent information is highlighted in green for the partial datasheet for AW0590 shown below.

```
AW0590 *****
AW0590 FBN - This is a Federal Base Network Control Station.
AW0590 TIDAL BM - This is a Tidal Bench Mark.
AW0590 DESIGNATION - E 168
AW0590 PID - AW0590
AW0590 STATE/COUNTY- TX/GALVESTON
AW0590 COUNTRY - US
AW0590 USGS QUAD - GALVESTON (2019)
AW0590
AW0590 *CURRENT SURVEY CONTROL
AW0590
AW0590* NAD 83(2011) POSITION- 29 17 20.54501(N) 094 47 21.14978(W) ADJUSTED
AW0590* NAD 83(2011) ELLIP HT- -22.204 (meters) (06/27/12) ADJUSTED
AW0590* NAD 83(2011) EPOCH - 2010.00
AW0590* NAVD 88 ORTHO HEIGHT - 4.400 (meters) 14.44 (feet) ADJUSTED
AW0590 **This station is in an area of suspected vertical motion (see below).
AW0590
AW0590 GEOID HEIGHT - -26.607 (meters) GEOID18
AW0590 NAD 83(2011) X - -464,807.750 (meters) COMP
AW0590 NAD 83(2011) Y - -5,547,779.163 (meters) COMP
AW0590 NAD 83(2011) Z - 3,101,870.964 (meters) COMP
AW0590 LAPLACE CORR - 1.26 (seconds) DEFLEC18
AW0590 DYNAMIC HEIGHT - 4.394 (meters) 14.42 (feet) COMP
AW0590 MODELED GRAVITY - 979,261.6 (mgal) NAVD 88
AW0590 OBS GRAVITY - 979,258.8 (mgal) GRAV_OBS
AW0590
AW0590 VERT ORDER - FIRST CLASS II
AW0590
AW0590 Network accuracy estimates per FGDC Geospatial Positioning Accuracy
AW0590 Standards:
AW0590 FGDC (95% conf, cm) Standard deviation (cm) CorrNE
AW0590 Horiz Ellip SD_N SD_E SD_h (unitless)
```

```

AW0590 -----
AW0590 NETWORK      0.35   0.88           0.14   0.15   0.45       0.03950528
AW0590 -----
AW0590 Click here for local accuracies and other accuracy information.
AW0590
AW0590
AW0590.The horizontal coordinates were established by GPS observations
AW0590.and adjusted by the National Geodetic Survey in June 2012.
AW0590
AW0590.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has
AW0590.been affixed to the stable North American tectonic plate. See
AW0590.NA2011 for more information.
AW0590
AW0590.The horizontal coordinates are valid at the epoch date displayed above
AW0590.which is a decimal equivalence of Year/Month/Day.
AW0590
AW0590 ** This station is in an area of suspected vertical motion. Due to the
AW0590 ** variability of land subsidence, uplift, and crustal motion, NGS
AW0590 ** recommends that all published orthometric heights in such areas be
AW0590 ** validated before used as control. In addition, NGS does not
AW0590 ** recommend using the following types of orthometric heights as
AW0590 ** vertical control: scaled, VERTCON, or superseded. Click here to
AW0590 ** see the list of stations with valid orthometric heights in this area.
AW0590 **
AW0590 ** If an established orthometric height is unavailable in the survey control
AW0590 ** section, it should be considered suspect. To view suspect heights,
AW0590 ** (in the superseded section), select "Include suspect heights in vertical
AW0590 ** motion areas" box from the datasheet retrieval page.
AW0590
AW0590.The orthometric height was determined by differential leveling and
AW0590.adjusted by the NATIONAL GEODETIC SURVEY
AW0590.in March 1997.
AW0590
AW0590.Significant digits in the geoid height do not necessarily reflect accuracy.
AW0590.GEOID18 height accuracy estimate available here.
AW0590
AW0590.This Tidal Bench Mark is designated as VM 856
AW0590.by the CENTER FOR OPERATIONAL OCEANOGRAPHIC PRODUCTS AND SERVICES.
AW0590
AW0590.Click photographs - Photos may exist for this station.
AW0590
AW0590.The X, Y, and Z were computed from the position and the ellipsoidal ht.
AW0590
AW0590.The Laplace correction was computed from DEFLEC18 derived deflections.
AW0590
AW0590.The ellipsoidal height was determined by GPS observations
AW0590.and is referenced to NAD 83.
AW0590
AW0590.The dynamic height is computed by dividing the NAVD 88
AW0590.geopotential number by the normal gravity value computed on the
AW0590.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
AW0590.degrees latitude (g = 980.6199 gals.).
AW0590
AW0590.The modeled gravity was interpolated from observed gravity values.
AW0590
AW0590.The observed gravity was obtained from relative gravimeter ties
AW0590.to the IGSN71 gravity network.
AW0590
AW0590. The following values were computed from the NAD 83(2011) position.
AW0590
AW0590;           North           East           Units Scale Factor Converg.
AW0590;SPC TXSC   - 4,168,694.608 1,009,004.096  MT  0.99986356  +2 03 46.5
AW0590;SPC TXSC   -13,676,792.23  3,310,374.27  sFT 0.99986356  +2 03 46.5
AW0590;UTM 15   - 3,241,337.314  326,203.428  MT  0.99997273  -0 52 31.9
AW0590
AW0590!
AW0590!SPC TXSC   - Elev Factor x Scale Factor = Combined Factor
AW0590!SPC TXSC   - 1.00000349 x 0.99986356 = 0.99986705
AW0590!UTM 15   - 1.00000349 x 0.99997273 = 0.99997622
AW0590
AW0590_U.S. NATIONAL GRID SPATIAL ADDRESS: 15RUN2620341337(NAD 83)
AW0590

```

```

AW0590 SUPERSEDED SURVEY CONTROL
AW0590
AW0590 NAD 83(2007)- 29 17 20.54476(N) 094 47 21.15052(W) AD(2002.00) 0
AW0590 ELLIP H (02/10/07) -22.192 (m) GP(2002.00)
AW0590 NAD 83(1993)- 29 17 20.54505(N) 094 47 21.15036(W) AD( ) A
AW0590 ELLIP H (05/01/00) -22.163 (m) GP( ) 3 1
AW0590 NAVD 88 4.40 (m) 14.4 (f) LEVELING 3
AW0590 NAVD 88 (06/15/91) 4.456 (m) 14.62 (f) SUPERSEDED 1 1
AW0590 NGVD 29 (??/??/87) 4.521 (m) 14.83 (f) SUPERSEDED 1 1
AW0590 NGVD 29 (12/23/87) 4.452 (m) 14.61 (f) ADJUSTED 1 1
AW0590
AW0590.Superseded values are not recommended for survey control.
AW0590
. . .

```

Control points in the SouthEast Texas subsidence area that are not one of the 28 control points with valid heights will display “NOT PUB” on their “ORTHO HEIGHT – “ line in the CURRENT SURVEY CONTROL section of the datasheet and no suspect heights in the SUPERSEDED SURVEY CONTROL section of their datasheet, as shown below for PID AW1029.

```

Starting Datasheet Retrieval...
1 National Geodetic Survey, Retrieval Date = FEBRUARY 19, 2021
AW1029 *****
AW1029 DESIGNATION - J 1187
AW1029 PID - AW1029
AW1029 STATE/COUNTY- TX/HARRIS
AW1029 COUNTRY - US
AW1029 USGS QUAD - LEAGUE CITY (2019)
AW1029
AW1029 *CURRENT SURVEY CONTROL
AW1029
AW1029* NAD 83(2011) POSITION- 29 33 06.67704(N) 095 05 22.75228(W) ADJUSTED
AW1029* NAD 83(2011) ELLIP HT- -22.330 (meters) (06/27/12) ADJUSTED
AW1029* NAD 83(2011) EPOCH - 2010.00
AW1029* NAVD 88 ORTHO HEIGHT - ** (meters) ** (feet) NOT PUB
AW1029 **This station is in an area of suspected vertical motion (see below).
AW1029
AW1029 GEOID HEIGHT - -27.067 (meters) GEOID18
AW1029 NAD 83(2011) X - -492,622.959 (meters) COMP
AW1029 NAD 83(2011) Y - -5,531,012.326 (meters) COMP
AW1029 NAD 83(2011) Z - 3,127,245.078 (meters) COMP
AW1029 LAPLACE CORR - 0.46 (seconds) DEFLEC18
AW1029 DYNAMIC HEIGHT - 4.77 (meters) 15.6 (feet) COMP
AW1029 MODELED GRAVITY - 979,273.1 (mgal) NAVD 88
AW1029 OBS GRAVITY - 979,275.3 (mgal) GRAV_OBS
AW1029
AW1029 VERT ORDER - * READJUSTED, SEE BELOW
AW1029
AW1029 Network accuracy estimates per FGDC Geospatial Positioning Accuracy
AW1029 Standards:
AW1029 FGDC (95% conf, cm) Standard deviation (cm) CorrNE
AW1029 Horiz Ellip SD_N SD_E SD_h (unitless)
AW1029 -----
AW1029 NETWORK 3.64 21.95 1.51 1.45 11.20 -0.22194229
AW1029 -----
AW1029 Click here for local accuracies and other accuracy information.
AW1029
AW1029
AW1029.The horizontal coordinates were established by GPS observations
AW1029.and adjusted by the National Geodetic Survey in June 2012.
AW1029
AW1029.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has
AW1029.been affixed to the stable North American tectonic plate. See
AW1029.NA2011 for more information.
AW1029
AW1029.The horizontal coordinates are valid at the epoch date displayed above
AW1029.which is a decimal equivalence of Year/Month/Day.
AW1029
AW1029 ** This station is in an area of suspected vertical motion. Due to the

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AW1029 \*\* variability of land subsidence, uplift, and crustal motion, NGS  
 AW1029 \*\* recommends that all published orthometric heights in such areas be  
 AW1029 \*\* validated before used as control. In addition, NGS does not  
 AW1029 \*\* recommend using the following types of orthometric heights as  
 AW1029 \*\* vertical control: scaled, VERTCON, or superseded. Click [here](#) to  
 AW1029 \*\* see the list of stations with valid orthometric heights in this area.  
 AW1029 \*\*  
 AW1029 \*\* If an established orthometric height is unavailable in the survey control  
 AW1029 \*\* section, it should be considered suspect. To view suspect heights,  
 AW1029 \*\* (in the superseded section), select "Include suspect heights in vertical  
 AW1029 \*\* motion areas" box from the datasheet retrieval page.

AW1029  
 AW1029.The orthometric height was determined by differential leveling  
 AW1029.and adjusted by the NATIONAL GEODETIC SURVEY in August 1995.  
 AW1029  
 AW1029.\* This is a READJUSTED BENCH MARK height.  
 AW1029  
 AW1029.The height was derived from older observations constrained to new  
 AW1029.heights in a crustal motion area. The height is approximate in  
 AW1029.relation to other heights in its vicinity.  
 AW1029  
 AW1029.Significant digits in the geoid height do not necessarily reflect accuracy.  
 AW1029.GEOID18 height accuracy estimate available [here](#).  
 AW1029  
 AW1029.Click [photographs](#) - Photos may exist for this station.  
 AW1029  
 AW1029.The X, Y, and Z were computed from the position and the ellipsoidal ht.  
 AW1029  
 AW1029.The Laplace correction was computed from DEFLEC18 derived deflections.  
 AW1029  
 AW1029.The ellipsoidal height was determined by GPS observations  
 AW1029.and is referenced to NAD 83.  
 AW1029  
 AW1029.The dynamic height is computed by dividing the NAVD 88  
 AW1029.geopotential number by the normal gravity value computed on the  
 AW1029.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45  
 AW1029.degrees latitude (g = 980.6199 gals.).  
 AW1029  
 AW1029.The modeled gravity was interpolated from observed gravity values.  
 AW1029  
 AW1029.The observed gravity was obtained from relative gravimeter ties  
 AW1029.to the IGSN71 gravity network.  
 AW1029  
 AW1029. The following values were computed from the NAD 83(2011) position.  
 AW1029  
 AW1029;

**AW1029 SUPERSEDED SURVEY CONTROL**

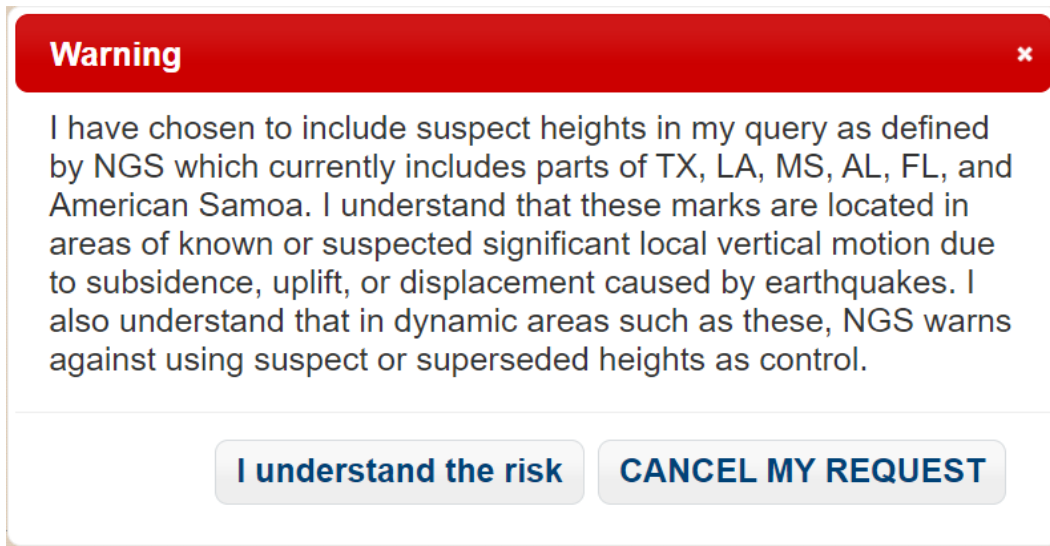
AW1029	NAD 83(2007)-	29 33 06.67655(N)	095 05 22.75329(W)	AD(2002.00)	0
AW1029	ELLIP H (02/10/07)	-22.328 (m)		GP(2002.00)	
AW1029	NAD 83(1993)-	29 33 06.67619(N)	095 05 22.75313(W)	AD( )	1
AW1029	ELLIP H (12/03/01)	-22.263 (m)		GP( )	4 2
AW1029	ELLIP H (10/25/00)	-22.270 (m)		GP( )	4 1
AW1029	NAD 83(1993)-	29 33 06.67635(N)	095 05 22.75243(W)	AD( )	1
AW1029	ELLIP H (10/17/96)	-22.142 (m)		GP( )	3 1

AW1029  
 AW1029.Superseded values are not recommended for survey control.  
 AW1029  
 ...

A user can turn on/list suspect heights for control points in the SUPERSEDED SURVEY CONTROL section of their datasheet by checking the

**Include suspect heights** in vertical motion areas

checkbox on the datasheet retrieval pages (such as [https://dev.nosngs.noaa/cgi-bin/ds\\_pid.prl](https://dev.nosngs.noaa/cgi-bin/ds_pid.prl), [https://dev.nosngs.noaa/cgi-bin/ds\\_country.prl](https://dev.nosngs.noaa/cgi-bin/ds_country.prl), [https://dev.nosngs.noaa/cgi-bin/ds\\_dates.prl](https://dev.nosngs.noaa/cgi-bin/ds_dates.prl), [https://dev.nosngs.noaa/cgi-bin/ds\\_desig.prl](https://dev.nosngs.noaa/cgi-bin/ds_desig.prl), [https://dev.nosngs.noaa/cgi-bin/ds\\_mm.prl](https://dev.nosngs.noaa/cgi-bin/ds_mm.prl), [https://dev.nosngs.noaa/cgi-bin/ds\\_quads.prl](https://dev.nosngs.noaa/cgi-bin/ds_quads.prl), and [https://dev.nosngs.noaa/cgi-bin/ds\\_radius.prl](https://dev.nosngs.noaa/cgi-bin/ds_radius.prl)). Before these suspect heights are displayed on their datasheets, however, a user must first press the [I understand the risk] button on the Warning message that displays:



In our example, PID AW1029, the suspect heights will be displayed in the SUPERSEDED SURVEY CONTROL section of the datasheets as shown below with the pertinent text highlighted in yellow.

```
Starting Datasheet Retrieval...
1 National Geodetic Survey, Retrieval Date = FEBRUARY 19, 2021
AW1029 *****
AW1029 DESIGNATION - J 1187
AW1029 PID - AW1029
AW1029 STATE/COUNTY- TX/HARRIS
AW1029 COUNTRY - US
AW1029 USGS QUAD - LEAGUE CITY (2019)
AW1029
AW1029 *CURRENT SURVEY CONTROL
AW1029
AW1029* NAD 83(2011) POSITION- 29 33 06.67704(N) 095 05 22.75228(W) ADJUSTED
AW1029* NAD 83(2011) ELLIP HT- -22.330 (meters) (06/27/12) ADJUSTED
AW1029* NAD 83(2011) EPOCH - 2010.00
AW1029* NAVD 88 ORTHO HEIGHT - ** (meters) ** (feet) NOT PUB
AW1029 **This station is in an area of suspected vertical motion (see below).
AW1029
AW1029 GEOID HEIGHT - -27.067 (meters) GEOID18
AW1029 NAD 83(2011) X - -492,622.959 (meters) COMP
AW1029 NAD 83(2011) Y - -5,531,012.326 (meters) COMP
AW1029 NAD 83(2011) Z - 3,127,245.078 (meters) COMP
AW1029 LAPLACE CORR - 0.46 (seconds) DEFLEC18
AW1029 DYNAMIC HEIGHT - 4.77 (meters) 15.6 (feet) COMP
AW1029 MODELED GRAVITY - 979,273.1 (mgal) NAVD 88
AW1029 OBS GRAVITY - 979,275.3 (mgal) GRAV_OBS
AW1029
```

AW1029 VERT ORDER - \* READJUSTED, SEE BELOW

AW1029 Network accuracy estimates per FGDC Geospatial Positioning Accuracy Standards:

AW1029	FGDC (95% conf, cm)		Standard deviation (cm)			CorrNE (unitless)
	Horiz	Ellip	SD_N	SD_E	SD_h	
AW1029	3.64	21.95	1.51	1.45	11.20	-0.22194229

AW1029 Click [here](#) for local accuracies and other accuracy information.

AW1029 The horizontal coordinates were established by GPS observations and adjusted by the National Geodetic Survey in June 2012.

AW1029 NAD 83(2011) refers to NAD 83 coordinates where the reference frame has been affixed to the stable North American tectonic plate. See [NA2011](#) for more information.

AW1029 The horizontal coordinates are valid at the epoch date displayed above which is a decimal equivalence of Year/Month/Day.

AW1029 \*\* This station is in an area of suspected vertical motion. Due to the variability of land subsidence, uplift, and crustal motion, NGS recommends that all published orthometric heights in such areas be validated before used as control. In addition, NGS does not recommend using the following types of orthometric heights as vertical control: scaled, VERTCON, or superseded. Click [here](#) to see the list of stations with valid orthometric heights in this area.

AW1029 \*\* If an established orthometric height is unavailable in the survey control section, it should be considered suspect. To view suspect heights, (in the superseded section), select "Include suspect heights in vertical motion areas" box from the datasheet retrieval page.

AW1029 The orthometric height was determined by differential leveling and adjusted by the NATIONAL GEODETIC SURVEY in August 1995.

AW1029 \* This is a READJUSTED BENCH MARK height.

AW1029 The height was derived from older observations constrained to new heights in a crustal motion area. The height is approximate in relation to other heights in its vicinity.

AW1029 Significant digits in the geoid height do not necessarily reflect accuracy. GEOID18 height accuracy estimate available [here](#).

AW1029 Click [photographs](#) - Photos may exist for this station.

AW1029 The X, Y, and Z were computed from the position and the ellipsoidal ht.

AW1029 The Laplace correction was computed from DEFLEC18 derived deflections.

AW1029 The ellipsoidal height was determined by GPS observations and is referenced to NAD 83.

AW1029 The dynamic height is computed by dividing the NAVD 88 geopotential number by the normal gravity value computed on the Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45 degrees latitude (g = 980.6199 gals.).

AW1029 The modeled gravity was interpolated from observed gravity values.

AW1029 The observed gravity was obtained from relative gravimeter ties to the IGSN71 gravity network.

AW1029 The following values were computed from the NAD 83(2011) position.

AW1029;	North	East	Units	Scale	Factor	Converg.
AW1029;SPC TXSC	- 4,196,792.220	978,858.741	MT	0.99987038	+1 54 56.6	
AW1029;SPC TXSC	-13,768,975.81	3,211,472.39	sFT	0.99987038	+1 54 56.6	

```

AW1029;UTM 15 - 3,270,950.401 297,535.172 MT 1.00010582 -1 01 51.6
AW1029
AW1029! - Elev Factor x Scale Factor = Combined Factor
AW1029!SPC TXSC - 1.00000351 x 0.99987038 = 0.99987389
AW1029!UTM 15 - 1.00000351 x 1.00010582 = 1.00010933
AW1029
AW1029_U.S. NATIONAL GRID SPATIAL ADDRESS: 15RTN9753570950 (NAD 83)
AW1029
AW1029 SUPERSEDED SURVEY CONTROL
AW1029
AW1029 NAD 83(2007)- 29 33 06.67655(N) 095 05 22.75329(W) AD(2002.00) 0
AW1029 ELLIP H (02/10/07) -22.328 (m) GP(2002.00)
AW1029 NAD 83(1993)- 29 33 06.67619(N) 095 05 22.75313(W) AD( ) 1
AW1029 ELLIP H (12/03/01) -22.263 (m) GP( ) 4 2
AW1029 ELLIP H (10/25/00) -22.270 (m) GP( ) 4 1
AW1029 NAD 83(1993)- 29 33 06.67635(N) 095 05 22.75243(W) AD( ) 1
AW1029 ELLIP H (10/17/96) -22.142 (m) GP( ) 3 1
AW1029 NAVD 88 (12/03/01) 4.77 (m) GEOID99 model used GPS OBS
AW1029 NAVD 88 (10/17/96) 4.75 (m) GEOID93 model used GPS OBS
AW1029 NAVD 88 (08/31/95) 4.777 (m) 15.67 (f) READJUSTED 3
AW1029 NAVD 88 (06/15/91) 4.796 (m) 15.73 (f) SUPERSEDED 1 1
AW1029 NGVD 29 (??/??/87) 4.857 (m) 15.94 (f) SUPERSEDED 1 1
AW1029 NGVD 29 (12/23/87) 4.793 (m) 15.73 (f) ADJUSTED 1 1
AW1029
AW1029.Superseded values are not recommended for survey control.
AW1029
...

```

## Version 8.12.5.11 updated on 12/15/2020

Over the last two years, the National Geodetic Survey's Observation and Analysis Division has worked with the Natural Resources Canada and NGS' System Development Division to make publishable NGS' datasheets for marks found in Canada. The positional and height information provided upon these data sheets will not be officially recognized by the Government of Canada, the provincial governments within Canada, nor are they intended to replace or substitute for them. The intent of sharing these NGS datasheets is to allow access to positions or heights recognized by the United States Government. Passive control that is used by both nations may share the same or similar designations or descriptions but do not share official positions or heights. The "Station Description" may originate from a Canadian "Station Report" and if so contains information licensed under the "Open Government License - Canada".

In this version of datasheets for Canada, there is a new drop-down list box for the "Pick a State" field on the following web pages:

[https://www.ngs.noaa.gov/cgi-bin/ds\\_county.prl](https://www.ngs.noaa.gov/cgi-bin/ds_county.prl)  
[https://www.ngs.noaa.gov/cgi-bin/ds\\_county\\_sf.prl](https://www.ngs.noaa.gov/cgi-bin/ds_county_sf.prl)  
[https://www.ngs.noaa.gov/cgi-bin/ds\\_desig.prl](https://www.ngs.noaa.gov/cgi-bin/ds_desig.prl)  
[https://www.ngs.noaa.gov/cgi-bin/ds\\_desig\\_sf.prl](https://www.ngs.noaa.gov/cgi-bin/ds_desig_sf.prl)

The *Pick a State* drop-down list box will now display the following states (Canadian states are highlighted in **green**):

ALABAMA  
ALASKA  
ARIZONA  
ARKANSAS  
CALIFORNIA  
COLORADO  
CONNECTICUT  
DELAWARE  
DISTRICT OF COLUMBIA  
FLORIDA



GEORGIA  
HAWAII  
IDAHO  
ILLINOIS  
INDIANA  
IOWA  
KANSAS  
KENTUCKY  
LOUISIANA  
MAINE  
MARYLAND  
MASSACHUSETTS  
MICHIGAN  
MISSISSIPPI  
MISSOURI  
MONTANA  
MINNESOTA  
NEBRASKA  
NEVADA  
NEW HAMPSHIRE  
NEW JERSEY  
NEW MEXICO  
NEW YORK  
NORTH CAROLINA  
NORTH DAKOTA  
OHIO  
OKLAHOMA  
OREGON  
PENNSYLVANIA  
RHODE ISLAND  
SOUTH CAROLINA  
SOUTH DAKOTA  
TENNESSEE  
TEXAS  
UTAH  
VERMONT  
VIRGINIA  
WASHINGTON  
WEST VIRGINIA  
WISCONSIN  
WYOMING  
US ECONOMIC EXCLUSION ZONE U1 FOR NAD83 2011  
US ECONOMIC EXCLUSION ZONE U2 FOR NAD83 MA11  
US ECONOMIC EXCLUSION ZONE U3 FOR NAD83 PA11  
US TERRITORY, AMERICAN SAMOA  
US TERRITORY, BAKER ISLAND  
US TERRITORY, HOWLAND ISLAND  
US TERRITORY, JARVIS ISLAND  
US TERRITORY, KINGMAN REEF  
US TERRITORY, NAVASSA ISLAND  
US TERRITORY, PALMYRA ATOLL  
US TERRITORY, PUERTO RICO  
US TERRITORY, US VIRGIN ISLANDS  
PACIFIC ISLAND STATE, GUAM  
PACIFIC ISLAND STATE, JOHNSTON ATOLL  
PACIFIC ISLAND STATE, MAJURO  
PACIFIC ISLAND STATE, MIDWAY ISLANDS  
PACIFIC ISLAND STATE, NORTHERN MARIANA ISLANDS  
PACIFIC ISLAND STATE, REPUBLIC OF MARSHALL ISLANDS  
PACIFIC ISLAND STATE, REPUBLIC OF PALAU  
PACIFIC ISLAND STATE, FEDERATED STATES OF MICRONESIA  
PACIFIC ISLAND STATE, WAKE ISLAND  
CARIBBEAN ISLAND STATE, ANGUILLA

CARIBBEAN ISLAND STATE, ANTIGUA AND BARBUDA  
 CARIBBEAN ISLAND STATE, ARUBA  
 CARIBBEAN ISLAND STATE, BAHAMA ISLANDS  
 CARIBBEAN ISLAND STATE, BARBADOS  
 CARIBBEAN ISLAND STATE, BRITISH VIRGIN ISLANDS  
 CARIBBEAN ISLAND STATE, CAYMAN ISLANDS  
 CARIBBEAN ISLAND STATE, CURACAO  
 CARIBBEAN ISLAND STATE, DOMINICA  
 CARIBBEAN ISLAND STATE, DOMINICAN REPUBLIC  
 CARIBBEAN ISLAND STATE, GRENADA  
 CARIBBEAN ISLAND STATE, GUYANA  
 CARIBBEAN ISLAND STATE, HAITI  
 CARIBBEAN ISLAND STATE, JAMAICA  
 CARIBBEAN ISLAND STATE, ST KITTS AND NEVIS  
 CARIBBEAN ISLAND STATE, ST LUCIA  
 CARIBBEAN ISLAND STATE, ST MAARTEN  
 CARIBBEAN ISLAND STATE, ST VINCENT AND GRENADINES  
 CARIBBEAN ISLAND STATE, TRINIDAD AND TOBAGO  
 CANADA, ALBERTA  
 CANADA, BRITISH COLUMBIA  
 CANADA, MANITOBA  
 CANADA, NEW BRUNSWICK  
 CANADA, NEWFOUNDLAND  
 CANADA, NORTHWEST TERRITORIES  
 CANADA, NOVA SCOTIA  
 CANADA, NUNAVUT  
 CANADA, ONTARIO  
 CANADA, PRINCE EDWARD ISLAND  
 CANADA, QUEBEC  
 CANADA, SASKATCHEWAN  
 CANADA, YUKON  
 CENTRAL AMERICA, EL SALVADOR  
 CENTRAL AMERICA, GUATEMALA,  
 CENTRAL AMERICA, HONDURAS  
 CENTRAL AMERICA, NICARAGUA  
 SOUTH AMERICA, SURINAM

Additionally, you will note that some of the state in the list have been reordered to give a better grouping and are alphabetically listed within that grouping (i.e. all US states are grouped together, all Caribbean Island States are grouped together, all Candian provinces are grouped together, etc.).

Prior to this the *Pick a State* drop-down list box contained the following states:

ALABAMA  
 ALASKA  
 AMERICAN SAMOA  
 ANGUILLA  
 ANTIGUA AND BARBUDA  
 ARIZONA  
 ARKANSAS  
 ARUBA  
 BAHAMA ISLANDS  
 BAKER ISLAND  
 BARBADOS  
 BRITISH VIRGIN ISLANDS  
 CALIFORNIA  
 CAYMAN ISLANDS  
 COLORADO  
 CONNECTICUT  
 CURACAO  
 DELAWARE

DISTRICT OF COLUMBIA  
DOMINICA  
DOMINICAN REPUBLIC  
El SALVADOR  
FEDERATED STATES OF MICRONESIA  
FLORIDA  
GEORGIA  
GRENADA  
GUATEMALA  
GUAM  
GUYANA  
HAITI  
HAWAII  
HONDURAS  
HOWLAND ISLAND  
IDAHO  
ILLINOIS  
INDIANA  
IOWA  
JAMAICA  
JARVIS ISLAND  
JOHNSTON ATOLL  
KANSAS  
KENTUCKY  
LOUISIANA  
MAINE  
MARYLAND  
MASSACHUSETTS  
MICHIGAN  
MIDWAY ISLANDS  
MINNESOTA  
MISSISSIPPI  
MISSOURI  
MONTANA  
NAVASSA ISLAND  
NEBRASKA  
NEVADA  
NEW HAMPSHIRE  
NEW JERSEY  
NEW MEXICO  
NEW YORK  
NORTH CAROLINA  
NORTH DAKOTA  
NORTHERN MARIANA ISLANDS  
NICARAGUA  
OHIO  
OKLAHOMA  
OREGON  
PENNSYLVANIA  
PUERTO RICO  
REPUBLIC OF MARSHALL ISLANDS  
REPUBLIC OF PALAU  
RHODE ISLAND  
SOUTH CAROLINA  
SOUTH DAKOTA  
ST KITTS AND NEVIS  
ST LUCIA  
ST MAARTEN  
ST VINCENT AND GRENADINES  
SURINAM  
TENNESSEE  
TEXAS  
TRINIDAD and TOBAGO

US ECONOMIC EXCLUSION ZONE U1 FOR NAD83 2011  
 US ECONOMIC EXCLUSION ZONE U2 FOR NAD83 MA11  
 US ECONOMIC EXCLUSION ZONE U3 FOR NAD83 PA11  
 UTAH  
 US VIRGIN ISLANDS  
 VERMONT  
 VIRGINIA  
 WAKE ISLAND  
 WASHINGTON  
 WEST VIRGINIA  
 WISCONSIN  
 WYOMING

You will be able to retrieve *NST Map Sheets for Canada* in addition to *USGS Quads* via the following web pages:

[https://www.ngs.noaa.gov/cgi-bin/ds\\_quads.prl](https://www.ngs.noaa.gov/cgi-bin/ds_quads.prl)  
[https://www.ngs.noaa.gov/cgi-bin/ds\\_quads\\_sf.prl](https://www.ngs.noaa.gov/cgi-bin/ds_quads_sf.prl)

For example, entering a Quad Name of NIAGARA on the [https://www.ngs.noaa.gov/cgi-bin/ds\\_quads.prl](https://www.ngs.noaa.gov/cgi-bin/ds_quads.prl) web page, and then pressing the [Submit] button, will result in the following output on the next page (Canadian state of Ontario is highlighted in green):

```
|ST|GDA.....|Min_Lat|Min_Long|Max_Lat|Max_Long|QuadName
|---|-----|-----|-----|-----|-----|-----
|NC|13840519|N350730|W0791500|N351500|W0792230|NIAGARA
|ND|10162744|N475230|W0974500|N480000|W0975230|NIAGARA
|ON|030M03  |N430000|W0790000|N431500|W0793000|NIAGARA
|ON|030M02  |N430000|W0783000|N431500|W0790000|NIAGARA
|OR|8836202  |N450730|W1233730|N451500|W1234500|NIAGARA CREEK
|NY|14106480|N430000|W0790000|N430730|W0790730|NIAGARA FALLS
|ID|8866592  |N423730|W1143730|N424500|W1144500|NIAGARA SPRINGS
|ND|10162746|N474500|W0975230|N475230|W0980000|NIAGARA SW
|ON|030M06  |N431500|W0790000|N433000|W0793000|NIAGARA-ON-THE-LAKE
```

Select `|ON|030M06 |N431500|W0790000|N433000|W0793000|NIAGARA-ON-THE-LAKE` and then press the [Submit] button. On the next page, a list of control points in this quad will display. Select the *PID* radio button and then press the [Re-sort By] button. The control points are now ordered by PID. Select OG0289 from the list, then hold down the <CTRL> button while selecting OG0322 from the list with your mouse or the <Enter> key, and then press the [Get Datasheets] button.

# Station List Results for: NIAGARA-ON-THE-LAKE

Help

Re-Sort-By  Dist  Pid  Set  Set\_By  H  V  Vert\_Source  Latitude  Longitude  Stab  Cond  Designation

.... OG0286 UNK. USLS... 1 88/ADJUSTED N431540..... W0790347..... D... G N431540
.... OG0287 UNK. USLS... 1 88/ADJUSTED N431542..... W0790349..... D... G FORT
.... OG0288 UNK. USLS... 1 88/ADJUSTED N431542..... W0790349..... C... G 905 2090 PIT USLS
.... OG0289 UNK. USLS... 2 88/ADJUSTED N431544.0.... W0790347.0.... D... G 905 2090 SW GATE
.... OG0290 UNK. USLS... 1 88/ADJUSTED N431533..... W0790310..... D... G NAVAL
.... OG0291 UNK. USLS... 1 88/ADJUSTED N431612..... W0790148..... C... G DIEZ USLS
.... OG0316 1977 NGS... 1 88/ADJUSTED N431614..... W0790024..... B... S X 409
.... OG0317 1977 NGS... 1 88/ADJUSTED N431605..... W0790206..... B... G Y 409
.... OG0318 1977 NGS... 1 88/ADJUSTED N431516.7.... W0790300.4.... C... G Z 409
.... OG0319 1976 NOS... 2 88/ADJUSTED N431541..... W0790349..... D... G 905 2090 FORT A
.... OG0320 1977 NGS... 1 88/ADJUSTED N431528.0.... W0790405.7.... B... G F 410
.... OG0321 1977 ..... . 29/..... N431541..... W0790351..... S TBM 905 2090 ETG READ MK
.... OG0322 1963 GSC... 1 88/ADJUSTED N431518.7.... W0790418.2.... B... G 63U3536
.... OG0323 1963 GSC... 1 88/ADJUSTED N431518.3.... W0790418.8.... B... G 63U3537
.... OG0748 1941 IBC... .29 VERT ANG N431517.21059 W0790306.43186 C... G VINCENT PIER
.... OG0749 UNK. ..... .3 ..... N431543.08090 W0790331.29768 G ET NIAGARA WATER TANK

Select All

Get Datasheets (for the stations I've selected above)

Move (the above station list to a File->Print Window)

Reset

Return to [Datasheet Home Page](#)

The datasheets will display on the next page.

Below are the partial datasheets for these two control points (one in Ontario, Canada and one in New York, USA) with the pertinent text highlighted in green:

```

1      National Geodetic Survey,      Retrieval Date = DECEMBER 10, 2020
OG0289 *****
OG0289 DESIGNATION - 905 2090 SW GATE
OG0289 PID - OG0289
OG0289 STATE/COUNTY - NY/NIAGARA
OG0289 COUNTRY - US
OG0289 USGS QUAD - FORT NIAGARA (2019)
OG0289
OG0289 *CURRENT SURVEY CONTROL
OG0289
OG0289* NAD 83(1986) POSITION- 43 15 44.0 (N) 079 03 47.0 (W) HD_HELD2
OG0289* NAVD 88 ORTHO HEIGHT - 82.962 (meters) 272.18 (feet) ADJUSTED
OG0289
OG0289 GEOID HEIGHT - -36.167 (meters) GEOID18
OG0289 DYNAMIC HEIGHT - 82.944 (meters) 272.13 (feet) COMP
OG0289 MODELED GRAVITY - 980,405.2 (mgal) NAVD 88
OG0289
OG0289 VERT ORDER - SECOND CLASS II
OG0289
OG0289.The horizontal coordinates were established by autonomous hand held GPS
OG0289.observations and have an estimated accuracy of +/- 10 meters.
OG0289.
OG0289.The orthometric height was determined by differential leveling and
OG0289.adjusted by the NATIONAL GEODETIC SURVEY
OG0289.in April 2004.
OG0289
OG0289.Significant digits in the geoid height do not necessarily reflect accuracy.
OG0289.GEOID18 height accuracy estimate available here.

```

OG0289  
OG0289.Click [photographs](#) - Photos may exist for this station.

. . .

1 National Geodetic Survey, Retrieval Date = DECEMBER 10, 2020  
OG0322 \*\*\*\*\*  
OG0322 DESIGNATION - 63U3536  
OG0322 PID - OG0322  
OG0322 STATE/COUNTY- ON/NIAGARA  
OG0322 COUNTRY - CANADA  
OG0322 NTS MAPSHEET- NIAGARA-ON-THE-LAKE (2020)  
OG0322  
OG0322 \*CURRENT SURVEY CONTROL  
OG0322  
OG0322\* NAD 83(1986) POSITION- 43 15 18.7 (N) 079 04 18.2 (W) HD\_HELD2  
OG0322\* NAVD 88 ORTHO HEIGHT - 87.658 (meters) 287.59 (feet) ADJUSTED  
OG0322  
OG0322 GEOID HEIGHT - -36.801 (meters) EGM08  
OG0322 DYNAMIC HEIGHT - 87.639 (meters) 287.53 (feet) COMP  
OG0322 MODELED GRAVITY - 980,404.0 (mgal) NAVD 88  
OG0322  
OG0322 VERT ORDER - FIRST CLASS 0  
OG0322  
OG0322.The positional and height information provided upon this datasheet are not  
OG0322.officially recognized by the Government of Canada, provincial governments  
OG0322.within Canada, nor are they intended to replace or substitute for them.  
OG0322.The intent of sharing this data is to allow access to positions or heights  
OG0322. recognized by the United States Government. Passive control that is used by  
OG0322.both nations may share the same or similar designations or descriptions but  
OG0322.do not share official positions or heights. The "Station Description" may  
OG0322.originate from a Canadian "Station Report" and if so contains information  
OG0322.licensed under the "Open Government License - Canada".  
OG0322  
OG0322  
OG0322.The horizontal coordinates were established by autonomous hand held GPS  
OG0322.observations and have an estimated accuracy of +/- 10 meters.  
OG0322.  
OG0322.The orthometric height was determined by differential leveling and  
OG0322.adjusted by the NATIONAL GEODETIC SURVEY  
OG0322.in June 1991.  
OG0322  
OG0322.Significant digits in the geoid height do not necessarily reflect accuracy.  
OG0322  
OG0322.Click [photographs](#) - Photos may exist for this station.

## Version 8.12.5.10 updated on 09/15/2020

NGS has added a new Datum Origin Point for Maui, HI. It's PID is DK3427. Below is a partial datasheet for DK3427 showing the pertinent new paragraphs are highlighted in green.

1 National Geodetic Survey, Retrieval Date = SEPTEMBER 8, 2020  
DK3427 \*\*\*\*\*  
DK3427 DATUM ORIG - This is a Vertical Datum Origin Point.  
DK3427 TIDAL BM - This is a Tidal Bench Mark.  
DK3427 DESIGNATION - 161 5680 C TIDAL  
DK3427 PID - DK3427  
DK3427 STATE/COUNTY- HI/MAUI  
DK3427 COUNTRY - US  
DK3427 USGS QUAD - WAILUKU (2017)  
DK3427  
DK3427 \*CURRENT SURVEY CONTROL  
DK3427  
DK3427\* NAD 83(PA11) POSITION- 20 53 23.27684(N) 156 28 00.44673(W) ADJUSTED  
DK3427\* NAD 83(PA11) ELLIP HT- 18.007 (meters) (06/27/12) ADJUSTED  
DK3427\* NAD 83(PA11) EPOCH - 2010.00  
DK3427\* LMSL ORTHO HEIGHT - 1.461 (meters) 4.79 (feet) ADJUSTED

DK3427

DK3427	GEOID HEIGHT	-	15.825	(meters)		GEOID12B
DK3427	NAD 83 (PA11) X	-	-5,465,623.107	(meters)		COMP
DK3427	NAD 83 (PA11) Y	-	-2,380,288.382	(meters)		COMP
DK3427	NAD 83 (PA11) Z	-	2,260,006.595	(meters)		COMP
DK3427	LAPLACE CORR	-	-4.68	(seconds)		DEFLEC12B
DK3427	VERT ORDER	-	SECOND	CLASS I		

DK3427  
DK3427 Network accuracy estimates per FGDC Geospatial Positioning Accuracy Standards:  
DK3427

	FGDC (95% conf, cm)		Standard deviation (cm)			CorrNE	
	Horiz	Ellip	SD_N	SD_E	SD_h	(unitless)	
DK3427	-----	-----	-----	-----	-----	-----	
DK3427	NETWORK	1.46	1.39	0.53	0.65	0.71	-0.01813230
DK3427	-----	-----	-----	-----	-----	-----	

DK3427 Click [here](#) for local accuracies and other accuracy information.  
DK3427  
DK3427  
DK3427.The horizontal coordinates were established by GPS observations  
DK3427.and adjusted by the National Geodetic Survey in June 2012.  
DK3427  
DK3427.NAD 83 (PA11) refers to NAD 83 coordinates where the reference frame has  
DK3427.been affixed to the stable Pacific tectonic plate.  
DK3427  
DK3427.The horizontal coordinates are valid at the epoch date displayed above  
DK3427.which is a decimal equivalence of Year/Month/Day.  
DK3427  
DK3427.The orthometric height was determined by differential leveling  
DK3427.and adjusted by the National Geodetic Survey in June 2020  
DK3427.holding the tidal station 161 5680 C TIDAL (DK3427) to the 1983/2001  
DK3427.tidal station epoch value 1.461 meters.  
DK3427  
DK3427.Significant digits in the geoid height do not necessarily reflect accuracy.  
DK3427.GEOID12B height accuracy estimate available [here](#).  
DK3427  
DK3427.This bench mark was chosen by the National Geodetic Survey (NGS) to  
DK3427.serve as the datum origin point for the island of Maui leveling done  
DK3427.between October 2017 and January 2019. The height of this point was  
DK3427.adopted by NGS to be exactly 1.461 meters which is identical to the  
DK3427.LMSL height of this benchmark for the National Tidal Datum 1983-2001 as  
DK3427.determined by the Center for Operational Oceanographic Products and  
DK3427.Services (CO-OPS) in December 2017.  
DK3427  
DK3427.Information on the Tidal Bench Mark designated as VM 1485 and its datum origin  
DK3427.point is located at [CENTER FOR OPERATIONAL OCEANOGRAPHIC PRODUCTS AND SERVICES](#).  
DK3427  
DK3427.Click photographs - Photos may exist for this station.

Two NGS projects were adjusted and tied to the Datum Origin Point of DK3427: 00000939/3 and 00000939/4. An example control point that was in project 00000939/3 is DR4441. Below is a partial datasheet for DR4441 showing the pertinent new paragraphs highlighted in green for this project.

```

1      National Geodetic Survey,  Retrieval Date = SEPTEMBER  8, 2020
DR4441 *****
DR4441 DESIGNATION -  SOH 002
DR4441 PID          -  DR4441
DR4441 STATE/COUNTY-  HI/MAUI
DR4441 COUNTRY      -  US
DR4441 USGS QUAD    -  KAHAKULOA (2017)
DR4441
DR4441                      *CURRENT SURVEY CONTROL
DR4441
DR4441* NAD 83(1986) POSITION- 21 00 33.33 (N) 156 34 04.36 (W) HD_HELD1
DR4441* LMSL   ORTHO HEIGHT - 15.227 (meters) 49.96 (feet) ADJUSTED
DR4441
DR4441 GEOID HEIGHT - 15.166 (meters) GEOID12B
DR4441 VERT ORDER - SECOND CLASS I
DR4441

```

DR4441.The horizontal coordinates were determined by differentially corrected  
 DR4441.hand held GPS observations or other comparable positioning techniques  
 DR4441.and have an estimated accuracy of +/- 3 meters.  
 DR4441.

DR4441.The orthometric height was determined by differential leveling  
 DR4441.and adjusted by the National Geodetic Survey in June 2020  
 DR4441.holding the tidal station 161 5680 C TIDAL to the 1983/2001  
 DR4441.tidal station epoch value 1.461 meters.

DR4441  
 DR4441.Significant digits in the geoid height do not necessarily reflect accuracy.  
 DR4441.GEOID12B height accuracy estimate available [here](#).  
 DR4441  
 DR4441.Click photographs - Photos may exist for this station.

An example control pont that was in project 00000939/4 is TU0176. Below is a partial datasheet for TU0176 showing the pertinent new paragaphs highlighted in green for this project.

```

1      National Geodetic Survey,  Retrieval Date = SEPTEMBER 8, 2020
TU0176 *****
TU0176 TIDAL BM - This is a Tidal Bench Mark.
TU0176 DESIGNATION - 161 5680 TIDAL 2
TU0176 PID - TU0176
TU0176 STATE/COUNTY- HI/MAUI
TU0176 COUNTRY - US
TU0176 USGS QUAD - WAILUKU (2017)
TU0176
TU0176 *CURRENT SURVEY CONTROL
TU0176
TU0176* NAD 83(1986) POSITION- 20 53 35. (N) 156 27 59. (W) SCALED
TU0176* LMSL ORTHO HEIGHT - 2.397 (meters) 7.86 (feet) ADJUSTED
TU0176
TU0176 GEOID HEIGHT - 15.792 (meters) GEOID12B
TU0176 VERT ORDER - SECOND CLASS I
TU0176
TU0176.The horizontal coordinates were scaled from a map and have
TU0176.an estimated accuracy of +/- 6 seconds.
TU0176.
TU0176.The orthometric height was determined by differential leveling
TU0176.and adjusted by the National Geodetic Survey in July 2020
TU0176.holding the tidal station 161 5680 C TIDAL to the 1983/2001
TU0176.tidal station epoch value 1.461 meters.
TU0176
TU0176.Significant digits in the geoid height do not necessarily reflect accuracy.
TU0176.GEOID12B height accuracy estimate available here.
TU0176
TU0176.This Tidal Bench Mark is designated as VM 51
TU0176.by the CENTER FOR OPERATIONAL OCEANOGRAPHIC PRODUCTS AND SERVICES.
TU0176
TU0176.Click photographs - Photos may exist for this station.
  
```

NGS has added a new Datum Origin Point for Lana'i, HI. It's PID is DL6323. Below is a partial datasheet for DL6323 showing the pertinent new paragaphs are highlighted in green.

```

1      National Geodetic Survey,  Retrieval Date = SEPTEMBER 8, 2020
DL6323 *****
DL6323 DATUM ORIG - This is a Vertical Datum Origin Point.
DL6323 TIDAL BM - This is a Tidal Bench Mark.
DL6323 DESIGNATION - 161 4465 TIDAL 2
DL6323 PID - DL6323
DL6323 STATE/COUNTY- HI/MAUI
DL6323 COUNTRY - US
DL6323 USGS QUAD - LANAI SOUTH OE W (2017)
DL6323
DL6323 *CURRENT SURVEY CONTROL
DL6323
DL6323* NAD 83(PA11) POSITION- 20 47 13.18914(N) 156 59 26.99384(W) ADJUSTED
DL6323* NAD 83(PA11) ELLIP HT- 19.557 (meters) (06/27/12) ADJUSTED
DL6323* NAD 83(PA11) EPOCH - 2010.00
  
```



DL6323\* LMSL ORTHO HEIGHT - 3.478 (meters) 11.41 (feet) ADJUSTED  
DL6323  
DL6323 GEOID HEIGHT - 15.449 (meters) GEOID12B  
DL6323 NAD 83(PA11) X - -5,490,892.968 (meters) COMP  
DL6323 NAD 83(PA11) Y - -2,331,782.811 (meters) COMP  
DL6323 NAD 83(PA11) Z - 2,249,369.892 (meters) COMP  
DL6323 LAPLACE CORR - 10.07 (seconds) DEFLEC12B  
DL6323 VERT ORDER - SECOND CLASS I  
DL6323  
DL6323 Network accuracy estimates per FGDC Geospatial Positioning Accuracy  
DL6323 Standards:  
DL6323 FGDC (95% conf, cm) Standard deviation (cm) CorrNE  
DL6323 Horiz Ellip SD\_N SD\_E SD\_h (unitless)  
DL6323 -----  
DL6323 NETWORK 0.73 2.06 0.21 0.35 1.05 -0.18726450  
DL6323 -----  
DL6323 Click [here](#) for local accuracies and other accuracy information.  
DL6323  
DL6323  
DL6323.The horizontal coordinates were established by GPS observations  
DL6323.and adjusted by the National Geodetic Survey in June 2012.  
DL6323  
DL6323.NAD 83(PA11) refers to NAD 83 coordinates where the reference frame has  
DL6323.been affixed to the stable Pacific tectonic plate.  
DL6323  
DL6323.The horizontal coordinates are valid at the epoch date displayed above  
DL6323.which is a decimal equivalence of Year/Month/Day.  
DL6323  
DL6323.The orthometric height was determined by differential leveling  
DL6323.and adjusted by the National Geodetic Survey in August 2020  
DL6323.holding the tidal station 161 4465 TIDAL 2 (DL6323) to the 1983/2001  
DL6323.tidal station epoch value 3.478 meters.  
DL6323  
DL6323.Significant digits in the geoid height do not necessarily reflect accuracy.  
DL6323.GEOID12B height accuracy estimate available [here](#).  
DL6323  
DL6323.This bench mark was chosen by the National Geodetic Survey (NGS) to  
DL6323.serve as the datum origin point for the island of Lanai leveling done  
DL6323.between September 2017 and October 2017. The height of this point was  
DL6323.adopted by NGS to be exactly 3.478 meters which is identical to the  
DL6323.LMSL height of this benchmark for the National Tidal Datum 1983-2001 as  
DL6323.determined by the Center for Operational Oceanographic Products and  
DL6323.Services (Co-OPS) in June 2018.  
DL6323  
DL6323.Information on the Tidal Bench Mark designated as VM 22588 and its datum origin  
DL6323.point is located at [CENTER FOR OPERATIONAL OCEANOGRAPHIC PRODUCTS AND SERVICES](#).  
DL6323  
DL6323.Click photographs - Photos may exist for this station.

An NGS project that was adjusted and tied to the Datum Origin Point of DL6323 is 00000939/5. An example control point that was in project 00000939/5 is DR4422. Below is a partial datasheet for DR4422 showing the pertinent new paragraphs highlighted in green for this project.

```

1      National Geodetic Survey,  Retrieval Date = SEPTEMBER 8, 2020
DR4422 *****
DR4422 DESIGNATION - ATA 1 14
DR4422 PID - DR4422
DR4422 STATE/COUNTY- HI/MAUI
DR4422 COUNTRY - US
DR4422 USGS QUAD - LANAI SOUTH (2017)
DR4422
DR4422 *CURRENT SURVEY CONTROL
DR4422
DR4422* NAD 83(1986) POSITION- 20 47 28.32 (N) 156 54 23.18 (W) HD_HELD1
DR4422* LMSL ORTHO HEIGHT - 348.901 (meters) 1144.69 (feet) ADJUSTED
DR4422
DR4422 GEOID HEIGHT - 16.180 (meters) GEOID12B
DR4422 VERT ORDER - SECOND CLASS I
DR4422

```

DR4422.The horizontal coordinates were determined by differentially corrected  
DR4422.hand held GPS observations or other comparable positioning techniques  
DR4422.and have an estimated accuracy of +/- 3 meters.  
DR4422.

DR4422.The orthometric height was determined by differential leveling  
DR4422.and adjusted by the National Geodetic Survey in August 2020  
DR4422.holding the tidal station 161 4465 TIDAL 2 to the 1983/2001  
DR4422.tidal station epoch value 3.478 meters.

DR4422  
DR4422.Significant digits in the geoid height do not necessarily reflect accuracy.  
DR4422.GEOID12B height accuracy estimate available [here](#).  
DR4422  
DR4422.Click photographs - Photos may exist for this station.

Also in this release, the datasheets in the state-wide monthly archives (ZIP files) available at [ftp://ftp.ngs.noaa.gov/pub/DS\\_ARCHIVE/DataSheets/](ftp://ftp.ngs.noaa.gov/pub/DS_ARCHIVE/DataSheets/) will no longer concatenate the nonpub report (with reason codes for why some marks are unpublishable) to the end of the publishable datasheets. Instead, the non pub report will be added as a separate file in the ZIP files. For example, in the ZIP file for the state of FM (Federated States of Micronesia), you would no longer see the text in yellow after the last datasheet (with AA4455).

...

```
AA4455                                STATION DESCRIPTION
AA4455
AA4455'DESCRIBED BY NATIONAL OCEAN SERVICE 1993 (JGF)
AA4455'THE STATION IS LOCATED ON YAP AIRPORT ON THE ISLAND OF YAP, YAP STATE,
AA4455'FEDERATED STATES OF MICRONESIA. TO REACH THE STATION FROM THE TERMINAL
AA4455'BUILDING OF THE AIRPORT, PROCEED ON THE JET PAD THROUGH THE GATE TO
AA4455'THE LEFT SIDE OF THE TERMINAL. THE STATION IS LOCATED ON THE HIGH
AA4455'PORTION OF GROUND TO THE LEFT SIDE OF THE TAXIWAY JUST BEFORE YOU
AA4455'REACH THE RUNWAY, ABOUT 300 FT (91.4 M) FROM THE TERMINAL BUILDING.
AA4455'THE STATION IS ON THE HIGHEST PORTION OF LAND THAT COMES TO A POINT AT
AA4455'THE JUNCTION OF THE RUNWAY AND TAXIWAY. THE STATION IS A STANDARD LAND
AA4455'MANAGEMENT DISK STAMPED -MN-3-.
AA4455
AA4455                                STATION RECOVERY (2011)
AA4455
AA4455'RECOVERY NOTE BY INDIVIDUAL CONTRIBUTORS 2011 (AKP)
AA4455'RECOVERED IN GOOD CONDITION.
```

\*\*\* retrieval complete.

Retrieval Date = SEPTEMBER 8, 2020      Version = 8.12.5.10

```
-----
- This listing contains control for which complete digital
- data sheets were not provided. The complete data sheets were
- not provided for the reason listed below. The reason below is
- associated with a horizontal control Nonpub code shown under
- the heading 'H' and/or a vertical control Nonpub code shown under
- the heading 'v'
-
- The format of the records are as follows:
-   Pid = Station Permanent Identifier)
-   Name = Station Designation
-----
```

```

- Lat = Approx. Latitude (Degrees, Minutes, truncated Seconds)
- Lon = Approx. Longitude (Degrees, Minutes, truncated Seconds)
- O = Horizontal Order
- o = Vertical Order
- H = Horizontal Nonpub Code
- v = Vertical Nonpub Code
-
- H Nonpub HORIZONTAL CONTROL NONPUB REASON
- -----
- B Station is a RBN antenna
- C Not a publishable datum within the state
- D No descriptive text available
- I No NAD83 coordinates available, only IGS08 coordinates
- L CORS L1 Phase Center is not publishable
- N No geodetic control
- O Outside NGS publication area
- P Purpose of position is not for network control
- R Restricted position
- T Station is a temporary point/bench mark
- V Station is a VOR antenna
- W Weakly determined position
- X Surface mark reported destroyed
- Y Surface and underground mark reported destroyed
-
- v Nonpub VERTICAL CONTROL NONPUB REASON
- -----
- C Not a publishable datum within the state
- D No descriptive text available
- F Bench mark not yet adjusted
- N No geodetic control
- L CORS L1 Phase Center is not publishable
- O Outside NGS publication area
- R Restricted elevation
- S Mark is in a subsidence area
- T Station is a temporary point/bench mark
- X Surface mark reported destroyed
- Y Surface and underground mark reported destroyed
- Z Presumed destroyed
-
-
- NOTE - Stations found in this listing may still have a valid
- datasheet produced by use of other publishable values.
- For example, an ADJUSTED height may be non-publishable
- but a good GPS height might be found on the datasheet.
-
- If a mark/control point is in a subsidence area, you can request
- to see suspect heights in the SUPERSEDED SURVEY CONTROL section
- of its datasheet by checking the 'Include suspect heights in
- subsidence area' checkbox on the datasheet retrieval pages.
-
-----
Pid Name Lat Lon Elev O o Hv
-----
>TW0144 A 1 09 30 51. /221 52 21. DZ

```

>AE4340	AIRPORT BEACON	05 21 13.	/197 02 31.	NN
>AE4359	AIRPORT BEACON	06 58 57.	/201 47 41.	NN
>AE4366	AIRPORT BEACON	07 27 31.	/208 09 24.	NN
>TW0145	B 1	09 30 46.	/221 53 03.	DZ
>TW0146	C 1	09 30 30.	/221 53 20.	DZ
>TW0147	D 1	09 30 14.	/221 53 25.	DZ
>TW0148	E 1	09 30 00.	/221 53 51.	DZ
>TW0149	F 1	09 29 48.	/221 54 24.	DZ
>TW0150	G 1	09 29 41.	/221 54 55.	DZ
>TW0151	H 1	09 29 21.	/221 54 47.	DZ
>TW0153	ORC	09 29 07.	/221 54 55.	DZ
>AE4356	PNI A	06 59 12.	/201 47 48.	NN
>AE4357	PNI B	06 59 12.	/201 46 48.	NN
>AE4358	PNI C	06 59 09.	/201 47 00.	NN
>AE4360	SOKEHS ROCK LIGHT	06 58 46.	/201 48 26.	NN
>AO5054	TBM PIN	09 29 21.	/221 54 47.	TT
>TW0139	TIDAL 2	09 30 53.	/221 51 56.	DZ
>TW0140	TIDAL 3	09 30 53.	/221 51 59.	DZ
>TW0141	TIDAL 4	09 30 59.	/221 52 05.	DZ
>TW0142	TIDAL 5	09 31 00.	/221 52 04.	DZ
>TW0143	TIDAL 6	09 30 59.	/221 52 06.	DZ
>AA4423	TKK A	07 27 23.	/208 09 47.	XX
>AE4367	TKK A	07 27 28.	/208 09 38.	NN
>AA4424	TKK B	07 28 02.	/208 09 02.	XX
>AE4368	TKK B	07 28 07.	/208 08 53.	NN
>AE4369	TKK C	07 27 59.	/208 09 02.	NN
>AA4440	TTK B	05 21 15.	/197 02 39.	XX
>AE4370	TTK B RESET	05 21 20.	/197 02 30.	NN
>TW0152	TTS 3	09 29 07.	/221 54 58.	DZ

## Version 8.12.5.9 updated on 07/07/2020

NGS has updated American Samoa (AS) datasheets (post the 2009 earthquake). Projects that include these updates are GPS3350, GPS3350/B1, GPS3350/B2, GPS3350/B3.

Below are partial datasheets of several marks in AS showing the pertinent data highlighted in green.

```

1      National Geodetic Survey,   Retrieval Date = JULY 7, 2020
AA3710 *****
AA3710 DESIGNATION - FITIUTA ET
AA3710 PID - AA3710
AA3710 STATE/COUNTY- AS/MANU A (DISTRICT)
AA3710 COUNTRY - US
AA3710 USGS QUAD -
AA3710
AA3710 *CURRENT SURVEY CONTROL
AA3710
AA3710* NAD 83(PA11) POSITION- 14 12 42.39024(S) 169 25 38.16768(W) ADJUSTED
AA3710* NAD 83(PA11) ELLIP HT- 38.308 (meters) (05/15/19) ADJUSTED
AA3710* NAD 83(PA11) EPOCH - 2010.00
AA3710* LMSL ORTHO HEIGHT - 8.4 (meters) 28. (feet) GPS OBS
AA3710
AA3710 LMSL orthometric height was determined with geoid model USGG2012
AA3710 GEOID HEIGHT - 28.840 (meters) USGG2012
AA3710 GEOID HEIGHT - 29.790 (meters) GEOID12B
AA3710 NAD 83(PA11) X - -6,079,227.677 (meters) COMP
AA3710 NAD 83(PA11) Y - -1,134,702.181 (meters) COMP

```

AA3710 NAD 83(PA11) Z - -1,555,715.559 (meters) COMP  
AA3710 LAPLACE CORR - 6.50 (seconds) DEFLEC12B  
AA3710  
AA3710 Network accuracy estimates per FGDC Geospatial Positioning Accuracy  
AA3710 Standards:  
AA3710 FGDC (95% conf, cm) Standard deviation (cm) CorrNE  
AA3710 Horiz Ellip SD\_N SD\_E SD\_h (unitless)  
AA3710 -----  
AA3710 NETWORK 1.72 4.43 0.70 0.71 2.26 0.08566907  
AA3710 -----  
AA3710 Click [here](#) for local accuracies and other accuracy information.  
AA3710  
AA3710  
AA3710.The horizontal coordinates were established by GPS observations  
AA3710.and adjusted by the WOOLPERT CONSULTANTS in May 2019.  
AA3710  
AA3710.NAD 83(PA11) refers to NAD 83 coordinates where the reference frame has  
AA3710.been affixed to the stable Pacific tectonic plate.  
AA3710  
AA3710.The horizontal coordinates are valid at the epoch date displayed above  
AA3710.which is a decimal equivalence of Year/Month/Day.  
AA3710  
AA3710.The current NAD 83 position and ellipsoid height are consistent  
AA3710.with AMERICAN SAMOA CORS ASPA coordinates revised in February 2013  
AA3710.to account for displacement due to the September 29, 2009 Samoa  
AA3710.Island earthquake.  
AA3710.The PID for the ASPA CORS ARP is AJ5871.  
AA3710.The PID for the ASPA L1 Phase Center is DK7460.  
AA3710  
AA3710 \*\* The Pago Pago tide station is not formally a part of the current  
AA3710 \*\* national tidal datum epoch (NTDE. A Station Datum (SD) has been  
AA3710 \*\* determined by the NOS Center for Operational Oceanographic Products  
AA3710 \*\* and Services (CO-OPS), and published for the National Water Levels  
AA3710 \*\* Observation Network (NWLON) bench mark number 177 0000 W (4.345m meters  
AA3710 \*\* or 14.255 ft), located in Pago Pago. Surveys requiring vertical control  
AA3710 \*\* must incorporate bench marks around the tide gauge, preferentially  
AA3710 \*\* 177 0000 W.  
AA3710 \*\*  
AA3710 \*\* The heights of stations in this area may have changed  
AA3710 \*\* by more than 10 cm due to earthquakes. NGS strongly warns  
AA3710 \*\* against the use of such suspect heights as control.  
AA3710  
AA3710.The orthometric height was determined by GPS observations and a  
AA3710.high-resolution geoid model.  
AA3710  
AA3710.Significant digits in the geoid height do not necessarily reflect accuracy.  
AA3710.GEOID12B height accuracy estimate available [here](#).  
AA3710  
AA3710.Click [photographs](#) - Photos may exist for this station.  
AA3710  
AA3710.The X, Y, and Z were computed from the position and the ellipsoidal ht.  
AA3710  
AA3710.The Laplace correction was computed from DEFLEC12B derived deflections.  
AA3710  
AA3710.The ellipsoidal height was determined by GPS observations  
AA3710.and is referenced to NAD 83.  
AA3710  
AA3710. The following values were computed from the NAD 83(PA11) position.  
AA3710  
AA3710;  
AA3710;UTM 02 North East Units Scale Factor Converg.  
AA3710;UTM 02 - 8,428,280.300 669,702.651 MT 0.99995623 +0 23 10.4  
AA3710  
AA3710!  
AA3710!UTM 02 - Elev Factor x Scale Factor = Combined Factor  
AA3710!UTM 02 - 0.99999398 x 0.99995623 = 0.99995021  
AA3710  
AA3710\_U.S. NATIONAL GRID SPATIAL ADDRESS: 2LPK6970228280(NAD 83)  
AA3710  
AA3710|-----|  
AA3710| PID Reference Object Distance Geod. Az |  
AA3710| | | | dddmmss.s |  
AA3710| AA4463 TAU A 229.274 METERS 15708 |

```

AA3710|-----|
AA3710
AA3710                SUPERSEDED SURVEY CONTROL
AA3710
AA3710 NAD 83(PA11)- 14 12 42.38811(S)    169 25 38.16511(W) AD(2010.00) 0
AA3710 ELLIP H (06/13/13) 38.187 (m)                GP(2010.00)
AA3710 NAD 83(PA11)- 14 12 42.39098(S)    169 25 38.16787(W) AD(2010.00) 0
AA3710 ELLIP H (06/27/12) 38.239 (m)                GP(2010.00)
AA3710 NAD 83(2002)- 14 12 42.39025(S)    169 25 38.16843(W) AD(2002.00) A
AA3710 ELLIP H (02/05/03) 38.283 (m)                GP(2002.00) 3 1
AA3710 NAD 83(1993)- 14 12 42.38125(S)    169 25 38.16655(W) AD(1993.62) 1
AA3710 ELLIP H (11/30/94) 38.722 (m)                GP(1993.62) 5 1
AA3710 ASD 62 - 14 13 00.72214(S)    169 25 33.72683(W) AD( ) 3
AA3710 ASVD02 (02/05/03) 8.3 (m) UNKNOWN model used GPS OBS
AA3710 LMSL (04/22/99) 8.2 (m) 27. (f) VERT ANG
AA3710 LMSL (07/19/86) 8.2 (m) 27. (f) VERT ANG
AA3710
AA3710.Superseded values are not recommended for survey control.
AA3710

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1 National Geodetic Survey, Retrieval Date = JULY 7, 2020
DR4147 *****
DR4147 DESIGNATION - OFU A RESET
DR4147 PID - DR4147
DR4147 STATE/COUNTY- AS/MANU A (DISTRICT)
DR4147 COUNTRY - US
DR4147 USGS QUAD -
DR4147
DR4147 *CURRENT SURVEY CONTROL
DR4147
DR4147* NAD 83(PA11) POSITION- 14 11 04.44486(S) 169 40 01.48879(W) ADJUSTED
DR4147* NAD 83(PA11) ELLIP HT- 34.907 (meters) (05/15/19) ADJUSTED
DR4147* NAD 83(PA11) EPOCH - 2010.00
DR4147* LMSL ORTHO HEIGHT - 3.6 (meters) 12. (feet) GPS OBS
DR4147
DR4147 LMSL orthometric height was determined with geoid model USGG2012
DR4147 GEOID HEIGHT - 30.216 (meters) USGG2012
DR4147 GEOID HEIGHT - 31.116 (meters) GEOID12B
DR4147 NAD 83(PA11) X - -6,084,646.830 (meters) COMP
DR4147 NAD 83(PA11) Y - -1,109,379.559 (meters) COMP
DR4147 NAD 83(PA11) Z - -1,552,796.442 (meters) COMP
DR4147 LAPLACE CORR - -0.32 (seconds) DEFLEC12B
DR4147
DR4147 Network accuracy estimates per FGDC Geospatial Positioning Accuracy
DR4147 Standards:
DR4147 FGDC (95% conf, cm) Standard deviation (cm) CorrNE
DR4147 Horiz Ellip SD_N SD_E SD_h (unitless)
DR4147 -----
DR4147 NETWORK 1.14 2.90 0.48 0.45 1.48 0.02984445
DR4147 -----
DR4147 Click here for local accuracies and other accuracy information.
DR4147
DR4147
DR4147.The horizontal coordinates were established by GPS observations
DR4147.and adjusted by the WOOLPERT CONSULTANTS in May 2019.
DR4147
DR4147.NAD 83(PA11) refers to NAD 83 coordinates where the reference frame has
DR4147.been affixed to the stable Pacific tectonic plate.
DR4147
DR4147.The horizontal coordinates are valid at the epoch date displayed above
DR4147.which is a decimal equivalence of Year/Month/Day.
DR4147
DR4147.The current NAD 83 position and ellipsoid height are consistent
DR4147.with AMERICAN SAMOA CORS ASPA coordinates revised in February 2013
DR4147.to account for displacement due to the September 29, 2009 Samoa
DR4147.Island earthquake.
DR4147.The PID for the ASPA CORS ARP is AJ5871.
DR4147.The PID for the ASPA L1 Phase Center is DK7460.
DR4147

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DR4147 \*\* The Pago Pago tide station is not formally a part of the current  
DR4147 \*\* national tidal datum epoch (NTDE. A Station Datum (SD) has been  
DR4147 \*\* determined by the NOS Center for Operational Oceanographic Products  
DR4147 \*\* and Services (CO-OPS), and published for the National Water Levels  
DR4147 \*\* Observation Network (NWLON) bench mark number 177 0000 W (4.345m meters  
DR4147 \*\* or 14.255 ft), located in Pago Pago. Surveys requiring vertical control  
DR4147 \*\* must incorporate bench marks around the tide gauge, preferentially  
DR4147 \*\* 177 0000 W.  
DR4147 \*\*  
DR4147 \*\* The heights of stations in this area may have changed  
DR4147 \*\* by more than 10 cm due to earthquakes. NGS strongly warns  
DR4147 \*\* against the use of such suspect heights as control.

DR4147  
DR4147.The orthometric height was determined by GPS observations and a  
DR4147.high-resolution geoid model.  
DR4147  
DR4147.Significant digits in the geoid height do not necessarily reflect accuracy.  
DR4147.GEOID12B height accuracy estimate available [here](#).  
DR4147  
DR4147.Click [photographs](#) - Photos may exist for this station.  
DR4147  
DR4147.The X, Y, and Z were computed from the position and the ellipsoidal ht.  
DR4147  
DR4147.The Laplace correction was computed from DEFLEC12B derived deflections.  
DR4147  
DR4147.The ellipsoidal height was determined by GPS observations  
DR4147.and is referenced to NAD 83.  
DR4147  
DR4147. The following values were computed from the NAD 83(PA11) position.  
DR4147  
DR4147;  
DR4147;UTM 02           North            East           Units Scale Factor Converg.  
DR4147;UTM 02           - 8,431,451.185   643,838.914   MT 0.99985591   +0 19 36.1  
DR4147  
DR4147!  
DR4147!UTM 02           - Elev Factor x Scale Factor = Combined Factor  
DR4147!UTM 02           - 0.99999451 x 0.99985591 = 0.99985042  
DR4147  
DR4147\_U.S. NATIONAL GRID SPATIAL ADDRESS: 2LPK4383831451(NAD 83)  
DR4147  
DR4147 **SUPERSEDED SURVEY CONTROL**  
DR4147  
DR4147.No superseded survey control is available for this

. . .

1 National Geodetic Survey, Retrieval Date = JULY 7, 2020  
DE8788 \*\*\*\*\*  
DE8788 TIDAL BM - This is a Tidal Bench Mark.  
DE8788 DESIGNATION - 177 0000 U TIDAL  
DE8788 PID - DE8788  
DE8788 STATE/COUNTY- AS/EASTERN (DISTRICT)  
DE8788 COUNTRY - US  
DE8788 USGS QUAD -  
DE8788  
DE8788 \*CURRENT SURVEY CONTROL  
DE8788  
DE8788\* NAD 83(PA11) POSITION- 14 16 35.77559(S) 170 41 29.61050(W) ADJUSTED  
DE8788\* NAD 83(PA11) ELLIP HT- 35.085 (meters) (05/15/19) ADJUSTED  
DE8788\* NAD 83(PA11) EPOCH - 2010.00  
DE8788\* **LMSL ORTHO HEIGHT - 1.5 (meters) 5. (feet) GPS OBS**  
DE8788  
DE8788 LMSL orthometric height was determined with geoid model USGG2012  
DE8788 GEOID HEIGHT - 32.551 (meters) USGG2012  
DE8788 GEOID HEIGHT - 33.443 (meters) GEOID12B  
DE8788 NAD 83(PA11) X - -6,101,039.289 (meters) COMP  
DE8788 NAD 83(PA11) Y - -1,000,006.507 (meters) COMP  
DE8788 NAD 83(PA11) Z - -1,562,667.093 (meters) COMP  
DE8788 LAPLACE CORR - 0.02 (seconds) DEFLEC12B  
DE8788  
DE8788 Network accuracy estimates per FGDC Geospatial Positioning Accuracy  
DE8788 Standards:  
DE8788 FGDC (95% conf, cm) Standard deviation (cm) CorrNE

```

DE8788          Horiz  Ellip          SD_N  SD_E  SD_h          (unitless)
DE8788 -----
DE8788 NETWORK  1.10  3.27          0.43  0.47  1.67          0.07991788
DE8788 -----
DE8788 Click here for local accuracies and other accuracy information.
DE8788
DE8788
DE8788.The horizontal coordinates were established by GPS observations
DE8788.and adjusted by the WOOLPERT CONSULTANTS in May 2019.
DE8788
DE8788.NAD 83(PA11) refers to NAD 83 coordinates where the reference frame has
DE8788.been affixed to the stable Pacific tectonic plate.
DE8788
DE8788.The horizontal coordinates are valid at the epoch date displayed above
DE8788.which is a decimal equivalence of Year/Month/Day.
DE8788
DE8788.The current NAD 83 position and ellipsoid height are consistent
DE8788.with AMERICAN SAMOA CORS ASPA coordinates revised in February 2013
DE8788.to account for displacement due to the September 29, 2009 Samoa
DE8788.Island earthquake.
DE8788.The PID for the ASPA CORS ARP is AJ5871.
DE8788.The PID for the ASPA L1 Phase Center is DK7460.
DE8788
DE8788 ** The Pago Pago tide station is not formally a part of the current
DE8788 ** national tidal datum epoch (NTDE. A Station Datum (SD) has been
DE8788 ** determined by the NOS Center for Operational Oceanographic Products
DE8788 ** and Services (CO-OPS), and published for the National Water Levels
DE8788 ** Observation Network (NWLON) bench mark number 177 0000 W (4.345m meters
DE8788 ** or 14.255 ft), located in Pago Pago. Surveys requiring vertical control
DE8788 ** must incorporate bench marks around the tide gauge, preferentially
DE8788 ** 177 0000 W.
DE8788 **
DE8788 ** The heights of stations in this area may have changed
DE8788 ** by more than 10 cm due to earthquakes. NGS strongly warns
DE8788 ** against the use of such suspect heights as control.
DE8788
DE8788.The orthometric height was determined by GPS observations and a
DE8788.high-resolution geoid model.
DE8788
DE8788.Significant digits in the geoid height do not necessarily reflect accuracy.
DE8788.GEOID12B height accuracy estimate available here.
DE8788
DE8788.This Tidal Bench Mark is designated as VM 12714
DE8788.by the CENTER FOR OPERATIONAL OCEANOGRAPHIC PRODUCTS AND SERVICES.
DE8788
DE8788.Click photographs - Photos may exist for this station.
DE8788
DE8788.The X, Y, and Z were computed from the position and the ellipsoidal ht.
DE8788
DE8788.The Laplace correction was computed from DEFLEC12B derived deflections.
DE8788
DE8788.The ellipsoidal height was determined by GPS observations
DE8788.and is referenced to NAD 83.
DE8788
DE8788. The following values were computed from the NAD 83(PA11) position.
DE8788
DE8788;          North          East          Units Scale Factor Converg.
DE8788;UTM 02          - 8,421,660.194  533,268.757  MT  0.99961369  +0 04 33.8
DE8788
DE8788!          - Elev Factor x Scale Factor = Combined Factor
DE8788;UTM 02          - 0.99999448 x 0.99961369 = 0.99960818
DE8788
DE8788_U.S. NATIONAL GRID SPATIAL ADDRESS: 2LNK3326821660 (NAD 83)
DE8788
DE8788          SUPERSEDED SURVEY CONTROL
DE8788
DE8788 ASVD02 (04/24/03) 1.662 (m)          5.45 (f) ADJUSTED 1 2
DE8788
DE8788.Superseded values are not recommended for survey control.

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AI9956 *****
AI9956 DESIGNATION - VAITELE
AI9956 PID - AI9956
AI9956 STATE/COUNTY- AS/EASTERN (DISTRICT)
AI9956 COUNTRY - US
AI9956 USGS QUAD -
AI9956
AI9956 *CURRENT SURVEY CONTROL
AI9956
AI9956* NAD 83(2002) POSITION- 14 15 38.78336(S) 170 33 45.72154(W) ADJUSTED
AI9956* NAD 83(2002) EPOCH - 2002.00
AI9956* LMSL ORTHO HEIGHT - ** (meters) ** (feet)
AI9956
AI9956 GEOID HEIGHT - 32.965 (meters) GEOID12B
AI9956 LAPLACE CORR - 3.54 (seconds) DEFLEC12B
AI9956 HORZ ORDER - THIRD
AI9956 VERT ORDER - FIRST CLASS II
AI9956
AI9956.The horizontal coordinates were established by classical geodetic methods
AI9956.and adjusted by the National Geodetic Survey in December 2003.
AI9956.
AI9956 ** The heights of stations in this area may have changed
AI9956 ** by more than 10 cm due to earthquakes. NGS strongly warns
AI9956 ** against the use of such suspect heights as control.
AI9956
AI9956.The orthometric height was determined by differential leveling and
AI9956.adjusted by the NATIONAL GEODETIC SURVEY
AI9956.in April 2003.
AI9956
AI9956.No vertical observational check was made to the station.
AI9956
AI9956.Significant digits in the geoid height do not necessarily reflect accuracy.
AI9956.GEOID12B height accuracy estimate available here.
AI9956
AI9956.Click photographs - Photos may exist for this station.
AI9956
AI9956.The Laplace correction was computed from DEFLEC12B derived deflections.
AI9956
AI9956. The following values were computed from the NAD 83(2002) position.
AI9956
AI9956; North East Units Scale Factor Converg.
AI9956;UTM 02 - 8,423,388.822 547,170.989 MT 0.99962752 +0 06 27.8
AI9956
AI9956! - Elev Factor x Scale Factor = Combined Factor
AI9956!UTM 02 - 0.99999426 x 0.99962752 = 0.99962178
AI9956
AI9956: Primary Azimuth Mark Grid Az
AI9956:UTM 02 - AUNUU ISLAND LIGHTHOUSE 145 43 24.6
AI9956
AI9956 U.S. NATIONAL GRID SPATIAL ADDRESS: 2LNK4717023388(NAD 83)
AI9956
AI9956|-----|
AI9956| PID Reference Object Distance Geod. Az |
AI9956| | | | dddmss.s |
AI9956| AJ2283 VAITELE RM 1 31.372 METERS 06342 |
AI9956| AI9898 AUNUU ISLAND LIGHTHOUSE APPROX. 2.6 KM 1454952.4 |
AI9956| AI9899 AUNUU IS END SUBMERGED CABLE APPROX. 2.2 KM 1674338.2 |
AI9956| AJ2282 VAITELE RM 2 9.383 METERS 20038 |
AI9956|-----|
AI9956
AI9956 SUPERSEDED SURVEY CONTROL
AI9956
AI9956 NAD 83(1993)- 14 15 38.77411(S) 170 33 45.72045(W) AD(1993.62) 3
AI9956 ASD 62 - 14 15 56.59604(S) 170 33 41.34113(W) AD( ) 3
AI9956 ASVD02 (04/24/03) 3.527 (m) 11.57 (f) ADJUSTED 1 2
AI9956 LMSL (04/22/99) 3.3 (m) 11. (f) VERT ANG
AI9956 LMSL (07/19/86) 3.3 (m) 11. (f) VERT ANG
AI9956
AI9956.Superseded values are not recommended for survey control.

```

## Version 8.12.5.8 updated on 05/21/2020

NGS has added a new Datum Origin Point for Oahu, HI. It's PID is TU0291. Below is a partial datasheet for TU0291 showing the pertinent new paragraphs are highlighted in green.

```
1          National Geodetic Survey,   Retrieval Date = MAY 11, 2020
TU0291 *****
TU0291 DATUM ORIG - This is a Vertical Datum Origin Point.
TU0291 TIDAL BM - This is a Tidal Bench Mark.
TU0291 DESIGNATION - 161 2340 TIDAL 21
TU0291 PID - TU0291
TU0291 STATE/COUNTY- HI/HONOLULU
TU0291 COUNTRY - US
TU0291 USGS QUAD - HONOLULU (2017)
TU0291
TU0291 *CURRENT SURVEY CONTROL
TU0291
TU0291* NAD 83(1986) POSITION- 21 18 13.92 (N) 157 51 49.14 (W) HD_HELD1
TU0291* LMSL ORTHO HEIGHT - 2.042 (meters) 6.70 (feet) ADJUSTED
TU0291
TU0291 GEOID HEIGHT - 15.504 (meters) GEOID12B
TU0291 DYNAMIC HEIGHT - 2.038 (meters) 6.69 (feet) COMP
TU0291 MODELED GRAVITY - 978,931.8 (mgal) NAVD 88
TU0291
TU0291 VERT ORDER - SECOND CLASS I
TU0291
TU0291.The horizontal coordinates were determined by differentially corrected
TU0291.hand held GPS observations or other comparable positioning techniques
TU0291.and have an estimated accuracy of +/- 3 meters.
TU0291.
TU0291.The orthometric height was determined by differential leveling and
TU0291.adjusted by the National Geodetic Survey in May 2019 holding
TU0291.the tidal station 161 2340 C TIDAL 21 (TU0291) to the 1983/2001 tidal
TU0291.station epoch value 2.042 meters.
TU0291
TU0291.Significant digits in the geoid height do not necessarily reflect accuracy.
TU0291.GEOID12B height accuracy estimate available here.
TU0291
TU0291.This bench mark was chosen by the National Geodetic Survey (NGS) to
TU0291.serve as the datum origin point for the island of Oahu leveling done
TU0291.between February 2016 and March 2017. The height of this point was
TU0291.adopted by NGS to be exactly 2.042 meters which is identical to the
TU0291.LMSL height of this benchmark for the National Tidal Datum 1983-2001 as
TU0291.determined by the Center for Operational Oceanographic Products and
TU0291.Services (CO-OPS) in December 2017.
TU0291
TU0291.Information on the Tidal Bench Mark designated as VM 30 and its datum origin
TU0291.point is located at CENTER FOR OPERATIONAL OCEANOGRAPHIC PRODUCTS AND SERVICES.
TU0291
TU0291.Click photographs - Photos may exist for this station.
TU0291
```

Two NGS projects were adjusted and tied to the Datum Origin Point of TU0291: 00000939/1 and 00000939/2. An example control point that was in project 00000939/1 is DR2140. Below is a partial datasheet for DR2140 showing the pertinent new paragraphs highlighted in green for this project.

```
1          National Geodetic Survey,   Retrieval Date = MAY 11, 2020
DR2140 *****
DR2140 DESIGNATION - SOH 71
DR2140 PID - DR2140
DR2140 STATE/COUNTY- HI/HONOLULU
DR2140 COUNTRY - US
DR2140 USGS QUAD - HONOLULU (2017)
DR2140
DR2140 *CURRENT SURVEY CONTROL
DR2140
DR2140* NAD 83(1986) POSITION- 21 18 25.7 (N) 157 51 50.3 (W) HD_HELD2
```

DR2140\* LMSL ORTHO HEIGHT - 1.601 (meters) 5.25 (feet) ADJUSTED  
 DR2140  
 DR2140 GEOID HEIGHT - 15.526 (meters) GEOID12B  
 DR2140 VERT ORDER - SECOND CLASS I  
 DR2140  
 DR2140.The horizontal coordinates were established by autonomous hand held GPS  
 DR2140.observations and have an estimated accuracy of +/- 10 meters.  
 DR2140.  
 DR2140.The orthometric height was determined by differential leveling  
 DR2140.and adjusted by the National Geodetic Survey in June 2019  
 DR2140.holding the tidal station 161 2340 TIDAL 21 to the 1983/2001  
 DR2140.tidal station epoch value 2.042 meters.  
 DR2140  
 DR2140.Significant digits in the geoid height do not necessarily reflect accuracy.  
 DR2140.GEOID12B height accuracy estimate available [here](#).  
 DR2140  
 DR2140.Click [photographs](#) - Photos may exist for this station.

An example control pont that was in project 00000939/2 is TU0341. Below is a partial datasheet for TU0341 showing the pertinent new paragraphs highlighted in green for this project.

1 National Geodetic Survey, Retrieval Date = MAY 11, 2020  
 TU0341 \*\*\*\*\*  
 TU0341 DESIGNATION - S 11  
 TU0341 PID - TU0341  
 TU0341 STATE/COUNTY- HI/HONOLULU  
 TU0341 COUNTRY - US  
 TU0341 USGS QUAD - KOKO HEAD (2017)  
 TU0341  
 TU0341 \*CURRENT SURVEY CONTROL  
 TU0341  
 TU0341\* NAD 83(1986) POSITION- 21 18 10. (N) 157 39 24. (W) SCALED  
 TU0341\* LMSL ORTHO HEIGHT - 15.484 (meters) 50.80 (feet) ADJUSTED  
 TU0341  
 TU0341 GEOID HEIGHT - 15.280 (meters) GEOID12B  
 TU0341 VERT ORDER - SECOND CLASS I  
 TU0341  
 TU0341.The horizontal coordinates were scaled from a map and have  
 TU0341.an estimated accuracy of +/- 6 seconds.  
 TU0341.  
 TU0341.The orthometric height was determined by differential leveling  
 TU0341.and adjusted by the National Geodetic Survey in September 2019  
 TU0341.holding the tidal station 161 2340 TIDAL 21 to the 1983/2001  
 TU0341.tidal station epoch value 2.042 meters.  
 TU0341  
 TU0341.Significant digits in the geoid height do not necessarily reflect accuracy.  
 TU0341.GEOID12B height accuracy estimate available [here](#).  
 TU0341  
 TU0341.Click [photographs](#) - Photos may exist for this station.

## Version 8.12.5.7 updated on 04/02/2020

There are three change to datasheets in this version.

For the first change, the message:

<PID>.WARNING-Repeat measurements at this control monument indicate possible  
 <PID>.vertical movement.

is no longer displayed on datasheets. Three marks that formerly displayed this message on their  
 datasheets are:

LG0017  
 MA0834

Below are partial datasheets showing what was removed (with the pertinent text highlighted in red):

**1.2 The NGS Data Sheet**

1.2.1.1.1 See file [dsdata.pdf](#) for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.12.5.6

Starting Datasheet Retrieval...

1 National Geodetic Survey, Retrieval Date = MARCH 26, 2020

LG0017 \*\*\*\*\*

LG0017 DESIGNATION - N 12  
 LG0017 PID - LG0017  
 LG0017 STATE/COUNTY- NE/OTOE  
 LG0017 COUNTRY - US  
 LG0017 USGS QUAD - SYRACUSE (2017)

LG0017  
 LG0017 \*CURRENT SURVEY CONTROL

LG0017\* NAD 83(1986) POSITION- 40 39 24.18 (N) 096 11 15.48 (W) HD\_HELD1

LG0017\* [NAVD 88](#) ORTHO HEIGHT - 318.703 (meters) 1045.61 (feet) ADJUSTED

LG0017

LG0017 GEOID HEIGHT - -27.691 (meters) GEOID18  
 LG0017 DYNAMIC HEIGHT - 318.544 (meters) 1045.09 (feet) COMP  
 LG0017 MODELED GRAVITY - 980,116.3 (mgal) NAVD 88

LG0017  
 LG0017 VERT ORDER - FIRST CLASS II  
 LG0017

LG0017.The horizontal coordinates were determined by differentially corrected  
 LG0017.hand held GPS observations or other comparable positioning techniques  
 LG0017.and have an estimated accuracy of +/- 3 meters.

LG0017.  
 LG0017.The orthometric height was determined by differential leveling and  
 LG0017.adjusted by the NATIONAL GEODETIC SURVEY  
 LG0017.in June 1991.

LG0017  
 LG0017.WARNING-Repeat measurements at this control monument indicate possible  
 LG0017.vertical movement.

LG0017  
 LG0017.Significant digits in the geoid height do not necessarily reflect accuracy.  
 LG0017.GEOID18 height accuracy estimate available [here](#).

LG0017  
 LG0017.Click [photographs](#) - Photos may exist for this station.  
 LG0017

. . .

1 National Geodetic Survey, Retrieval Date = MARCH 26, 2020

MA0834 \*\*\*\*\*

MA0834 DESIGNATION - 1244  
 MA0834 PID - MA0834  
 MA0834 STATE/COUNTY- PA/WARREN  
 MA0834 COUNTRY - US  
 MA0834 USGS QUAD - PITTSFIELD (2019)

MA0834  
 MA0834 \*CURRENT SURVEY CONTROL

MA0834\* NAD 83(1986) POSITION- 41 50 00.2 (N) 079 23 02.1 (W) HD\_HELD2

MA0834\* [NAVD 88](#) ORTHO HEIGHT - 378.990 (meters) 1243.40 (feet) ADJUSTED

MA0834

MA0834 GEOID HEIGHT - -33.039 (meters) GEOID18

MA0834 DYNAMIC HEIGHT - 378.834 (meters) 1242.89 (feet) COMP  
MA0834 MODELED GRAVITY - 980,200.8 (mgal) NAVD 88  
MA0834  
MA0834 VERT ORDER - FIRST CLASS II  
MA0834

MA0834.The horizontal coordinates were established by autonomous hand held GPS  
MA0834.observations and have an estimated accuracy of +/- 10 meters.  
MA0834.

MA0834.The orthometric height was determined by differential leveling and  
MA0834.adjusted by the NATIONAL GEODETIC SURVEY  
MA0834.in June 1991.

MA0834

MA0834.WARNING-Repeat measurements at this control monument indicate possible  
MA0834.vertical movement.

MA0834

MA0834.Significant digits in the geoid height do not necessarily reflect accuracy.  
MA0834.GEOID18 height accuracy estimate available [here](#).

MA0834

MA0834.Click [photographs](#) - Photos may exist for this station.

MA0834

. . .

1 National Geodetic Survey, Retrieval Date = MARCH 26, 2020

RB0353 \*\*\*\*\*

RB0353 DESIGNATION - 299 A  
RB0353 PID - RB0353  
RB0353 STATE/COUNTY- OR/UMATILLA  
RB0353 COUNTRY - US  
RB0353 USGS QUAD - MISSION (2017)

RB0353

\*CURRENT SURVEY CONTROL

RB0353

RB0353\* NAD 83(1986) POSITION- 45 40 05.7 (N) 118 38 42.2 (W) HD\_HELD2  
RB0353\* [NAVD 88](#) ORTHO HEIGHT - 390.960 (meters) 1282.67 (feet) ADJUSTED

RB0353

RB0353 GEOID HEIGHT - -20.499 (meters) GEOID18  
RB0353 DYNAMIC HEIGHT - 390.914 (meters) 1282.52 (feet) COMP  
RB0353 MODELED GRAVITY - 980,489.5 (mgal) NAVD 88

RB0353

RB0353 VERT ORDER - FIRST CLASS II

RB0353

RB0353.The horizontal coordinates were established by autonomous hand held GPS  
RB0353.observations and have an estimated accuracy of +/- 10 meters.  
RB0353.

RB0353.The orthometric height was determined by differential leveling and  
RB0353.adjusted by the NATIONAL GEODETIC SURVEY  
RB0353.in June 1991.

RB0353

RB0353.WARNING-Repeat measurements at this control monument indicate possible  
RB0353.vertical movement.

RB0353

RB0353.Significant digits in the geoid height do not necessarily reflect accuracy.  
RB0353.GEOID18 height accuracy estimate available [here](#).

RB0353

RB0353.Click [photographs](#) - Photos may exist for this station.

RB0353

. . .

For the second change to datasheets, paragraphs in the STATION DESCRIPTION are now separated by a blank line (highlighted in green) for better readability .

```
AK6304                                STATION DESCRIPTION
AK6304
AK6304'DESCRIBED BY COAST AND GEODETIC SURVEY 1965 (DWC)
AK6304'LOCATED ON THE MERRITT ISLAND LAUNCH AREA, ON THE ROOF AND NORTH
AK6304'SIDE OF THE CIF ANTENNA BUILDING NO L 7 1557. ONE BOLT OF 25
AK6304'BOLTS (1/2 INCH) IN THE CENTER OF A CONCRETE ANTENNA PAD, HAS A
AK6304'PUNCH HOLE THAT MARKS THE STATION. THE PAD PROJECTS ABOUT 10
AK6304'INCHES ABOVE THE ROOF SURFACE.
AK6304'
AK6304'A TRAVERSE CONNECTION WAS MADE FROM TRIANGULATION STATION PETTEY
AK6304'AND THE DISTANCE IS 3.6306 METERS OR 11.91 FEET.
AK6304'
AK6304'TO REACH FROM THE JUNCTION OF THE NASA CAUSEWAY AND C
AK6304'AVE. S.E., GO NORTHEASTERLY FOR 1.3 MILES TO THE CIF ANTENNA
AK6304'BUILDING AND THE STATION AS DESCRIBED.
```

For the third change to datasheets, the monthly generated archived state-wide datasheets will now display the reason code report, which shows why some marks in a state might be horizontally or vertically unpublishable, immediately after the datasheets that are publishable for that state.

For example, when the monthly generated archived state-wide datasheets are extracted for the state of FM (Federated States of Micronesia), one would see the following reason code report appended to the end of the datasheets for FM:

```
-----
- This listing contains control for which complete digital
- data sheets were not provided. The complete data sheets were
- not provided for the reason listed below. The reason below is
- associated with a horizontal control Nonpub code shown under
- the heading 'H' and/or a vertical control Nonpub code shown under
- the heading 'v'
-
- The format of the records are as follows:
- Pid = Station Permanent Identifier)
- Name = Station Designation
- Lat = Approx. Latitude (Degrees, Minutes, truncated Seconds)
- Lon = Approx. Longitude (Degrees, Minutes, truncated Seconds)
- O = Horizontal Order
- o = Vertical Order
- H = Horizontal Nonpub Code
- v = Vertical Nonpub Code
-
- H Nonpub HORIZONTAL CONTROL NONPUB REASON
- -----
- B Station is a RBN antenna
- C Not a publishable datum within the state
- D No descriptive text available
- I No NAD83 coordinates available, only IGS08 coordinates
- L CORS L1 Phase Center is not publishable
- N No geodetic control
- O Outside NGS publication area
- P Purpose of position is not for network control
- R Restricted position
- T Station is a temporary point/bench mark
- V Station is a VOR antenna
-----
```

```

-      W      Weakly determined position
-      X      Surface mark reported destroyed
-      Y      Surface and underground mark reported destroyed

-      v Nonpub VERTICAL CONTROL NONPUB REASON
-----
-      C      Not a publishable datum within the state
-      D      No descriptive text available
-      F      Bench mark not yet adjusted
-      N      No geodetic control
-      L      CORS L1 Phase Center is not publishable
-      O      Outside NGS publication area
-      R      Restricted elevation
-      S      Mark is in a subsidence area
-      T      Station is a temporary point/bench mark
-      X      Surface mark reported destroyed
-      Y      Surface and underground mark reported destroyed
-      Z      Presumed destroyed

-
-
-      NOTE - Stations found in this listing may still have a valid
-            datasheet produced by use of other publishable values.
-            For example, an ADJUSTED height may be non-publishable
-            but a good GPS height might be found on the datasheet.
-
-            If a mark/control point is in a subsidence area, you can request
-            to see suspect heights in the SUPERSEDED SURVEY CONTROL section
-            of its datasheet by checking the 'Include suspect heights in
-            subsidence area' checkbox on the datasheet retrieval pages.
-
-----

```

Pid	Name	Lat	Lon	Elev	O o Hv
>TW0144	A 1	09 30 51.	/221 52 21.		DZ
>AE4340	AIRPORT BEACON	05 21 13.	/197 02 31.		NN
>AE4359	AIRPORT BEACON	06 58 57.	/201 47 41.		NN
>AE4366	AIRPORT BEACON	07 27 31.	/208 09 24.		NN
>TW0145	B 1	09 30 46.	/221 53 03.		DZ
>TW0146	C 1	09 30 30.	/221 53 20.		DZ
>TW0147	D 1	09 30 14.	/221 53 25.		DZ
>TW0148	E 1	09 30 00.	/221 53 51.		DZ
>TW0149	F 1	09 29 48.	/221 54 24.		DZ
>TW0150	G 1	09 29 41.	/221 54 55.		DZ
>TW0151	H 1	09 29 21.	/221 54 47.		DZ
>TW0153	ORC	09 29 07.	/221 54 55.		DZ
>AE4356	PNI A	06 59 12.	/201 47 48.		NN
>AE4357	PNI B	06 59 12.	/201 46 48.		NN
>AE4358	PNI C	06 59 09.	/201 47 00.		NN
>AE4360	SOKEHS ROCK LIGHT	06 58 46.	/201 48 26.		NN
>AO5054	TBM PIN	09 29 21.	/221 54 47.		TT
>TW0139	TIDAL 2	09 30 53.	/221 51 56.		DZ
>TW0140	TIDAL 3	09 30 53.	/221 51 59.		DZ
>TW0141	TIDAL 4	09 30 59.	/221 52 05.		DZ
>TW0142	TIDAL 5	09 31 00.	/221 52 04.		DZ
>TW0143	TIDAL 6	09 30 59.	/221 52 06.		DZ
>AA4423	TKK A	07 27 23.	/208 09 47.		XX
>AE4367	TKK A	07 27 28.	/208 09 38.		NN
>AA4424	TKK B	07 28 02.	/208 09 02.		XX
>AE4368	TKK B	07 28 07.	/208 08 53.		NN
>AE4369	TKK C	07 27 59.	/208 09 02.		NN
>AA4440	TKK B	05 21 15.	/197 02 39.		XX
>AE4370	TKK B RESET	05 21 20.	/197 02 30.		NN
>TW0152	TTS 3	09 29 07.	/221 54 58.		DZ

Please note, that each state at [ftp://ftp.ngs.noaa.gov/pub/DS\\_ARCHIVE/DataSheets/](ftp://ftp.ngs.noaa.gov/pub/DS_ARCHIVE/DataSheets/) is on a monthly schedule to be re-generated from the NGS database. You can expect that within a month's time that the reason code report for each state will appear in the monthly archived state-wide datasheet ZIP files.

## Version 8.12.5.6 updated on 02/19/2020

There is one change to datasheets in this version:

In this change request, a new Texas suspect area for datasheets was added:

$$N282900 \leq \text{latitude} \leq N303000 \text{ and } W0934000 \leq \text{longitude} \leq W0961500$$

Out of approximately 7500 control points in this suspect area, only 25 are considered to have valid heights. New leveling and/or GNSS data are required in order to densify the network. The NGS is not ready to categorize the orthometric heights on these suspect datasheets as "NOT PUB" as it did with control points in the subsidence areas in Alabama, Florida, Louisiana, and Mississippi. However, in order to designate orthometric heights in this Texas area as suspect, the following message is displayed beneath the "ORTHO HEIGHT -" line:

```
<PID> **This station is in an area of suspected vertical motion (see below).
```

along with the paragraph:

```
<PID> ** This station is in an area of suspected vertical motion. Due to the
<PID> ** variability of land subsidence, uplift, and crustal motion, NGS
<PID> ** recommends that all published orthometric heights in such areas be
<PID> ** validated before used as control. In addition, NGS does not
<PID> ** recommend using the following types of orthometric heights as
<PID> ** vertical control: scaled, VERTCON, or superseded. Click here to
<PID> ** see the list of stations with valid orthometric heights in this area.
```

The link ([here](#)) in this paragraph will go to the <https://www.ngs.noaa.gov/datasheets/southeastTXValidHeights/index.html> page.

Example PIDs with these messages are: AW0590, BL2015, and BK1739.

**AW0590's partial datasheet is shown below, with pertinent text highlighted in green:**

```
1      National Geodetic Survey, Retrieval Date = FEBRUARY 5, 2020
AW0590 *****
AW0590 FBN - This is a Federal Base Network Control Station.
AW0590 TIDAL BM - This is a Tidal Bench Mark.
AW0590 DESIGNATION - E 168
AW0590 PID - AW0590
AW0590 STATE/COUNTY- TX/GALVESTON
AW0590 COUNTRY - US
AW0590 USGS QUAD - GALVESTON (2019)
AW0590
AW0590 *CURRENT SURVEY CONTROL
AW0590
AW0590* NAD 83(2011) POSITION- 29 17 20.54501(N) 094 47 21.14978(W) ADJUSTED
AW0590* NAD 83(2011) ELLIP HT- -22.204 (meters) (06/27/12) ADJUSTED
AW0590* NAD 83(2011) EPOCH - 2010.00
AW0590* NAVD 88 ORTHO HEIGHT - 4.400 (meters) 14.44 (feet) ADJUSTED
AW0590 **This station is in an area of suspected vertical motion (see below).
AW0590
AW0590 GEOID HEIGHT - -26.607 (meters) GEOID18
AW0590 NAD 83(2011) X - -464,807.750 (meters) COMP
```



```

AW0590 NAD 83(2011) Y - -5,547,779.163 (meters) COMP
AW0590 NAD 83(2011) Z - 3,101,870.964 (meters) COMP
AW0590 LAPLACE CORR - 1.26 (seconds) DEFLEC18
AW0590 DYNAMIC HEIGHT - 4.394 (meters) 14.42 (feet) COMP
AW0590 MODELED GRAVITY - 979,261.6 (mgal) NAVD 88
AW0590 OBS GRAVITY - 979,258.8 (mgal) GRAV_OBS
AW0590
AW0590 VERT ORDER - FIRST CLASS II
AW0590
AW0590 Network accuracy estimates per FGDC Geospatial Positioning Accuracy
AW0590 Standards:
AW0590 FGDC (95% conf, cm) Standard deviation (cm) CorrNE
AW0590 Horiz Ellip SD_N SD_E SD_h (unitless)
AW0590 -----
AW0590 NETWORK 0.35 0.88 0.14 0.15 0.45 0.03950528
AW0590 -----
AW0590 Click here for local accuracies and other accuracy information.
AW0590
AW0590
AW0590.The horizontal coordinates were established by GPS observations
AW0590.and adjusted by the National Geodetic Survey in June 2012.
AW0590
AW0590.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has
AW0590.been affixed to the stable North American tectonic plate. See
AW0590.NA2011 for more information.
AW0590
AW0590.The horizontal coordinates are valid at the epoch date displayed above
AW0590.which is a decimal equivalence of Year/Month/Day.
AW0590
AW0590 ** This station is in an area of suspected vertical motion. Due to the
AW0590 ** variability of land subsidence, uplift, and crustal motion, NGS
AW0590 ** recommends that all published orthometric heights in such areas be
AW0590 ** validated before used as control. In addition, NGS does not
AW0590 ** recommend using the following types of orthometric heights as
AW0590 ** vertical control: scaled, VERTCON, or superseded. Click here to
AW0590 ** see the list of stations with valid orthometric heights in this area.
AW0590
AW0590.The orthometric height was determined by differential leveling and
AW0590.adjusted by the NATIONAL GEODETIC SURVEY
AW0590.in March 1997.
AW0590
AW0590.Significant digits in the geoid height do not necessarily reflect accuracy.
AW0590.GEOID18 height accuracy estimate available here.
AW0590
AW0590.This Tidal Bench Mark is designated as VM 856
AW0590.by the CENTER FOR OPERATIONAL OCEANOGRAPHIC PRODUCTS AND SERVICES.
AW0590
AW0590.Click photographs - Photos may exist for this station.
AW0590

```

. . .

## Version 8.12.5.5 updated on 01/15/2020

There are 2 changes to datasheets in this version:

- (1) NGS has updated the USGS quads in our database for CONUS, Alaska, Hawaii, and Puerto Rico. Example PIDs showing this update of the “USGS QUAD” -“ line on their respective datasheet is:

```

MY6006 USGS QUAD - BOSTON NORTH (2018)
UV8168 USGS QUAD - BAIRD INLET A-1 NE (2017)
AA3584 USGS QUAD - HANAPEPE (2017)
TV1295 USGS QUAD - CAMUY (2018)

```

Prior to this update, the “USGS QUAD” -“ line on their respective datasheet was:

```

MY6006 USGS QUAD -

```

UV8168 USGS QUAD - BAIRD INLET A-1  
 AA3584 USGS QUAD - HANAPEPE (1996)  
 TV1295 USGS QUAD - CAMUY (1982)

- (2) NGS has updated the text line for photographs/images on datasheets. An example PID showing this update is BH1212:

BH1212. [Click photographs](#) - Photos may exist for this station.

Prior to this, update the text line for photographs/images on its datasheet was:

BH1212. [Click here](#) to see if photographs exist for this station.

## Version 8.12.5.4 updated on 09/10/2019

There are 8 changes to datasheets in this version:

- (1) The datasheets were updated to use the new GEOID18/DEFLEC18 grids. These grids affect *only* CONUS, Puerto Rico (PR) and the US Virgin Islands (VQ). Example PIDs in these areas are: AB9517 (VQ), BZ0269 (TX), and TV1516 (PR). Partial datasheets are shown below with special emphasis on the highlighted **green** text.

```

1      National Geodetic Survey,  Retrieval Date = JULY 2, 2019
AB9517 *****
AB9517 DESIGNATION - 126+00
AB9517 PID - AB9517
AB9517 STATE/COUNTY- VQ/ST CROIX
AB9517 COUNTRY - US
AB9517 USGS QUAD - CHRISTIANSTED (1958)
AB9517
AB9517 *CURRENT SURVEY CONTROL
AB9517
AB9517* NAD 83(2011) POSITION- 17 42 12.69099(N) 064 47 15.91942(W) ADJUSTED
AB9517* NAD 83(2011) ELLIP HT- -35.703 (meters) (06/27/12) ADJUSTED
AB9517* NAD 83(2011) EPOCH - 2010.00
AB9517* LMSL ORTHO HEIGHT - 6.6 (meters) 22. (feet) GPS OBS
AB9517
AB9517 LMSL orthometric height was determined with geoid model EGM96
AB9517 GEOID HEIGHT - -45.347 (meters) EGM96
AB9517 GEOID HEIGHT - -41.292 (meters) GEOID18
AB9517 NAD 83(2011) X - 2,589,033.512 (meters) COMP
AB9517 NAD 83(2011) Y - -5,498,925.619 (meters) COMP
AB9517 NAD 83(2011) Z - 1,927,140.087 (meters) COMP
AB9517 LAPLACE CORR - 0.80 (seconds) DEFLEC18
AB9517
AB9517 Network accuracy estimates per FGDC Geospatial Positioning Accuracy
AB9517 Standards:
AB9517 FGDC (95% conf, cm) Standard deviation (cm) CorrNE
AB9517 Horiz Ellip SD_N SD_E SD_h (unitless)
AB9517 -----
AB9517 NETWORK 3.09 5.35 1.13 1.37 2.73 -0.13725825
AB9517 -----
AB9517 Click here for local accuracies and other accuracy information.
AB9517
AB9517
AB9517.This mark is at Alexander Hamilton Airport (STX)
AB9517
AB9517.The horizontal coordinates were established by GPS observations
AB9517.and adjusted by the National Geodetic Survey in June 2012.
AB9517
AB9517.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has
AB9517.been affixed to the stable North American tectonic plate. See
AB9517.NA2011 for more information.
AB9517

```

AB9517.The horizontal coordinates are valid at the epoch date displayed above  
 AB9517.which is a decimal equivalence of Year/Month/Day.  
 AB9517  
 AB9517.The orthometric height was determined by GPS observations and a  
 AB9517.high-resolution geoid model.  
 AB9517  
 AB9517.Significant digits in the geoid height do not necessarily reflect accuracy.  
 AB9517.GEOID18 height accuracy estimate available [here](#).

...

BZ0269 \*\*\*\*\*  
 BZ0269 DESIGNATION - WELL  
 BZ0269 PID - BZ0269  
 BZ0269 STATE/COUNTY- TX/ANDERSON  
 BZ0269 COUNTRY - US  
 BZ0269 USGS QUAD - ROUSTABOUT CAMP (1982)  
 BZ0269  
 BZ0269 \*CURRENT SURVEY CONTROL  
 BZ0269  
 BZ0269\* NAD 83(1993) POSITION- 31 58 01.04401(N) 096 02 14.41676(W) ADJUSTED  
 BZ0269\* NAD 83(1993) ELLIP HT- 64.463 (meters) (02/16/96) ADJUSTED  
 BZ0269\* [NAVD 88](#) ORTHO HEIGHT - 89.950 (meters) 295.11 (feet) ADJUSTED  
 BZ0269  
 BZ0269 GEOID HEIGHT - -25.635 (meters) GEOID18  
 BZ0269 NAD 83(1993) X - -569,641.796 (meters) COMP  
 BZ0269 NAD 83(1993) Y - -5,386,013.883 (meters) COMP  
 BZ0269 NAD 83(1993) Z - 3,357,357.704 (meters) COMP  
 BZ0269 LAPLACE CORR - -1.12 (seconds) DEFLEC18  
 BZ0269 DYNAMIC HEIGHT - 89.845 (meters) 294.77 (feet) COMP  
 BZ0269 MODELED GRAVITY - 979,467.4 (mgal) NAVD 88  
 BZ0269  
 BZ0269 HORZ ORDER - SECOND  
 BZ0269 VERT ORDER - SECOND CLASS 0  
 BZ0269 ELLP ORDER - FIFTH CLASS I  
 BZ0269  
 BZ0269.The horizontal coordinates were established by classical geodetic methods  
 BZ0269.and adjusted by the National Geodetic Survey in February 1996.  
 BZ0269.  
 BZ0269.The orthometric height was determined by differential leveling and  
 BZ0269.adjusted by the NATIONAL GEODETIC SURVEY  
 BZ0269.in June 1991.  
 BZ0269  
 BZ0269.Significant digits in the geoid height do not necessarily reflect accuracy.  
 BZ0269.GEOID18 height accuracy estimate available [here](#).

...

TV1516 \*\*\*\*\*  
 TV1516 DESIGNATION - BQN C  
 TV1516 PID - TV1516  
 TV1516 STATE/COUNTY- PR/AGUADILLA  
 TV1516 COUNTRY - US  
 TV1516 USGS QUAD - MOCA (1964)  
 TV1516  
 TV1516 \*CURRENT SURVEY CONTROL  
 TV1516  
 TV1516\* NAD 83(2011) POSITION- 18 29 53.33863(N) 067 07 15.36607(W) NO CHECK  
 TV1516\* NAD 83(2011) ELLIP HT- 18.154 (meters) (06/27/12) NO CHECK  
 TV1516\* NAD 83(2011) EPOCH - 2010.00  
 TV1516\* [LMSL](#) ORTHO HEIGHT - 62.9 (meters) 206. (feet) GPS OBS  
 TV1516  
 TV1516 LMSL orthometric height was determined with geoid model GEOID96  
 TV1516 GEOID HEIGHT - -46.479 (meters) GEOID96  
 TV1516 GEOID HEIGHT - -44.864 (meters) GEOID18  
 TV1516 NAD 83(2011) X - 2,352,419.909 (meters) COMP  
 TV1516 NAD 83(2011) Y - -5,574,639.411 (meters) COMP  
 TV1516 NAD 83(2011) Z - 2,010,753.737 (meters) COMP  
 TV1516 LAPLACE CORR - 2.38 (seconds) DEFLEC18

TV1516  
 TV1516 Network accuracy estimates per FGDC Geospatial Positioning Accuracy  
 TV1516 Standards:  
 TV1516 FGDC (95% conf, cm) Standard deviation (cm) CorrNE  
 TV1516 Horiz Ellip SD\_N SD\_E SD\_h (unitless)  
 TV1516 -----  
 TV1516 NETWORK 1.77 6.74 0.64 0.79 3.44 0.14744717  
 TV1516 -----  
 TV1516 Click [here](#) for local accuracies and other accuracy information.  
 TV1516  
 TV1516  
 TV1516.The horizontal coordinates were established by GPS observations  
 TV1516.and adjusted by the National Geodetic Survey in June 2012.  
 TV1516  
 TV1516.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has  
 TV1516.been affixed to the stable North American tectonic plate. See  
 TV1516.[NA2011](#) for more information.  
 TV1516  
 TV1516.The horizontal coordinates are valid at the epoch date displayed above  
 TV1516.which is a decimal equivalence of Year/Month/Day.  
 TV1516  
 TV1516.No horizontal observational check was made to the station.  
 TV1516.  
 TV1516.The orthometric height was determined by GPS observations and a  
 TV1516.high-resolution geoid model.  
 TV1516  
 TV1516.Significant digits in the geoid height do not necessarily reflect accuracy.  
 TV1516.GEOID18 height accuracy estimate available [here](#).

- (1) Datasheets now incorporate IGS14 (realization of ITRF2014 at epoch 2010.0 which replaces IGS08) for CORS. CORS that are part of this realization will show the message:

<PID>.Due to the release of the International GNSS Service (IGS) 2014  
 <PID>.realization of the International Terrestrial Reference Frame of 2014  
 <PID>.(ITRF2014), NGS reprocessed all NOAA CORS Network and some IGS stations  
 <PID>.using data collected between 1/1/1996 and 1/30/2017. The resulting ITRF2014  
 <PID>.epoch 2010.00 coordinates, referred to as Multi-Year CORS Solution 2  
 <PID>.(MYCS2), were transformed to NAD 83 (2011/PA11/MA11) maintaining the  
 <PID>.currently published epoch of 2010.00.  
 <PID>  
 <PID>.Additional information on MYCS2 is available at  
 <PID>.<https://geodesy.noaa.gov/CORS/coords.shtml>

Prior to this it was:

<PID>\*\*\*Due to the release of the International GNSS Service (IGS) 2014  
 <PID>\*\*\*realization of the International Terrestrial Reference Frame of 2014  
 <PID>\*\*\*(ITRF2014), NGS reprocessed all NOAA CORS Network and some IGS stations  
 <PID>\*\*\*using data collected between 1/1/1996 and 1/30/2017. The resulting ITRF2014  
 <PID>\*\*\*epoch 2010.00 coordinates, referred to as Multi-Year CORS Solution 2  
 <PID>\*\*\*(MYCS2), were transformed to NAD 83 (2011/PA11/MA11) maintaining the  
 <PID>\*\*\*currently published epoch of 2010.00.  
 <PID>  
 <PID>\*\*\*The MYCS2 NAD 83 coordinates are shown with adjustment dates of June,  
 <PID>\*\*\*July, or August 2019. Previous CORS NAD 83 coordinates (if any) are  
 <PID>\*\*\*given in the superseded section of the datasheet.  
 <PID>  
 <PID>\*\*\*Additional information on MYCS2 is available at  
 <PID>\*\*\*<https://geodesy.noaa.gov/CORS/coords.shtml>

CORS that are part of this realization will also show an updated link for the coordinates page on their datasheets:

<PID>' [ftp://cors.ngs.noaa.gov/cors/coord/coord\\_14](ftp://cors.ngs.noaa.gov/cors/coord/coord_14)

Prior to this it was:

<PID> ' [ftp://cors.ngs.noaa.gov/cors/coord/coord\\_08](ftp://cors.ngs.noaa.gov/cors/coord/coord_08)

Additionally, datasheets for modeled CORS will now display the following paragraph on their datasheets:

```
<PID>.Formal positional accuracy estimates are not available for this CORS
<PID>.because its coordinates were determined in part using modeled
<PID>.velocities. Approximate one-sigma accuracies for latitude, longitude,
<PID>.and ellipsoid height can be obtained from the short-term time series.
<PID>.Additional information regarding modeled velocities is available on
<PID>.the CORS Coordinates for MYCS2 web page: https://www.ngs.noaa.gov/CORS/coords.shtml.
```

Prior to this it was:

```
<PID>.Formal positional accuracy estimates are not available for this CORS
<PID>.because its coordinates were determined in part using modeled
<PID>.velocities. Approximate one-sigma accuracies for latitude, longitude,
<PID>.and ellipsoid height can be obtained from the short-term time series.
<PID>.Additional information regarding modeled velocities is available on
<PID>.the CORS Coordinates and Multi-Year CORS Solution FAQ web pages.
```

A datasheet displaying all of the above changes is shown below with special emphasis on the highlighted **green** text.

```
1      National Geodetic Survey,      Retrieval Date = SEPTEMBER 5, 2019
DQ6620 *****
DQ6620 CORS - This is a GPS Continuously Operating Reference Station.
DQ6620 DESIGNATION - SEWARD CORS ARP
DQ6620 CORS_ID - AKSE
DQ6620 PID - DQ6620
DQ6620 STATE/COUNTY- AK/KENAI PENINSULA BOROUGH
DQ6620 COUNTRY - US
DQ6620 USGS QUAD - SEWARD A-7
DQ6620
DQ6620 *CURRENT SURVEY CONTROL
DQ6620
DQ6620* NAD 83(2011) POSITION- 60 07 56.99193(N) 149 26 11.25906(W) ADJUSTED
DQ6620* NAD 83(2011) ELLIP HT- 43.947 (meters) (10/??/17) ADJUSTED
DQ6620* NAD 83(2011) EPOCH - 2010.00
DQ6620
DQ6620 GEOID HEIGHT - 12.026 (meters) GEOID12B
DQ6620 NAD 83(2011) X - -2,741,920.769 (meters) COMP
DQ6620 NAD 83(2011) Y - -1,619,213.188 (meters) COMP
DQ6620 NAD 83(2011) Z - 5,507,881.469 (meters) COMP
DQ6620
DQ6620.Formal positional accuracy estimates are not available for this CORS
DQ6620.because its coordinates were determined in part using modeled
DQ6620.velocities. Approximate one-sigma accuracies for latitude, longitude,
DQ6620.and ellipsoid height can be obtained from the short-term time series.
DQ6620.Additional information regarding modeled velocities is available on
DQ6620.the CORS Coordinates for MYCS2 web page: https://www.ngs.noaa.gov/CORS/coords.shtml.
DQ6620
DQ6620.The coordinates were established by GPS observations
DQ6620.and adjusted by the National Geodetic Survey in October 2017.
DQ6620
DQ6620.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has
DQ6620.been affixed to the stable North American Tectonic Plate.
DQ6620
DQ6620.The coordinates are valid at the epoch date displayed above
DQ6620.which is a decimal equivalence of Year/Month/Day.
DQ6620
DQ6620.Due to the release of the International GNSS Service (IGS) 2014
DQ6620.realization of the International Terrestrial Reference Frame of 2014
DQ6620.(ITRF2014), NGS reprocessed all NOAA CORS Network and some IGS stations
DQ6620.using data collected between 1/1/1996 and 1/30/2017. The resulting ITRF2014
DQ6620.epoch 2010.00 coordinates, referred to as Multi-Year CORS Solution 2
DQ6620.(MYCS2), were transformed to NAD 83 (2011/PA11/MA11) maintaining the
DQ6620.currently published epoch of 2010.00.
DQ6620
DQ6620.Additional information on MYCS2 is available at
```

DQ6620.<https://geodesy.noaa.gov/CORS/coords.shtml>  
DQ6620  
DQ6620.Significant digits in the geoid height do not necessarily reflect accuracy.  
DQ6620.GEOID12B height accuracy estimate available [here](#).  
DQ6620  
DQ6620.The PID for the CORS L1 Phase Center is DQ6621.  
DQ6620  
DQ6620.Click [here](#) to see if photographs exist for this station.  
DQ6620  
DQ6620.The XYZ, and position/ellipsoidal ht. are equivalent.  
DQ6620  
DQ6620.The ellipsoidal height was determined by GPS observations  
DQ6620.and is referenced to NAD 83.  
DQ6620  
DQ6620. The following values were computed from the NAD 83(2011) position.  
DQ6620  
DQ6620;  

	North	East	Units	Scale Factor	Converg.
DQ6620;UTM 06	- 6,668,663.209	364,664.203	MT	0.99982446	-2 06 47.4

DQ6620  
DQ6620!  

	Elev Factor	x	Scale Factor	=	Combined Factor
DQ6620!UTM 06	- 0.99999312	x	0.99982446	=	0.99981758

DQ6620  
DQ6620\_U.S. NATIONAL GRID SPATIAL ADDRESS: 6VUM6466468663(NAD 83)  
DQ6620  
DQ6620  
DQ6620 SUPERSEDED SURVEY CONTROL  
DQ6620  
DQ6620.No superseded survey control is available for this station.  
DQ6620  
DQ6620\_MARKER: STATION IS THE ANTENNA REFERENCE POINT OF THE GPS ANTENNA  
DQ6620  
DQ6620  
DQ6620 STATION DESCRIPTION  
DQ6620  
DQ6620'DESCRIBED BY NATIONAL GEODETIC SURVEY 2017  
DQ6620'STATION IS A GPS CORS. LATEST INFORMATION INCLUDING POSITIONS AND  
DQ6620'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE  
DQ6620'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.  
DQ6620' ftp://cors.ngs.noaa.gov/cors/README.txt  
DQ6620' [ftp://cors.ngs.noaa.gov/cors/coord/coord\\_14](ftp://cors.ngs.noaa.gov/cors/coord/coord_14)  
DQ6620' ftp://cors.ngs.noaa.gov/cors/station\_log  
DQ6620' http://geodesy.noaa.gov/CORS

(2) A mark with PID AI4494 had its State Plane Coordinate System corrected from SPC CA 6 to SPC CA 5 as shown below in the highlighted **green** text.

```

1      National Geodetic Survey, Retrieval Date = JULY 2, 2019
AI4494 *****
AI4494 DESIGNATION - LONG LONGDON YARD BASE GRM
AI4494 PID - AI4494
AI4494 STATE/COUNTY- CA/LOS ANGELES
AI4494 COUNTRY - US
AI4494 USGS QUAD - EL MONTE (1994)
AI4494
AI4494 *CURRENT SURVEY CONTROL
AI4494
AI4494 *-----*
AI4494* NAD 83(2011) POSITION- 34 06 42.82806(N) 118 00 12.22905(W) ADJUSTED
AI4494* NAD 83(2011) ELLIP HT- 74.984 (meters) (06/27/12) ADJUSTED
AI4494* NAD 83(2011) EPOCH - 2010.00
AI4494* NAVD 88 ORTHO HEIGHT - 109.1 (meters) 358. (feet) GPS OBS
AI4494
AI4494 NAVD 88 orthometric height was determined with an earlier geoid model
AI4494 GEOID HEIGHT - -34.078 (meters) GEOID18
AI4494 NAD 83(2011) X - -2,482,076.970 (meters) COMP
AI4494 NAD 83(2011) Y - -4,667,440.247 (meters) COMP
AI4494 NAD 83(2011) Z - 3,556,771.813 (meters) COMP
AI4494 LAPLACE CORR - 3.61 (seconds) DEFLEC18
AI4494
AI4494 Network accuracy estimates per FGDC Geospatial Positioning Accuracy
AI4494 Standards:
AI4494 FGDC (95% conf, cm) Standard deviation (cm) CorrNE

```

```

AI4494          Horiz  Ellip          SD_N  SD_E  SD_h          (unitless)
AI4494 -----
AI4494 NETWORK  0.10  0.24          0.04  0.04  0.12          0.01843142
AI4494 -----
AI4494 Click here for local accuracies and other accuracy information.
AI4494
AI4494.The horizontal coordinates were established by GPS observations
AI4494.and adjusted by the National Geodetic Survey in June 2012.
AI4494
AI4494.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has
AI4494.been affixed to the stable North American tectonic plate. See
AI4494.NA2011 for more information.
AI4494
AI4494.The horizontal coordinates are valid at the epoch date displayed above
AI4494.which is a decimal equivalence of Year/Month/Day.
AI4494
AI4494.The orthometric height was determined by GPS observations and a
AI4494.high-resolution geoid model.
AI4494
AI4494.Significant digits in the geoid height do not necessarily reflect accuracy.
AI4494.GEOID18 height accuracy estimate available here.
AI4494
AI4494.The X, Y, and Z were computed from the position and the ellipsoidal ht.
AI4494
AI4494.The Laplace correction was computed from DEFLEC18 derived deflections.
AI4494
AI4494.The ellipsoidal height was determined by GPS observations
AI4494.and is referenced to NAD 83.
AI4494
AI4494. The following values were computed from the NAD 83(2011) position.
AI4494
AI4494;          North          East          Units Scale Factor Converg.
AI4494;SPC CA 5 - 567,875.095 1,999,686.590 MT 0.99998390 -0 00 07.0
AI4494;SPC CA 5 - 1,863,103.54 6,560,638.42 sFT 0.99998390 -0 00 07.0
AI4494;UTM 11 - 3,775,017.438 407,458.373 MT 0.99970557 -0 33 45.9
AI4494
AI4494! - Elev Factor x Scale Factor = Combined Factor
AI4494!SPC CA 5 - 0.99998823 x 0.99998390 = 0.99997213
AI4494!UTM 11 - 0.99998823 x 0.99970557 = 0.99969380
AI4494
AI4494_U.S. NATIONAL GRID SPATIAL ADDRESS: 11SMT0745875017(NAD 83)
AI4494
AI4494          SUPERSEDED SURVEY CONTROL
AI4494
AI4494 NAD 83(2007)- 34 06 42.82599(N) 118 00 12.22679(W) AD(2007.00) 0
AI4494 ELLIP H (02/10/07) 74.970 (m) GP(2007.00)
AI4494 NAD 83(1998)- 34 06 42.82025(N) 118 00 12.22058(W) AD(2000.35) A
AI4494 ELLIP H (04/03/01) 74.989 (m) GP(2000.35) 1 1
AI4494 NAD 83(1998)- 34 06 42.81835(N) 118 00 12.21862(W) AD(1998.50) A
AI4494 ELLIP H (04/06/00) 75.026 (m) GP(1998.50) 3 1
AI4494 NAVD 88 (04/06/00) 109.2 (m) GEOID99 model used GPS OBS
AI4494
AI4494.Superseded values are not recommended for survey control.
AI4494
AI4494.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AI4494.See file dsdata.pdf to determine how the superseded data were derived.
AI4494
AI4494_MARKER: Z = SEE DESCRIPTION
AI4494_SETTING: 0 = UNSPECIFIED SETTING
AI4494_MARK LOGO: NONE
AI4494_MAGNETIC: N = NO MAGNETIC MATERIAL
AI4494_STABILITY: A = MOST RELIABLE AND EXPECTED TO HOLD
AI4494+STABILITY: POSITION/ELEVATION WELL
AI4494_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AI4494+SATELLITE: SATELLITE OBSERVATIONS - 1998
AI4494
AI4494 HISTORY - Date Condition Report By
AI4494 HISTORY - 1998 MONUMENTED NGS
AI4494
AI4494          STATION DESCRIPTION

```



AI4494  
 AI4494'DESCRIBED BY NATIONAL GEODETIC SURVEY 1998  
 AI4494'THese COORDINATES ARE FOR THE GEODETIC REFERENCE MARK OF A  
 AI4494'CALIFORNIA CORS. INFORMATION ABOUT THE GRM, ANTENNA TYPE  
 AI4494'AND ANTENNA HEIGHT CAN BE FOUND AT THE SOPAC WEBSITE:  
 AI4494'HTTP://SOPAC.UCSD.EDU/SCRIPTS/SIMPL.CGI

(3) The word “topographic” was removed from the paragraph that appears on some datasheets:

<PID>.The horizontal coordinates were scaled from a topographic map and have  
 <PID>.an estimated accuracy of +/- 6 seconds.

An example datasheet is shown below with the new paragraph highlighted in **green** text:

```

1      National Geodetic Survey,  Retrieval Date = JULY  2, 2019
LF0938 *****
LF0938 DESIGNATION - MM 158
LF0938 PID - LF0938
LF0938 STATE/COUNTY- IA/FREMONT
LF0938 COUNTRY - US
LF0938 USGS QUAD - TABOR SW (1957)
LF0938
LF0938 *CURRENT SURVEY CONTROL
LF0938
LF0938* NAD 83(1986) POSITION- 40 52 23. (N) 095 39 15. (W) SCALED
LF0938* NAVD 88 ORTHO HEIGHT - 352.791 (meters) 1157.45 (feet) ADJUSTED
LF0938
LF0938 GEOID HEIGHT - -29.030 (meters) GEOID18
LF0938 DYNAMIC HEIGHT - 352.616 (meters) 1156.87 (feet) COMP
LF0938 MODELED GRAVITY - 980,116.8 (mgal) NAVD 88
LF0938
LF0938 VERT ORDER - SECOND CLASS 0
LF0938
LF0938.The horizontal coordinates were scaled from a map and have
LF0938.an estimated accuracy of +/- 6 seconds.
LF0938.
LF0938.The orthometric height was determined by differential leveling and
LF0938.adjusted by the NATIONAL GEODETIC SURVEY
LF0938.in June 1991.
LF0938
LF0938.Significant digits in the geoid height do not necessarily reflect accuracy.
LF0938.GEOID18 height accuracy estimate available here.
LF0938
LF0938.The dynamic height is computed by dividing the NAVD 88
LF0938.geopotential number by the normal gravity value computed on the
LF0938.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
LF0938.degrees latitude (g = 980.6199 gals.).
LF0938
LF0938.The modeled gravity was interpolated from observed gravity values.
LF0938
LF0938; North East Units Estimated Accuracy
LF0938;SPC IA S - 99,200. 318,440. MT (+/- 180 meters Scaled)
LF0938
LF0938_U.S. NATIONAL GRID SPATIAL ADDRESS: 15TTF763280(NAD 83)
LF0938
LF0938 SUPERSEDED SURVEY CONTROL
LF0938
LF0938 NGVD 29 (??/??/92) 352.691 (m) 1157.12 (f) ADJ UNCH 2 0
LF0938
LF0938.Superseded values are not recommended for survey control.
LF0938
LF0938.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
LF0938.See file dsdata.pdf to determine how the superseded data were derived.
LF0938
LF0938_MARKER: DB = BENCH MARK DISK
LF0938_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
LF0938_STAMPING: MM 158 1949
LF0938_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO

```

```

LF0938+STABILITY: SURFACE MOTION
LF0938
LF0938 HISTORY - Date Condition Report By
LF0938 HISTORY - 1949 MONUMENTED CGS
LF0938 HISTORY - 1950 GOOD CGS
LF0938 HISTORY - 1950 GOOD CGS
LF0938
LF0938 STATION DESCRIPTION
LF0938
LF0938'DESCRIBED BY COAST AND GEODETIC SURVEY 1950
LF0938'5 MI W FROM RANDOLPH.
LF0938'5.0 MILES WEST ALONG STATE HIGHWAY 184 FROM THE SCHOOLHOUSE AT
LF0938'RANDOLPH, 111 FEET WEST OF THE CENTER LINE OF A PRIVATE DRIVEWAY
LF0938'WHICH LEADS TO THE JOHN HALOM RESIDENCE, 60 FEET NORTH OF THE
LF0938'CENTER LINE OF THE HIGHWAY, 10 FEET EAST OF A GATE POST, 3.0
LF0938'FEET EAST OF A WITNESS POST, 1.4 FEET SOUTH OF A FENCE, AND SET
LF0938'IN THE TOP OF A CONCRETE POST PROJECTING 0.7 FOOT ABOVE THE
LF0938'GROUND.
LF0938
LF0938 STATION RECOVERY (1950)
LF0938
LF0938'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1950
LF0938'RECOVERED IN GOOD CONDITION.

*** retrieval complete.
Elapsed Time = 00:00:12

```

- (4) When retrieving datasheets, marks with a *Set\_By* or a *Designation* that contained the word “SRC” were being eliminated from the list of available marks to choose from, and shouldn’t have been. Below is a sampling of marks that were not displaying in the listing of marks, but now are. This issue was not present in the monthly archived datasheets; only datasheets retrieved on the fly.

```

|Dist|PID...|Set.|Set_By|H V|Vert_Source|Latitude....|Longitude....|Stab|C|Designation
|----|-----|----|-----| - |-----|-----|-----|----| - |-----
|...|AA8859|1995|BDE...|0 .|88/GPS OBS.|N304932.48510|W0871634.81631|C...|S|SRC 1003
|...|DG6883|2002|CSRC...|0 k|88/GPS OBS.|N373116.20314|W1220203.95080|D...|N|FILBERT
|...|DH4116|...|.....|0 .|.....|N344707.56103|W1171603.30880|....|.|DEVRIE|SRC|HCS2005
GRP
|...|DH8059|2003|CSRC...|. 2|88/ADJUSTED|N343322.....|W1203659.....|A...|G|VNDP VANDENBERG
CORS ARD
|...|DL7760|...|.....|0 .|.....|N452725.98575|W1093415.58671|....|.|YNPBAS|SRC|HMT2005
GRP
|...|HV0859|UNK.|MD|SRC...|. 2|88/ADJUSTED|N383011.....|W0765735.....|D...|G|A MD|SRC
|...|JV0910|1961|MD|SRC...|. 0 2|88/ADJUSTED|N391159.46359|W0764416.04830|D...|G|HARWOOD RESET
|...|JV1335|1965|MD|SRC...|. 0 2|88/ADJUSTED|N391150.45229|W0764739.07118|C...|G|J 109
|...|SW1124|UNK.|.....|W .|29/VERT ANG|N475539.09338|W1181116.61210|....|O|SRC|P 16 SRN

```

- (5) The paragraph for the photographs was changed from:

<PID>. [Photographs](#) are available for this station.

to

<PID>. Click [here](#) to see if photographs exist for this station.

An Example PID is DE9752:

DE9752. Click [here](#) to see if photographs exist for this station.

- (6) Marks can now be retrieved by designation where the first character is a hyphen/dash/minus sign.

Example:

- a. In your favorite browser, enter the URL: [https://www.ngs.noaa.gov/cgi-bin/ds\\_desig.prl](https://www.ngs.noaa.gov/cgi-bin/ds_desig.prl).
- b. In the *Station Name* field, enter *-\**, select California from the *Pick a State* drop-down list box, and then press the *[Submit]* button.
- c. You should see the following list of marks:

PID...	St	Cty	Set.	Set By	C	Latitude.....	Longitude.....	DtmTag	H	V	Vert_Source	Stab	Dist	Designation
DW0206	CA	025	UNK.	BOR...	X	N331434.....	W1153043.....				1 29/ADJUSTED	B...		-121
DW0106	CA	025	UNK.	USGS..	X	N330405.....	W1153035.....				1 29/ADJUSTED	D...		-162 Y
DW0028	CA	025	UNK.	USE...	X	N332104.....	W1153756.....				. 29/.....	D...		-189
DX0606	CA	065	UNK.	USGS..	N	N333411.....	W1160442.....				1 29/ADJUSTED	D...		-189 T
DW0252	CA	025	UNK.	USGS..	G	N331135.....	W1154957.....				1 29/ADJUSTED	B...		-227.10
GS0314	CA	027	1907	USGS..	X	N363341.....	W1165433.....				1 88/ADJUSTED	D...		-248
DW0233	CA	025	UNK.	USGS..	G	N331839.....	W1155920.....				m 88/READJUST	C...		-39 T
DB0612	CA	025	UNK.	USGS..	G	N324757.....	W1152955.....				1 88/ADJUSTED	D...		-47
DB0687	CA	025	1927	USGS..	S	N324741.....	W1153207.....				1 29/ADJUSTED	.....		-50 Y
DB0629	CA	025	UNK.	USGS..	N	N324808.....	W1152638.....				1 29/ADJUSTED	D...		-59 Y

(7) A new project was added to the list of valid projects in the Gulf Coast dynamic region/subsidence area:

00000729/1A with epoch 2009.55.

This project is valid in the state of Texas (TX).

Below is the list of all the valid projects for the Gulf Coast Dynamic Region/Subsidence Area (new record is highlighted in green).

Project	Epoch
00000729	2009.55
00000729/1	2009.55
00000729/1A	2009.55
00000729/2	2009.55
00000729/3	2009.55
00000729/4	2009.55
00000730/1	2009.55
00000730/2	2009.55
00000730/3	2009.55
00000730/4	2009.55
00000730/5	2009.55
00000731	2009.55
00000732	2009.55
00000772	2009.55
00000803	2009.55
00000840	2009.55
00000857	2009.55
GPS2021/C	2004.65
GPS2100	2004.65
GPS2212	2004.65
GPS2262	2004.65
GPS2287	2004.65
GPS2307	2004.65
GPS2329	2006.81
GPS2896/B	2009.55
GPS2896/C	2009.55
GPS2995	2009.55
GPS2995/B	2009.55

Additionally, below is a list of the valid project/state combinations within the Gulf Coast Dynamic Region/Subsidence Area (new record is highlighted in green).

<u>Subsidence Project</u>	<u>State</u>
00000729	LA
00000729	MS
00000729/1	AL
00000729/1	FL
00000729/1	LA
00000729/1	MS
00000729/1	TX
00000729/1A	TX
00000729/2	AL
00000729/2	MS
00000729/3	MS
00000729/4	MS
00000730/1	AL
00000730/2	AL
00000730/3	AL
00000730/4	AL
00000730/5	AL
00000730/5	MS
00000731	FL
00000732	TX
00000772	MS
00000803	MS
00000840	MS
00000857	FL
GPS2896/B	LA
GPS2896/B	MS
GPS2896/B	AL
GPS2896/C	LA
GPS2896/C	MS
GPS2896/C	AL
GPS2995	LA
GPS2995/B	LA

Below is a list of specific control points that are publishable in the Gulf Coast Dynamic Region/Subsidence Area.

UID	PID	EPOCH
10484553	BG1724	2009.55
10166440	BW0856	2009.55

### Version 8.12.5.3 updated on 05/22/2019

The Observation & Analysis Division (OAD) recently added 1,500 historical elevations/heights in Louisiana and Mississippi to the NGS database under project 00000729. These marks are in the Gulf Coast dynamic region/subsidence area which extends through parts of Alabama, Florida, Louisiana, Mississippi, and Texas. These historical elevations/heights are not normally displayed on datasheets unless the checkbox *Include suspect heights in vertical motion areas* is checked on the datasheet retrieval web pages. Example PIDs are AU0965, AU1306, and AU2210. The historical elevation/height can be seen in the examples below for each of these PIDs when this checkbox is checked.

```

AU0965                SUPERSEDED SURVEY CONTROL
AU0965
AU0965 NAD 83(2007)- 29 54 34.72186(N)    090 05 03.11162(W) AD(      ) 0
AU0965 ELLIP H (02/10/07) -19.436 (m)      GP(      )
AU0965 NAD 83(1992)- 29 54 34.72202(N)    090 05 03.11162(W) AD(      ) B
AU0965 ELLIP H (05/09/05) -19.429 (m)      GP(      ) 4 2
AU0965 NAD 83(1992)- 29 54 34.72091(N)    090 05 03.11135(W) AD(      ) 2
AU0965 NAD 83(1986)- 29 54 34.73568(N)    090 05 03.11148(W) AD(      ) 2
AU0965 NAD 27      - 29 54 33.99737(N)    090 05 02.85239(W) AD(      ) 2
AU0965 NAVD 88 (05/17/09) 6.476 (m)      21.25 (f) SUPERSEDED 1 2
AU0965 NAVD 88 (01/05/06) 6.49 (m)      GEOID03 model used GP(2004.65)
AU0965 NAVD 88 (05/09/05) 6.62 (m)      USGG200 model used GPS OBS
AU0965 NAVD 88 (12/05/96) 6.663 (m)      21.86 (f) ADJUSTED 1 2
AU0965 NAVD 88 (02/14/94) 6.647 (m)      21.81 (f) SUPERSEDED 1 2
AU0965 NGVD 29      6.87 (m)      22.5 (f) LEVELING 3
AU0965 NGVD 29 (11/26/84) 6.745 (m)      22.13 (f) ADJUSTED 1 2

AU1306                SUPERSEDED SURVEY CONTROL
AU1306
AU1306 NAVD 88 (05/17/09) 0.558 (m)      1.83 (f) SUPERSEDED 2 1
AU1306 NAVD 88 (02/14/94) 0.849 (m)      2.79 (f) ADJUSTED 1 2
AU1306 NGVD 29 (11/26/84) 0.907 (m)      2.98 (f) ADJUSTED 1 2

AU2210                SUPERSEDED SURVEY CONTROL
AU2210
AU2210 NAVD 88 (12/05/96) 0.631 (m)      2.07 (f) ADJUSTED 1 2
AU2210 NAVD 88 (02/14/94) 0.612 (m)      2.01 (f) SUPERSEDED 1 2
AU2210 NGVD 29 (05/21/91) 0.672 (m)      2.20 (f) ADJUSTED 1 2
AU2210 NGVD 29 (??/??/87) 0.736 (m)      2.41 (f) SUPERSEDED 1 2

```

As a result of loading these 1,500 historical elevations/heights into the NGS database, several messages displayed on the datasheets that have a historical elevation/height that is in project 00000729 were modified. An example PID showing these message changes is BK0694; its partial datasheet is shown below with the highlighted changes for the messages in **green**.

```

PROGRAM = datasheet95, VERSION = 8.12.5.3
1      National Geodetic Survey, Retrieval Date = MAY 3, 2019
BK0694 *****
BK0694 DESIGNATION - W 162

```

BK0694 PID - BK0694  
 BK0694 STATE/COUNTY- LA/JEFFERSON DAVIS  
 BK0694 COUNTRY - US  
 BK0694 USGS QUAD - JENNINGS (1993)  
 BK0694  
 BK0694 \*CURRENT SURVEY CONTROL  
 BK0694  
 BK0694\* NAD 83(1986) POSITION- 30 11 49. (N) 092 37 35. (W) SCALED  
 BK0694\* NAVD 88 ORTHO HEIGHT - \*(meters) \*(feet) NOT PUB  
 BK0694 \*\*This station is located in a suspected subsidence area (see below).  
 BK0694  
 BK0694 GEOID HEIGHT - -27.287 (meters) GEOID12B  
 BK0694 DYNAMIC HEIGHT - 4.582 (meters) 15.03 (feet) COMP  
 BK0694 MODELED GRAVITY - 979,306.4 (mgal) NAVD 88  
 BK0694  
 BK0694 VERT ORDER - FIRST CLASS II  
 BK0694  
 BK0694.The horizontal coordinates were scaled from a map and have  
 BK0694.an estimated accuracy of +/- 6 seconds.  
 BK0694.  
 BK0694 \*\* This station is in an area of known vertical motion. If an  
 BK0694 \*\* orthometric height was ever established but is not available  
 BK0694 \*\* in the current survey control section, the orthometric height  
 BK0694 \*\* is considered suspect. Suspect heights are available in the  
 BK0694 \*\* superseded section only if requested.  
 BK0694  
 BK0694.The 2009 superseded orthometric height was determined using a crustal movement  
 BK0694.model based on published report NOAA Technical Report NOS/NGS 50  
 BK0694.https://www.ngs.noaa.gov/heightmod/NOAANOSNGSTR50.pdf and  
 BK0694.adjusted by the NATIONAL GEODETIC SURVEY in May 2009  
 BK0694.in a special adjustment to evaluate GNSS-derived orthometric heights  
 BK0694  
 BK0694.WARNING-Repeat measurements at this control monument indicate possible  
 BK0694.vertical movement.  
 BK0694  
 BK0694.Significant digits in the geoid height do not necessarily reflect accuracy.  
 BK0694.GEOID12B height accuracy estimate available here.  
 BK0694  
 BK0694.The dynamic height is computed by dividing the NAVD 88  
 BK0694.geopotential number by the normal gravity value computed on the  
 BK0694.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45  
 BK0694.degrees latitude (g = 980.6199 gals.).  
 BK0694  
 BK0694.The modeled gravity was interpolated from observed gravity values.  
 BK0694  
 BK0694;  
 BK0694;SPC LA S - North East Units Estimated Accuracy  
 BK0694; 188,800. 875,500. MT (+/- 180 meters Scaled)  
 BK0694  
 BK0694\_U.S. NATIONAL GRID SPATIAL ADDRESS: 15RWP359406(NAD 83)  
 BK0694  
 BK0694 SUPERSEDED SURVEY CONTROL  
 BK0694  
 BK0694 NAVD 88 (05/17/09) 4.210 (m) 13.81 (f) SUPERSEDED 1 2  
 BK0694 NAVD 88 (02/14/94) 4.588 (m) 15.05 (f) ADJUSTED 1 2  
 BK0694 NAVD 88 (06/15/91) 4.587 (m) 15.05 (f) SUPERSEDED 1 2  
 BK0694 NGVD 29 (11/26/84) 4.547 (m) 14.92 (f) ADJUSTED 1 2  
 BK0694  
 BK0694.Superseded values are not recommended for survey control.

...

TV1516 \*\*\*\*\*  
 TV1516 DESIGNATION - BQN C  
 TV1516 PID - TV1516  
 TV1516 STATE/COUNTY- PR/AGUADILLA  
 TV1516 COUNTRY - US  
 TV1516 USGS QUAD - MOCA (1964)  
 TV1516  
 TV1516 \*CURRENT SURVEY CONTROL  
 TV1516  
 TV1516\* NAD 83(2011) POSITION- 18 29 53.33863(N) 067 07 15.36607(W) NO CHECK

```

TV1516* NAD 83(2011) ELLIP HT- 18.154 (meters) (06/27/12) NO CHECK
TV1516* NAD 83(2011) EPOCH - 2010.00
TV1516* LMSL ORTHO HEIGHT - 62.9 (meters) 206. (feet) GPS OBS
TV1516
TV1516 LMSL orthometric height was determined with geoid model GEOID96
TV1516 GEOID HEIGHT - -46.479 (meters) GEOID96
TV1516 GEOID HEIGHT - -44.864 (meters) GEOID18
TV1516 NAD 83(2011) X - 2,352,419.909 (meters) COMP
TV1516 NAD 83(2011) Y - -5,574,639.411 (meters) COMP
TV1516 NAD 83(2011) Z - 2,010,753.737 (meters) COMP
TV1516 LAPLACE CORR - 2.38 (seconds) DEFLEC18
TV1516
TV1516 Network accuracy estimates per FGDC Geospatial Positioning Accuracy
TV1516 Standards:
TV1516 FGDC (95% conf, cm) Standard deviation (cm) CorrNE
TV1516 Horiz Ellip SD_N SD_E SD_h (unitless)
TV1516 -----
TV1516 NETWORK 1.77 6.74 0.64 0.79 3.44 0.14744717
TV1516 -----
TV1516 Click here for local accuracies and other accuracy information.
TV1516
TV1516
TV1516.The horizontal coordinates were established by GPS observations
TV1516.and adjusted by the National Geodetic Survey in June 2012.
TV1516
TV1516.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has
TV1516.been affixed to the stable North American tectonic plate. See
TV1516.NA2011 for more information.
TV1516
TV1516.The horizontal coordinates are valid at the epoch date displayed above
TV1516.which is a decimal equivalence of Year/Month/Day.
TV1516
TV1516.No horizontal observational check was made to the station.
TV1516.
TV1516.The orthometric height was determined by GPS observations and a
TV1516.high-resolution geoid model.
TV1516
TV1516.Significant digits in the geoid height do not necessarily reflect accuracy.
TV1516.GEOID18 height accuracy estimate available here.

```

...

## Version 8.12.5.2 updated on 11/01/2018

In this version of datasheet95 V8.12.5.2, two issues have been corrected.

**Issue #1:** Marks whose best position had a weak position quality (i.e. POSITION.POS\_QUALITY='W') were flagged as unpublishable and would not display a datasheet. Now, these marks display a datasheet if they are not flagged as unpublishable for other reasons (i.e. lack of descriptive text, etc.). If they are unpublishable for other reasons, then the datasheet reason codes are displayed. As a result of this change, the following marks now generate datasheets:

```

BH2805
BJ1303
BJ1337
BJ1519
BJ1550
BJ1931
CO0892
DB1521
DW0998
EB3056
EC1323

```



EC1328  
EC1341  
EC1377  
EC1418  
EG0595  
FA1981  
FA2011  
FA2032  
FA2172  
FA2839  
FA2850  
FD1000  
GC2313  
GW1322  
GZ1493  
HT3454  
JD0047  
JD2086  
KD1261  
KE1342  
LW5588  
PE0221  
PP2995  
PQ0663  
QP0438  
QP1096  
QP1243  
SW1078  
SW1547  
TH0194  
TO0484  
TP0019  
TP0023  
TP0074  
TP0156  
TP0201  
TR0824  
TV0742  
TV1488  
TV1490

Issue #2: Marks that were presumed destroyed (i.e. HISTORY.COND='Z') now display the message:

\*\*\* NOTE - The station below is presumed destroyed.

Example PIDs are:

JA1410  
JA1433  
SB0953  
KD0865

Prior to this they said:

\*\*\* NOTE - The station below is destroyed.

Marks that are actually destroyed (HISTORY.COND='X' or 'Y') still display the message:

\*\*\* NOTE - The station below is destroyed.

Example PIDs are:

TB0830

BJ1338  
BJ1521  
BJ3774  
HV1673  
DC1999  
TP0912

The definitions of these condition codes mentioned here are:

- X - Surface mark reported destroyed
- Y - Surface and underground mark reported destroyed
- Z - Presumed destroyed

### Version 8.12.5.1 updated on 10/03/2018

In this version of datasheet95 V8.12.5.1, five issues have been corrected. This version of datasheet95 was updated in coordination with the get\_mark\_list V2.28.5 program, the program which displays the listing of marks on the datasheet retrieval pages.

**Issue #1:** Puerto Rican datasheets that formerly had a blank USGS QUADS field are no longer blank. An example PID is AB9749.

```
1      National Geodetic Survey,  Retrieval Date = SEPTEMBER 21, 2018
AB9749 *****
AB9749 SACS - This is a Secondary Airport Control Station.
AB9749 DESIGNATION - PSE F
AB9749 PID - AB9749
AB9749 STATE/COUNTY- PR/PONCE
AB9749 COUNTRY - US
AB9749 USGS QUAD - PONCE (1982)
```

**Issue #2:** No datasheet will be produced for control points/marks that are L1 Phase Centers. They will instead produce a datasheet reason code of 'L' both horizontally and vertically as shown below for PIDs AA9859, AE1860, CQ5983, and DM2003

Elapsed Time = 00:00:09  
Msg=FATAL\_ERROR - No Marks found

```
-----
- This listing contains control for which complete digital -
- data sheets where not provided. The complete data sheets were -
- not provided for the reason listed below. The reason below is -
- associated with a horizontal control Nonpub code shown under -
- the heading 'H' and/or a vertical control Nonpub code shown under -
- the heading 'v' -
- -
- The format of the records are as follows: -
- Pid = Station Permanent Identifier) -
- Name = Station Designation -
- Lat = Approx. Latitude (Degrees, Minutes, truncated Seconds) -
- Lon = Approx. Longitude (Degrees, Minutes, truncated Seconds) -
- O = Horizontal Order -
- o = Vertical Order -
- H = Horizontal Nonpub Code -
- v = Vertical Nonpub Code -
- -
- H Nonpub HORIZONTAL CONTROL NONPUB REASON -
- ----- -
- B Station is a RBN antenna -
```

```

-      C      Not a publishable datum within the state      -
-      D      No descriptive text available                  -
-      I      No NAD83 coordinates available, only IGS08 coordinates -
-      L      CORS L1 Phase Center is not publishable      -
-      N      No geodetic control                          -
-      O      Outside NGS publication area                  -
-      P      Purpose of position is not for network control -
-      R      Restricted position                          -
-      T      Station is a temporary point/bench mark     -
-      V      Station is a VOR antenna                     -
-      W      Weakly determined position                   -
-      X      Surface mark reported destroyed              -
-      Y      Surface and underground mark reported destroyed -
-
-      v Nonpub VERTICAL CONTROL NONPUB REASON            -
-      -----
-      C      Not a publishable datum within the state      -
-      D      No descriptive text available                  -
-      F      Bench mark not yet adjusted                  -
-      N      No geodetic control                          -
-      L      CORS L1 Phase Center is not publishable      -
-      O      Outside NGS publication area                  -
-      R      Restricted elevation                          -
-      S      Mark is in a subsidence area                  -
-      T      Station is a temporary point/bench mark     -
-      X      Surface mark reported destroyed              -
-      Y      Surface and underground mark reported destroyed -
-      Z      Presumed destroyed                            -
-
-      NOTE - Stations found in this listing may still have a valid
-             datasheet produced by use of other publishable values.
-             For example, an ADJUSTED height may be non-publishable
-             but a good GPS height might be found on the datasheet.
-
-             If a mark/control point is in a subsidence area, you can request
-             to see suspect heights in the SUPERSEDED SURVEY CONTROL section
-             of its datasheet by checking the 'Include suspect heights in
-             subsidence area' checkbox on the datasheet retrieval pages.
-
-----
Pid      Name                                     Lat      Lon      Elev      O o Hv
-----
>AA9859 NORTHEAST 2250 CORS L1 PHS CT 29 47 28. /095 20 03.  LL
>AE1860 LUTZ L 1 PHASE CENTER          37 17 12. /121 51 54.  LL
>CQ5983 ANNETTE ISLAND 2 CORS L1 PHAS 55 04 07. /131 35 57.  LL
>DM2003 NORTHWESTERN S.U. CORS L1 PHA 31 45 02. /093 05 51.  LL

```

**Issue #3:** Prior to this version of the get\_mark\_list V2.28.5 program, user would see a destroyed mark only if its horizontal order and vertical order were not null/blank. This rule has been eliminated. Users should now see all destroyed marks regardless of their horizontal/vertical order. Example PIDs: DC2000, HV1673, KB0434, JA0689, JA1410, and JD2350. Previously, 4 of the 6 PIDs (DC2000, HV1673, KB0434, and JD2350) in this example would appear in the get\_mark\_list.w output while JA0689 and JA1410 did not.

### Steps:

- (1) Go to [https://test.nosngs.noaa/cgi-bin/ds\\_pid.prl](https://test.nosngs.noaa/cgi-bin/ds_pid.prl), enter

```

DC2000
HV1673
KB0434
JA0689
JA1410
JD2350

```

into the PID box, check the Include Destroyed Marks checkbox, and press the [Submit] button. You should see the following output (6 records in total and no less) in the get\_mark\_list output:

```
|Dist|PID...|Set.|Set_By|H V|Vert_Source|Latitude.....|Longitude.....|Stab|C|Designation
|----|-----|----|-----| - |-----|-----|-----|----|-----|
|....|DC2000|UNK.|.....|3 .|.....|N324404.22319|W1163439.54188|....|Y|LOS PINOS FOREST
SERV LOOKOUT
|....|HV1673|1946|CGS...|. 2|88/ADJUSTED|N384957.02...|W0770224.62...|C...|Y|BOUNDARY WITNESS
MK 12 DC VA
|....|KB0434|1959|CGS...|. 2|88/ADJUSTED|N391026.77...|W0882149.29...|C...|X|KINGERY RM 1
|....|JA0689|UNK.|BORR...|. .|.....|N384002.....|W0864738.....|B...|X|Z 10 RESET
|....|JA1410|UNK.|.....|. .|.....|N384003.....|W0864728.....|....|Z|GAGE BM
|....|JD2350|1934|CGS...|. 2|88/ADJUSTED|N381022.....|W0931859.....|....|Z|J 35
```

**Issue #4:** Prior to the update of the get\_mark\_list V2.28.5 program, the user would see “SORRY - No Station Found” for non-destroyed marks if a mark’s horizontal order and vertical order were both null/blank. Example PIDs (all TBMs): JA0534, KA0024, LB1018, RD0191. This rule on horizontal/vertical order is no longer in place. Users will now see these previously curtailed marks in the list of marks.

*Note: these marks will not have publishable datasheets because they are temporary benchmarks (TBMs). They will instead show the datasheet reason code of T both horizontally and vertically.*

### Steps:

- (1) Go to [https://test.nosngs.noaa/cgi-bin/ds\\_pid.prl](https://test.nosngs.noaa/cgi-bin/ds_pid.prl), enter

```
JA0534
KA0024
LB1018
RD0191
```

into the PID box, and press the [Submit] button.

You should see the following output (must show all 4 records) in the get\_mark\_list output:

```
|Dist|PID...|Set.|Set_By|H V|Vert_Source|Latitude.....|Longitude.....|Stab|C|Designation
|----|-----|----|-----| - |-----|-----|-----|----|-----|
|....|JA0534|UNK.|USGS...|. .|.....|N382006.....|W0863723.....|B...|G|TBM 617.2 U
|....|KA0024|UNK.|CGS...|. u|29/ADJ UNCH|N394001.....|W0861050.....|B...|G|TBM 351
|....|LB1018|UNK.|DOD...|. 3|29/RESET...|N404006.....|W0863750.....|B...|G|TBM 236 B
|....|RD0191|UNK.|CGS...|. u|29/ADJ UNCH|N451214.....|W1220906.....|D...|N|TBM 1 W
```

- (2) On the next page, press the [Select All] button, followed by the [Get Datasheets] button. You should see the following output (with special emphasis on the highlighted text in green):

### 1.3 The NGS Data Sheet - PRODUCTION

1.3.1.1.1 See file [dsdata.pdf](#) for more information about the datasheet.

WARNING: This is the PRODUCTION site and the data displayed below may not be accurate and current.

WARNING: Use only for testing.

DATABASE = ngstest.NGSIDB, PROGRAM = datasheet95, VERSION = 8.12.5.1

\*\*\* retrieval complete.

Elapsed Time = 00:00:05

Msg=FATAL\_ERROR - No Marks found

```
-----
- This listing contains control for which complete digital -
- data sheets were not provided. The complete data sheets were -
- not provided for the reason listed below. The reason below is -
- associated with a horizontal control Nonpub code shown under -
- the heading 'H' and/or a vertical control Nonpub code shown under -
- the heading 'v' -
- -
- The format of the records are as follows: -
- Pid = Station Permanent Identifier) -
- Name = Station Designation -
- Lat = Approx. Latitude (Degrees, Minutes, truncated Seconds) -
- Lon = Approx. Longitude (Degrees, Minutes, truncated Seconds) -
- O = Horizontal Order -
- o = Vertical Order -
- H = Horizontal Nonpub Code -
- v = Vertical Nonpub Code -
- -
- H Nonpub HORIZONTAL CONTROL NONPUB REASON -
- ----- -
- B Station is a RBN antenna -
- C Not a publishable datum within the state -
- D No descriptive text available -
- I No NAD83 coordinates available, only IGS08 coordinates -
- L CORS L1 Phase Center is not publishable -
- N No geodetic control -
- O Outside NGS publication area -
- P Purpose of position is not for network control -
- R Restricted position -
- T Station is a temporary point/bench mark -
- V Station is a VOR antenna -
- W Weakly determined position -
- X Surface mark reported destroyed -
- Y Surface and underground mark reported destroyed -
- -
- v Nonpub VERTICAL CONTROL NONPUB REASON -
- ----- -
- C Not a publishable datum within the state -
- D No descriptive text available -
- F Bench mark not yet adjusted -
- N No geodetic control -
- L CORS L1 Phase Center is not publishable -
- O Outside NGS publication area -
- R Restricted elevation -
- S Mark is in a subsidence area -
- T Station is a temporary point/bench mark -
- X Surface mark reported destroyed -
- Y Surface and underground mark reported destroyed -
- Z Presumed destroyed -
- -
- NOTE - Stations found in this listing may still have a valid -
- datasheet produced by use of other publishable values. -
- For example, an ADJUSTED height may be non-publishable -
- but a good GPS height might be found on the datasheet. -
- -
- If a mark/control point is in a subsidence area, you can request -
- to see suspect heights in the SUPERSEDED SURVEY CONTROL section -
- of its datasheet by checking the 'Include suspect heights in -
- subsidence area' checkbox on the datasheet retrieval pages. -
-----
```

Pid	Name	Lat	Lon	Elev	O	o	Hv
>JA0534	TBM 617.2 U	38 20 06.	/086 37 23.				TT
>KA0024	TBM 351	39 40 01.	/086 10 50.				TT
>LB1018	TBM 236 B	40 40 06.	/086 37 50.				TT
>RD0191	TBM 1 W	45 12 14.	/122 09 06.				TT

**Issue #5:** No CORS can be set by or recovered by anyone other than the CORS team/members. However, CORS that were “recovered” using the NGS Recovery page at [http://ngs-vsu-io.ngs.noaa.gov/cgi-bin/recvy\\_entry\\_www.prl](http://ngs-vsu-io.ngs.noaa.gov/cgi-bin/recvy_entry_www.prl) would end up displaying a Set (Date) that was a “recovered” date and also a Set\_By (Agency) of the agency that “recovered” the mark/control point. With this latest get\_mark\_list V2.28.5 program, any mark/control point that is a CORS will no longer display a “recovery” date or the agency it was “recovered” by in the output.

### Steps:

- (1) Go to [https://test.nosngs.noaa/cgi-bin/ds\\_pid.prl](https://test.nosngs.noaa/cgi-bin/ds_pid.prl), enter

```
AF9513
AF9536
AF9579
AF9594
AM7017
AW5607
DE8088
DF6318
DG6513
DI2224
```

into the PID box, and press the *[Submit]* button.

You should see the following output in the get\_mark\_list output:

```
|Dist|PID...|Set.|Set_By|H V|Vert_Source|Latitude.....|Longitude.....|Stab|C|Designation
|----|-----|----|-----| - -|-----|-----|-----|----| -|-----
|...|AF9513|.....|.....|0 .|.....|N341805.40400|W1080708.09562|D...|G|PIETOWN CORS
MONUMENT
|...|AF9536|.....|.....|0 k|88/GPS OBS.|N324532.49950|W0970336.99046|...|G|ARLINGTON RRP
CORS ARP
|...|AF9579|.....|.....|0 k|88/GPS OBS.|N340638.34519|W0941723.60553|...|G|DEQUEEN 1 CORS
ARP
|...|AF9594|.....|.....|0 .|.....|N344150.59984|W0764059.22274|...|G|FORT MACON 1
CORS ARP
|...|AM7017|.....|.....|0 1|88/ADJUSTED|N424025.95225|W0843947.88445|B...|G|LANSING CORS ARP
|...|AW5607|.....|.....|0 k|88/GPS OBS.|N294645.89203|W0952558.74040|...|G|HOUSTON RRP CORS
L1 PHASE CENTER
|...|DE8088|.....|.....|A k|88/GPS OBS.|N414743.92516|W0875139.57042|...|G|KARA CO COOP
CORS ARP
|...|DF6318|.....|.....|0 k|88/GPS OBS.|N350721.25422|W0805458.46768|...|G|I77 WELCOME CNTR
CORS ARP
|...|DG6513|.....|.....|0 k|88/GPS OBS.|N332930.46340|W1115521.44778|...|G|CNTR FOR ARTS
CORS ARP
|...|DI2224|.....|.....|0 2|88/ADJUSTED|N344237.12915|W0873945.73609|D...|G|ALDOT 2 DIV OFF
CORS ARP
```

Prior to this, the user would have seen the below output:

```
|Dist|PID...|Set.|Set_By|H V|Vert_Source|Latitude.....|Longitude.....|Stab|C|Designation
|----|-----|----|-----| - -|-----|-----|-----|----| -|-----
```

```

|...|AF9513|1992|JPL...|0 .|.....|N341805.40400|W1080708.09562|D...|G|PIETOWN CORS
MONUMENT
|...|AF9536|2006|GEOCAC|0 k|88/GPS OBS.|N324532.49950|W0970336.99046|...|G|ARLINGTON RRP
CORS ARP
|...|AF9579|2007|PB...|0 k|88/GPS OBS.|N340638.34519|W0941723.60553|...|G|DEQUEEN 1 CORS
ARP
|...|AF9594|2004|USPSQD|0 .|.....|N344150.59984|W0764059.22274|...|G|FORT MACON 1
CORS ARP
|...|AM7017|2005|GEOCAC|0 1|88/ADJUSTED|N424025.95225|W0843947.88445|B...|G|LANSING CORS ARP
|...|AW5607|1996|TXDOT...|0 k|88/GPS OBS.|N294645.89203|W0952558.74040|...|G|HOUSTON RRP CORS
L1 PHASE CENTER
|...|DE8088|2006|GEOCAC|A k|88/GPS OBS.|N414743.92516|W0875139.57042|...|G|KARA CO COOP
CORS ARP
|...|DF6318|2005|USPSQD|0 k|88/GPS OBS.|N350721.25422|W0805458.46768|...|G|I77 WELCOME CNTR
CORS ARP
|...|DG6513|2007|USPSQD|0 k|88/GPS OBS.|N332930.46340|W1115521.44778|...|G|CNTR FOR ARTS
CORS ARP
|...|DI2224|2006|LOCENG|0 2|88/ADJUSTED|N344237.12915|W0873945.73609|D...|G|ALDOT 2 DIV OFF
CORS ARP

```

## Version 8.12.5 updated on 06/05/2018

In this version of datasheet95 V8.12.5, the algorithm for how we select the best height was updated to accommodate changes in how NGS is receiving/processing the data. There were 69 US states/territories and 1,560,625 marks examined. Of these, 4,129 marks were identified as potentially displaying a different best height on their datasheets. In actuality, only 150 of these 4,129 marks actually changed their best height on their datasheet. Below is a table showing the breakdown by state of the potential and actual marks affected by this algorithm change.

**Table 1**  
**Marks in the US States/Territories Affected By The New Best Height Algorithm**

STATE	STATE_NAME	DATUM	Total # of Marks in State	Potentially Affected by new Best Height Algorithm	Actually Affected by new Best Height Algorithm	% Affected
AK	ALASKA	88	59,377	0	0	0.0000%
AL	ALABAMA	88	28,718	62	3	0.0104%
AR	ARKANSAS	88	27,447	0	0	0.0000%
AS	AMERICAN SAMOA	AS	537	0	0	0.0000%
AZ	ARIZONA	88	37,880	36	2	0.0053%
BQ	NAVASSA ISLAND	LT	14	0	0	0.0000%
CA	CALIFORNIA	88	147,813	48	4	0.0027%
CO	COLORADO	88	26,466	2	0	0.0000%
CQ	PROVINCE OF NORTHERN MARIANA ISLANDS	NM	370	53	1	0.2703%
CT	CONNECTICUT	88	12,981	0	0	0.0000%
DC	DISTRICT OF COLUMBIA	88	1,834	0	0	0.0000%
DE	DELAWARE	88	3,330	2	0	0.0000%
FL	FLORIDA	88	79,604	1,663	24	0.0301%
FQ	KINGMAN REEF	N/A	0	0	0	0.0000%
GA	GEORGIA	88	39,310	1	1	0.0025%
GU	GUAM	GU	606	1	0	0.0000%

HI	HAWAII	LT	6,374	0	0	0.0000%
HQ	HOWLAND ISLAND	N/A	0	0	0	0.0000%
IA	IOWA	88	13,648	0	0	0.0000%
ID	IDAHO	88	29,144	1	0	0.0000%
IL	ILLINOIS	88	27,835	9	1	0.0036%
IN	INDIANA	88	22,774	3	0	0.0000%
IQ	JARVIS ISLAND	N/A	0	0	0	0.0000%
JQ	JOHNSTON ATOLL	LT	81	0	0	0.0000%
KQ	BAKER ISLAND	N/A	0	0	0	0.0000%
KS	KANSAS	88	23,256	0	0	0.0000%
KY	KENTUCKY	88	25,547	12	0	0.0000%
LA	LOUISIANA	88	38,993	270	8	0.0205%
LQ	PALMYRA ATOLL	N/A	0	0	0	0.0000%
MA	MASSACHUSETTS	88	12,503	0	0	0.0000%
MD	MARYLAND	88	23,184	4	0	0.0000%
ME	MAINE	88	21,357	0	0	0.0000%
MI	MICHIGAN	88	24,036	39	2	0.0083%
MN	MINNESOTA	88	59,791	661	35	0.0585%
MO	MISSOURI	88	24,976	20	0	0.0000%
MQ	MIDWAY ISLANDS	LT	112	0	0	0.0000%
MS	MISSISSIPPI	88	24,283	208	10	0.0412%
MT	MONTANA	88	36,169	5	0	0.0000%
NC	NORTH CAROLINA	88	56,767	107	23	0.0405%
ND	NORTH DAKOTA	88	26,306	0	0	0.0000%
NE	NEBRASKA	88	21,413	2	0	0.0000%
NH	NEW HAMPSHIRE	88	3,539	0	0	0.0000%
NJ	NEW JERSEY	88	13,448	6	0	0.0000%
NM	NEW MEXICO	88	28,733	0	0	0.0000%
NV	NEVADA	88	27,513	1	0	0.0000%
NY	NEW YORK	88	46,467	1	0	0.0000%
OH	OHIO	88	25,261	1	0	0.0000%
OK	OKLAHOMA	88	15,905	0	0	0.0000%
OR	OREGON	88	40,617	0	0	0.0000%
PA	PENNSYLVANIA	88	28,925	0	0	0.0000%
PR	PUERTO RICO	LT	2,659	0	0	0.0000%
RI	RHODE ISLAND	88	3,852	0	0	0.0000%
SC	SOUTH CAROLINA	88	28,398	144	4	0.0141%
SD	SOUTH DAKOTA	88	24,124	0	0	0.0000%
TN	TENNESSEE	88	23,957	36	0	0.0000%
TX	TEXAS	88	95,311	575	32	0.0336%
UM	MINOR OUTLYING ISLANDS	N/A	0	0	0	0.0000%
UT	UTAH	88	17,699	2	0	0.0000%
VA	VIRGINIA	88	40,549	23	0	0.0000%



VQ	US VIRGIN ISLANDS	88	626	0	0	0.0000%
VT	VERMONT	88	5,799	9	0	0.0000%
WA	WASHINGTON	88	45,620	25	0	0.0000%
WI	WISCONSIN	88	23,349	97	0	0.0000%
WQ	WAKE ISLAND	LT	41	0	0	0.0000%
WV	WEST VIRGINIA	88	16,242	0	0	0.0000%
WY	WYOMING	88	17,155	0	0	0.0000%
	TOTALS		1,560,625	4,129	150	0.0096%

Table 2 shows the list of the States and PIDs that *actually* are affected.

**Table 2**  
**Affected States & PIDs**

State	PID
AL	AB3306, AB3310, BH1561
AZ	GP0178, GQ0054
CQ	DG3982
FL	AB5487, AF0476, AF7410, AJ6629, AJ6643, AJ6647, AJ6687, AJ6689, AL7872, AL7876, AL8027, AQ0346, AQ2646, BG1750, BG3613, BG3614, BG3640, DF6708, DF6717, DI7517, DI7519, DI7607, DI7623, DI9228
GA	AI8598
IL	MF1778
LA	AU3276, AU3543, AU3544, BJ0001, BJ0052, BJ0196, BJ1400, BW0055
MI	DI6132, NE0983
MN	AB2420, AB9908, AB9930, AB9936, AB9943, AB9948, AB9949, AB9982, AB9997, AC4901, AC4993, AE6896, AJ4402, AJ8924, DE6518, DH9102, DK6315, DM4991, DO7885, DO8117, DP5780, DP5915, DP5919, DP5937, DP5940, DP5945, ON0922, OO0510, PP0679, QP1712, RO0886, RO0981, RO1226, TD0965, WA0165
MS	BH2532, BH2999, BV0475, BV0984, BV1123, BV1335, BV1717, BV1824, BW1978, CO1081
NC	AJ5600, AJ5602, DG4388, DG4391, DG5682, DG5723, DG8921, DL3991, DL9706, DL9707, DL9708, DL9709, DL9710, DN8741, FA2477, FA2478, FA2594, FA4518, FA4520, FA4523, FA4542, FA4613, FA4790
SC	AE2748, AI7195, CK4309, DE7966

The “ORTHO HEIGHT –“ lines for these 150 datasheets in the new release for datasheet95 V8.12.5 show:

```

AB2420* NAVD 88 ORTHO HEIGHT - 382.87 (meters) 1256.1 (feet) GPS OBS
AB3206* NAVD 88 ORTHO HEIGHT - 159.92 (meters) 524.7 (feet) GPS OBS
AB3306* NAVD 88 ORTHO HEIGHT - ** (meters) ** (feet) NOT PUB
AB3310* NAVD 88 ORTHO HEIGHT - ** (meters) ** (feet) NOT PUB
AB5487* NAVD 88 ORTHO HEIGHT - 21.51 (meters) 70.6 (feet) GPS OBS
AB9908* NAVD 88 ORTHO HEIGHT - 343.43 (meters) 1126.7 (feet) GPS OBS
AB9930* NAVD 88 ORTHO HEIGHT - 358.34 (meters) 1175.7 (feet) GPS OBS
AB9936* NAVD 88 ORTHO HEIGHT - 346.81 (meters) 1137.8 (feet) GPS OBS
AB9943* NAVD 88 ORTHO HEIGHT - 240.73 (meters) 789.8 (feet) GPS OBS
AB9948* NAVD 88 ORTHO HEIGHT - 323.05 (meters) 1059.9 (feet) GPS OBS
AB9949* NAVD 88 ORTHO HEIGHT - 343.68 (meters) 1127.6 (feet) GPS OBS
AB9982* NAVD 88 ORTHO HEIGHT - 417.65 (meters) 1370.2 (feet) GPS OBS
AB9997* NAVD 88 ORTHO HEIGHT - 395.65 (meters) 1298.1 (feet) GPS OBS
AC4901* NAVD 88 ORTHO HEIGHT - 325.61 (meters) 1068.3 (feet) GPS OBS
AC4993* NAVD 88 ORTHO HEIGHT - 193.00 (meters) 633.2 (feet) GPS OBS

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AC5706*	NAVD	88	ORTHO	HEIGHT	-	161.34	(meters)	529.3	(feet)	GPS	OBS
AC5707*	NAVD	88	ORTHO	HEIGHT	-	159.18	(meters)	522.2	(feet)	GPS	OBS
AE2748*	NAVD	88	ORTHO	HEIGHT	-	4.55	(meters)	14.9	(feet)	GPS	OBS
AE6896*	NAVD	88	ORTHO	HEIGHT	-	277.71	(meters)	911.1	(feet)	GPS	OBS
AF0476*	NAVD	88	ORTHO	HEIGHT	-	38.88	(meters)	127.6	(feet)	GPS	OBS
AF7410*	NAVD	88	ORTHO	HEIGHT	-	17.48	(meters)	57.3	(feet)	GPS	OBS
AI7195*	NAVD	88	ORTHO	HEIGHT	-	2.49	(meters)	8.2	(feet)	GPS	OBS
AI8598*	NAVD	88	ORTHO	HEIGHT	-	2.84	(meters)	9.3	(feet)	GPS	OBS
AJ4402*	NAVD	88	ORTHO	HEIGHT	-	349.70	(meters)	1147.3	(feet)	GPS	OBS
AJ5600*	NAVD	88	ORTHO	HEIGHT	-	497.25	(meters)	1631.4	(feet)	GPS	OBS
AJ5602*	NAVD	88	ORTHO	HEIGHT	-	487.73	(meters)	1600.2	(feet)	GPS	OBS
AJ6629*	NAVD	88	ORTHO	HEIGHT	-	18.60	(meters)	61.0	(feet)	GPS	OBS
AJ6643*	NAVD	88	ORTHO	HEIGHT	-	17.18	(meters)	56.4	(feet)	GPS	OBS
AJ6647*	NAVD	88	ORTHO	HEIGHT	-	16.50	(meters)	54.1	(feet)	GPS	OBS
AJ6687*	NAVD	88	ORTHO	HEIGHT	-	16.49	(meters)	54.1	(feet)	GPS	OBS
AJ6689*	NAVD	88	ORTHO	HEIGHT	-	15.97	(meters)	52.4	(feet)	GPS	OBS
AJ8924*	NAVD	88	ORTHO	HEIGHT	-	343.69	(meters)	1127.6	(feet)	GPS	OBS
AL7872*	NAVD	88	ORTHO	HEIGHT	-	12.07	(meters)	39.6	(feet)	GPS	OBS
AL7876*	NAVD	88	ORTHO	HEIGHT	-	24.65	(meters)	80.9	(feet)	GPS	OBS
AL8027*	NAVD	88	ORTHO	HEIGHT	-	25.74	(meters)	84.4	(feet)	GPS	OBS
AQ0346*	NAVD	88	ORTHO	HEIGHT	-	3.01	(meters)	9.9	(feet)	GPS	OBS
AQ2646*	NAVD	88	ORTHO	HEIGHT	-	20.74	(meters)	68.0	(feet)	GPS	OBS
AU3276*	NAVD	88	ORTHO	HEIGHT	-	**	(meters)	**	(feet)	NOT	PUB
AU3543*	NAVD	88	ORTHO	HEIGHT	-	**	(meters)	**	(feet)	NOT	PUB
AU3544*	NAVD	88	ORTHO	HEIGHT	-	**	(meters)	**	(feet)	NOT	PUB
AW0215*	NAVD	88	ORTHO	HEIGHT	-	14.49	(meters)	47.5	(feet)	GPS	OBS
AW0222*	NAVD	88	ORTHO	HEIGHT	-	17.18	(meters)	56.4	(feet)	GPS	OBS
AW0332*	NAVD	88	ORTHO	HEIGHT	-	15.76	(meters)	51.7	(feet)	GPS	OBS
AW5568*	NAVD	88	ORTHO	HEIGHT	-	21.95	(meters)	72.0	(feet)	GPS	OBS
AW5609*	NAVD	88	ORTHO	HEIGHT	-	14.01	(meters)	46.0	(feet)	GPS	OBS
AW5634*	NAVD	88	ORTHO	HEIGHT	-	21.41	(meters)	70.2	(feet)	GPS	OBS
BG1750*	NAVD	88	ORTHO	HEIGHT	-	**	(meters)	**	(feet)	NOT	PUB
BG3613*	NAVD	88	ORTHO	HEIGHT	-	**	(meters)	**	(feet)	NOT	PUB
BG3614*	NAVD	88	ORTHO	HEIGHT	-	**	(meters)	**	(feet)	NOT	PUB
BG3640*	NAVD	88	ORTHO	HEIGHT	-	**	(meters)	**	(feet)	NOT	PUB
BH1561*	NAVD	88	ORTHO	HEIGHT	-	**	(meters)	**	(feet)	NOT	PUB
BH2532*	NAVD	88	ORTHO	HEIGHT	-	**	(meters)	**	(feet)	NOT	PUB
BH2999*	NAVD	88	ORTHO	HEIGHT	-	**	(meters)	**	(feet)	NOT	PUB
BJ0001*	NAVD	88	ORTHO	HEIGHT	-	15.84	(meters)	52.0	(feet)	GPS	OBS
BJ0052*	NAVD	88	ORTHO	HEIGHT	-	10.65	(meters)	34.9	(feet)	GPS	OBS
BJ0196*	NAVD	88	ORTHO	HEIGHT	-	11.54	(meters)	37.9	(feet)	GPS	OBS
BJ1400*	NAVD	88	ORTHO	HEIGHT	-	**	(meters)	**	(feet)	NOT	PUB
BV0475*	NAVD	88	ORTHO	HEIGHT	-	**	(meters)	**	(feet)	NOT	PUB
BV0984*	NAVD	88	ORTHO	HEIGHT	-	**	(meters)	**	(feet)	NOT	PUB
BV1123*	NAVD	88	ORTHO	HEIGHT	-	**	(meters)	**	(feet)	NOT	PUB
BV1335*	NAVD	88	ORTHO	HEIGHT	-	**	(meters)	**	(feet)	NOT	PUB
BV1717*	NAVD	88	ORTHO	HEIGHT	-	**	(meters)	**	(feet)	NOT	PUB
BV1824*	NAVD	88	ORTHO	HEIGHT	-	**	(meters)	**	(feet)	NOT	PUB
BW0055*	NAVD	88	ORTHO	HEIGHT	-	14.32	(meters)	47.0	(feet)	GPS	OBS
BW1978*	NAVD	88	ORTHO	HEIGHT	-	**	(meters)	**	(feet)	NOT	PUB
CK4309*	NAVD	88	ORTHO	HEIGHT	-	12.83	(meters)	42.1	(feet)	GPS	OBS
CO1081*	NAVD	88	ORTHO	HEIGHT	-	**	(meters)	**	(feet)	NOT	PUB
DE6518*	NAVD	88	ORTHO	HEIGHT	-	357.70	(meters)	1173.6	(feet)	GPS	OBS
DE7966*	NAVD	88	ORTHO	HEIGHT	-	236.12	(meters)	774.7	(feet)	GPS	OBS
DF6708*	NAVD	88	ORTHO	HEIGHT	-	23.50	(meters)	77.1	(feet)	GPS	OBS
DF6717*	NAVD	88	ORTHO	HEIGHT	-	15.69	(meters)	51.5	(feet)	GPS	OBS
DG3982*	NMVD03		ORTHO	HEIGHT	-	65.65	(meters)	215.4	(feet)	GPS	OBS
DG4388*	NAVD	88	ORTHO	HEIGHT	-	644.74	(meters)	2115.3	(feet)	GPS	OBS
DG4391*	NAVD	88	ORTHO	HEIGHT	-	665.88	(meters)	2184.6	(feet)	GPS	OBS
DG5682*	NAVD	88	ORTHO	HEIGHT	-	210.51	(meters)	690.6	(feet)	GPS	OBS
DG5723*	NAVD	88	ORTHO	HEIGHT	-	254.94	(meters)	836.4	(feet)	GPS	OBS
DG8921*	NAVD	88	ORTHO	HEIGHT	-	1.78	(meters)	5.8	(feet)	GPS	OBS
DH9102*	NAVD	88	ORTHO	HEIGHT	-	342.45	(meters)	1123.5	(feet)	GPS	OBS

DI6132*	NAVD	88	ORTHO	HEIGHT	-	185.46	(meters)	608.5	(feet)	GPS	OBS
DI7517*	NAVD	88	ORTHO	HEIGHT	-	1.52	(meters)	5.0	(feet)	GPS	OBS
DI7519*	NAVD	88	ORTHO	HEIGHT	-	28.94	(meters)	94.9	(feet)	GPS	OBS
DI7607*	NAVD	88	ORTHO	HEIGHT	-	25.36	(meters)	83.2	(feet)	GPS	OBS
DI7623*	NAVD	88	ORTHO	HEIGHT	-	12.56	(meters)	41.2	(feet)	GPS	OBS
DI9228*	NAVD	88	ORTHO	HEIGHT	-	6.68	(meters)	21.9	(feet)	GPS	OBS
DK6315*	NAVD	88	ORTHO	HEIGHT	-	302.92	(meters)	993.8	(feet)	GPS	OBS
DL3991*	NAVD	88	ORTHO	HEIGHT	-	50.24	(meters)	164.8	(feet)	GPS	OBS
DL9706*	NAVD	88	ORTHO	HEIGHT	-	482.86	(meters)	1584.2	(feet)	GPS	OBS
DL9707*	NAVD	88	ORTHO	HEIGHT	-	508.94	(meters)	1669.7	(feet)	GPS	OBS
DL9708*	NAVD	88	ORTHO	HEIGHT	-	522.72	(meters)	1715.0	(feet)	GPS	OBS
DL9709*	NAVD	88	ORTHO	HEIGHT	-	495.93	(meters)	1627.1	(feet)	GPS	OBS
DL9710*	NAVD	88	ORTHO	HEIGHT	-	478.20	(meters)	1568.9	(feet)	GPS	OBS
DM4991*	NAVD	88	ORTHO	HEIGHT	-	304.08	(meters)	997.6	(feet)	GPS	OBS
DN7645*	NAVD	88	ORTHO	HEIGHT	-	177.95	(meters)	583.8	(feet)	GPS	OBS
DN7652*	NAVD	88	ORTHO	HEIGHT	-	1.22	(meters)	4.0	(feet)	GPS	OBS
DN7654*	NAVD	88	ORTHO	HEIGHT	-	177.36	(meters)	581.9	(feet)	GPS	OBS
DN7656*	NAVD	88	ORTHO	HEIGHT	-	134.35	(meters)	440.8	(feet)	GPS	OBS
DN7657*	NAVD	88	ORTHO	HEIGHT	-	113.36	(meters)	371.9	(feet)	GPS	OBS
DN7676*	NAVD	88	ORTHO	HEIGHT	-	107.62	(meters)	353.1	(feet)	GPS	OBS
DN7683*	NAVD	88	ORTHO	HEIGHT	-	129.10	(meters)	423.6	(feet)	GPS	OBS
DN7702*	NAVD	88	ORTHO	HEIGHT	-	114.26	(meters)	374.9	(feet)	GPS	OBS
DN7710*	NAVD	88	ORTHO	HEIGHT	-	134.90	(meters)	442.6	(feet)	GPS	OBS
DN7723*	NAVD	88	ORTHO	HEIGHT	-	153.35	(meters)	503.1	(feet)	GPS	OBS
DN7724*	NAVD	88	ORTHO	HEIGHT	-	135.38	(meters)	444.2	(feet)	GPS	OBS
DN7748*	NAVD	88	ORTHO	HEIGHT	-	123.02	(meters)	403.6	(feet)	GPS	OBS
DN7755*	NAVD	88	ORTHO	HEIGHT	-	124.25	(meters)	407.6	(feet)	GPS	OBS
DN7761*	NAVD	88	ORTHO	HEIGHT	-	166.79	(meters)	547.2	(feet)	GPS	OBS
DN7771*	NAVD	88	ORTHO	HEIGHT	-	113.78	(meters)	373.3	(feet)	GPS	OBS
DN7772*	NAVD	88	ORTHO	HEIGHT	-	105.31	(meters)	345.5	(feet)	GPS	OBS
DN7778*	NAVD	88	ORTHO	HEIGHT	-	126.22	(meters)	414.1	(feet)	GPS	OBS
DN7780*	NAVD	88	ORTHO	HEIGHT	-	89.88	(meters)	294.9	(feet)	GPS	OBS
DN7793*	NAVD	88	ORTHO	HEIGHT	-	143.34	(meters)	470.3	(feet)	GPS	OBS
DN7814*	NAVD	88	ORTHO	HEIGHT	-	135.06	(meters)	443.1	(feet)	GPS	OBS
DN7820*	NAVD	88	ORTHO	HEIGHT	-	155.99	(meters)	511.8	(feet)	GPS	OBS
DN7821*	NAVD	88	ORTHO	HEIGHT	-	129.86	(meters)	426.0	(feet)	GPS	OBS
DN7827*	NAVD	88	ORTHO	HEIGHT	-	162.66	(meters)	533.7	(feet)	GPS	OBS
DN8741*	NAVD	88	ORTHO	HEIGHT	-	14.18	(meters)	46.5	(feet)	GPS	OBS
DO7885*	NAVD	88	ORTHO	HEIGHT	-	230.79	(meters)	757.2	(feet)	GPS	OBS
DO8117*	NAVD	88	ORTHO	HEIGHT	-	333.58	(meters)	1094.4	(feet)	GPS	OBS
DP5780*	NAVD	88	ORTHO	HEIGHT	-	389.98	(meters)	1279.5	(feet)	GPS	OBS
DP5915*	NAVD	88	ORTHO	HEIGHT	-	387.02	(meters)	1269.7	(feet)	GPS	OBS
DP5919*	NAVD	88	ORTHO	HEIGHT	-	399.70	(meters)	1311.3	(feet)	GPS	OBS
DP5937*	NAVD	88	ORTHO	HEIGHT	-	377.86	(meters)	1239.7	(feet)	GPS	OBS
DP5940*	NAVD	88	ORTHO	HEIGHT	-	398.30	(meters)	1306.8	(feet)	GPS	OBS
DP5945*	NAVD	88	ORTHO	HEIGHT	-	398.62	(meters)	1307.8	(feet)	GPS	OBS
FA2477*	NAVD	88	ORTHO	HEIGHT	-	175.98	(meters)	577.4	(feet)	GPS	OBS
FA2478*	NAVD	88	ORTHO	HEIGHT	-	175.00	(meters)	574.1	(feet)	GPS	OBS
FA2594*	NAVD	88	ORTHO	HEIGHT	-	210.85	(meters)	691.8	(feet)	GPS	OBS
FA4518*	NAVD	88	ORTHO	HEIGHT	-	237.09	(meters)	777.9	(feet)	GPS	OBS
FA4520*	NAVD	88	ORTHO	HEIGHT	-	237.81	(meters)	780.2	(feet)	GPS	OBS
FA4523*	NAVD	88	ORTHO	HEIGHT	-	248.38	(meters)	814.9	(feet)	GPS	OBS
FA4542*	NAVD	88	ORTHO	HEIGHT	-	217.77	(meters)	714.5	(feet)	GPS	OBS
FA4613*	NAVD	88	ORTHO	HEIGHT	-	234.87	(meters)	770.6	(feet)	GPS	OBS
FA4790*	NAVD	88	ORTHO	HEIGHT	-	293.06	(meters)	961.5	(feet)	GPS	OBS
GP0178*	NAVD	88	ORTHO	HEIGHT	-	2201.33	(meters)	7222.2	(feet)	GPS	OBS
GQ0054*	NAVD	88	ORTHO	HEIGHT	-	2092.06	(meters)	6863.7	(feet)	GPS	OBS
MF1778*	NAVD	88	ORTHO	HEIGHT	-	241.87	(meters)	793.5	(feet)	GPS	OBS
NE0983*	NAVD	88	ORTHO	HEIGHT	-	232.79	(meters)	763.7	(feet)	GPS	OBS
ON0922*	NAVD	88	ORTHO	HEIGHT	-	373.34	(meters)	1224.9	(feet)	GPS	OBS
OO0510*	NAVD	88	ORTHO	HEIGHT	-	386.18	(meters)	1267.0	(feet)	GPS	OBS
PP0679*	NAVD	88	ORTHO	HEIGHT	-	311.60	(meters)	1022.3	(feet)	GPS	OBS
QP1712*	NAVD	88	ORTHO	HEIGHT	-	322.73	(meters)	1058.8	(feet)	GPS	OBS

RO0886*	NAVD	88	ORTHO HEIGHT	-	407.50	(meters)	1336.9	(feet)	GPS OBS
RO0981*	NAVD	88	ORTHO HEIGHT	-	413.12	(meters)	1355.4	(feet)	GPS OBS
RO1226*	NAVD	88	ORTHO HEIGHT	-	425.69	(meters)	1396.6	(feet)	GPS OBS
TD0965*	NAVD	88	ORTHO HEIGHT	-	315.67	(meters)	1035.7	(feet)	GPS OBS
WA0165*	NAVD	88	ORTHO HEIGHT	-	242.29	(meters)	794.9	(feet)	GPS OBS

The “ORTHO HEIGHT –“ lines for these 150 datasheets in the prior release (datasheet95 V8.12.4.1) showed:

AB2420*	NAVD	88	ORTHO HEIGHT	-	382.801	(meters)	1255.91	(feet)	ADJUSTED
AB3206*	NAVD	88	ORTHO HEIGHT	-	159.927	(meters)	524.69	(feet)	ADJUSTED
AB3306*	NAVD	88	ORTHO HEIGHT	-	3.283	(meters)	10.77	(feet)	ADJUSTED
AB3310*	NAVD	88	ORTHO HEIGHT	-	3.306	(meters)	10.85	(feet)	ADJUSTED
AB5487*	NAVD	88	ORTHO HEIGHT	-	21.499	(meters)	70.53	(feet)	ADJUSTED
AB9908*	NAVD	88	ORTHO HEIGHT	-	343.413	(meters)	1126.68	(feet)	ADJUSTED
AB9930*	NAVD	88	ORTHO HEIGHT	-	358.321	(meters)	1175.59	(feet)	ADJUSTED
AB9936*	NAVD	88	ORTHO HEIGHT	-	346.798	(meters)	1137.79	(feet)	ADJUSTED
AB9943*	NAVD	88	ORTHO HEIGHT	-	240.737	(meters)	789.82	(feet)	ADJUSTED
AB9948*	NAVD	88	ORTHO HEIGHT	-	323.005	(meters)	1059.73	(feet)	ADJUSTED
AB9949*	NAVD	88	ORTHO HEIGHT	-	343.635	(meters)	1127.41	(feet)	ADJUSTED
AB9982*	NAVD	88	ORTHO HEIGHT	-	417.646	(meters)	1370.23	(feet)	ADJUSTED
AB9997*	NAVD	88	ORTHO HEIGHT	-	395.653	(meters)	1298.07	(feet)	ADJUSTED
AC4901*	NAVD	88	ORTHO HEIGHT	-	325.610	(meters)	1068.27	(feet)	ADJUSTED
AC4993*	NAVD	88	ORTHO HEIGHT	-	192.958	(meters)	633.06	(feet)	ADJUSTED
AC5706*	NAVD	88	ORTHO HEIGHT	-	161.347	(meters)	529.35	(feet)	ADJUSTED
AC5707*	NAVD	88	ORTHO HEIGHT	-	159.190	(meters)	522.28	(feet)	ADJUSTED
AE2748*	NAVD	88	ORTHO HEIGHT	-	4.529	(meters)	14.86	(feet)	ADJUSTED
AE6896*	NAVD	88	ORTHO HEIGHT	-	277.717	(meters)	911.14	(feet)	ADJUSTED
AF0476*	NAVD	88	ORTHO HEIGHT	-	38.915	(meters)	127.67	(feet)	ADJUSTED
AF7410*	NAVD	88	ORTHO HEIGHT	-	17.478	(meters)	57.34	(feet)	ADJUSTED
AI7195*	NAVD	88	ORTHO HEIGHT	-	2.513	(meters)	8.24	(feet)	ADJUSTED
AI8598*	NAVD	88	ORTHO HEIGHT	-	2.822	(meters)	9.26	(feet)	ADJUSTED
AJ4402*	NAVD	88	ORTHO HEIGHT	-	349.698	(meters)	1147.30	(feet)	ADJUSTED
AJ5600*	NAVD	88	ORTHO HEIGHT	-	497.244	(meters)	1631.37	(feet)	ADJUSTED
AJ5602*	NAVD	88	ORTHO HEIGHT	-	487.719	(meters)	1600.12	(feet)	ADJUSTED
AJ6629*	NAVD	88	ORTHO HEIGHT	-	18.600	(meters)	61.02	(feet)	ADJUSTED
AJ6643*	NAVD	88	ORTHO HEIGHT	-	17.180	(meters)	56.36	(feet)	ADJUSTED
AJ6647*	NAVD	88	ORTHO HEIGHT	-	16.504	(meters)	54.15	(feet)	ADJUSTED
AJ6687*	NAVD	88	ORTHO HEIGHT	-	16.474	(meters)	54.05	(feet)	ADJUSTED
AJ6689*	NAVD	88	ORTHO HEIGHT	-	15.949	(meters)	52.33	(feet)	ADJUSTED
AJ8924*	NAVD	88	ORTHO HEIGHT	-	343.684	(meters)	1127.57	(feet)	ADJUSTED
AL7872*	NAVD	88	ORTHO HEIGHT	-	12.054	(meters)	39.55	(feet)	ADJUSTED
AL7876*	NAVD	88	ORTHO HEIGHT	-	24.619	(meters)	80.77	(feet)	ADJUSTED
AL8027*	NAVD	88	ORTHO HEIGHT	-	25.703	(meters)	84.33	(feet)	ADJUSTED
AQ0346*	NAVD	88	ORTHO HEIGHT	-	3.069	(meters)	10.07	(feet)	ADJUSTED
AQ2646*	NAVD	88	ORTHO HEIGHT	-	20.741	(meters)	68.05	(feet)	ADJUSTED
AU3276*	NAVD	88	ORTHO HEIGHT	-	1.821	(meters)	5.97	(feet)	ADJUSTED
AU3543*	NAVD	88	ORTHO HEIGHT	-	1.289	(meters)	4.23	(feet)	ADJUSTED
AU3544*	NAVD	88	ORTHO HEIGHT	-	1.422	(meters)	4.67	(feet)	ADJUSTED
AW0215*	NAVD	88	ORTHO HEIGHT	-	14.526	(meters)	47.66	(feet)	ADJUSTED
AW0222*	NAVD	88	ORTHO HEIGHT	-	17.163	(meters)	56.31	(feet)	ADJUSTED
AW0332*	NAVD	88	ORTHO HEIGHT	-	15.776	(meters)	51.76	(feet)	ADJUSTED
AW5568*	NAVD	88	ORTHO HEIGHT	-	21.956	(meters)	72.03	(feet)	ADJUSTED
AW5609*	NAVD	88	ORTHO HEIGHT	-	14.018	(meters)	45.99	(feet)	ADJUSTED
AW5634*	NAVD	88	ORTHO HEIGHT	-	21.461	(meters)	70.41	(feet)	ADJUSTED
BG1750*	NAVD	88	ORTHO HEIGHT	-	28.262	(meters)	92.72	(feet)	ADJUSTED
BG3613*	NAVD	88	ORTHO HEIGHT	-	3.359	(meters)	11.02	(feet)	ADJUSTED
BG3614*	NAVD	88	ORTHO HEIGHT	-	3.348	(meters)	10.98	(feet)	ADJUSTED
BG3640*	NAVD	88	ORTHO HEIGHT	-	3.519	(meters)	11.55	(feet)	ADJUSTED
BH1561*	NAVD	88	ORTHO HEIGHT	-	45.597	(meters)	149.60	(feet)	ADJUSTED
BH2532*	NAVD	88	ORTHO HEIGHT	-	97.742	(meters)	320.68	(feet)	ADJUSTED
BH2999*	NAVD	88	ORTHO HEIGHT	-	4.777	(meters)	15.67	(feet)	ADJUSTED

BJ0001*	NAVD	88	ORTHO	HEIGHT	-	15.80	(meters)	51.8	(feet)	GPS	OBS
BJ0052*	NAVD	88	ORTHO	HEIGHT	-	10.55	(meters)	34.6	(feet)	GPS	OBS
BJ0196*	NAVD	88	ORTHO	HEIGHT	-	11.42	(meters)	37.5	(feet)	GPS	OBS
BJ1400*	NAVD	88	ORTHO	HEIGHT	-	2.824	(meters)	9.27	(feet)	ADJUSTED	
BV0475*	NAVD	88	ORTHO	HEIGHT	-	74.592	(meters)	244.72	(feet)	ADJUSTED	
BV0984*	NAVD	88	ORTHO	HEIGHT	-	89.325	(meters)	293.06	(feet)	ADJUSTED	
BV1123*	NAVD	88	ORTHO	HEIGHT	-	58.117	(meters)	190.67	(feet)	ADJUSTED	
BV1335*	NAVD	88	ORTHO	HEIGHT	-	28.222	(meters)	92.59	(feet)	ADJUSTED	
BV1717*	NAVD	88	ORTHO	HEIGHT	-	146.053	(meters)	479.18	(feet)	ADJUSTED	
BV1824*	NAVD	88	ORTHO	HEIGHT	-	50.808	(meters)	166.69	(feet)	ADJUSTED	
BW0055*	NAVD	88	ORTHO	HEIGHT	-	14.28	(meters)	46.9	(feet)	GPS	OBS
BW1978*	NAVD	88	ORTHO	HEIGHT	-	86.159	(meters)	282.67	(feet)	ADJUSTED	
CK4309*	NAVD	88	ORTHO	HEIGHT	-	12.830	(meters)	42.09	(feet)	ADJUSTED	
CO1081*	NAVD	88	ORTHO	HEIGHT	-	82.812	(meters)	271.69	(feet)	ADJUSTED	
DE6518*	NAVD	88	ORTHO	HEIGHT	-	357.712	(meters)	1173.59	(feet)	ADJUSTED	
DE7966*	NAVD	88	ORTHO	HEIGHT	-	236.040	(meters)	774.41	(feet)	ADJUSTED	
DF6708*	NAVD	88	ORTHO	HEIGHT	-	23.528	(meters)	77.19	(feet)	ADJUSTED	
DF6717*	NAVD	88	ORTHO	HEIGHT	-	15.681	(meters)	51.45	(feet)	ADJUSTED	
DG3982*	NMVD03		ORTHO	HEIGHT	-	65.677	(meters)	215.48	(feet)	ADJUSTED	
DG4388*	NAVD	88	ORTHO	HEIGHT	-	644.755	(meters)	2115.33	(feet)	ADJUSTED	
DG4391*	NAVD	88	ORTHO	HEIGHT	-	665.886	(meters)	2184.66	(feet)	ADJUSTED	
DG5682*	NAVD	88	ORTHO	HEIGHT	-	210.492	(meters)	690.59	(feet)	ADJUSTED	
DG5723*	NAVD	88	ORTHO	HEIGHT	-	254.933	(meters)	836.39	(feet)	ADJUSTED	
DG8921*	NAVD	88	ORTHO	HEIGHT	-	1.779	(meters)	5.84	(feet)	ADJUSTED	
DH9102*	NAVD	88	ORTHO	HEIGHT	-	342.446	(meters)	1123.51	(feet)	ADJUSTED	
DI6132*	NAVD	88	ORTHO	HEIGHT	-	185.457	(meters)	608.45	(feet)	ADJUSTED	
DI7517*	NAVD	88	ORTHO	HEIGHT	-	1.526	(meters)	5.01	(feet)	ADJUSTED	
DI7519*	NAVD	88	ORTHO	HEIGHT	-	28.925	(meters)	94.90	(feet)	ADJUSTED	
DI7607*	NAVD	88	ORTHO	HEIGHT	-	25.389	(meters)	83.30	(feet)	ADJUSTED	
DI7623*	NAVD	88	ORTHO	HEIGHT	-	12.614	(meters)	41.38	(feet)	ADJUSTED	
DI9228*	NAVD	88	ORTHO	HEIGHT	-	6.648	(meters)	21.81	(feet)	ADJUSTED	
DK6315*	NAVD	88	ORTHO	HEIGHT	-	302.935	(meters)	993.88	(feet)	ADJUSTED	
DL3991*	NAVD	88	ORTHO	HEIGHT	-	50.234	(meters)	164.81	(feet)	ADJUSTED	
DL9706*	NAVD	88	ORTHO	HEIGHT	-	482.847	(meters)	1584.14	(feet)	ADJUSTED	
DL9707*	NAVD	88	ORTHO	HEIGHT	-	508.940	(meters)	1669.75	(feet)	ADJUSTED	
DL9708*	NAVD	88	ORTHO	HEIGHT	-	522.721	(meters)	1714.96	(feet)	ADJUSTED	
DL9709*	NAVD	88	ORTHO	HEIGHT	-	495.927	(meters)	1627.05	(feet)	ADJUSTED	
DL9710*	NAVD	88	ORTHO	HEIGHT	-	478.202	(meters)	1568.90	(feet)	ADJUSTED	
DM4991*	NAVD	88	ORTHO	HEIGHT	-	304.067	(meters)	997.59	(feet)	ADJUSTED	
DN7645*	NAVD	88	ORTHO	HEIGHT	-	177.965	(meters)	583.87	(feet)	ADJUSTED	
DN7652*	NAVD	88	ORTHO	HEIGHT	-	1.208	(meters)	3.96	(feet)	ADJUSTED	
DN7654*	NAVD	88	ORTHO	HEIGHT	-	177.372	(meters)	581.93	(feet)	ADJUSTED	
DN7656*	NAVD	88	ORTHO	HEIGHT	-	134.350	(meters)	440.78	(feet)	ADJUSTED	
DN7657*	NAVD	88	ORTHO	HEIGHT	-	113.350	(meters)	371.88	(feet)	ADJUSTED	
DN7676*	NAVD	88	ORTHO	HEIGHT	-	107.620	(meters)	353.08	(feet)	ADJUSTED	
DN7683*	NAVD	88	ORTHO	HEIGHT	-	129.102	(meters)	423.56	(feet)	ADJUSTED	
DN7702*	NAVD	88	ORTHO	HEIGHT	-	114.249	(meters)	374.83	(feet)	ADJUSTED	
DN7710*	NAVD	88	ORTHO	HEIGHT	-	134.892	(meters)	442.56	(feet)	ADJUSTED	
DN7723*	NAVD	88	ORTHO	HEIGHT	-	153.369	(meters)	503.18	(feet)	ADJUSTED	
DN7724*	NAVD	88	ORTHO	HEIGHT	-	135.382	(meters)	444.17	(feet)	ADJUSTED	
DN7748*	NAVD	88	ORTHO	HEIGHT	-	123.028	(meters)	403.63	(feet)	ADJUSTED	
DN7755*	NAVD	88	ORTHO	HEIGHT	-	124.249	(meters)	407.64	(feet)	ADJUSTED	
DN7761*	NAVD	88	ORTHO	HEIGHT	-	166.820	(meters)	547.31	(feet)	ADJUSTED	
DN7771*	NAVD	88	ORTHO	HEIGHT	-	113.785	(meters)	373.31	(feet)	ADJUSTED	
DN7772*	NAVD	88	ORTHO	HEIGHT	-	105.313	(meters)	345.51	(feet)	ADJUSTED	
DN7778*	NAVD	88	ORTHO	HEIGHT	-	126.204	(meters)	414.05	(feet)	ADJUSTED	
DN7780*	NAVD	88	ORTHO	HEIGHT	-	89.855	(meters)	294.80	(feet)	ADJUSTED	
DN7793*	NAVD	88	ORTHO	HEIGHT	-	143.330	(meters)	470.24	(feet)	ADJUSTED	
DN7814*	NAVD	88	ORTHO	HEIGHT	-	135.052	(meters)	443.08	(feet)	ADJUSTED	
DN7820*	NAVD	88	ORTHO	HEIGHT	-	155.977	(meters)	511.73	(feet)	ADJUSTED	
DN7821*	NAVD	88	ORTHO	HEIGHT	-	129.845	(meters)	426.00	(feet)	ADJUSTED	
DN7827*	NAVD	88	ORTHO	HEIGHT	-	162.680	(meters)	533.73	(feet)	ADJUSTED	
DN8741*	NAVD	88	ORTHO	HEIGHT	-	14.182	(meters)	46.53	(feet)	ADJUSTED	

DO7885*	NAVD	88	ORTHO HEIGHT	-	230.806	(meters)	757.24	(feet)	ADJUSTED
DO8117*	NAVD	88	ORTHO HEIGHT	-	333.584	(meters)	1094.43	(feet)	ADJUSTED
DP5780*	NAVD	88	ORTHO HEIGHT	-	389.983	(meters)	1279.47	(feet)	ADJUSTED
DP5915*	NAVD	88	ORTHO HEIGHT	-	387.017	(meters)	1269.74	(feet)	ADJUSTED
DP5919*	NAVD	88	ORTHO HEIGHT	-	399.686	(meters)	1311.30	(feet)	ADJUSTED
DP5937*	NAVD	88	ORTHO HEIGHT	-	377.845	(meters)	1239.65	(feet)	ADJUSTED
DP5940*	NAVD	88	ORTHO HEIGHT	-	398.287	(meters)	1306.71	(feet)	ADJUSTED
DP5945*	NAVD	88	ORTHO HEIGHT	-	398.587	(meters)	1307.70	(feet)	ADJUSTED
FA2477*	NAVD	88	ORTHO HEIGHT	-	175.969	(meters)	577.33	(feet)	ADJUSTED
FA2478*	NAVD	88	ORTHO HEIGHT	-	174.989	(meters)	574.11	(feet)	ADJUSTED
FA2594*	NAVD	88	ORTHO HEIGHT	-	210.851	(meters)	691.77	(feet)	ADJUSTED
FA4518*	NAVD	88	ORTHO HEIGHT	-	237.096	(meters)	777.87	(feet)	ADJUSTED
FA4520*	NAVD	88	ORTHO HEIGHT	-	237.818	(meters)	780.24	(feet)	ADJUSTED
FA4523*	NAVD	88	ORTHO HEIGHT	-	248.387	(meters)	814.92	(feet)	ADJUSTED
FA4542*	NAVD	88	ORTHO HEIGHT	-	217.726	(meters)	714.32	(feet)	ADJUSTED
FA4613*	NAVD	88	ORTHO HEIGHT	-	234.874	(meters)	770.58	(feet)	ADJUSTED
FA4790*	NAVD	88	ORTHO HEIGHT	-	293.092	(meters)	961.59	(feet)	ADJUSTED
GP0178*	NAVD	88	ORTHO HEIGHT	-	2201.253	(meters)	7221.94	(feet)	ADJUSTED
GQ0054*	NAVD	88	ORTHO HEIGHT	-	2091.918	(meters)	6863.23	(feet)	ADJUSTED
MF1778*	NAVD	88	ORTHO HEIGHT	-	241.871	(meters)	793.54	(feet)	ADJUSTED
NE0983*	NAVD	88	ORTHO HEIGHT	-	232.785	(meters)	763.73	(feet)	ADJUSTED
ON0922*	NAVD	88	ORTHO HEIGHT	-	373.335	(meters)	1224.85	(feet)	ADJUSTED
OO0510*	NAVD	88	ORTHO HEIGHT	-	386.098	(meters)	1266.72	(feet)	ADJUSTED
PP0679*	NAVD	88	ORTHO HEIGHT	-	311.641	(meters)	1022.44	(feet)	ADJUSTED
QP1712*	NAVD	88	ORTHO HEIGHT	-	322.701	(meters)	1058.73	(feet)	ADJUSTED
RO0886*	NAVD	88	ORTHO HEIGHT	-	407.493	(meters)	1336.92	(feet)	ADJUSTED
RO0981*	NAVD	88	ORTHO HEIGHT	-	413.149	(meters)	1355.47	(feet)	ADJUSTED
RO1226*	NAVD	88	ORTHO HEIGHT	-	425.696	(meters)	1396.64	(feet)	ADJUSTED
TD0965*	NAVD	88	ORTHO HEIGHT	-	315.644	(meters)	1035.58	(feet)	ADJUSTED
WA0165*	NAVD	88	ORTHO HEIGHT	-	242.292	(meters)	794.92	(feet)	ADJUSTED

### Version 8.12.4.1 updated on 03/12/2018

The datasheet95 V8.12.4.1 was updated to correct an issue with generating the monthly (archived) state-wide datasheets. Duplicate datasheets were appearing in the output.

### Version 8.12.4 updated on 01/25/2018

The datasheet95 V8.12.4 was updated to implement a security patch. Users should not notice any changes.

### Version 8.12.3 updated on 09/12/2017

The Observation & Analysis Division (OAD) in NGS recently added a new elevation technique code of “E” (ELEV\_TECH=’E’) to the NGS database to better describe this method of determining orthometric heights in AK as well as for future projects in other areas. The definition of the new “E” code is “OHT ESTABLISHED BY SUBTRACTING A GEOID\_HT FROM AN ELLIP\_HT”. Data in the NGS database for this new elevation technique did not exist until very recently. In datasheet95 V8.12.2 an elevation with this new type of elevation technique, DM5205, was added to the NGS database. The ORTHOMETRIC HEIGHT line for this mark displayed “N-H COMP”:

DM5205*	<a href="#">NAVD</a>	<a href="#">88</a>	ORTHO HEIGHT	-	48.53	(meters)	159.2	(feet)	N-H COMP
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When it should have displayed h-N COMP. This release of datasheet95 V8.12.3 corrects this to h-N COMP for marks that have an elevation technique of ‘E’, as shown in the example below:

DM5205\* [NAVD 88](#) ORTHO HEIGHT - 48.53 (meters) 159.2 (feet) **h-N COMP**

## Version 8.12.2 updated on 07/19/2017

This release of datasheet95 V8.12.2 applies change requests, CM-268, CM-357, CM-410, and CM-411.

The change requests can be found in JIRA at:

<https://euclid.ngs.noaa.gov/jira/browse/CM-268>

<https://euclid.ngs.noaa.gov/jira/browse/CM-357>

<https://euclid.ngs.noaa.gov/jira/browse/CM-410>

<https://euclid.ngs.noaa.gov/jira/browse/CM-411>

**CM-268:** CORS coordinates (i.e. positions) whose coordinates are held fixed during a major readjustment, are considered to be duplicates of the best position for a mark. Because of this, the coordinates and matching ellipsoid height info are not normally printed in the SUPERSEDED SURVEY CONTROL section of the datasheet. Li Jian Sun of the CORS team had a single special case CORS whose previously held coordinate with matching ellipsoid height was needed on its datasheet for historical purposes. For CORS site TXDA (i.e. PID=DF8984), the SUPERSEDED SURVEY CONTROL section of its datasheet will now display the following lines in the SUPERSEDED SURVEY CONTROL section:

```
DF8984                                SUPERSEDED SURVEY CONTROL
DF8984
DF8984 NAD 83(2011)- 32 47 59.92785(N) 096 40 22.45344(W) AD(2010.00) c
DF8984 ELLIP H (09/??/14) 161.847 (m) GP(2010.00) c c
DF8984 NAD 83(2011)- 32 47 59.92724(N) 096 40 22.45331(W) AD(2010.00) c
DF8984 ELLIP H (08/??/11) 161.889 (m) GP(2010.00) c c
DF8984 NAD 83(CORS)- 32 47 59.92727(N) 096 40 22.45388(W) AD(2002.00) c
DF8984 ELLIP H (11/??/03) 161.907 (m) GP(2002.00) c c
DF8984
DF8984.Superseded values are not recommended for survey control.
DF8984
DF8984.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
DF8984.See file dsdata.pdf to determine how the superseded data were derived.
```

**CM-357:** NGS is about to redo all the vertical in Alaska. Up until this time, NGS has been using the Horizontal GPS (i.e. ELEV\_SOURCE='H' and ELEV\_TECH='G') codes in the NGS database to obtain orthometric heights due to sparse leveling in lieu of a more accurate code. In this release of datasheet95 V8.12.2, the Observation & Analysis Division (OAD) in NGS has added a new elevation technique code of “E” (ELEV\_TECH='E') to the NGS database to better describe this method of determining orthometric heights in AK as well as for future projects in other areas. The definition of the new “E” code is “OHT ESTABLISHED BY SUBTRACTING A GEOID\_HT FROM AN ELLIP\_HT”.

For marks/control points that have this new elevation technique of “E”, the following paragraph will be displayed on the datasheet:

<PID>.The orthometric height was established by subtracting the geoid height <PID>.from an ellipsoid height for the control used in the least squares <PID>.adjustment.

**CM-410:** Some scan\_idb (i.e. in-house only) datasheets were not displaying all the GEOID\_HT info on their datasheets. *This did not affect public datasheets whatsoever!*

If one goes to the internet URL [https://www.ngs.noaa.gov/cgi-bin/ds\\_pid.prl](https://www.ngs.noaa.gov/cgi-bin/ds_pid.prl), puts in DL8768 and DM5173 for the PIDs and presses the [Submit] button, and then on the next page presses the [Select All] button followed by the [Get Datasheets] button, he/she will see public datasheets with the following lines:

```
DL8768 NAVD 88 orthometric height was determined with geoid model GEOID09
DL8768 GEOID HEIGHT - -2.775 (meters) GEOID09
DL8768 GEOID HEIGHT - -2.807 (meters) GEOID12B
DL8768 NAD 83(2011) X - -1,993,055.627 (meters) COMP
DL8768 NAD 83(2011) Y - -725,567.031 (meters) COMP
DL8768 NAD 83(2011) Z - 5,994,982.948 (meters) COMP
DL8768 LAPLACE CORR - -8.19 (seconds) DEFLEC12B

DM5173 NAVD 88 orthometric height was determined with geoid model GEOID09
DM5173 GEOID HEIGHT - -1.423 (meters) GEOID09
DM5173 GEOID HEIGHT - -1.368 (meters) GEOID12B
DM5173 NAD 83(2011) X - -2,119,208.805 (meters) COMP
DM5173 NAD 83(2011) Y - -647,430.493 (meters) COMP
DM5173 NAD 83(2011) Z - 5,960,788.929 (meters) COMP
DM5173 LAPLACE CORR - 7.69 (seconds) DEFLEC12B
```

Prior to this release, if one retrieved a scan\_idb datasheets for these same two marks via the intranet URL [http://ngsweb.ngs.noaa.gov/cgi-bin/scan\\_idb\\_pid.prl](http://ngsweb.ngs.noaa.gov/cgi-bin/scan_idb_pid.prl), one would have seen scan\_idb datasheets with the following lines:

```
DL8768 NAVD 88 orthometric height was determined with an earlier geoid model
DL8768 GEOID HEIGHT - -2.807 (meters) GEOID12B
DL8768 NAD 83(2011) X - -1,993,055.627 (meters) COMP
DL8768 NAD 83(2011) Y - -725,567.031 (meters) COMP
DL8768 NAD 83(2011) Z - 5,994,982.948 (meters) COMP
DL8768 LAPLACE CORR - -8.19 (seconds) DEFLEC12B

DM5173 NAVD 88 orthometric height was determined with an earlier geoid model
DM5173 GEOID HEIGHT - -1.368 (meters) GEOID12B
DM5173 NAD 83(2011) X - -2,119,208.805 (meters) COMP
DM5173 NAD 83(2011) Y - -647,430.493 (meters) COMP
DM5173 NAD 83(2011) Z - 5,960,788.929 (meters) COMP
DM5173 LAPLACE CORR - 7.69 (seconds) DEFLEC12B
```

Notice on the scan\_idb datasheet outputs that they are missing the lines:

```
DL8768 NAVD 88 orthometric height was determined with geoid model GEOID09
DL8768 GEOID HEIGHT - -2.775 (meters) GEOID09

DM5173 NAVD 88 orthometric height was determined with geoid model GEOID09
DM5173 GEOID HEIGHT - -1.423 (meters) GEOID09
```

They shouldn't have been missing these lines. This issue has been fixed with the datasheet95 V8.12.2 program update. If one goes to the intranet URL [http://ngsweb.ngs.noaa.gov/cgi-bin/scan\\_idb\\_pid.prl](http://ngsweb.ngs.noaa.gov/cgi-bin/scan_idb_pid.prl), puts in PIDs DL8768 and DM5173 into the PID box, presses



the [Submit] button, and then on the next page presses the [Select All] button followed by the [Get Datasheets] button, he/she should see scan\_idb datasheets with the following lines:

DL8768	NAVD 88 orthometric height was determined with geoid model				GEOID09
DL8768	GEOID HEIGHT	-	-2.775 (meters)		GEOID09
DL8768	GEOID HEIGHT	-	-2.807 (meters)		GEOID12B
DL8768	NAD 83(2011) X	-	-1,993,055.627 (meters)		COMP
DL8768	NAD 83(2011) Y	-	-725,567.031 (meters)		COMP
DL8768	NAD 83(2011) Z	-	5,994,982.948 (meters)		COMP
DL8768	LAPLACE CORR	-	-8.19 (seconds)		DEFLEC12B
DM5173	NAVD 88 orthometric height was determined with geoid model				GEOID09
DM5173	GEOID HEIGHT	-	-1.423 (meters)		GEOID09
DM5173	GEOID HEIGHT	-	-1.368 (meters)		GEOID12B
DM5173	NAD 83(2011) X	-	-2,119,208.805 (meters)		COMP
DM5173	NAD 83(2011) Y	-	-647,430.493 (meters)		COMP
DM5173	NAD 83(2011) Z	-	5,960,788.929 (meters)		COMP
DM5173	LAPLACE CORR	-	7.69 (seconds)		DEFLEC12B

**CM-411:** Geodesist Vasanthi Kammula added two projects to the list of valid projects in the Gulf Coast dynamic region/subsidence area:

- (1) 00000729/3 with epoch 2009.55.
- (2) 00000729/4 with epoch 2009.55.

Both of these projects are valid in the state of Mississippi (MS).

Below is the list of all the valid projects for the Gulf Coast dynamic region/subsidence area (new records are highlighted in **green**).

Project	Epoch
00000729/1	2009.55
00000729/2	2009.55
<b>00000729/3</b>	<b>2009.55</b>
<b>00000729/4</b>	<b>2009.55</b>
00000730/1	2009.55
00000730/2	2009.55
00000730/3	2009.55
00000730/4	2009.55
00000730/5	2009.55
00000731	2009.55
00000732	2009.55
00000772	2009.55
00000803	2009.55
00000840	2009.55
00000857	2009.55
GPS2021/C	2004.65
GPS2100	2004.65
GPS2212	2004.65
GPS2262	2004.65
GPS2287	2004.65
GPS2307	2004.65
GPS2329	2006.81
GPS2896/B	2009.55
GPS2896/C	2009.55
GPS2995	2009.55
GPS2995/B	2009.55

Additionally, below is a list of the valid project/state combinations within the Gulf Coast dynamic region/subsidence area (new records are highlighted in green).

Subsidence Project	State
00000729/1	AL
00000729/1	FL
00000729/1	LA
00000729/1	MS
00000729/1	TX
00000729/2	AL
00000729/2	MS
00000729/3	MS
00000729/4	MS
00000730/1	AL
00000730/2	AL
00000730/3	AL
00000730/4	AL
00000730/5	AL
00000730/5	MS
00000731	FL
00000732	TX
00000772	MS
00000803	MS
00000840	MS
00000857	FL
GPS2896/B	LA
GPS2896/B	MS
GPS2896/B	AL
GPS2896/C	LA
GPS2896/C	MS
GPS2896/C	AL
GPS2995	LA
GPS2995/B	LA

Finally, below is a list of specific control points that are publishable in the Gulf Coast dynamic region/subsidence area (new records and a new column are highlighted in green).

UID	PID	EPOCH
10484553	BG1724	2009.55
10166440	BW0856	2009.55

The following PIDs are in the two new Gulf Coast dynamic region/subsidence area projects of 00000729/3, and 00000729/4:

AB7977  
BV0683

BV0712  
BV0736  
BV1243  
BV1947  
DQ4508  
DQ4509  
DQ4510  
DQ4511  
DQ4512  
DQ4513  
DQ5128  
DQ5129  
DQ5130  
DQ5131  
DQ5132  
DQ5133  
DQ5134  
DQ5135  
DQ5136  
DQ5137  
DQ5138

All 23 of these PIDs/marks generate datasheets with publishable [ortho] heights and have an EPOCH of 2009.55

There are two additional PIDs that are publishable in the Gulf Coast dynamic region/subsidence area that are not in these two newly added projects. These PIDs are:

BG1724  
BW0856

These exception PIDs should display a datasheet with a publishable ORTHO HEIGHT and have an EPOCH of 2009.55.

Some marks in the Gulf Coast dynamic region/subsidence area that were also part of the NSRS2007 readjustment, displayed datasheets where the superseded NSRS2007 position's epoch did not match the corresponding superseded ellip\_ht's epoch. This can be seen in the example datasheet snippet for BK1020.

```
BK1020                                SUPERSEDED SURVEY CONTROL  
BK1020  
BK1020 NAD 83(2007) - 30 20 58.87746(N) 092 43 24.59536(W) AD(2002.00) A  
BK1020 ELLIP H (03/12/08) -15.646 (m) GP(2006.81) 3 1
```

This was happening because of the algorithm for the superseded positions in a dynamic region/subsidence area. Prior to this release of datasheet95 V8.12.2, the epoch on a superseded position on the datasheet displayed is 2002.00 instead of the epoch value (e.g. 2006.81) from the POS\_CM (crustal motion) table if:

- (1) the dtm\_tag was "NAD 83(2007)"
- (2) the state was not in (AK, AZ, CA, NV, OR, WA)

The updated algorithm now takes into account that the mark is in a dynamic region/subsidence area. Thus, the epoch on a superseded position on the datasheet displayed is 2002.00 instead of the epoch value from the POS\_CM (crustal motion) table if:

- (1) the dtm\_tag is NAD 83(2007)
- (2) *the mark is not in a dynamic region/subsidence area*
- (3) the state is not in (AK, AZ, CA, NV, OR, WA)

This can be seen on the updated example datasheet (i.e. datasheet95 V 8.12.2) snippet for BK1020 below.

```
BK1020 SUPERSEDED SURVEY CONTROL
BK1020
BK1020 NAD 83(2007) - 30 20 58.87746(N) 092 43 24.59536(W) AD(2006.81) A
BK1020 ELLIP H (03/12/08) -15.646 (m) GP(2006.81) 3 1
```

### Version 8.12.1 update on 03/29/2017

This release of datasheet95 V8.12.1 applies change request, CM384. This change request applies only to internal NGS only (scan\_idb) datasheets, and not datasheets for the public/external users. There was a flag that was not turned off during the release of datasheet95 V8.12 for this internal version. This caused the message:

```
<PID> ** No published orthometric height exists and therefore all are
<PID> ** considered suspect. This station did not take part in a recent
<PID> ** survey which established orthometric heights in the area. Therefore,
<PID> ** any previously published orthometric heights have not been validated.
<PID> ** NGS does not recommend using suspect or superseded heights as control
<PID> ** unless they can be validated or a new height established.
<PID> ** If this station were to take part in a new project and submitted
<PID> ** to NGS a new height could be published.
```

to be displayed on some datasheets when it shouldn't. In the message above, <PID> represents a PID value such as AI6623, AC6803, JV1374, etc. In this minor release, the flag has been turned off and this message will no longer appear on internal NGS only (scan\_idb) datasheets.

### Version 8.12 update on 03/06/2017

This release of datasheet95 V8.12 applies two change requests, CM-311, and CM-325, two tasks, TM-2624 and TM-2645, and one software request, IMSRQ-520.

**CM-311 - Suspect heights in American Samoa:** Make sure that these American Samoa PIDs display the following warning message whenever the *Include suspect heights* checkbox is checked on the various datasheet web retrieval pages and that the paragraph below also appears on American Samoa datasheets if a datasheet is generated.

Steps:

- (1) Go to the datasheet web page [https://www.ngs.noaa.gov/cgi-bin/ds\\_county\\_prl](https://www.ngs.noaa.gov/cgi-bin/ds_county_prl)

- (2) Select AMERICAN SAMOA from the *Pick a State*: drop down list box and press the [Get County List] button.
- (3) On the next screen, select AS | 010 | EASTERN (DISTRICT) from the *Pick a County* drop down list box, check the [Include suspect heights](#) in vertical motion areas checkbox, leave all other defaults on the screen, and press the [Submit] button. You should see the Warning message below.

### Warning ×

I have chosen to include suspect heights in my query as defined by NGS which currently includes parts of TX, LA, MS, AL, FL, and American Samoa. I understand that these marks are located in areas of known or suspected significant local vertical motion due to subsidence, uplift, or displacement caused by earthquakes. I also understand that in dynamic areas such as these, NGS warns against using suspect or superseded heights as control.

**I understand the risk**

**CANCEL MY REQUEST**

- (4) Continuing on... press the [I understand the risk] button. A list of datasheets for the county selected will be displayed. Press the [Select All] button to select all of the marks from the listing and then press the [Get Datasheets] button.
- (5) You should see the exact paragraphs on each AS datasheet (if a datasheet is produced).

```
<PID> ** The published heights of stations in this area may have changed
<PID> ** by more than 10 cm due to earthquakes.  NGS strongly warns
<PID> ** against the use of such suspect heights as control.
```

and

```
<PID> ** No published orthometric height exists and therefore all are
<PID> ** considered suspect. This station did not take part in a recent
<PID> ** survey which established orthometric heights in the area.  Therefore,
<PID> ** any previously published orthometric heights have not been validated.
<PID> ** NGS does not recommend using suspect or superseded heights as control
<PID> ** unless they can be validated or a new height established.
<PID> ** If this station were to take part in a new project and submitted
<PID> ** to NGS a new height could be published.
```

**CM-312 - update DSData.txt file with new DSData file:** On the datasheets any links to text with dsdata.txt on them have been replaced with dsdata.pdf.

**IMSRQ-520 - datasheet95 contains wrong web link, Geoid 12B as opposed to EGM08:**  
Datasheets that use the EGM08 GEOID vs GEOID12B should not have the following text with hyperlink on the datasheet any longer:

<PID>.EGM08 height accuracy estimate available [here](#).

Steps:

- (1) Go to [https://www.ngs.noaa.gov/cgi-bin/ds\\_pid.prl](https://www.ngs.noaa.gov/cgi-bin/ds_pid.prl) and put the following PIDs into the PID List:

AA4435  
AA4436  
DQ2174

and then press the [Submit] button. These PIDs use the geoid model, EGM08.

- (2) On the next screen, press the [Select All] button, and then press the [Get Datasheets] button.
- (3) When the datasheets display, in your browser, search for “EGM08 height accuracy estimate available”. You should not be able to find it.

**TM-2624 - wrong SPCS code for HONOLULU TIDE GAU CORS ARP:** Make sure that the primary SPC line does not display on datasheets for Hawaiian datasheets in Honolulu county that have a longitude > W1600000.

Steps:

- (1) Go to [https://www.ngs.noaa.gov/cgi-bin/ds\\_pid.prl](https://www.ngs.noaa.gov/cgi-bin/ds_pid.prl) and put the following PIDs into the PID List:

```
DE5195
DE5202
DE5228
DE5231
DE5246
DE5247
DE5248
DE5249
```

and then press the [Submit] button.

- (2) On the next screen, press the [Select All] button, and then press the [Get Datasheets] button.
- (3) When the datasheets display, in your browser, search for “North East”.

The datasheets should look like this (where no primary SPC line is displayed directly under the DE5228; North East Units Scale Factor Converg. line).

```
DE5228;
DE5228;UTM 03 - 2,768,189.132 197,290.902 MT 1.00073179 -1 16 05.9
DE5228;UTM 02 - 2,768,194.093 802,933.088 MT 1.00073347 +1 16 09.3
DE5228
DE5228!
DE5228!SPC HI 5 - Elev Factor x Scale Factor = Combined Factor
DE5228!UTM 03 - 0.99998814 x 1.00073179 = 1.00071992
DE5228!UTM 02 - 0.99998814 x 1.00073347 = 1.00072160
```

Previously, it looked like this:

```
DE5228;
DE5228;SPC HI 5 - 392,034.498 -292,265.891 MT 1.00775802 -3 19 38.0
DE5228;UTM 03 - 2,768,189.132 197,290.902 MT 1.00073179 -1 16 05.9
DE5228;UTM 02 - 2,768,194.093 802,933.088 MT 1.00073347 +1 16 09.3
DE5228
DE5228!
DE5228!SPC HI 5 - Elev Factor x Scale Factor = Combined Factor
DE5228!UTM 03 - 0.99998814 x 1.00073179 = 1.00071992
DE5228!UTM 02 - 0.99998814 x 1.00073347 = 1.00072160
```



**TM-2645 fix state/county codes for remote Hawaiian marks:** Make sure that the scan\_idb datasheets (i.e. in-house only NGS datasheets, not publicly publishable) for PIDs DE5211, DE5212, DE5213, and DE5229 show that they are in county 007. Also make sure that the scan\_idb\_datasheets for PIDs CQ9890, CQ9936, and TW0160 show that they are in the state of MQ and county 010.

Steps:

- (1) Go to [https://ngsweb.ngs.noaa.gov/cgi-bin/scan\\_idb\\_pid.prl](https://ngsweb.ngs.noaa.gov/cgi-bin/scan_idb_pid.prl) and put the following PIDs into the PID List:

```
CQ9890
CQ9936
DE5211
DE5212
DE5213
DE5229
TW0160
```

and then press the [Submit] button.

- (2) On the next screen, press the [Select All] button, and then press the [Get Datasheets] button.
- (3) When the datasheets display, in your browser, search for “STATE/COUNTY- ” on each datasheet. You should see the following lines.

```
CQ9890 STATE/COUNTY- MQ/MIDWAY
CQ9936 STATE/COUNTY- MQ/MIDWAY
DE5211 STATE/COUNTY- HI/KAUAI
DE5212 STATE/COUNTY- HI/KAUAI
DE5213 STATE/COUNTY- HI/KAUAI
DE5229 STATE/COUNTY- HI/KAUAI
TW0160 STATE/COUNTY- MQ/MIDWAY
```

The get\_mark\_list program was also updated in conjunction with datasheet95 V2.28. The release of get\_mark\_list V2.28 incorporates two change requests (CRs): CM-312, and CM-365.

**CM-312 Set (Date) and Set By Field in get\_mark\_list have missing data:** The Set (Date) and Set\_By (Agency) fields in the output of the get\_mark\_list.w program are not fully being populated properly, but mostly properly. An example of a mark with this issue can be seen with PID JU2358. In the get\_mark\_list output it showed no Set (Date) nor Set\_By (Agency) data, yet in-house NGS datasheet (i.e. scan\_idb) for JU2358 showed that it was monumented in 1934 by CGS.

In get\_mark\_list.w V2.27 the code tells us that:

If the condition code is 'S' for original setting then grab the Set (Date) and Set\_By (Agency) from the history record with the condition code of 'S'.

However, datasheet95.w V8.11 tells us to:

Sort the history records by recovery date. If the earliest history record has a monumentation code that is not a digit then it is the 'MONUMENTED' or the record with the original setting.

It was found that the condition code should have nothing to do with whether it was monumented or not as the earliest record *is* the original setting. The NGSIDB.HISTORY table was checked for JU2358's NUID, there was only one history record that said that the condition code was 'Z' not 'S' but that it was monumented in 1934 by CGS.

NUID	DESIGNATION	PID	SET_CLASS	MONUMENT	STABILITY	MAGNETIC_MK	STATE	COUNTY	NUID_1	REPORT_DATE	REPORT_ID	LOAD_ID	COND	AGENCY	COP	SAT_USE	TRANSPOR	PACK_TIME	REPORT_TYPE	T_STATUS
1	10315851 L 4 RESET 1934 JU2358		(null)	(null)	(null)	(null)	HJ	009	10315851.1934		689012		0 2	CGS	(null)	(null)	(null)	(null)	S	I

This means that the condition code does not tell us 100% of the time that it was an original setting; rather, the earliest history record does. Thus, in this release get\_mark\_list.w V2.28 was updated to have the same algorithm as datasheet95.w V8.11 does for getting the Set (Date) and Set\_By (Agency) data to populate its Set (Date) and Set\_By (Agency) fields in the output.

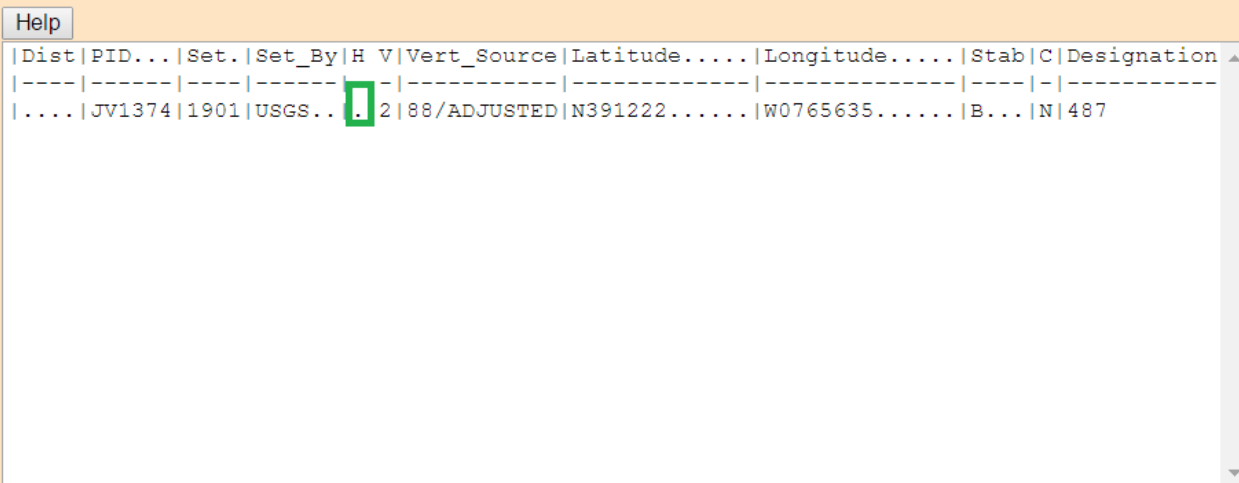
**CM-365 get mark is showing the wrong horizontal order:** The horizontal order (H column) was showing a 3<sup>rd</sup> order in the output of get\_mark\_list when the position was actually scaled off a map. The horizontal order was correct on the datasheet. An example of this issue can be seen when retrieving by PID ([https://www.ngs.noaa.gov/cgi-bin/ds\\_pid.prl](https://www.ngs.noaa.gov/cgi-bin/ds_pid.prl)) with JV1374.

## Station List Results for: PIDs

Dist	PID	Set	Set_By	H	V	Vert_Source	Latitude	Longitude	Stab	C	Designation
...	JV1374	1901	USGS	3	2	88/ADJUSTED	N391222	W0765635	B	N	487

This issue inadvertently cropped up in the last revision of get\_mark\_list V2.27 and is corrected in get\_mark\_list V2.28, as show in the example output below.

## Station List Results for: PIDs



Dist	PID	Set	Set_By	H	V	Vert_Source	Latitude	Longitude	Stab	C	Designation
...	JV1374	1901	USGS	.	2	88/ADJUSTED	N391222	W0765635	B	N	487

### Version 8.11 update on 11/06/2016

This release implements change request, CM-201. The changes are seen mainly in the get\_mark\_list V2.27 output, and minorly in the output from datasheet95 V8.11.

#### Changes to get mark list

If a mark is restricted in the NGS database, either horizontally or vertically) it should not appear in the output of get\_mark\_list.

In the prior release of the get\_mark\_list program (V2.26), if a user went to [http://www.ngs.noaa.gov/cgi-bin/ds\\_pid.prl](http://www.ngs.noaa.gov/cgi-bin/ds_pid.prl) and put in the following PIDs:

```
AF8523
DD3301
HV5076
KV1928
LW1669
LW1796
LW3267
LX3149
LX3452
LX3494
OH1680
```

into the PID box and pressed the [Submit] button, they would see the following output:

## Station List Results for: PIDs

Help

Re-Sort-By  Dist  Pid  Set  Set\_By  H  V  Vert\_Source  Latitude  Longitude  Stab  Cond  Designation

Dist	PID	Set	Set_By	H	V	Vert_Source	Latitude	Longitude	Stab	C	Designation
....	AF8523	1942	USE...	2	.	88/SCALED..	N362056.72282	W0771331.49038	C...	G	PARKER RM 1
....	DD3301	1982	MJH...	4	.	.....	N335417.69226	W0794458.93751	....	S	LAKE CITY W MUN TK
....	HV5076	1959	CGS...	4	.	.....	N383210.25844	W0771650.86240	....	G	QUANTICO POWER PLANT CEN STK
....	KV1928	1946	CGS...	3	1	88/ADJUSTED	N400504.35316	W0750537.47421	D...	G	Q 197
....	LW1669	1977	CTGS...	1	1	88/ADJUSTED	N415833.19626	W0715929.69979	C...	G	5306
....	LW1796	1975	CTGS...	2	1	88/ADJUSTED	N414119.86249	W0715659.05218	C...	G	1305X
....	LW3267	1975	CTGS...	2	3	29/LEVELING	N412527.93184	W0715137.11566	C...	S	1456
....	LX3149	1973	CTGS...	1	1	88/ADJUSTED	N413946.11789	W0724044.11881	C...	G	3551
....	LX3452	1975	CTGS...	2	1	88/ADJUSTED	N412126.64054	W0721502.64518	C...	G	4612
....	LX3494	1980	CTGS...	2	3	29/LEVELING	N414618.82284	W0730333.07438	....	S	5699
....	OH1680	1978	ID-001	2	.	29/SCALED..	N434218.41880	W1161023.28570	....	S	T4N R2E SECS 1 2 11 12 ECC

Database retrieval time = 00:00:02

Select All

Get Datasheets (for the stations I've selected above)

Move (the above station list to a File->Print Window)

Reset

Return to [Datasheet](#) Home Page

In the new release of get\_mark\_list V2.27, the user would see the following output:

## Station List Results for: PIDs

Help

Re-Sort-By  Dist  Pid  Set  Set\_By  H  V  Vert\_Source  Latitude  Longitude  Stab  Cond  Designation

Dist	PID	Set	Set_By	H	V	Vert_Source	Latitude	Longitude	Stab	C	Designation
....	AF8523	1942	USE...	2	.	88/SCALED..	N362056.72282	W0771331.49038	C...	G	PARKER RM 1
....	DD3301	1982	MJH...	4	.	.....	N335417.69226	W0794458.93751	....	S	LAKE CITY W MUN TK
....	HV5076	1959	CGS...	4	.	.....	N383210.25844	W0771650.86240	....	G	QUANTICO POWER PLANT CEN STK
....	KV1928	1946	CGS...	3	1	88/ADJUSTED	N400504.35316	W0750537.47421	D...	G	Q 197
....	LW1669	1977	CTGS...	1	1	88/ADJUSTED	N415833.19626	W0715929.69979	C...	G	5306
....	LW1796	1975	CTGS...	2	1	88/ADJUSTED	N414119.86249	W0715659.05218	C...	G	1305X
....	LW3267	1975	CTGS...	2	3	29/LEVELING	N412527.93184	W0715137.11566	C...	S	1456
....	LX3149	1973	CTGS...	1	1	88/ADJUSTED	N413946.11789	W0724044.11881	C...	G	3551
....	LX3452	1975	CTGS...	2	1	88/ADJUSTED	N412126.64054	W0721502.64518	C...	G	4612
....	LX3494	1980	CTGS...	2	3	29/LEVELING	N414618.82284	W0730333.07438	....	S	5699
....	OH1680	1978	ID-001	2	.	29/SCALED..	N434218.41880	W1161023.28570	....	S	T4N R2E SECS 1 2 11 12 ECC

Database retrieval time = 00:00:01

Select All

Get Datasheets (for the stations I've selected above)

Move (the above station list to a File->Print Window)

Reset

Return to [Datasheet](#) Home Page

This is because all of these marks are restricted positionally in NGS's database.

Additional it was found that some destroyed marks appeared in the get\_mark\_list output without the *Include Destroyed Marks* checkbox being checked. Similarly, it was found that some destroyed marks didn't appear in the get\_mark\_list.w output whenever the Include Destroyed Marks checkbox is checked. This has been corrected.

To see the corrections in get\_mark\_list V2.27, go to [http://www.ngs.noaa.gov/cgi-bin/ds\\_pid.prl](http://www.ngs.noaa.gov/cgi-bin/ds_pid.prl) and put in the following PIDs of destroyed marks:

JA0689  
GE0077  
KA0319  
RA0403  
SA1463

and press the [Submit] button. You should see the following message in the get\_mark\_list output:

**Station List Results for: PIDs**

Help

Re-Sort-By  Dist  Pid  Set  Set\_By  H  V  Vert\_Source  Latitude  Longitude  Stab  Cond  Designation

Dist PID... Set. Set_By H V Vert_Source Latitude..... Longitude..... Stab C Designation										
SORRY - No Stations Found.										

Database retrieval time = 00:00:00

In get\_mark\_list V2.27, if you go to: [http://www.ngs.noaa.gov/cgi-bin/ds\\_pid.prl](http://www.ngs.noaa.gov/cgi-bin/ds_pid.prl) and put in the following PIDs of destroyed marks:

JA0689  
 GE0077  
 KA0319  
 RA0403  
 SA1463

check the ***Include Destroyed Marks*** checkbox, and press the [Submit] button. You should see the following get\_mark\_list output:

**Station List Results for: PIDs**

Help

Re-Sort-By  Dist  Pid  Set  Set\_By  H  V  Vert\_Source  Latitude  Longitude  Stab  Cond  Designation

Dist	PID	Set	Set_By	H	V	Vert_Source	Latitude	Longitude	Stab	C	Designation
.....	JA0689	UNK.	BORR..	3	.	.....	N384002.....	W0864738.....	B...	X Z	10 RESET 1946
.....	GE0077	1933	CGS...	3	1	88/ADJUSTED	N362029.....	W0901315.....	C...	X D	32
.....	KA0319	1934	CGS...	3	2	88/ADJUSTED	N391000.....	W0862731.....	C...	X A	53
.....	RA0403	1945	CGS...	3	2	88/ADJUSTED	N452000.....	W1164814.....	C...	X T	400
.....	SA1463	1934	CGS...	3	p	88/POSTED..	N464002.....	W1193333.....	D...	X L	49

Database retrieval time = 00:00:02

Select All

Get Datasheets (for the stations I've selected above)

In get\_mark\_list.w V2.26 (the prior version), going to [https://www.ngs.noaa.gov/cgi-bin/ds\\_pid.prl](https://www.ngs.noaa.gov/cgi-bin/ds_pid.prl), putting in the PIDs above, and pressing the [Submit] button listed would have resulted in the following get\_mark\_list output:

**Station List Results for: PIDs**

Help

Re-Sort-By  Dist  Pid  Set  Set\_By  H  V  Vert\_Source  Latitude  Longitude  Stab  Cond  Designation

```
|Dist|PID...|Set.|Set_By|H V|Vert_Source|Latitude.....|Longitude.....|Stab|C|Designation
|----|-----|----|-----| -|-----|-----|-----|----|---|-----
|...|GE0077|1933|CGS...|. 1|88/ADJUSTED|N362029.....|W0901315.....|C...|X|D 32
|...|KA0319|1934|CGS...|. 2|88/ADJUSTED|N391000.....|W0862731.....|C...|X|A 53
|...|RA0403|1945|CGS...|. 2|88/ADJUSTED|N452000.....|W1164814.....|C...|X|T 400
|...|SA1463|1934|CGS...|. p|88/POSTED..|N464002.....|W1193333.....|D...|X|L 49
```

Database retrieval time = 00:00:01

Select All

Get Datasheets (for the stations I've selected above)

Also in get\_mark\_list V2.26 (the prior version), going to [https://www.ngs.noaa.gov/cgi-bin/ds\\_pid.prl](https://www.ngs.noaa.gov/cgi-bin/ds_pid.prl), putting in the PIDs above, **checking the *Include Destroyed Marks* checkbox**, and pressing the [Submit] button listed would have resulted in the following get\_mark\_list output:

## Station List Results for: PIDs

Help

Re-Sort-By  Dist  Pid  Set  Set\_By  H  V  Vert\_Source  Latitude  Longitude  Stab  Cond  Designation

Dist	PID...	Set.	Set_By	H	V	Vert_Source	Latitude.....	Longitude.....	Stab	C	Designation
....	GE0077	1933	CGS...	1	88	ADJUSTED	N362029.....	W0901315.....	C...	X	D 32
....	KA0319	1934	CGS...	2	88	ADJUSTED	N391000.....	W0862731.....	C...	X	A 53
....	RA0403	1945	CGS...	2	88	ADJUSTED	N452000.....	W1164814.....	C...	X	T 400
....	SA1463	1934	CGS...	p	88	POSTED..	N464002.....	W1193333.....	D...	X	L 49

Database retrieval time = 00:00:02

Select All

Get Datasheets (for the stations I've selected above)

### Changes to datasheets

Whenever a control point is unpublishable, the following nonpub report with reason codes is displayed instead of a datasheet. An example nonpub report for mark LW1669 is as follows:

```

- This listing contains control for which complete digital          -
- data sheets were not provided. The complete data sheets were    -
- not provided for the reason listed below. The reason below is   -
- associated with a horizontal control Nonpub code shown under     -
- the heading 'H' and/or a vertical control Nonpub code shown under -
- the heading 'v'                                                -
-                                                                    -
- The format of the records are as follows:                          -
-   Pid = Station Permanent Identifier)                             -
-   Name = Station Designation                                     -
-   Lat = Approx. Latitude (Degrees, Minutes, truncated Seconds)  -
-   Lon = Approx. Longitude (Degrees, Minutes, truncated Seconds) -
-   O   = Horizontal Order                                        -
-   o   = Vertical Order                                         -
-   H   = Horizontal Nonpub Code                                 -
-   v   = Vertical Nonpub Code                                   -
-                                                                    -
-   H Nonpub HORIZONTAL CONTROL NONPUB REASON                    -
-   -----
-   B      Station is a RBN antenna                               -
-   C      Not a publishable datum within the state              -
-   D      No descriptive text available                          -
-   I      No NAD83 coordinates available, only IGS08 coordinates -
-   L      CORS L1 Phase Center is not publishable               -
-   N      No geodetic control                                    -
-   O      Outside NGS publication area                           -
-   P      Purpose of position is not for network control        -
-   R      Restricted position                                    -
-   T      Station is a temporary point/bench mark               -
-   V      Station is a VOR antenna                               -
-   W      Weakly determined position                            -
-   X      Surface mark reported destroyed                       -
-   Y      Surface and underground mark reported destroyed       -

```



```

-      v Nonpub VERTICAL CONTROL NONPUB REASON
-      -----
-      C      Not a publishable datum within the state
-      D      No descriptive text available
-      F      Bench mark not yet adjusted
-      N      No geodetic control
-      L      CORS L1 Phase Center is not publishable
-      O      Outside NGS publication area
-      R      Restricted elevation
-      S      Mark is in a subsidence area
-      T      Station is a temporary point/bench mark
-      X      Surface mark reported destroyed
-      Y      Surface and underground mark reported destroyed
-      Z      Presumed destroyed
-
-
-      NOTE - Stations found in this listing may still have a valid
-            datasheet produced by use of other publishable values.
-            For example, an ADJUSTED height may be non-publishable
-            but a good GPS height might be found on the datasheet.
-            This listing does not imply that values found on the datasheet
-            are restricted.  If it's on the datasheet, use it.
-
-----
Pid      Name                               Lat      Lon      Elev      O o Hv
-----
>LW1669 5306                             41 58 33. /071 59 29.          R

```

In this release of datasheet95.w V8.11, if the control point is unpublishable for any one of the above reason codes, then the position and/or elevation of the mark(s) listed after the reason code paragraphs on the nonpub report are scaled. Mark examples that generate all of the possible reason codes are:

```

AA3150
AA4533
AA7403
AE4225
AI9454
AJ5872
AN0328
AW5059
BH2805
DC1262
DH4289
DN9398
DW1424
LW1669
TR1375

```

The nonpub report shows the following:

**Msg=FATAL\_ERROR - No Marks found**

```

-----
-      This listing contains control for which complete digital
-      data sheets were not provided. The complete data sheets were
-      not provided for the reason listed below. The reason below is
-      associated with a horizontal control Nonpub code shown under
-      the heading 'H' and/or a vertical control Nonpub code shown under
-      the heading 'v'
-
-      The format of the records are as follows:
-      Pid = Station Permanent Identifier)
-      Name = Station Designation
-

```

```

- Lat = Approx. Latitude (Degrees, Minutes, truncated Seconds) -
- Lon = Approx. Longitude (Degrees, Minutes, truncated Seconds) -
- O = Horizontal Order -
- o = Vertical Order -
- H = Horizontal Nonpub Code -
- v = Vertical Nonpub Code -
-
- H Nonpub HORIZONTAL CONTROL NONPUB REASON -
-----
- B Station is a RBN antenna -
- C Not a publishable datum within the state -
- D No descriptive text available -
- I No NAD83 coordinates available, only IGS08 coordinates -
- L CORS L1 Phase Center is not publishable -
- N No geodetic control -
- O Outside NGS publication area -
- P Purpose of position is not for network control -
- R Restricted position -
- T Station is a temporary point/bench mark -
- V Station is a VOR antenna -
- W Weakly determined position -
- X Surface mark reported destroyed -
- Y Surface and underground mark reported destroyed -
-
- v Nonpub VERTICAL CONTROL NONPUB REASON -
-----
- C Not a publishable datum within the state -
- D No descriptive text available -
- F Bench mark not yet adjusted -
- N No geodetic control -
- L CORS L1 Phase Center is not publishable -
- O Outside NGS publication area -
- R Restricted elevation -
- S Mark is in a subsidence area -
- T Station is a temporary point/bench mark -
- X Surface mark reported destroyed -
- Y Surface and underground mark reported destroyed -
- Z Presumed destroyed -
-
-
- NOTE - Stations found in this listing may still have a valid -
- datasheet produced by use of other publishable values. -
- For example, an ADJUSTED height may be non-publishable -
- but a good GPS height might be found on the datasheet. -
-
- If a mark/control point is in a subsidence area, you can request -
- to see suspect heights in the SUPERSEDED SURVEY CONTROL section -
- of its datasheet by checking the 'Include suspect heights in -
- subsidence area' checkbox on the datasheet retrieval pages. -
-

```

```

-----
Pid Name Lat Lon Elev O o Hv
-----
>AA3150 TBM 941 0660 STAFF 14 FT 33 43 10. /118 16 22. TT
>AA4533 SMX ARP 34 53 55. /120 27 23. NN
>AA7403 SAWMILL ECC 34 41 35. /118 33 41. DD
>AE4225 VOR PAGO PAGO TUT 14 19 57. /170 42 29. V
>AI9454 AUNUU SOUTH ET 14 17 01. /170 33 38. XX
>AJ5872 AMERICAN SAMOA CORS L1 PHASE 14 19 33. /170 43 20. LL
>AN0328 PORTO RM 1 28 25 45. /096 28 40. 2 P
>AW5059 206+78.16 800 PC 1937 USE 29 43 07. /095 01 23. DZ
>BH2805 GOHEGAN RM 1 30 11 28. /089 45 18. W
>DC1262 B 32 30 40. /116 59 03. OO
>DH4289 PUERTO BARRIOS AA 15 43 48. /088 35 03. C
>DN9398 GUATEMALA CITY CORS L1 PHASE / I
>DW1424 S 1 1951 33 10 22. /115 47 35. YY
>LW1669 5306 41 58 33. /071 59 29. 166. 1 R
>TR1375 RBN WHIDBEY ISLAND NU 3 48 21 14. /122 40 25. BX

```

## Version 8.10 update on 10/06/2016

There are four change requests that have been implemented in this release: CM-249, CM-250, CM-251, and CM-291.

### CM-249 Changes

Sometimes the GEOID HEIGHT line(s) doesn't appear in the same location on the datasheet. In this change request, the GEOID HEIGHT line(s) will now always appear immediately before the X, Y, and Z lines. Before this release, TV1513's GEOID HEIGHT lines appeared as follows:

```
TV1513                                *CURRENT SURVEY CONTROL
TV1513
TV1513* NAD 83(2011) POSITION- 18 27 32.23742(N) 066 06 59.20112(W) ADJUSTED
TV1513* NAD 83(2011) ELLIP HT-   -41.639 (meters)          (06/27/12) ADJUSTED
TV1513* NAD 83(2011) EPOCH   - 2010.00
TV1513* PRVD02 ORTHO HEIGHT -    1.334 (meters)          4.38 (feet) ADJUSTED
TV1513
TV1513 NAD 83(2011) X   - 2,450,319.846 (meters)          COMP
TV1513 NAD 83(2011) Y   - -5,533,748.432 (meters)          COMP
TV1513 NAD 83(2011) Z   - 2,006,620.156 (meters)          COMP
TV1513 LAPLACE CORR    -    0.91 (seconds)                DEFLEC12B
TV1513 GEOID HEIGHT    -   -42.984 (meters)                GEOID12B
TV1513 DYNAMIC HEIGHT  -    1.331 (meters)          4.37 (feet) COMP
TV1513 MODELED GRAVITY -  978,668.5 (mgal)              NAVD 88
TV1513
TV1513 VERT ORDER     -  FIRST      CLASS II
```

After this release TV1513's GEOID HEIGHT lines appear as follows:

```
TV1513                                *CURRENT SURVEY CONTROL
TV1513
TV1513* NAD 83(2011) POSITION- 18 27 32.23742(N) 066 06 59.20112(W) ADJUSTED
TV1513* NAD 83(2011) ELLIP HT-   -41.639 (meters)          (06/27/12) ADJUSTED
TV1513* NAD 83(2011) EPOCH   - 2010.00
TV1513* PRVD02 ORTHO HEIGHT -    1.334 (meters)          4.38 (feet) ADJUSTED
TV1513
TV1513 GEOID HEIGHT    -   -42.984 (meters)                GEOID12B
TV1513 NAD 83(2011) X   - 2,450,319.846 (meters)          COMP
TV1513 NAD 83(2011) Y   - -5,533,748.432 (meters)          COMP
TV1513 NAD 83(2011) Z   - 2,006,620.156 (meters)          COMP
TV1513 LAPLACE CORR    -    0.91 (seconds)                DEFLEC12B
TV1513 DYNAMIC HEIGHT  -    1.331 (meters)          4.37 (feet) COMP
TV1513 MODELED GRAVITY -  978,668.5 (mgal)              NAVD 88
TV1513
TV1513 VERT ORDER     -  FIRST      CLASS II
```

### CM-250 Changes

Continuous Operating Reference Stations (CORS), which are held fixed during the adjustment, Network accuracy values at CORS sites are considered to be infinitesimal (approach zero). Thus, there is no local accuracy data. However clicking on the link, [here](#), in the partial CORS datasheet below

```
AF9522 Network accuracy estimates per FGDC Geospatial Positioning Accuracy
AF9522 Standards:
AF9522      FGDC (95% conf, cm)      Standard deviation (cm)      CorrNE
AF9522      Horiz Ellip              SD_N  SD_E  SD_h          (unitless)
AF9522 -----
```

```

AF9522 NETWORK      0.64   2.08           0.28   0.24   1.06       0.00974253
AF9522 -----
AF9522 Click here for local accuracies and other accuracy information

```

will display the network and local accuracy report with no local accuracies in the report (only network accuracy data appears).

### The Local and Network Accuracy Data Sheet

```

Program lna_ret Version 2.7.2 Date June 2, 2016
National Geodetic Survey, Retrieval Date = JULY 12, 2016
AF9522 *****
AF9522 ACCURACIES - Complete network and local accuracy information.
AF9522 HT_MOD - This is a Height Modernization Survey Station.
AF9522 CORS - This is a GPS Continuously Operating Reference Station.
AF9522 DESIGNATION - GAITHERSBURG CORS ARP
AF9522 PID - AF9522
AF9522
AF9522 Horiz and Ellip are the horizontal and ellipsoid height accuracies
AF9522 at the 95% confidence level per Federal Geographic Data Committee
AF9522 Geospatial Positioning Accuracy Standards. SD_N, SD_E and SD_h are
AF9522 the standard deviations (one sigma) of the coordinates (NETWORK) or
AF9522 of the difference in the coordinates (LOCAL) in latitude, longitude
AF9522 and ellipsoid height. CorrNE is the (unitless) correlation
AF9522 coefficient between the latitude and longitude components of either
AF9522 the coordinate (NETWORK) or coordinate difference (LOCAL). Dist is
AF9522 the three-dimensional straight-line slope distance, in km, between
AF9522 station AF9522 and the corresponding local station. Local stations
AF9522 are stations processed simultaneously in a session regardless of
AF9522 distance.
AF9522
AF9522 Accuracy and standard deviation values are given in cm.
AF9522
AF9522 Type/PID Horiz Ellip Dist(km) SD_N SD_E SD_h CorrNE
AF9522 -----
AF9522 NETWORK 0.64 2.08 0.28 0.24 1.06 +0.00974253
AF9522 -----

```

Since there is no local accuracy data for CORS datasheets (i.e. CORS\_TYPE in ('A', 'L', 'M')), the report is moot. This release removes the link to this report whenever the control point being looked at on the datasheet is a CORS.

## CM-251 Changes

The National Grid line was requested to be moved to the same section of the datasheet as the SPC and UTM data, above the SUPERSEDED SURVEY CONTROL section. This release of datasheet95 V8.10 takes care of this. An example PID where this change took place is DI2806.

Before the change in datasheet95 V8.9:

```
DI2806;
DI2806:SPC HI 3 - 16,207.074 508,335.623 MT 0.99999086 +0 01 45.1
DI2806:UTM 04 - 2,357,175.886 612,047.871 MT 0.99975514 +0 23 33.7
DI2806
DI2806! - Elev Factor x Scale Factor = Combined Factor
DI2806!SPC HI 3 - 0.99999712 x 0.99999086 = 0.99998798
DI2806!UTM 04 - 0.99999712 x 0.99975514 = 0.99975226
DI2806
DI2806: Primary Azimuth Mark Grid Az
DI2806:SPC HI 3 - HNL FRANK 264 58 18.7
DI2806:UTM 04 - HNL FRANK 264 36 30.1
DI2806
DI2806|-----|
DI2806| PID Reference Object Distance Geod. Az |
DI2806| | | | dddmmss.s |
DI2806| DN6355 HNL FRANK APPROX. 0.6 KM 2650003.8 |
DI2806| DF8972 HONOLULU WAAS 1 CORS ARP 118.744 METERS 26728 |
DI2806|-----|
DI2806
DI2806 SUPERSEDED SURVEY CONTROL
DI2806
DI2806 NAD 83(1993)- 21 18 46.89944(N) 157 55 10.76724(W) AD(2006.00) A
DI2806 ELLIP H (11/22/06) 18.358 (m) GP(2006.00) 2 1
DI2806
DI2806.Superseded values are not recommended for survey control.
DI2806
DI2806.NGS no longer adjusts projects to the OLD HI datum.
DI2806.See file dsdata.txt to determine how the superseded data were derived.
DI2806
DI2806 U.S. NATIONAL GRID SPATIAL ADDRESS: 4QFJ1204757175 (NAD 83)
```

After the change in datasheet95 V8.10:

```
DI2806;
DI2806:SPC HI 3 - 16,207.074 508,335.623 MT 0.99999086 +0 01 45.1
DI2806:UTM 04 - 2,357,175.886 612,047.871 MT 0.99975514 +0 23 33.7
DI2806
DI2806! - Elev Factor x Scale Factor = Combined Factor
DI2806!SPC HI 3 - 0.99999712 x 0.99999086 = 0.99998798
DI2806!UTM 04 - 0.99999712 x 0.99975514 = 0.99975226
DI2806
DI2806: Primary Azimuth Mark Grid Az
DI2806:SPC HI 3 - HNL FRANK 264 58 18.7
DI2806:UTM 04 - HNL FRANK 264 36 30.1
DI2806
DI2806 U.S. NATIONAL GRID SPATIAL ADDRESS: 4QFJ1204757175 (NAD 83)
DI2806
DI2806|-----|
DI2806| PID Reference Object Distance Geod. Az |
DI2806| | | | dddmmss.s |
DI2806| DN6355 HNL FRANK APPROX. 0.6 KM 2650003.8 |
DI2806| DF8972 HONOLULU WAAS 1 CORS ARP 118.744 METERS 26728 |
DI2806|-----|
DI2806
DI2806 SUPERSEDED SURVEY CONTROL
DI2806
DI2806 NAD 83(1993)- 21 18 46.89944(N) 157 55 10.76724(W) AD(2006.00) A
```

## **CM-291 Changes**

Due to a deficiency in COMDAT data, heights were being loaded into the NGSIDB that should not have been. This has resulted in hundreds and hundreds of heights on the datasheet that are actual duplicates of the published heights. In the SUPERSEDED SURVEY CONTROL section of datasheets, these heights appear with the verbiage "leveling" as the explanation. Additionally, there is a date the height was loaded giving the appearance of new leveling which is confusing and misleading. This release of datasheet95 V8.10 removes the load date from all leveling (i.e. ELEV\_SOURCE='H' and ELEV\_TECH='B' heights) in the SUPERSEDED SURVEY CONTROL section of the datasheet.

## **Version 8.9.1 update on 09/15/2016**

This release implements CM-320, which is an emergency change request to fix the issue in the Gulf Coast dynamic region/subsidence area where datasheets are not being produced. Only the suspect heights were supposed to be suppressed and not the datasheets in V8.9. V8.9.1 corrects this issue.

An example PID in the subsidence area of Louisiana is AH6516. In V8.9 if one went to [http://www.ngs.noaa.gov/cgi-bin/ds\\_pid.prl](http://www.ngs.noaa.gov/cgi-bin/ds_pid.prl) and put in AH6516 in the PID list, left the remaining defaults on the page, and pressed the [Submit] button, and on the next page if the user pressed the [Select All] button followed by the [Get datasheets] button, the below datasheet would display:

The NGS Data Sheet

See file [dsdata.txt](#) for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.9

```
*** retrieval complete.  
Elapsed Time = 00:00:03  
Msg=FATAL_ERROR - No Marks found
```

```
-----  
- This listing contains control for which complete digital -  
- data sheets were not provided. The complete data sheets were -  
- not provided for the reason listed below. The reason below is -  
- associated with a horizontal control Nonpub code shown under -  
- the heading 'H' and/or a vertical control Nonpub code shown under -  
- the heading 'v' -  
- -  
- The format of the records are as follows: -  
- Pid = Station Permanent Identifier) -  
- Name = Station Designation -  
- Lat = Approx. Latitude (Degrees, Minutes, truncated Seconds) -  
- Lon = Approx. Longitude (Degrees, Minutes, truncated Seconds) -  
- O = Horizontal Order -  
- o = Vertical Order -
```

```

-      H      = Horizontal Nonpub Code
-      v      = Vertical Nonpub Code
-
-      H Nonpub HORIZONTAL CONTROL NONPUB REASON
-      -----
-      B      Station is a RBN antenna
-      C      Not a publishable datum within the state
-      D      No descriptive text available
-      I      No NAD83 coordinates available, only IGS08 coordinates
-      L      CORS L1 Phase Center is not publishable
-      N      No geodetic control
-      O      Outside NGS publication area
-      P      Purpose of position is not for network control
-      R      Restricted position
-      T      Station is a temporary point/bench mark
-      V      Station is a VOR antenna
-      W      Weakly determined position
-      X      Surface mark reported destroyed
-      Y      Surface and underground mark reported destroyed
-
-      v Nonpub VERTICAL CONTROL NONPUB REASON
-      -----
-      C      Not a publishable datum within the state
-      D      No descriptive text available
-      F      Bench mark not yet adjusted
-      N      No geodetic control
-      L      CORS L1 Phase Center is not publishable
-      O      Outside NGS publication area
-      R      Restricted elevation
-      S      Mark is in a subsidence area
-      T      Station is a temporary point/bench mark
-      X      Surface mark reported destroyed
-      Y      Surface and underground mark reported destroyed
-      Z      Presumed destroyed
-
-      NOTE - Stations found in this listing may still have a valid
-             datasheet produced by use of other publishable values.
-             For example, an ADJUSTED height may be non-publishable
-             but a good GPS height might be found on the datasheet.
-
-             If a mark/control point is in a subsidence area, you can request
-             to see suspect heights in the SUPERSEDED SURVEY CONTROL section
-             of its datasheet by checking the 'Include suspect heights in
-             subsidence area' checkbox on the datasheet retrieval pages.
-
-
-----

```

```

Pid      Name                               Lat      Lon      Elev      O o Hv
-----
>AH6516  CHACAHOULA AZ MK                  29 42 15.0/090 54 49.2      ?      S

```

In V8.9.1, doing the same retrieval steps as shown above, will results in the below datasheet with suppressed heights in the SUPERSEDED SURVEY CONTROL section of the datasheet:

```

AH6516 *****
AH6516  DESIGNATION - CHACAHOULA AZ MK
AH6516  PID        - AH6516
AH6516  STATE/COUNTY- LA/TERREBONNE
AH6516  COUNTRY    - US
AH6516  USGS QUAD  - GIBSON (1980)
AH6516
AH6516                               *CURRENT SURVEY CONTROL

```

AH6516

AH6516*	NAD 83(2011) POSITION-	29 42 15.07615(N) 090 54 49.29613(W)	ADJUSTED
AH6516*	NAD 83(2011) ELLIP HT-	-24.548 (meters)	(06/27/12) ADJUSTED
AH6516*	NAD 83(2011) EPOCH	- 2010.00	
AH6516*	<a href="#">NAVD 88</a> ORTHO HEIGHT	- ** (meters)	** (feet) NOT PUB

AH6516 \*\*This station is located in a suspected subsidence area (see below).

AH6516

AH6516	NAVD 88 orthometric height was determined with geoid model	GEOID96
AH6516	GEOID HEIGHT -	-25.711 (meters) GEOID96
AH6516	GEOID HEIGHT -	-25.433 (meters) GEOID12B
AH6516	NAD 83(2011) X -	-88,415.073 (meters) COMP
AH6516	NAD 83(2011) Y -	-5,543,852.331 (meters) COMP
AH6516	NAD 83(2011) Z -	3,141,921.737 (meters) COMP
AH6516	LAPLACE CORR -	0.47 (seconds) DEFLEC12B

AH6516

AH6516 Network accuracy estimates per FGDC Geospatial Positioning Accuracy Standards:

	FGDC (95% conf, cm)		Standard deviation (cm)			CorrNE
	Horiz	Ellip	SD_N	SD_E	SD_h	(unitless)
AH6516	-----	-----	-----	-----	-----	-----
AH6516	NETWORK	2.05 19.38	0.70	0.94	9.89	-0.09737518
AH6516	-----	-----	-----	-----	-----	-----

AH6516 Click [here](#) for local accuracies and other accuracy information.

AH6516

AH6516

AH6516.The horizontal coordinates were established by GPS observations and adjusted by the National Geodetic Survey in June 2012.

AH6516

AH6516.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has been affixed to the stable North American tectonic plate. See [NA2011](#) for more information.

AH6516

AH6516.The horizontal coordinates are valid at the epoch date displayed above which is a decimal equivalence of Year/Month/Day.

AH6516

AH6516 \*\* This is an automated warning due to this station being located within a subsidence area. If an orthometric height is not shown above in the CURRENT SURVEY CONTROL section but one appears below under the SUPERSEDED SURVEY CONTROL section then the orthometric height(s) listed are shown only for historical purposes.

AH6516 \*\* These heights are unverified, unreliable and have dislocated over time.

AH6516 \*\* For more information, follow the weblink to "Include suspect heights" in subsidence areas on the datasheet retrieval pages.

AH6516

AH6516.The orthometric height was determined by GPS observations and a high-resolution geoid model.

AH6516

AH6516.Significant digits in the geoid height do not necessarily reflect accuracy. GEOID12B height accuracy estimate available [here](#).

AH6516

AH6516.The X, Y, and Z were computed from the position and the ellipsoidal ht.

AH6516

AH6516.The Laplace correction was computed from DEFLEC12B derived deflections.

AH6516

AH6516.The ellipsoidal height was determined by GPS observations and is referenced to NAD 83.

AH6516

AH6516. The following values were computed from the NAD 83(2011) position.

AH6516

	North	East	Units	Scale	Factor	Converg.
AH6516;SPC LA S	- 133,552.288	1,040,606.478	MT	0.99993907	+0 12	35.4
AH6516;SPC LA S	- 438,162.80	3,414,056.42	sFT	0.99993907	+0 12	35.4
AH6516;UTM 15	- 3,287,829.121	701,836.406	MT	1.00010267	+1 02	03.0



```

AH6516
AH6516!          - Elev Factor x Scale Factor = Combined Factor
AH6516!SPC LA S  - 1.00000386 x 0.99993907 = 0.99994293
AH6516!UTM 15    - 1.00000386 x 1.00010267 = 1.00010653
AH6516
AH6516:          Primary Azimuth Mark                Grid Az
AH6516:SPC LA S  - CHACABOULA                        049 29 12.0
AH6516:UTM 15    - CHACABOULA                        048 39 44.4
AH6516
AH6516|-----|
AH6516| PID      Reference Object                Distance      Geod. Az      |
AH6516|          |                               |              | dddmss.s    |
AH6516| AU3254  CHACABOULA                    412.496 METERS 0494147.4 |
AH6516|-----|
AH6516
AH6516                                SUPERSEDED SURVEY CONTROL
AH6516
AH6516 NAD 83(2007)- 29 42 15.07639(N)    090 54 49.29665(W) AD(2002.00) 0
AH6516 ELLIP H (02/10/07) -24.505 (m)      GP(2002.00)
AH6516 ELLIP H (02/21/02) -24.480 (m)      GP(      ) 5 1
AH6516 NAD 83(1992)- 29 42 15.07571(N)    090 54 49.29550(W) AD(      ) 1
AH6516 ELLIP H (12/17/98) -24.476 (m)      GP(      ) 4 2
AH6516
AH6516.Superseded values are not recommended for survey control.
AH6516
AH6516.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AH6516.See file dsdata.txt to determine how the superseded data were derived.
AH6516
AH6516_U.S. NATIONAL GRID SPATIAL ADDRESS: 15RYN0183687829(NAD 83)
AH6516
AH6516_MARKER: DD = SURVEY DISK
AH6516_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
AH6516_STAMPING: CHACABOULA AZ MK 1993
AH6516_MARK LOGO: TPCG
AH6516_PROJECTION: FLUSH
AH6516_MAGNETIC: R = STEEL ROD IMBEDDED IN MONUMENT
AH6516_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
AH6516+STABILITY: SURFACE MOTION
AH6516_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AH6516+SATELLITE: SATELLITE OBSERVATIONS - 1993
AH6516
AH6516 HISTORY      - Date      Condition      Report By
AH6516 HISTORY      - 1993      MONUMENTED    GSENG
AH6516
AH6516                                STATION DESCRIPTION
AH6516
AH6516'DESCRIBED BY GULF SOUTH ENGINEERS INCORPORATED 1993 (TWR)
AH6516'MONUMENT IS LOCATED NORTHWEST OF THE CITY OF HOUMA JUST SOUTH OF THE
AH6516'LA. HIGHWAY 20 RIGHT-OF-WAY (TOWNSHIP 16 SOUTH RANGE 15 EAST SECTION
AH6516'11). MONUMENT IS A TERREBONNE PARISH LIS DISK SET IN CONCRETE 0.2
AH6516'INCHES BELOW THE LEVEL OF THE GROUND. MONUMENT IS ABOUT 1100 FT (335.3
AH6516'M) WEST OF THE INTERSECTION OF BULL RUN ROAD AND LA. HIGHWAY 20, 69.05
AH6516'FT (21.05 M) SOUTH OF A NAIL/SHINER IN THE CENTERLINE OF LA. HIGHWAY
AH6516'20, 40.52 FT (12.35 M) SOUTHEAST OF A NAIL/SHINER IN A LIGHT POLE,
AH6516'41.3 FT (12.6 M) SOUTHWEST OF A FIRE HYDRANT, 18.6 FT (5.7 M) WEST OF
AH6516'THE NORTHWEST CORNER OF A MOTEL ROOM (APARTMENT) AT 1531 HIGHWAY 20.

*** retrieval complete.
Elapsed Time = 00:00:03

```

In V8.9.1, if suppressed superseded heights are desired, one needs only to go to [http://www.ngs.noaa.gov/cgi-bin/ds\\_pid.prl](http://www.ngs.noaa.gov/cgi-bin/ds_pid.prl), put in AH6516 in the PID list, check the checkbox

for  [Include suspect heights](#) in subsidence areas, press the [Submit] button, press the [In understand the risk] button on the pop-up Warning dialog box, and then on the next page press the [Select All] button followed by the [Get datasheets] button. The datasheet below will display with suspect heights in the SUPERSEDED SURVEY CONTROL section of the datasheet:

```

1      National Geodetic Survey,      Retrieval Date = AUGUST 16, 2016
AH6516 *****
AH6516 DESIGNATION - CHACAOULA AZ MK
AH6516 PID - AH6516
AH6516 STATE/COUNTY- LA/TERREBONNE
AH6516 COUNTRY - US
AH6516 USGS QUAD - GIBSON (1980)
AH6516
AH6516 *CURRENT SURVEY CONTROL
AH6516
AH6516* NAD 83(2011) POSITION- 29 42 15.07615(N) 090 54 49.29613(W) ADJUSTED
AH6516* NAD 83(2011) ELLIP HT- -24.548 (meters) (06/27/12) ADJUSTED
AH6516* NAD 83(2011) EPOCH - 2010.00
AH6516* NAVD 88 ORTHO HEIGHT - *(meters) *(feet) NOT PUB
AH6516 **This station is located in a suspected subsidence area (see below).
AH6516
AH6516 NAVD 88 orthometric height was determined with geoid model GEOID96
AH6516 GEOID HEIGHT - -25.711 (meters) GEOID96
AH6516 GEOID HEIGHT - -25.433 (meters) GEOID12B
AH6516 NAD 83(2011) X - -88,415.073 (meters) COMP
AH6516 NAD 83(2011) Y - -5,543,852.331 (meters) COMP
AH6516 NAD 83(2011) Z - 3,141,921.737 (meters) COMP
AH6516 LAPLACE CORR - 0.47 (seconds) DEFLEC12B
AH6516
AH6516 Network accuracy estimates per FGDC Geospatial Positioning Accuracy
AH6516 Standards:
AH6516 FGDC (95% conf, cm) Standard deviation (cm) CorrNE
AH6516 Horiz Ellip SD_N SD_E SD_h (unitless)
AH6516 -----
AH6516 NETWORK 2.05 19.38 0.70 0.94 9.89 -0.09737518
AH6516 -----
AH6516 Click here for local accuracies and other accuracy information.
AH6516
AH6516
AH6516.The horizontal coordinates were established by GPS observations
AH6516.and adjusted by the National Geodetic Survey in June 2012.
AH6516
AH6516.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has
AH6516.been affixed to the stable North American tectonic plate. See
AH6516.NA2011 for more information.
AH6516
AH6516.The horizontal coordinates are valid at the epoch date displayed above
AH6516.which is a decimal equivalence of Year/Month/Day.
AH6516
AH6516 ** This station is in an area of known vertical motion. If an
AH6516 ** orthometric height was ever established but is not available
AH6516 ** in the current survey control section, the orthometric height
AH6516 ** is considered suspect. Suspect heights are available in the
AH6516 ** superseded section only if requested.
AH6516
AH6516.The orthometric height was determined by GPS observations and a
AH6516.high-resolution geoid model.
AH6516
AH6516.Significant digits in the geoid height do not necessarily reflect accuracy.
AH6516.GEOID12B height accuracy estimate available here.
AH6516

```

AH6516.The X, Y, and Z were computed from the position and the ellipsoidal ht.  
 AH6516  
 AH6516.The Laplace correction was computed from DEFLEC12B derived deflections.  
 AH6516  
 AH6516.The ellipsoidal height was determined by GPS observations  
 AH6516.and is referenced to NAD 83.  
 AH6516  
 AH6516. The following values were computed from the NAD 83(2011) position.  
 AH6516  

AH6516;		North	East	Units	Scale Factor	Converg.
AH6516;SPC LA S	-	133,552.288	1,040,606.478	MT	0.99993907	+0 12 35.4
AH6516;SPC LA S	-	438,162.80	3,414,056.42	sFT	0.99993907	+0 12 35.4
AH6516;UTM 15	-	3,287,829.121	701,836.406	MT	1.00010267	+1 02 03.0

AH6516  
 AH6516!  

-	Elev Factor	x	Scale Factor	=	Combined Factor	
AH6516!SPC LA S	-	1.00000386	x	0.99993907	=	0.99994293
AH6516!UTM 15	-	1.00000386	x	1.00010267	=	1.00010653

AH6516  
 AH6516:  

	Primary Azimuth Mark	Grid Az
AH6516:SPC LA S	- CHACABOULA	049 29 12.0
AH6516:UTM 15	- CHACABOULA	048 39 44.4

AH6516  

AH6516	-----			
AH6516	PID	Reference Object	Distance	Geod. Az
AH6516				ddmmss.s
AH6516	AU3254	CHACABOULA	412.496 METERS	0494147.4
AH6516	-----			

AH6516  
 AH6516  
 AH6516  

SUPERSEDED SURVEY CONTROL					
AH6516	NAD 83(2007)-	29 42 15.07639(N)	090 54 49.29665(W)	AD(2002.00)	0
AH6516	ELLIP H (02/10/07)	-24.505 (m)		GP(2002.00)	
AH6516	ELLIP H (02/21/02)	-24.480 (m)		GP( )	5 1
AH6516	NAD 83(1992)-	29 42 15.07571(N)	090 54 49.29550(W)	AD( )	1
AH6516	ELLIP H (12/17/98)	-24.476 (m)		GP( )	4 2
AH6516	NAVD 88 (12/17/98)	1.2 (m)	GEOID96 model used	GPS OBS	

AH6516  
 AH6516 \*\* No published orthometric height exists and therefore all are  
 AH6516 \*\* considered suspect. This station did not take part in a recent  
 AH6516 \*\* survey which established orthometric heights in the area. Therefore,  
 AH6516 \*\* any previously published orthometric heights have not been validated.  
 AH6516 \*\* NGS does not recommend using suspect or superseded heights as control  
 AH6516 \*\* unless they can be validated or a new NAVD88 height established.  
 AH6516 \*\* If this station were to take part in a new project and submitted  
 AH6516 \*\* to NGS a new height could be published.  
 AH6516  
 AH6516.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.  
 AH6516.[See file dsdata.txt](#) to determine how the superseded data were derived.  
 AH6516  
 AH6516\_U.S. NATIONAL GRID SPATIAL ADDRESS: 15RYN0183687829(NAD 83)  
 AH6516  
 AH6516\_MARKER: DD = SURVEY DISK  
 AH6516\_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT  
 AH6516\_STAMPING: CHACAHOULA AZ MK 1993  
 AH6516\_MARK LOGO: TPCG  
 AH6516\_PROJECTION: FLUSH  
 AH6516\_MAGNETIC: R = STEEL ROD IMBEDDED IN MONUMENT  
 AH6516\_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO  
 AH6516+STABILITY: SURFACE MOTION  
 AH6516\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR  
 AH6516+SATELLITE: SATELLITE OBSERVATIONS - 1993  
 AH6516  

AH6516	HISTORY	-	Date	Condition	Report By
--------	---------	---	------	-----------	-----------

AH6516 HISTORY - 1993 MONUMENTED GSENG

AH6516

AH6516 STATION DESCRIPTION

AH6516

AH6516'DESCRIBED BY GULF SOUTH ENGINEERS INCORPORATED 1993 (TWR)  
 AH6516'MONUMENT IS LOCATED NORTHWEST OF THE CITY OF HOUMA JUST SOUTH OF THE  
 AH6516'LA. HIGHWAY 20 RIGHT-OF-WAY (TOWNSHIP 16 SOUTH RANGE 15 EAST SECTION  
 AH6516'11). MONUMENT IS A TERREBONNE PARISH LIS DISK SET IN CONCRETE 0.2  
 AH6516'INCHES BELOW THE LEVEL OF THE GROUND. MONUMENT IS ABOUT 1100 FT (335.3  
 AH6516'M) WEST OF THE INTERSECTION OF BULL RUN ROAD AND LA. HIGHWAY 20, 69.05  
 AH6516'FT (21.05 M) SOUTH OF A NAIL/SHINER IN THE CENTERLINE OF LA. HIGHWAY  
 AH6516'20, 40.52 FT (12.35 M) SOUTHEAST OF A NAIL/SHINER IN A LIGHT POLE,  
 AH6516'41.3 FT (12.6 M) SOUTHWEST OF A FIRE HYDRANT, 18.6 FT (5.7 M) WEST OF  
 AH6516'THE NORTHWEST CORNER OF A MOTEL ROOM (APARTMENT) AT 1531 HIGHWAY 20.

\*\*\* retrieval complete.

Elapsed Time = 00:00:14

As part of CM-320, the Alabama dynamic region/subsidence area, which is part of the Gulf Coast dynamic region/subsidence area, was updated. The Gulf Coast dynamic region/subsidence area is an area known or suspected to have subsidence, uplift, or other tectonic vertical motion. In 2005, there was a single dynamic region in the state of LA that was defined with a *latitude/longitude polygon*. In 2007 the LA dynamic region polygon was put aside in favor of defining the dynamic region in the state of LA with a series of *three minimum/maximum latitude/longitude areas*. In 2012 the dynamic region grew to span the lower parts of Gulf Coast states of AL, FL, MS, and LA and was comprised of several *minimum/maximum latitude/longitude areas*. In August, 2016, the dynamic regions in the state of AL were updated. Table 1 shows the Gulf Coast dynamic region/subsidence area before the August, 2016 Alabama update. The line highlighted in red is what is being replaced. Table 2 shows the Gulf Coast dynamic region/subsidence area after it, where the changes to the latitude and longitude ranges are highlighted in green.

**Table 1: Dynamic Regions/Subsidence Areas of the Gulf Coast**

State	Latitude Range	Longitude Range
LA	latitude ≤ N303432	longitude ≥ W0912738
LA	latitude ≤ N304850	W0903401 ≤ longitude ≤ W0912738
LA	None	longitude ≤ W0903401
MS	latitude ≤ N320608	None
AL	latitude ≤ N312344	longitude ≥ W0880000
FL	latitude ≤ N303716	longitude ≥ W0870744

**Table 2: Dynamic Regions/Subsidence Areas of the Gulf Coast**

State	Latitude Range	Longitude Range
LA	latitude ≤ N303432	longitude ≥ W0912738
LA	latitude ≤ N304850	W0903401 ≤ longitude ≤ W0912738
LA	None	longitude ≤ W0903401
MS	latitude ≤ N320608	None
AL	latitude ≤ N310028	longitude ≥ W0872300

AL	latitude ≤ N312344	longitude ≥ W0874643
AL	latitude ≤ N314450	longitude ≥ W0880333
AL	latitude ≤ N314752	longitude ≥ W0880800
AL	latitude ≤ N330420	longitude ≥ W0881937
AL	latitude ≤ N320533	longitude ≥ W0882358
FL	latitude ≤ N303716	longitude ≥ W0870744

In a dynamic region/subsidence area, datasheets are publicly publishable for control points in specific projects (a.k.a. adjustment identifiers). If a control point is not part of these specific projects, then a public datasheet also includes the reason that the elevation for this control point should not be used in project (sample output below).

CM-320 also updates the message on American Samoa datasheets from:

DE7243.The current NAD 83 position and ellipsoid height are consistent  
DE7243.with AMERICAN SAMOA **COR** ASPA coordinates revised in February 2013  
DE7243.to account for displacement due to the September 29, 2009 Samoa  
DE7243.Island earthquake.

to:

DE7243.The current NAD 83 position and ellipsoid height are consistent  
DE7243.with AMERICAN SAMOA **CORS** ASPA coordinates revised in February 2013  
DE7243.to account for displacement due to the September 29, 2009 Samoa  
DE7243.Island earthquake.

## Version 8.9 update on 06/02/2016

There are 5 changes that occurred in the datasheet95.w V8.9 release.

### Background:

Two marks AT0326 and AT0778 reside in the dynamic region/subsidence area in Louisiana. Whenever the Include suspect heights in subsidence areas checkbox is *not* checked on the NGS web page [http://www.ngs.noaa.gov/cgi-bin/ds\\_pid.prl](http://www.ngs.noaa.gov/cgi-bin/ds_pid.prl) (as shown below),

http://www.ngs.noaa.gov/cgi-bin/ds\_pid.pl

File Edit View Favorites Tools Help

This page is maintained by [NGS Software Requests](#)

**Datasheets can be retrieved for one or more PIDs up to a limit of 200 PIDs.**

**In the box below type in one or more PIDs or load the PIDs from a file. (Max PIDs allowed = 200)**

AT0326  
AT0778

Clear

Load PIDs from file =  Browse...

Include Destroyed Marks

Output in East Longitude

**Include suspect heights in subsidence areas**

[Browse Mode](#)

Submit Reset

the following results page showed only AT0326 and not AT0778.

# Station List Results for: PIDs

Dist	PID...	Set.	Set_By	H	V	Vert_Source	Latitude.....	Longitude.....	Stab	C	Designation
....	AT0326	UNK.	MRC...	. 1	29	ADJUSTED	N295350.....	W0895330.....	D...	N	218/1 BOLT MRC

Database retrieval time = 00:00:01

- Select All
- Get Datasheets (for the stations I've selected above)
- Move (the above station list to a File->Print Window)
- Reset

Return to [Ddatasheet](#) Home Page

## **Change #1:**

Both PIDs should have been in the get\_mark\_list.w output (mark listing) shown above. In order to resolve this issue (#1 below) and two additional issues (#2 and #3 below), the best height algorithm, which is common to both the get\_mark\_list.w program (which produces the initial listing of marks on the datasheet retrieval web pages) and the datasheet95.w program was reviewed by Julie Prusky and Janet Irwin and updated. The best height algorithm update affects primarily control points in the 66 counties encompassed within Gulf Coast Dynamic Region/Subsidence Area.

The best height algorithm was updated for the following 3 issues:

- (1) In reviewing datasheet95.w V8.8, it was discovered that the program was not picking up the last 6<sup>th</sup> part in the 6-part control type (i.e. X-0-0-0-0-0 or X-0-0-0-0-S) that was being passed down to it via the datasheet retrieval web pages or from command line calls of it. The 6<sup>th</sup> part of the control type means “give/don’t give me the suspect heights in the SUPERSEDED SURVEY CONTROL section of its datasheet, not “is/isn’t the control type in a subsidence area”. These two ideas got coupled in the code and had to be decoupled in the best height algorithm. The update means that some control points that should have displayed in the get\_mark\_list.w output (which would allow you to then choose to see its datasheet) are now included. Some sample PIDs with this scenario were

AB4053, AB4052, and AB4051 in Baldwin (003) county Alabama, and AT0778, AT0793, and AT0805 in St. Bernard (087) county Louisiana.

(2) On some datasheets in the subsidence area where the user checked the “Include suspect heights in subsidence area” checkbox, and the best height would have been a SCALED height but is shown as “NOT PUB” on the CURRENT SURVEY CONTROL section’s orthometric height line, no SCALED height was shown in the SUPERSEDED SURVEY CONTROL section of the datasheet. Julie Prusky in OAD requested that SCALED orthometric heights be shown in this section if this checkbox was selected. Some sample PIDs where this was an issue include AU2823, AV0853, and BJ4300.

(3) There were some special case scenarios where a small subset of the total marks inside and outside of the subsidence area (99% of the issue was limited to the subsidence area) was retrieving an older orthometric height vs the latest one. Some sample PIDs where this was an issue include EY2387, TW0483, BH0088, BH0104, AI2823, BH1708, and AA8546.

### **Change #2:**

The text on the page that displays the reason codes for why a control point is unpublishable was updated. In datasheet95.w V8.8, the text read:

```
-----  
- This listing contains control for which complete digital -  
- data sheets were not provided. The complete data sheets were -  
- not provided for the reason listed below. The reason below is -  
- associated with a horizontal control Nonpub code shown under -  
- the heading 'H' and/or a vertical control Nonpub code shown under -  
- the heading 'v' -  
- -  
- The format of the records are as follows: -  
- Pid = Station Permanent Identifier) -  
- Name = Station Designation -  
- Lat = Approx. Latitude (Degrees, Minutes, truncated Seconds) -  
- Lon = Approx. Longitude (Degrees, Minutes, truncated Seconds) -  
- O = Horizontal Order -  
- o = Vertical Order -  
- H = Horizontal Nonpub Code -  
- v = Vertical Nonpub Code -  
- -  
- H Nonpub HORIZONTAL CONTROL NONPUB REASON -  
- -----  
- B Station is a RBN antenna -  
- C Not a publishable datum within the state -  
- D No descriptive text available -  
- I No NAD83 coordinates available, only IGS08 coordinates -  
- L CORS L1 Phase Center is not publishable -  
- N No geodetic control -  
- O Outside NGS publication area -  
- P Purpose of position is not for network control -  
- R Restricted position -  
- T Station is a temporary point/bench mark -  
- V Station is a VOR antenna -  
- W Weakly determined position -  
- X Surface mark reported destroyed -  
- Y Surface and underground mark reported destroyed -  
- -  
- v Nonpub VERTICAL CONTROL NONPUB REASON -  
- -----  
- C Not a publishable datum within the state -  
- D No descriptive text available -
```



```

-      F      Bench mark not yet adjusted      -
-      N      No geodetic control              -
-      L      CORS L1 Phase Center is not publishable -
-      O      Outside NGS publication area      -
-      R      Restricted elevation              -
-      S      Mark is in a subsidence area      -
-      T      Station is a temporary point/bench mark -
-      X      Surface mark reported destroyed   -
-      Y      Surface and underground mark reported destroyed -
-      Z      Presumed destroyed                -
-
-
-

```

```

- NOTE - Stations found in this listing may still have a valid
- datasheet produced by use of other publishable values.
- For example, an ADJUSTED height may be non-publishable
- but a good GPS height might be found on the datasheet.
- This listing does not imply that values found on the datasheet
- are restricted. If it's on the datasheet, use it.
-
-
-

```

```

-----
Pid      Name                                Lat      Lon      Elev      O o Hv
-----

```

### In datasheet95.w V8.9, the test reads:

```

-----
- This listing contains control for which complete digital
- data sheets were not provided. The complete data sheets were
- not provided for the reason listed below. The reason below is
- associated with a horizontal control Nonpub code shown under
- the heading 'H' and/or a vertical control Nonpub code shown under
- the heading 'v'
-
- The format of the records are as follows:
- Pid = Station Permanent Identifier)
- Name = Station Designation
- Lat = Approx. Latitude (Degrees, Minutes, truncated Seconds)
- Lon = Approx. Longitude (Degrees, Minutes, truncated Seconds)
- O = Horizontal Order
- o = Vertical Order
- H = Horizontal Nonpub Code
- v = Vertical Nonpub Code
-
- H Nonpub HORIZONTAL CONTROL NONPUB REASON
- -----
- B      Station is a RBN antenna
- C      Not a publishable datum within the state
- D      No descriptive text available
- I      No NAD83 coordinates available, only IGS08 coordinates
- L      CORS L1 Phase Center is not publishable
- N      No geodetic control
- O      Outside NGS publication area
- P      Purpose of position is not for network control
- R      Restricted position
- T      Station is a temporary point/bench mark
- V      Station is a VOR antenna
- W      Weakly determined position
- X      Surface mark reported destroyed
- Y      Surface and underground mark reported destroyed
-
- v Nonpub VERTICAL CONTROL NONPUB REASON
- -----
- C      Not a publishable datum within the state
- D      No descriptive text available
- F      Bench mark not yet adjusted
- N      No geodetic control
- L      CORS L1 Phase Center is not publishable
- O      Outside NGS publication area
- R      Restricted elevation
-

```

```

-      S      Mark is in a subsidence area
-      T      Station is a temporary point/bench mark
-      X      Surface mark reported destroyed
-      Y      Surface and underground mark reported destroyed
-      Z      Presumed destroyed
-
-
-  NOTE - Stations found in this listing may still have a valid
-         datasheet produced by use of other publishable values.
-         For example, an ADJUSTED height may be non-publishable
-         but a good GPS height might be found on the datasheet.
-
-  If a mark/control point is in a subsidence area, you can request
-  to see suspect heights in the SUPERSEDED SURVEY CONTROL section
-  of its datasheet by checking the 'Include suspect heights in
-  subsidence area' checkbox on the datasheet retrieval pages.
-
-----
Pid      Name                               Lat      Lon      Elev      O o Hv
-----

```

**Change #3:**

The datasheet95.w V8.9 program was recompiled to use the libraries that were modified in the get\_mark\_list.w V2.26 program, as well as the latest libraries that were updated as part of the Solaris to Linux conversion process. This version of datasheet95.w is the first version that runs on Linux.

Other programs affected by this change request include chk\_pub.w V3.12, get\_mark\_list.w V2.26, get\_radius\_list.w V3.11, lna\_ret.w V2.7.2, and sup\_marks.w V2.8.2.

**Change #4:**

In this release of datasheet95.w V8.9, Vasanthi Kammula added two projects to the list of valid projects in the Gulf Coast dynamic region/subsidence area:

- (3) 00000857 with epoch 2009.55.
- (4) 00000730/5 with epoch 2009.55.

Project 00000857 is valid in the state of Florida. Project 00000730/5 is valid in the states of Alabama and Mississippi.

Below is the list of valid projects for the Gulf Coast Dynamic Region/Subsidence Area (new records are highlighted in **green**).

Project	Epoch
00000729/1	2009.55
00000729/2	2009.55
00000730/1	2009.55
00000730/2	2009.55
00000730/3	2009.55
00000730/4	2009.55
00000731	2009.55
00000732	2009.55
00000772	2009.55
GPS2329	2006.81
GPS2100	2004.65
GPS2021/C	2004.65
GPS2212	2004.65
GPS2287	2004.65
GPS2307	2004.65
GPS2262	2004.65
GPS2896/B	2009.55
GPS2896/C	2009.55
GPS2995	2009.55
GPS2995/B	2009.55
00000840	2009.55
00000803	2009.55
00000857	2009.55
00000730/5	2009.55

and a list of the valid project/state combinations within the Gulf Coast Dynamic Region/Subsidence Area (new records are highlighted in green).

Subsidence Project	State
00000729/1	AL
00000729/1	FL
00000729/1	LA
00000729/1	MS
00000729/1	TX
00000729/2	AL
00000729/2	MS
00000730/1	AL
00000730/2	AL
00000730/3	AL
00000730/4	AL
00000731	FL
00000732	TX
00000772	MS
GPS2896/B	LA
GPS2896/B	MS
GPS2896/B	AL
GPS2896/C	LA
GPS2896/C	MS
GPS2896/C	AL
GPS2995	LA
GPS2995/B	LA
00000840	MS
00000803	MS
00000857	FL
00000730/5	AL
00000730/5	MS

## **Change #5:**

There is a paragraph change whenever we are in the Gulf Coast Dynamic Region/Subsidence Area but the mark is not in one of the tables outlined in Change #4 above. The paragraph before the change (datasheet95 V8.8) looks like:

```
AJ7791 ** This station is in an area of known vertical motion.  If no
AJ7791 ** orthometric height is shown in the current survey control section,
AJ7791 ** all orthometric heights are considered suspect and are only
AJ7791 ** available in the superseded section if suspect heights were
AJ7791 ** requested.
```

The paragraph after the change (datasheet95 V8.9) looks like:

```
AJ7791 ** This is an automated warning due to this station being located within
AJ7791 ** a subsidence area.  If an orthometric height is not shown above in the
AJ7791 ** CURRENT SURVEY CONTROL section but one appears below under the
AJ7791 ** SUPERSEDED SURVEY CONTROL section then the orthometric height(s)
AJ7791 ** listed are shown only for historical purposes.
AJ7791 ** These heights are unverified, unreliable and have dislocated over time.
AJ7791 ** For more information, follow the weblink to "Include suspect heights"
AJ7791 ** in subsidence areas on the datasheet retrieval pages.
```

## **Version 8.8 update on 09/29/2015**

The datasheet95 program was updated to display geoid heights with three significant digits after the decimal place and to include the message:

```
<PID>.Significant digits in the geoid height do not necessarily reflect accuracy.
<PID>.<current geoid model> height accuracy estimate available here.
```

on the datasheet. This message is associated with the latest/current geoid height model. As of this writing, the latest/current geoid height model is GEOID12B.

## **Version 8.7.1 minor update on 08/3/2015**

The datasheet95 program was not updated, however, the underlying libraries shared between datasheet95 and other programs (e.g. chk\_pub, get\_mark\_list, get\_radius\_list, lna\_ret, sup\_marks) were updated. This is simply a recompile of the datasheet95 program with the updated/latest C and Fortran libraries.

## **Version 8.7 update to the Dynamic Regions/Subsidence Areas data (but not the datasheet95 program itself) on 04/13/2015**

In order for a project to be publishable on datasheets, a control point must lie outside of the Gulf Coast Dynamic Regions/Subsidence Areas, or if in it, *the elevation must be in a project listed in Tables 2 and 3 or Tables 2 and 4*. The boundaries of this subsidence region in the states of Alabama, Florida, Louisiana, and Mississippi are denoted in Table 1 below.

**Table 1: Dynamic Regions/Subsidence Areas of the Gulf Coast**

<b>State</b>	<b>Latitude Range</b>	<b>Longitude Range</b>
LA	latitude $\leq$ N303432	longitude $\geq$ W0912738
LA	latitude $\leq$ N304850	W0903401 $\leq$ longitude $\leq$ W0912738
LA	latitude $\leq$ N310002	longitude $\leq$ W0903401
MS	latitude $\leq$ N320608	W0882650 $\leq$ longitude $\leq$ W0910952
AL	latitude $\leq$ N312344	longitude $\geq$ W0880000
FL	N301743 $\leq$ latitude $\leq$ N303716	longitude $\geq$ W0870744

**Table 2: Publishable Projects in the Gulf Coast Dynamic Regions/Subsidence Areas  
(contains both historic and currently publishable projects)**

<b>Project</b>	<b>Epoch</b>
00000729/1	2009.55
00000729/2	2009.55
00000730/1	2009.55
00000730/2	2009.55
00000730/3	2009.55
00000730/4	2009.55
00000731	2009.55
00000732	2009.55
00000772	2009.55
GPS2329	2006.81
GPS2100	2004.65
GPS2021/C	2004.65
GPS2212	2004.65
GPS2287	2004.65
GPS2307	2004.65
GPS2262	2004.65
GPS2896/B	2009.55
GPS2896/C	2009.55
GPS2995	2009.55
GPS2995/B	2009.55
00000840	2009.55
00000803	2009.55

New records in this table are highlighted in green.

**Table 3: Currently Publishable Projects within a State in the Gulf Coast Dynamic Regions/Subsidence Areas**

<b>Project</b>	<b>State</b>
00000729/1	AL
00000729/1	FL
00000729/1	LA
00000729/1	MS
00000729/1	TX
00000729/2	AL
00000729/2	MS
00000730/1	AL
00000730/2	AL
00000730/3	AL
00000730/4	AL
00000731	FL
00000732	TX
00000772	MS
00000840	MS
00000803	MS
GPS2896/B	LA
GPS2896/B	MS
GPS2896/B	AL
GPS2896/C	LA
GPS2896/C	MS
GPS2896/C	AL
GPS2995	LA
GPS2995/B	LA

New records in this table are highlighted in green.

In some cases only a handful of control points are publishable within a project in the subsidence region and not the entire project. The PIDs of these control points and their associated state and project are listed in *Table 4* below.



**Table 4: Publishable PIDs (control points)  
in the Gulf Coast Dynamic Regions/Subsidence Areas**

<b>PID</b>	<b>STATE</b>	<b>PROJECT</b>
BG1724	FL	00000025
BH1210	LA	00000729/1
BH1212	LA	GPS2896/C
BH1213	LA	00000729/1
BH3249	MS	00000840
DL9666	MS	00000729/1
DL9667	LA	00000729/1

No change was made to Table 4 above.

## Version 8.7 released at 4:12pm on 04/09/2015

This release updates datasheets to work with the new GEOID12B geoid grids and the DEFLEC12B deflection grids. These grids were updated for use in several NGS products to take care of an error in the grids in the state of Puerto Rico (PR). Even though the issue arose in PR, all of the grids for the US/US Territories are affected. The geoid grids updated include eight for CONUS, four for Alaska (AK), one for Hawaii (HI), one for Guam (GU) and the Northern Mariana Islands (CQ), one for Puerto Rico (PR) and the US Virgin Islands (VQ), and one for American Samoa (AS). Below is a list of representative PIDs in each of the grid zones:

```
QC0457 CONUS Grid #1
RV0733 CONUS Grid #2
RL0502 CONUS Grid #3
RF0782 CONUS Grid #4
MT0826 CONUS Grid #5
AI9393 CONUS Grid #6
MA1926 CONUS Grid #7
LY2921 CONUS Grid #8
UV8038 AK Grid #1
UW7465 AK Grid #2
UV7838 AK Grid #3
UV7112 AK Grid #4
TU0026 HI Grid #0
TW0411 GU Grid #0
DE7041 CQ Grid #0
DG5385 PR Grid #0
TV1537 VQ Grid #0
AA4457 AS Grid #0
```

## Version 8.6.1 released at 10:26am on 02/14/2015

This datasheet95 release is a special update for two control points associated with the Washington Monument: HV4442 and DL6618. Rather than going through a tedious update of some database codes in the system for the cases needed for these control points that would require weeks to do, and given the short window of time needed to get specific text displayed on datasheets for these control points it was decided that the text needed should be hard coded into the datasheets for these two control points.

For only the two control points (this should not affect ANY other control points) the lines on the datasheet that read:

```
<PID>* NAD 83(2011) ELLIP HT- 149.172 (meters) (02/01/15) ADJUSTED
```

and

```
<PID>.The ellipsoidal height was determined by GPS observations  
<PID>.and is referenced to NAD 83.
```

Should be changed to:

```
<PID>* NAD 83(2011) ELLIP HT- 149.172 (meters) (02/01/15) GPS OBS
```

and

```
<PID>.The ellipsoidal height was determined by classical geodetic methods  
<PID>.and is referenced to NAD 83.
```

## Version 8.6 released at 4:46pm on 01/22/2015

This release encompasses 3 change requests:

- (1) Users/Surveyors have requested information regarding the standard deviations used to calculate the Horiz and Ellip values for network accuracies be put on datasheets and the local and network accuracy reports. Currently, these values are published for local accuracies on the local and network accuracy report (via the lna\_ret program) but they have never been published for the network accuracies before and need to be published. Also, the text in the NETWORK section of datasheets needs to be changed to add some new text and data as described in first part of the mockup associated with the change request ( see the below links to the original CRs for the mockup). ***The changes to the text on the line with the hyperlink "here" will require that the newweb/ngsweb CGI Perl scripts related to datasheets be updated and released along with this release of datasheet95.***

Textual changes are also needed on the lna\_ret report to reflect the changes on the main datasheet page. A new hyperlink is also needed on the lna\_ret report for "Geospatial Positioning Accuracy Standards". It will point to <http://www.fgdc.gov/standards/projects/FGDC-standards-projects/accuracy/>.

Examples PIDs are AC6803, UA0024.

- (2) In datasheet95.w, stations designated as H-T (i.e. horizontal trigonometric leveling) should be published in the "Superseded Survey Control" section of datasheets. H-Bs (i.e. horizontal bench marks), and H-G-2s (horizontal HT\_MODs), will supersede H-Ts. H-G-0s (i.e. horizontal non height mod) will have the adjustment date check implemented as to which elevation is the latest; this date check is important for the sort order of elevations in the superseded section of datasheets.

The definition of a Horizontal Trigonometric Leveling elevation in the NGSIDB is ELEVATION.ELEV\_SOURCE='H' and ELEVATION.ELEV\_TECH='T'.

The definition of a Horizontal Benchmark elevation in the NGSIDB is ELEVATION.ELEV\_SOURCE='H' and ELEVATION.ELEV\_TECH='B'.

The definition of a Horizontal HT\_MOD in the NGSIDB is ELEVATION.ELEV\_SOURCE='H' and ELEVATION.ELEV\_TECH='G' and GPS\_HT\_PRECISION.CODE=2.

The definition of a Horizontal Non-HT\_MOD in the NGSIDB is ELEVATION.ELEV\_SOURCE='H' and ELEVATION.ELEV\_TECH='G' and GPS\_HT\_PRECISION.CODE=0.

An example PID where H-Ts are not showing up in the superseded section is JO0506. This particular PID's H-T is in datum NGVD29 (i.e. 29). H-Ts appear in several datums as shown in the below SQL query:

```
select distinct DATUM from ELEVATION where ELEV_SOURCE='H' and
ELEV_TECH='T';
```

## DATUM

LT  
88  
29  
G1

Therefore we need to check other example PIDs in each of these datums to show that the H-T superseded issue has been taken care of. These other example PIDs that will be used in the tests are:

EC1892, EC2495, DE1780 for the 88 datum

TT3769, EZ2087, EB1434 for the 29 datum

TU0026, AI9866, AI9864 for the LT datum

TW0465, TW0482, TW0439 for G1 datum

- (3) Update the dsdata.txt file associated with datasheets for the text field, HD\_HELD1. The old text was:

Differentially corrected hand held GPS observations.

The new text is:

Differentially corrected hand held GPS observations or other comparable positioning techniques.

## Version 8.5 released at 5:06pm on 06/12/2014

This release encompasses 9 changes:

- (1) CORS are being set up on oil rigs 3 miles off the coast of the US and it is necessary to expand the STATES table to accommodate them to ensure the accuracy of the datasheet. While there are no states in the middle of the ocean, there are US Exclusive Economic Zones (EEZs). State-owned submerged land usually extends 3 nautical miles from the coastline, then the "seabed" becomes the ownership of the US EEZ outward to 200 nautical miles. See:

[http://www.gc.noaa.gov/images/gcil\\_gis\\_marineboundaries.jpg](http://www.gc.noaa.gov/images/gcil_gis_marineboundaries.jpg)

[http://www.csc.noaa.gov/mbwg/\\_pdf/products/State.Seaward.Boundary.pdf](http://www.csc.noaa.gov/mbwg/_pdf/products/State.Seaward.Boundary.pdf)

<http://www.boem.gov/Regulations/BOEM-Governing-Statutes.aspx>

Beyond 3 miles, therefore, the state code would be used only to decide which of the three NAD83 transformations to use:

A state code of U1 will be used for US Economic Exclusion Zone U1 for NAD83 2011.  
A state code of U2 will be used for US Economic Exclusion Zone U2 for NAD83 MA11.  
A state code of U3 will be used for US Economic Exclusion Zone U3 for NAD83 PA11.

The datasheet software should suppress the state and county identifiers beyond 3 miles offshore  
printing instead the US Exclusive Economic Zone.

Currently there are 2 control points in the U1 EEZ: AJ8053 (ARP for CORS site COVX) and DE6582 (ARP for CORS site HARV). The L1 Phase Centers associated with COVX are DN4596 and AJ8054 (which is no longer published since it was replaced with the new L1 Phase Center of DN4596). The L1 Phase Center and Reference Monument associated with HARV are DE6581 and DE6582. There are no control points currently for the U2 EEZ or U3 EEZ in the NGSIDB.

As per the CORS team, the SPC data should display on the datasheet but the UTM data should not for any control point in an EEZ. As per a conversation on 11/13/2013, datasheets where the CORS type is ARP, L1 Phase Center, or Offset Monument and also have a best position where the position source is adjusted should display SPC and UTM data on them.

- (2) In datasheet V8.3, it was requested that the STATE/COUNTY and COUNTRY lines be modified as follows: *Add the name of the COUNTRY and STATE/PROVINCE in addition to the GNIS code to NGS data sheets for CANADA and other Countries. The names of the States/provinces already exist in the NGSIDB. For Countries that do not have State identifiers, just the Country GNIS code and Country Name should be printed and if the Country has an "Unidentified Province/State" code in the STATES table, print that state code and the name associated with it.*

Later on there was an email addendum to this original request and it appeared that the request was changed to:

*Make sure the STATE/COUNTY and COUNTRY lines on the datasheet for all countries outside of the US come out in the following format:*

```
STATE/COUNTY- <state_name>
COUNTRY      - <country_name>
```

*versus*

```
STATE/COUNTY- <state_code>/<county_name>
COUNTRY      - <country_code>
```

Two PIDs where this issue still persisted were: AB9540 (in Aruba) and AB9264 (in Curacao).

- (3) There was an earthquake in American Samoa in Nov of 2009 which affected positions and heights by as much as a decimeter. As a new position has become available for the CORS on the island which controls all the GPS mark positions, a new readjustment to PA2011 for the island has been done and entered in the database. All mark positions are now consistent with the newly published CORS position and it is recommended that a note be added to all data sheets of American Samoa GPS points and the CORS data sheet for ASPA. In this request:

- (a) If a datasheet is requested for the CORS ARP of AJ5871 (*UID is 11573406*) then display the message:

```
<PID>.The current NAD 83 position and ellipsoid height were revised in
<PID>.February 2013 to account for displacement due to the September 29,
<PID>.2009 Samoa Island earthquake.
```

This message should also display whenever a datasheet is requested for DK7460, the ARPs *associated publishable* L1 Phase Center. If this antenna gets replaced at a later date, then the new L1 Phase Center should display the message above. To find out what the *associated publishable* L1 Phase Center is for a CORS ARP, simply run the following SQL:

Find the CORS\_NAME associated with the ARP.

```
1> select * from CORS_GROUP where UID=11573406 (this is the ARPs
UID)
2> go
```

UID	CORS_NAME	CORS_TYPE
11573406	ASPA	A

Get all of the components of the CORS (ARP, L1 Phase Centers, Monuments, Reference Marks).

```
1> select * from CORS_GROUP where CORS_NAME="ASPA"
2> go
UID          CORS_NAME  CORS_TYPE
-----
11573406    ASPA      A
```

```

11459204 ASPA      R (This is a reference mark)
11573406 ASPA      A (This is an ARP)
11573407 ASPA      L (This is an L1 Phase Center)
11580421 ASPA      R (This is a reference mark)
11624397 ASPA      L (This is an L1 Phase Center)

```

*Note: a monument would be designated with a CORS\_TYPE of M in the table above.*

See which one of the L1 Phase Centers is the active/publishable one.

```

1> select * from CORS_PUB_STATUS where LPC_UID in (11573407,
11624397)
2> go

```

```

LPC_UID      PUB
-----
11573407     N
11624397     Y (Y means Yes it is publishable)

```

The PID for UID=11573407 is AJ5872 (the former antenna that is now defunct/decommissioned but that NGS still tracks in the database) and the PID for UID=11624397 is DK7460 (the active/current and publishable antenna).

(b) For all other datasheets in American Samoa that are GPSed, the message:

```

<PID>.The current NAD 83 position and ellipsoid height are consistent
<PID>.with AMERICAN SAMOA COR ASPA coordinates revised in February 2013
<PID>.to account for displacement due to the September 29, 2009 Samoa
<PID>.Island earthquake.
<PID>.The PID for the ASPA CORS ARP is AJ5871.
<PID>.The PID for the ASPA L1 Phase Center is DK7460.

```

should be displayed. This applies to datasheets for passive control points that are GPSed as well as other CORS sites (all are GPSed) in American Samoa. This message should be attached to all GPS stations (current and future) in American Samoa.



(4) The datasheet95 program displays the message:

\* POSTED <v\_rate>, SEE BELOW

if the ELEVATION.ELEV\_SOURCE is "P" (for Posted) along with one of 8 possible messages which are based on this field as well as what the ELEVATION.ERR\_DIST (a.k.a. vrate, a calculated field) and ELEVATION.REDUNDANCY fields contain.

Message #	vrate	Redundancy	Message	Sample PID
1	Between 0.0 and 1.0 mm/km	N/A	<PID>.* This is a POSTED BENCH MARK height. Code A indicates a distribution <PID>.rate of 0.0 thru 1.0 mm/km. <PID>	DG6930
2	Between 1.1 and 2.0 mm/km	N/A	<PID>.* This is a POSTED BENCH MARK height. Code B indicates a distribution <PID>.rate of 1.1 thru 2.0 mm/km. <PID>	EW2570
3	Between 2.1 and 3.0 mm/km	N/A	<PID>.* This is a POSTED BENCH MARK height. Code C indicates a distribution <PID>.rate of 2.1 thru 3.0 mm/km. <PID>	OA0360
4	Between 3.1 and 4.0 mm/km	N/A	<PID>.* This is a POSTED BENCH MARK height. Code D indicates a distribution <PID>.rate of 3.1 thru 4.0 mm/km. <PID>	CE0075
5	Between 4.1 and 8.0 mm/km	N/A	<PID>.* This is a POSTED BENCH MARK height. Code E indicates a distribution <PID>.rate of 4.1 thru 8.0 mm/km. <PID>	JA1023
6	Greater than 8.0 mm/km	N/A	<PID>.* This is a POSTED BENCH MARK height. Code F indicates a distribution <PID>.rate greater than 8.0 mm/km. <PID>	BC0899
7	NC	C	<PID>.* This is a POSTED BENCH MARK height. Code NC indicates the bench mark <PID>.was located on a no-check spur therefore a value was not computed. <PID>  <PID>.No vertical observational check was made to the station.	OD0336
8	NC	N	<PID>.* This is a POSTED BENCH MARK height. Code NC indicates the bench mark <PID>.was located on a no-check spur therefore a value was not computed. <PID>  <PID>.No vertical observational check was made to the station.	DV0931

The datasheet95 program also displays the message:

\* READJUSTED, <vrate>, SEE BELOW

if the ELEVATION.ELEV\_SOURCE is "M" (for Readjusted)) 8 possible messages which are based on this field as well as what the ELEVATION.ERR\_DIST (a.k.a. vrate, a calculated field) and ELEVATION.REDUNDANCY fields contain.

Message #	vrate	Redundancy	Message	Sample PID
1	Between 0.0 and 1.0 mm/km	N/A	<PID>.* This is a READJUSTED BENCH MARK height. Code A indicates a distribution <PID>.rate of 0.0 thru 1.0 mm/km. <PID>	EW5132
2	Between 1.1 and 2.0 mm/km	N/A	<PID>.* This is a READJUSTED BENCH MARK height. Code B indicates a distribution <PID>.rate of 1.1 thru 2.0 mm/km. <PID>	EW2571
3	Between 2.1 and 3.0 mm/km	N/A	<PID>.* This is a READJUSTED BENCH MARK height. Code C indicates a distribution <PID>.rate of 2.1 thru 3.0 mm/km. <PID>	EW2599
4	Between 3.1 and 4.0 mm/km	N/A	<PID>.* This is a READJUSTED BENCH MARK height. Code D indicates a distribution <PID>.rate of 3.1 thru 4.0 mm/km. <PID>	DW1191
5	Between 4.1 and 8.0 mm/km	N/A	<PID>.* This is a READJUSTED BENCH MARK height. Code E indicates a distribution <PID>.rate of 4.1 thru 8.0 mm/km. <PID>	DW1231
6	Greater than 8.0 mm/km	N/A	<PID>.* This is a READJUSTED BENCH MARK height. Code F indicates a distribution <PID>.rate greater than 8.0 mm/km. <PID>	EV2077
7	NC	C	<PID>.* This is a READJUSTED BENCH MARK height. Code NC indicates the bench mark <PID>.was located on a no-check spur therefore a value was not computed. <PID>  <PID>.No vertical observational check was made to the station.	DC0795
8	NC	N	<PID>.* This is a READJUSTED BENCH MARK height. Code NC indicates the bench mark <PID>.was located on a no-check spur therefore a value was not computed. <PID>  <PID>.No vertical observational check was made to the station.	ER0053

The messages above should be modified to eliminate the sections highlighted in red since the vrate will no longer be calculated and inserted into the ELEVATION table's ERR\_DIST field via the ld\_vhts5 program. Ajit Singh stated that the vrate field data is 'inadmissible'.

Also as part of (4) above, the dsdata.txt file was updated. Please see the test document for more specifics as to how it changed.

- (5) Make sure that the positions with historical horizontal datums appear as the last set of positions in the SUPERSEDED SURVEY CONTROL section . For PID HV7698, the superseded position with USBS is appearing at the top of the list and needs to be grouped with the USSD superseded position at the bottom of the list.

In earlier versions of datasheet it appears incorrectly as follows:

```

HV7698                                SUPERSEDED SURVEY CONTROL
HV7698
HV7698  USBS          - 38 53 25.60000(N)    076 59 40.98000(W) AD(      ) 3
HV7698  NAD 83(1991)- 38 53 29.02790(N)    076 59 58.62066(W) AD(      ) 1
HV7698  NAD 83(1986)- 38 53 29.02710(N)    076 59 58.63166(W) AD(      ) 1
HV7698  NAD 27        - 38 53 28.63000(N)    076 59 59.70000(W) AD(      ) 1
HV7698  USSD         - 38 53 28.96100(N)    076 59 59.54300(W) AD(      ) 3

```

The fix should in datasheet95 V8.5 should look like:

```

HV7698                                SUPERSEDED SURVEY CONTROL
HV7698
HV7698  NAD 83(1991)- 38 53 29.02790(N)    076 59 58.62066(W) AD(      )
HV7698  NAD 83(1986)- 38 53 29.02710(N)    076 59 58.63166(W) AD(      ) 1
HV7698  NAD 27        - 38 53 28.63000(N)    076 59 59.70000(W) AD(      ) 1
HV7698  USBS          - 38 53 25.60000(N)    076 59 40.98000(W) AD(      ) 3
HV7698  USSD         - 38 53 28.96100(N)    076 59 59.54300(W) AD(      ) 3

```

6. Make sure that all superseded control is included on CORS datasheets. An example of this is PID AF9520.

7. Remove excess spacing on the “Orthometric Height” line on datasheets where the word “(meters)” has too much leading space in it. Note: This was not a typo. During the time that we were updating the dynamic regions/subsidence areas in the Southern US, it was requested that we have 3 options for this “word”. The options are:

- a. “\*\*(meters)” - two leading star characters; comes out whenever we are in the subsidence area and the mark is not publishable within this area. No change is needed on this option. An example PID where this displays on the datasheet is AU1176.

```
AU1176* NAVD 88 ORTHO HEIGHT -          ** (meters)          ** (feet) NOT PUB
```

- b. “ (+/-2cm)” - two leading blanks; displays if the mark is VERTCONed. We need to remove one of the leading blanks so we get “ (+/-2cm)”. An example PID where the extra blank occurs is TO1170. The issue also presents itself in the word “ (feet)”.

```
TO1170* NAVD 88 ORTHO HEIGHT - 750.03  (+/-2cm)      2460.7  (feet)  VERTCON
```

- c. “ (meters)” - two leading blanks; displays whenever we are either outside of the subsidence area or the mark is publishable within the subsidence area. We need to remove one of the leading blanks – so we get “ (meters)”. An example PID where the extra blank occurs is BG2082.

```
BG2082* NAVD 88 ORTHO HEIGHT - 2.352  (meters)      7.72  (feet)  ADJUSTED
```

8. Make sure that:

- (a) The Leveled BM (i.e. ELEVATION.ELEV\_SOURCE='H' and ELEVATION.ELEV\_SOURCE='B') for BJ4658 does not appear twice on the datasheet – once in the CURRENT SURVEY CONTROL section and once in the SUPERSEDED SURVEY CONTROL section. An H-T (i.e. ELEVATION.ELEV\_SOURCE='H' and ELEVATION.ELEV\_TECH='T') is not printable at this time in the SUPERSEDED SURVEY CONTROL section due to a rule initiated in a prior version of datasheet95. The adjusted height for RM0895 is in the CURRENT SURVEY CONTROL section and not the SUPERSEDED SURVEY CONTROL section. Currently the GPS\_OBS (ELEVATION.ELEV\_SOURCE='H' and ELEVATION.ELEV\_TECH='G') is winning as the best height instead of the adjusted height (ELEVATION.ELEV\_SOURCE='A') for RM0895.

**Notes: In order to make the necessary changes in #8a above, there is a subsequent change that must occur in the superseded section (or else fixing #8a would not be doable). The resulting changes are as follows:**

Control points that have superseded heights where the datum is in (29, AS, G1, GU, LT, NM, PR) and their ELEV\_SOURCE/ELEV\_TECH combinations are A/N, H/B, H/G will have *all of these matching superseded heights display in the SUPERSEDED SURVEY CONTROL section of datasheets*. Example PIDs are AA0028, AA0134, AC1045, AD2617, ED0346, MB1088, DE5505, DE5588, TU0236, TU0222, TU0029, TU0224, TU0284, TU0187, TU0181, TU0208, TU0291, TU0292, TU0185, TU0179, TU0231, TU0233, TU0288. Please see the notes in the test document [https://source.ngs.noaa.gov/svn/repos/NGSIDBAPI/RetrievalApi/datasheet/docs/V8.5/DATASHEET95\\_V8\\_5\\_Tests.docx](https://source.ngs.noaa.gov/svn/repos/NGSIDBAPI/RetrievalApi/datasheet/docs/V8.5/DATASHEET95_V8_5_Tests.docx) after test 8b for more information.

9. Update the dynamic region projects and the dynamic region project state combos.

The dynamic region projects now will contain the following list of publishable projects in the Gulf Coast Dynamic Regions/Subsidence Areas:

<b>Project</b>	<b>Epoch</b>
00000729/1	2009.55
00000729/2	2009.55
00000730/1	2009.55
00000730/2	2009.55
00000730/3	2009.55
00000730/4	2009.55
00000731	2009.55
00000732	2009.55
00000772	2009.55
GPS2329	2006.81
GPS2100	2004.65
GPS2021/C	2004.65
GPS2212	2004.65
GPS2287	2004.65
GPS2307	2004.65
GPS2262	2004.65
GPS2896/B	2009.55
GPS2896/C	2009.55
GPS2995	2009.55
GPS2995/B	2009.55

New records in this file are highlighted in green.

The dynamic region project state combos now will contain the following listing of valid project/state combinations in the Gulf Coast Dynamic Regions/Subsidence Areas:

<b>Project</b>	<b>State</b>
00000729/1	AL
00000729/1	FL
00000729/1	LA
00000729/1	MS
00000729/1	TX
00000729/2	AL
00000729/2	MS
00000730/1	AL
00000730/2	AL
00000730/3	AL
00000730/4	AL
00000731	FL
00000732	TX
00000772	MS
GPS2896/B	LA
GPS2896/B	MS
GPS2896/B	AL
GPS2896/C	LA
GPS2896/C	MS
GPS2896/C	AL
GPS2995	LA
GPS2995/B	LA

New records in this file are highlighted in green.

## Version 8.4 released at 11:43am on 05/08/2014

This release encompasses 2 change requests and 3 additional issues:

1. Fix the datasheets that have two different scenarios:
  - Where a limited number of datasheets are not being VERTCONed when they should be. An example PID for this issue is TO1170.
  - Where the Reference Marks and the Primary Azimuth are jumbled up on some datasheets. An example PID for this issue is GW0408.

The problems stem from the difference in how Oracle sorts the database tables vs how Sybase sorts them, and also in how Oracle retrieves data with inner and outer joins differently than in Sybase.

The partial datasheet for TO1170 BEFORE it was corrected is shown below.

```
1      National Geodetic Survey,   Retrieval Date = SEPTEMBER 30, 2013
TO1170 *****
TO1170 CBN          -   This is a Cooperative Base Network Control Station.
TO1170 DESIGNATION -   LOON LAKE
TO1170 PID          -   TO1170
TO1170 STATE/COUNTY-   WA/STEVENS
TO1170 COUNTRY      -   US
TO1170 USGS QUAD    -   SPRINGDALE (1980)
TO1170
TO1170                                *CURRENT SURVEY CONTROL
TO1170
TO1170* NAD 83(2011) POSITION- 48 04 50.69210(N) 117 37 51.53769(W) ADJUSTED
TO1170* NAD 83(2011) ELLIP HT- 732.014 (meters) (06/27/12) ADJUSTED
TO1170* NAD 83(2011) EPOCH - 2010.00
TO1170* NAVD 88 ORTHO HEIGHT - 749. (meters) 2457. (feet) SCALED
TO1170
TO1170 NAD 83(2011) X - -1,980,102.210 (meters) COMP
TO1170 NAD 83(2011) Y - -3,782,602.881 (meters) COMP
TO1170 NAD 83(2011) Z - 4,723,424.056 (meters) COMP
TO1170 LAPLACE CORR - 7.49 (seconds) DEFLEC12A
TO1170 GEOID HEIGHT - -18.01 (meters) GEOID12A
TO1170
TO1170 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)
TO1170 Type Horiz Ellip Dist(km)
TO1170 -----
TO1170 NETWORK 1.99 2.80
TO1170 -----
TO1170 MEDIAN LOCAL ACCURACY AND DIST (006 points) 2.12 3.12 41.56
TO1170 -----
TO1170 NOTE: Click here for information on individual local accuracy
TO1170 values and other accuracy information.
TO1170
TO1170
TO1170.The horizontal coordinates were established by GPS observations
TO1170.and adjusted by the National Geodetic Survey in June 2012.
TO1170
TO1170.NAD 83(2011) refers to NAD 83 coordinates where the reference
TO1170.frame has been affixed to the stable North American tectonic plate. See
TO1170.www.ngs.noaa.gov/web/surveys/NA2011 for more information.
TO1170
TO1170.The horizontal coordinates are valid at the epoch date displayed above
TO1170.which is a decimal equivalence of Year/Month/Day.
TO1170
TO1170.The orthometric height was scaled from a topographic map.
```

The partial datasheet for TO1170 AFTER it was corrected is shown below.

```

1      National Geodetic Survey,   Retrieval Date = SEPTEMBER 30, 2013
TO1170 *****
TO1170 CBN - This is a Cooperative Base Network Control Station.
TO1170 DESIGNATION - LOON LAKE
TO1170 PID - TO1170
TO1170 STATE/COUNTY- WA/STEVENS
TO1170 COUNTRY - US
TO1170 USGS QUAD - SPRINGDALE (1980)
TO1170
TO1170 *CURRENT SURVEY CONTROL
TO1170
TO1170* NAD 83(2011) POSITION- 48 04 50.69210(N) 117 37 51.53769(W) ADJUSTED

TO1170* NAD 83(2011) ELLIP HT- 732.014 (meters) (06/27/12) ADJUSTED
TO1170* NAD 83(2011) EPOCH - 2010.00
TO1170* NAVD 88 ORTHO HEIGHT - 749. (meters) 2457. (feet) VERTCON

TO1170
TO1170 NAD 83(2011) X - -1,980,102.210 (meters) COMP
TO1170 NAD 83(2011) Y - -3,782,602.881 (meters) COMP
TO1170 NAD 83(2011) Z - 4,723,424.056 (meters) COMP
TO1170 LAPLACE CORR - 7.49 (seconds) DEFLEC12A
TO1170 GEOID HEIGHT - -18.01 (meters) GEOID12A
TO1170
TO1170 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)
TO1170 Type Horiz Ellip Dist(km)
TO1170 -----
TO1170 NETWORK 1.99 2.80
TO1170 -----
TO1170 MEDIAN LOCAL ACCURACY AND DIST (006 points) 2.12 3.12 41.56
TO1170 -----
TO1170 NOTE: Click here for information on individual local accuracy
TO1170 values and other accuracy information.
TO1170
TO1170
TO1170.The horizontal coordinates were established by GPS observations
TO1170.and adjusted by the National Geodetic Survey in June 2012.
TO1170
TO1170.NAD 83(2011) refers to NAD 83 coordinates where the reference
TO1170.frame has been affixed to the stable North American tectonic plate. See
TO1170.www.ngs.noaa.gov/web/surveys/NA2011 for more information.
TO1170
TO1170.The horizontal coordinates are valid at the epoch date displayed above
TO1170.which is a decimal equivalence of Year/Month/Day.
TO1170
TO1170.The NAVD 88 height was computed by applying the VERTCON shift value to
TO1170.the NGVD 29 height (displayed under SUPERSEDED SURVEY CONTROL.)

```

The partial datasheet for GW0408 BEFORE it was corrected is shown below.

```

GW0408: Primary Azimuth Mark Grid Az
GW0408:SPC VA S - FARMVILLE MUNICIPAL TANK 097 19 36.9
GW0408:UTM 17 - FARMVILLE MUNICIPAL TANK 095 48 39.7
GW0408
GW0408|-----|
GW0408| PID Reference Object Distance Geod. Az |
GW0408| dddmss.s |
GW0408| GW2330 FARMVILLE MUNICIPAL TANK APPROX.10.0 KM 0971947.1 |
GW0408| GW0409 TUGGLE RM 2 27.407 METERS 12827 |
GW0408| GW0411 TUGGLE AZ MK 2 29619 |
GW0408| GW0407 TUGGLE RM 1 22.175 METERS 35606 |
GW0408|-----|

```

The partial datasheet for GW0408 AFTER it was corrected is shown below.



```

GW0408: Primary Azimuth Mark Grid Az
GW0408:SPC VA S - TUGGLE AZ MK 295 49 46.8
GW0408:UTM 17 - TUGGLE AZ MK 294 18 49.6
GW0408
GW0408|-----|
GW0408| PID Reference Object Distance Geod. Az |
GW0408| dddmmss.s |
GW0408| GW2330 FARMVILLE MUNICIPAL TANK APPROX.10.0 KM 0971947.1 |
GW0408| GW0409 TUGGLE RM 2 27.407 METERS 12827 |
GW0408| GW0410 TUGGLE AZ MK 2954957.0 |
GW0408| GW0411 TUGGLE AZ MK 2 29619 |
GW0408| GW0407 TUGGLE RM 1 22.175 METERS 35606 |
GW0408|-----|

```

- Remove any recovery from the datasheet with a project source of GPS1909 or 1909. This issue was a bit more complex than originally conceived. The email transactions between OAD and SDD found here <https://source.ngs.noaa.gov/svn/repos/NGSIDBAPI/RetrievalApi/datasheet/docs/V8.4/CR-DS 1909 recoveries addendum.doc> and here <https://source.ngs.noaa.gov/svn/repos/NGSIDBAPI/RetrievalApi/datasheet/docs/V8.4/CR-DS 1909 recoveries addendum2.doc> clarify the issues and solution.

Oracle and Sybase sort records in some of the tables in NGSIDB differently than expected. This caused HISTORY records with null (i.e. signified by “UNK” on the datasheet in the HISTORY section) to fall at the end of the sorted list. This is not what is desired. There are two scenarios possible in dealing with “UNK” records:

**Scenario #1:** if the HISTORY.REPORT\_DATE is null and the HISTORY.COND is null and there is descriptive text in the TEXT table for the HISTORY.REPORT\_ID, then include this history record in the list of histories to be printed out on the datasheet, along with its associated descriptive text. In this case, if any “UNK” records should be placed in the HISTORY section immediately after the MONUMENTED/original setting (i.e. HISTORY.COND='S') and before any HISTORY records with HISTORY.COND in (G, N, O, P, X, Y, Z). *An example of this is PID MG0369.*

The HISTORY records for MG0369 (i.e. UID=10441067) are:

REPORT_DATE	REPORT_ID	LOAD_ID	UID	COND	AGENCY	COP	SAT_USE	TRANSPOR	PACK_TIME	REPORT_TYPE	T_STATUS
	949212	0	10441067		RIRR					V	C
	949213	0	10441067	S	USE					S	I
19960611	2508231	7441	10441067	N	USPSQD					I	N
19960819	2507694	7426	10441067	G	USPSQD					I	D

The one in red is a record where the REPORT\_DATE is null and the COND is null. It has descriptive text in the TEXT table whenever the query below is run:

```
select * from TEXT where REPORT_ID=949212;
```

REPORT_ID	SEQ_NO	LINE
949212	1	AT ROCK ISLAND.

949212 2 AT ROCK ISLAND, ROCK ISLAND COUNTY, ON THE CHICAGO, ROCK ISLAND  
 949212 3 AND PACIFIC RAILWAY, OPPOSITE THE STATION, IN THE NORTH SIDE OF  
 949212 4 THE BUILDING OCCUPIED IN 1944 BY BEST RECAP AND TIRE CO., AT THE  
 949212 5 NORTHEAST CORNER OF THE FOUNDATION, AND IN THE UPPER FOUNDATION  
 949212 6 STONE. THE CENTER OF A COPPER BOLT SET HORIZONTALLY AND SURROUNDED  
 949212 7 BY THE LETTERS USPBM CUT IN THE STONE.

Thus, this history record in red *should* appear on the datasheet and the descriptive text should appear on the datasheet and below the MONUMENTED (i.e HISTORY.COND='S') history record.

The partial datasheet for MG0369 BEFORE it was corrected is shown below.

MG0369	HISTORY	- Date	Condition	Report By
MG0369	HISTORY	- UNK	MONUMENTED	USE
MG0369	HISTORY	- 19960611	MARK NOT FOUND	USPSQD
MG0369	HISTORY	- 19960819	GOOD	USPSQD
MG0369	HISTORY	- UNK	SEE DESCRIPTION	RIRR
MG0369				
MG0369			STATION DESCRIPTION	
MG0369				
MG0369	'DESCRIBED BY US POWER SQUADRON 1996			
MG0369	'MARK NOT FOUND.			
MG0369				
MG0369			STATION RECOVERY (1996)	
MG0369				
MG0369	'RECOVERY NOTE BY US POWER SQUADRON 1996			
MG0369	'RECOVERED IN GOOD CONDITION.			
MG0369				
MG0369			STATION RECOVERY (UNK )	
MG0369				
MG0369	'RECOVERY NOTE BY ROCK ISLAND RAILROAD UNK			
MG0369	'AT ROCK ISLAND.			
MG0369	'AT ROCK ISLAND, ROCK ISLAND COUNTY, ON THE CHICAGO, ROCK ISLAND			
MG0369	'AND PACIFIC RAILWAY, OPPOSITE THE STATION, IN THE NORTH SIDE OF			
MG0369	'THE BUILDING OCCUPIED IN 1944 BY BEST RECAP AND TIRE CO., AT THE			
MG0369	'NORTHEAST CORNER OF THE FOUNDATION, AND IN THE UPPER FOUNDATION			
MG0369	'STONE. THE CENTER OF A COPPER BOLT SET HORIZONTALLY AND SURROUNDED			
MG0369	'BY THE LETTERS USPBM CUT IN THE STONE.			

The partial datasheet for MG0369 AFTER it was corrected is shown below.

MG0369	HISTORY	- Date	Condition	Report By
MG0369	HISTORY	- UNK	MONUMENTED	USE
MG0369	HISTORY	- UNK	SEE DESCRIPTION	RIRR
MG0369	HISTORY	- 19960611	MARK NOT FOUND	USPSQD
MG0369	HISTORY	- 19960819	GOOD	USPSQD
MG0369				
MG0369			STATION DESCRIPTION	
MG0369				
MG0369	'DESCRIBED BY ROCK ISLAND RAILROAD UNK			
MG0369	'AT ROCK ISLAND.			
MG0369	'AT ROCK ISLAND, ROCK ISLAND COUNTY, ON THE CHICAGO, ROCK ISLAND			
MG0369	'AND PACIFIC RAILWAY, OPPOSITE THE STATION, IN THE NORTH SIDE OF			
MG0369	'THE BUILDING OCCUPIED IN 1944 BY BEST RECAP AND TIRE CO., AT THE			
MG0369	'NORTHEAST CORNER OF THE FOUNDATION, AND IN THE UPPER FOUNDATION			
MG0369	'STONE. THE CENTER OF A COPPER BOLT SET HORIZONTALLY AND SURROUNDED			
MG0369	'BY THE LETTERS USPBM CUT IN THE STONE.			

MG0369  
 MG0369 STATION RECOVERY (1996)  
 MG0369  
 MG0369'RECOVERY NOTE BY US POWER SQUADRON 1996  
 MG0369'MARK NOT FOUND.  
 MG0369  
 MG0369 STATION RECOVERY (1996)  
 MG0369  
 MG0369'RECOVERY NOTE BY US POWER SQUADRON 1996  
 MG0369'RECOVERED IN GOOD CONDITION.

**Scenario #2:** If the HISTORY.REPORT\_DATE is null and the HISTORY.COND is null and there is no descriptive text in the TEXT table for the HISTORY.REPORT\_ID, then exclude this history record in the list of histories from the datasheet and also exclude the descriptive text associated with it from the datasheet as well. *An example of this is PID HV0450.*

The HISTORY records for HV0450 (i.e. UID=10154135) are:

REPORT_DATE	UID	REPORT_ID	LOAD_ID	COND	AGENCY	COP	SAT_USE	TRANSPOR	PACK_TIME	REPORT_TYPE	T_STATUS
	10154135	2978181	271961		GEOCAC					N	N
1971	10154135	339276	0	S	NGS					V	C
20010215	10154135	2708749	109945	G	MDSHA	SFK	N	C	00	N	C
20060225	10154135	2779552	160707	G	USPSQD	NLH	Y			W	I
20070225	10154135	2816753	188009	G	USPSQD	NH	Y			W	N

The one in red is a record where the REPORT\_DATE is null and the COND is null. It has no descriptive text in the TEXT table whenever the query below is run:

```
select * from TEXT where REPORT_ID=2978181;
```

Thus, this history record in *red* should not appear on the datasheet and no default descriptive text should be generated/appear on the datasheet either.

The partial datasheet for HV0450 BEFORE it was corrected is shown below.

```
HV0450 HISTORY - Date Condition Report By
HV0450 HISTORY - 1971 MONUMENTED NGS
HV0450 HISTORY - 20010215 GOOD MDSHA
HV0450 HISTORY - 20060225 GOOD USPSQD
HV0450 HISTORY - 20070225 GOOD USPSQD
HV0450 HISTORY - UNK SEE DESCRIPTION GEOCAC
HV0450
HV0450 STATION DESCRIPTION
HV0450
HV0450'DESCRIBED BY NATIONAL GEODETIC SURVEY 1971
HV0450'1.8 MI SW FROM GOLDEN HILL.
HV0450'ABOUT 1.85 MILES SOUTHWEST ALONG STATE HIGHWAY 335 FROM THE
HV0450'SOUTH JUNCTION OF SMITHVILLE ROAD AT GOLDEN HILL, NEAR THE
HV0450'SOUTHWEST CORNER OF THE ST. PETERS METHODIST CHURCH AND
HV0450'CEMETERY, 47 1/2 FEET EAST OF THE CENTER LINE OF THE HIGHWAY,
HV0450'69.0 FEET SOUTHWEST OF THE SOUTHWEST CORNER OF THE RUBEN PRICHETT
HV0450'CONCRETE VAULT, 55.3 FEET SOUTH-SOUTHWEST OF THE SOUTHWEST CORNER
HV0450'OF THE MAIN BUILDING OF THE CHURCH, 28.5 FEET EAST OF THE SOUTHWEST
HV0450'CORNER OF A FENCE, 1 FOOT NORTH OF THE FENCE, 1.4 FEET EAST OF
```

HV0450'A METAL WITNESS POST, AND ON THE TOP OF A COPPER COATED ROD  
 HV0450'THAT IS LEVEL WITH THE GROUND AND IS PROTECTED BY A 6-INCH METAL  
 HV0450'PIPE PROJECTING 1 INCH. THE ROD WAS DRIVEN TO REFUSAL AT A  
 HV0450'DEPTH OF 35 FEET.  
 HV0450  
 HV0450  
 HV0450 STATION RECOVERY (2001)  
 HV0450  
 HV0450'RECOVERY NOTE BY MARYLAND DOT HIGHWAY ADMINISTRATION 2001 (SFK)  
 HV0450'RECOVERED AS DESCRIBED.  
 HV0450  
 HV0450  
 HV0450 STATION RECOVERY (2006)  
 HV0450  
 HV0450'RECOVERY NOTE BY US POWER SQUADRON 2006 (NLH)  
 HV0450'THERE IS NO LONGER A FENCE. MARK IS 8 FEET SOUTHWEST OF A NEW GRAVE  
 HV0450'SITE, JOHN E. KEENE.  
 HV0450  
 HV0450  
 HV0450 STATION RECOVERY (2007)  
 HV0450  
 HV0450'RECOVERY NOTE BY US POWER SQUADRON 2007 (NH)  
 HV0450'RECOVERED IN GOOD CONDITION.  
 HV0450  
 HV0450 STATION RECOVERY (UNK )  
 HV0450  
 HV0450'RECOVERY NOTE BY GEOCACHING UNK

The partial datasheet for HV0450 AFTER it was corrected is shown below. You should not see the HISTORY record with "UNK" nor the associated descriptive text on the datasheet below.

HV0450	HISTORY	- 1971	MONUMENTED	NGS
HV0450	HISTORY	- 20010215	GOOD	MDSHA
HV0450	HISTORY	- 20060225	GOOD	USPSQD
HV0450	HISTORY	- 20070225	GOOD	USPSQD

HV0450  
 HV0450  
 HV0450 STATION DESCRIPTION  
 HV0450  
 HV0450'DESCRIBED BY NATIONAL GEODETIC SURVEY 1971  
 HV0450'1.8 MI SW FROM GOLDEN HILL.  
 HV0450'ABOUT 1.85 MILES SOUTHWEST ALONG STATE HIGHWAY 335 FROM THE  
 HV0450'SOUTH JUNCTION OF SMITHVILLE ROAD AT GOLDEN HILL, NEAR THE  
 HV0450'SOUTHWEST CORNER OF THE ST. PETERS METHODIST CHURCH AND  
 HV0450'CEMETERY, 47 1/2 FEET EAST OF THE CENTER LINE OF THE HIGHWAY,  
 HV0450'69.0 FEET SOUTHWEST OF THE SOUTHWEST CORNER OF THE RUBEN PRICHETT  
 HV0450'CONCRETE VAULT, 55.3 FEET SOUTH-SOUTHWEST OF THE SOUTHWEST CORNER  
 HV0450'OF THE MAIN BUILDING OF THE CHURCH, 28.5 FEET EAST OF THE SOUTHWEST  
 HV0450'CORNER OF A FENCE, 1 FOOT NORTH OF THE FENCE, 1.4 FEET EAST OF  
 HV0450'A METAL WITNESS POST, AND ON THE TOP OF A COPPER COATED ROD  
 HV0450'THAT IS LEVEL WITH THE GROUND AND IS PROTECTED BY A 6-INCH METAL  
 HV0450'PIPE PROJECTING 1 INCH. THE ROD WAS DRIVEN TO REFUSAL AT A  
 HV0450'DEPTH OF 35 FEET.  
 HV0450  
 HV0450  
 HV0450 STATION RECOVERY (2001)  
 HV0450  
 HV0450'RECOVERY NOTE BY MARYLAND DOT HIGHWAY ADMINISTRATION 2001 (SFK)  
 HV0450'RECOVERED AS DESCRIBED.  
 HV0450  
 HV0450  
 HV0450 STATION RECOVERY (2006)  
 HV0450  
 HV0450'RECOVERY NOTE BY US POWER SQUADRON 2006 (NLH)  
 HV0450'THERE IS NO LONGER A FENCE. MARK IS 8 FEET SOUTHWEST OF A NEW GRAVE  
 HV0450'SITE, JOHN E. KEENE.

HV0450  
 HV0450 STATION RECOVERY (2007)  
 HV0450  
 HV0450'RECOVERY NOTE BY US POWER SQUADRON 2007 (NH)  
 HV0450'RECOVERED IN GOOD CONDITION.

- It was discovered that the following PIDs best elevation in the CURRENT SURVEY CONTROL and/or their superseded elevations in the SUPERSEDED SURVEY CONTROL section of their datasheets was incorrect (the best elevation was not being chosen properly and this was also affecting the listing of superseded elevations too): TU1650, AA6240, DE5506, DM7511, AJ8468, and AE8289. Make sure that their best elevation is being shown in the CURRENT SURVEY CONTROL SECTION and that their superseded elevations are showing in the SUPERSEDED SURVEY CONTROL section as well.

*Note: The elevations for each mark were extracted from the Oracle database and **the best elevation is highlighted in green below**. The elevations that should appear in the SUPERSEDED SURVEY CONTROL section of datasheets are highlighted in purple below.*

PID	ADJ_ID	ADJ_DATE	DATUM	ELEV_AVAIL	ELEV_SOURCE	ELEV_TECH	HEIGHT	NUID	OBS_DATE
TU1650	17289	19860719	LT	U	H	T	1.60	11132190	
<b>TU1650</b>	<b>GPS2274</b>	<b>20061122</b>	<b>LT</b>	<b>U</b>	<b>H</b>	<b>G</b>	<b>1.986</b>	<b>11132190</b>	

```

1      National Geodetic Survey, Retrieval Date = JANUARY 22, 2014
TU1650 *****
TU1650 HT_MOD - This is a Height Modernization Survey Station.
TU1650 DESIGNATION - EWA BEACH
TU1650 PID - TU1650
TU1650 STATE/COUNTY- HI/HONOLULU
TU1650 COUNTRY - US
TU1650 USGS QUAD - PEARL HARBOR (1983)
TU1650
TU1650 *CURRENT SURVEY CONTROL
TU1650
TU1650 * NAD 83 (PA11) POSITION- 21 18 45.48001(N) 158 00 36.38550(W) ADJUSTED
TU1650 * NAD 83 (PA11) ELLIP HT- 17.793 (meters) (06/27/12) ADJUSTED
TU1650 * NAD 83 (PA11) EPOCH - 2010.00
TU1650 * LMSL ORTHO HEIGHT - 1.99 (meters) 6.5 (feet) GPS OBS
TU1650
TU1650 LMSL orthometric height was determined with geoid model GEOID03
TU1650 GEOID HEIGHT - 15.31 (meters) GEOID03
TU1650 GEOID HEIGHT - 15.17 (meters) GEOID12A
TU1650 NAD 83 (PA11) X - -5,512,119.628 (meters) COMP
TU1650 NAD 83 (PA11) Y - -2,225,909.899 (meters) COMP
TU1650 NAD 83 (PA11) Z - 2,303,682.875 (meters) COMP
TU1650 LAPLACE CORR - 0.33 (seconds) DEFLEC12A
TU1650
TU1650 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)
TU1650 Type Horiz Ellip Dist(km)
TU1650 -----
TU1650 NETWORK 1.14 2.55
TU1650 -----
TU1650 MEDIAN LOCAL ACCURACY AND DIST (019 points) 1.31 2.55 9.38
TU1650 -----
TU1650 NOTE: Click here for information on individual local accuracy
TU1650 values and other accuracy information.
TU1650
TU1650
TU1650.The horizontal coordinates were established by GPS observations
TU1650.and adjusted by the National Geodetic Survey in June 2012.

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TU1650  
TU1650.NAD 83(PA11) refers to NAD 83 coordinates where the reference  
TU1650.frame has been affixed to the stable Pacific tectonic plate.  
TU1650  
TU1650.The horizontal coordinates are valid at the epoch date displayed above  
TU1650.which is a decimal equivalence of Year/Month/Day.  
TU1650  
TU1650.The orthometric height was determined by GPS observations and a  
TU1650.high-resolution geoid model using precise GPS observation and  
TU1650.processing techniques.  
TU1650  
TU1650.The X, Y, and Z were computed from the position and the ellipsoidal ht.  
TU1650  
TU1650.The Laplace correction was computed from DEFLEC12A derived deflections.  
TU1650  
TU1650.The ellipsoidal height was determined by GPS observations  
TU1650.and is referenced to NAD 83.  
TU1650  
TU1650. The following values were computed from the NAD 83(PA11) position.  
TU1650  
TU1650;  

		North	East	Units	Scale Factor	Converg.
TU1650;SPC HI 3	-	16,161.325	498,951.377	MT	0.99999001	-0 00 13.2
TU1650;UTM 04	-	2,357,070.628	602,666.429	MT	0.99973025	+0 21 35.3

TU1650  
TU1650!  

	-	Elev Factor	x	Scale Factor	=	Combined Factor
TU1650!SPC HI 3	-	0.99999720	x	0.99999001	=	0.99998721
TU1650!UTM 04	-	0.99999720	x	0.99973025	=	0.99972745

TU1650  
TU1650:  

		Primary Azimuth Mark		Grid Az
TU1650:SPC HI 3	-	EWA BEACH AZ MK		044 27 53.4
TU1650:UTM 04	-	EWA BEACH AZ MK		044 06 04.9

TU1650  
TU1650|-----|  

TU1650	PID	Reference Object	Distance	Geod. Az
TU1650				dddmmss.s
TU1650	TU1614	WAIPAHU MILL STACK	APPROX. 8.2 KM	0015844.0
TU1650	TU1649	PEARL HARBOR WEST LOCH TANK	APPROX. 4.4 KM	0060715.4
TU1650	CJ9442	EWA BEACH AZ MK		0442740.2
TU1650	CJ9443	EWA BEACH RM 1	15.360 METERS	19928
TU1650	CJ9444	EWA BEACH RM 2	19.773 METERS	29359
TU1650	TU1655	EWA MILL STACK	APPROX. 4.0 KM	3181259.7

TU1650|-----|  
TU1650  
TU1650  

SUPERSEDED SURVEY CONTROL

TU1650  

TU1650	NAD 83(1993)-	21 18 45.48000(N)	158 00 36.38567(W)	AD(2006.00)	A
TU1650	ELLIP H (11/22/06)	17.787 (m)		GP(2006.00)	2 1
TU1650	NAD 83(1993)-	21 18 45.48076(N)	158 00 36.38662(W)	AD(1993.62)	1
TU1650	NAD 83(1986)-	21 18 45.42941(N)	158 00 36.39697(W)	AD( )	1
TU1650	OLD HI	- 21 18 56.81079(N)	158 00 46.27699(W)	AD( )	1

TU1650  
TU1650.Superseded values are not recommended for survey control.  
TU1650  
TU1650.NGS no longer adjusts projects to the OLD HI datum.  
TU1650.See file dsdata.txt to determine how the superseded data were derived.  
TU1650  
TU1650\_U.S. NATIONAL GRID SPATIAL ADDRESS: 4QFJ0266657070(NAD 83)  
TU1650  
TU1650\_MARKER: DO = NOT SPECIFIED OR SEE DESCRIPTION  
TU1650\_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT  
TU1650\_SP\_SET: TOP OF SQUARE CONCRETE MONUMENT  
TU1650\_STAMPING: EWA BEACH 1969  
TU1650\_MAGNETIC: N = NO MAGNETIC MATERIAL

TU1650\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR  
 TU1650+SATELLITE: SATELLITE OBSERVATIONS - July 11, 2004

TU1650  
 TU1650 HISTORY - Date Condition Report By  
 TU1650 HISTORY - 1969 MONUMENTED CGS  
 TU1650 HISTORY - 20040711 GOOD HIDT

TU1650  
 TU1650 STATION DESCRIPTION

TU1650'DESCRIBED BY COAST AND GEODETIC SURVEY 1969 (CAA)  
 TU1650'THE STATION IS LOCATED IN THE TOWN OF EWA BEACH, ABOUT 0.3 MILE  
 TU1650'SOUTH OF THE CENTER OF TOWN, IN THE SOUTH CORNER OF POHAKEA  
 TU1650'SCHOOL GROUNDS.  
 TU1650'  
 TU1650'TO REACH FROM THE JUNCTION OF PAPIPI ROAD AND FORT WEAVER ROAD  
 TU1650'(STATE HIGHWAY 76) IN EWA BEACH, GO SOUTH ON FORT WEAVER ROAD FOR  
 TU1650'0.35 MILE TO A CROSSROAD OF NORTH ROAD AND FORT WEAVER ROAD, TURN  
 TU1650'LEFT, NORTHERLY, ON NORTH ROAD FOR APPROXIMATELY 75 FEET TO THE  
 TU1650'STATION ON THE LEFT. CONTINUE NORTHERLY ON NORTH ROAD FOR 0.35  
 TU1650'MILE TO THE AZIMUTH MARK ON THE RIGHT.  
 TU1650'  
 TU1650'STATION MARK IS A STANDARD DISK STAMPED EWA BEACH 1969 SET IN  
 TU1650'THE TOP OF A ROUND CONCRETE MONUMENT WHICH IS FLUSH WITH THE  
 TU1650'SURFACE OF THE GROUND. THE UNDERGROUND MARK IS CEMENTED IN A DRILL  
 TU1650'HOLE IN BEDROCK AND IS 2 FEET BELOW THE STATION MARK, IT IS 78  
 TU1650'FEET NORTHEAST OF THE CENTER OF STATE HIGHWAY 76, 49.4 FEET  
 TU1650'NORTHWEST OF A POWERLINE POLE, 74 FEET NORTHWEST OF THE CENTER  
 TU1650'OF NORTH ROAD.  
 TU1650'  
 TU1650'REFERENCE MARK 1, A STANDARD DISK STAMPED EWA BEACH NO 1 1969 SET  
 TU1650'IN A DRILL HOLE IN BEDROCK FLUSH WITH THE SURFACE OF THE GROUND  
 TU1650'AND ABOUT THE SAME ELEVATION AS THE STATION. IT IS 52.4 FEET  
 TU1650'NORTHWEST OF THE CENTER OF NORTH ROAD, 33 FEET NORTH-NORTHEAST OF  
 TU1650'THE CENTER OF STATE HIGHWAY 76, AND 14 FEET EAST OF A POWERLINE  
 TU1650'POLE.  
 TU1650'  
 TU1650'REFERENCE MARK 2, A STANDARD DISK STAMPED EWA BEACH NO 2 1969,  
 TU1650'SET IN DRILL HOLE IN BEDROCK FLUSH WITH THE SURFACE OF THE GROUND  
 TU1650'AND ABOUT THE SAME ELEVATION AS THE STATION. IT IS 124.8 FEET  
 TU1650'WEST OF THE CENTER OF NORTH ROAD, 72.4 FEET NORTHWEST OF A  
 TU1650'POWERLINE POLE, 48 FEET NORTH-NORTHWEST OF THE CENTER OF STATE  
 TU1650'HIGHWAY 76.  
 TU1650'  
 TU1650'AZIMUTH MARK, A STANDARD DISK STAMPED EWA BEACH 1969, SET IN A  
 TU1650'DRILL HOLE IN BEDROCK WHICH IS FLUSH WITH THE SURFACE OF THE  
 TU1650'GROUND. IT IS 27 FEET SOUTHEAST OF THE CENTER OF NORTH ROAD, 21  
 TU1650'FEET SOUTHWEST OF THE CENTER OF GRAVE ROAD AND 19 FEET NORTHWEST  
 TU1650'OF A CYCLONE FENCE AROUND CANAL.  
 TU1650'  
 TU1650'HEIGHT OF LIGHT ABOVE STATION MARK 25.4 METERS.

TU1650  
 TU1650 STATION RECOVERY (2004)

TU1650  
 TU1650'RECOVERY NOTE BY HAWAII DEPARTMENT OF TRANSPORTATION 2004 (CBG)  
 TU1650'RECOVERED BY STATE OF HAWAII DEPARTMENT OF TRANSPORTATION 2004 (CBG)  
 TU1650'TO REACH STATION ADEQUATE DISK IS LOCATED 1.0 FT (0.3 M) BELOW  
 TU1650'GROUND, 2.85 FT (0.9 M) EAST FROM CHANIKINK FENCE, 70 FT (21.3 M) WEST  
 TU1650'OF MONKEY POD TREE, 33 FT (10.1 M) NORTHWEST OF 1.4 FT (0.4 M) HIGH  
 TU1650'WATER VALVE, 7 FT (2.1 M) SOUTHEAST OF A WATER VALVE ON A CONCRETE  
 TU1650'SIDEWALK.

PID	ADJ_ID	ADJ_DATE	DATUM	ELEV_AVAIL	ELEV_SOURCE	ELEV_TECH	HEIGHT	NUID	OBS_DATE
AA6240	GPS2241/B	20100824	88	U	H	G	302.404	11526176	

AA6240	GPS2917	20130513	88	U	H	B	302.399	11526176	
AA6240	GPS866	19950728	88	U	H	G	302.40	11526176	
AA6240	L27658		88	U	F	N	302.43355	11526176	20111001

1 National Geodetic Survey, Retrieval Date = JANUARY 22, 2014

AA6240 \*\*\*\*\*

AA6240 DESIGNATION - EAST  
 AA6240 PID - AA6240  
 AA6240 STATE/COUNTY- MN/CHIPPEWA  
 AA6240 COUNTRY - US  
 AA6240 USGS QUAD - MONTEVIDEO (1994)

AA6240  
 AA6240 \*CURRENT SURVEY CONTROL

AA6240\* NAD 83(2011) POSITION- 44 56 57.08023(N) 095 44 40.73823(W) ADJUSTED  
 AA6240\* NAD 83(2011) ELLIP HT- 276.083 (meters) (06/27/12) ADJUSTED  
 AA6240\* NAD 83(2011) EPOCH - 2010.00

AA6240\* NAVD 88 ORTHO HEIGHT - 302.40 (meters) 992.1 (feet) LEVELING

AA6240  
 AA6240 GEOID HEIGHT - -26.32 (meters) GEOID12A  
 AA6240 NAD 83(2011) X - -452,607.967 (meters) COMP  
 AA6240 NAD 83(2011) Y - -4,499,068.364 (meters) COMP  
 AA6240 NAD 83(2011) Z - 4,483,548.868 (meters) COMP  
 AA6240 LAPLACE CORR - -1.35 (seconds) DEFLEC12A  
 AA6240 VERT ORDER - THIRD

AA6240 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)  
 AA6240 Type Horiz Ellip Dist(km)

AA6240	-----			
AA6240	NETWORK	0.33	0.41	
AA6240	-----			
AA6240	MEDIAN LOCAL ACCURACY AND DIST (014 points)	0.40	0.41	2.98
AA6240	-----			

AA6240 NOTE: Click here for information on individual local accuracy  
 AA6240 values and other accuracy information.

AA6240  
 AA6240  
 AA6240.The horizontal coordinates were established by GPS observations  
 AA6240.and adjusted by the National Geodetic Survey in June 2012.  
 AA6240  
 AA6240.NAD 83(2011) refers to NAD 83 coordinates where the reference  
 AA6240.frame has been affixed to the stable North American tectonic plate. See  
 AA6240.www.ngs.noaa.gov/web/surveys/NA2011 for more information.  
 AA6240

AA6240.The horizontal coordinates are valid at the epoch date displayed above  
 AA6240.which is a decimal equivalence of Year/Month/Day.

AA6240  
 AA6240.The orthometric height was determined by differential leveling.  
 AA6240.The vertical network tie was performed by a horz. field party for horz.  
 AA6240.obs reductions. Reset procedures were used to establish the elevation.  
 AA6240

AA6240.Photographs are available for this station.

AA6240  
 AA6240.The X, Y, and Z were computed from the position and the ellipsoidal ht.  
 AA6240

AA6240.The Laplace correction was computed from DEFLEC12A derived deflections.  
 AA6240

AA6240.The ellipsoidal height was determined by GPS observations  
 AA6240.and is referenced to NAD 83.

AA6240  
 AA6240. The following values were computed from the NAD 83(2011) position.



AA6240  
AA6240;  
AA6240;SPC MN S - North East Units Scale Factor Converg.  
- 318,049.481 662,335.368 MT 0.99995254 -1 13 22.3  
AA6240;SPC MN S - 1,043,467.34 2,173,011.95 sFT 0.99995254 -1 13 22.3  
AA6240;UTM 15 - 4,980,971.034 283,488.270 MT 1.00017646 -1 56 23.2  
AA6240  
AA6240!  
- Elev Factor x Scale Factor = Combined Factor  
AA6240!SPC MN S - 0.99995672 x 0.99995254 = 0.99990926  
AA6240!UTM 15 - 0.99995672 x 1.00017646 = 1.00013317

SUPERSEDED SURVEY CONTROL

AA6240  
AA6240  
AA6240 NAD 83(2007)- 44 56 57.08036(N) 095 44 40.73890(W) AD(2002.00) 0  
AA6240 ELLIP H (02/10/07) 276.106 (m) GP(2002.00)  
AA6240 NAD 83(1996)- 44 56 57.07995(N) 095 44 40.73852(W) AD( ) 1  
AA6240 ELLIP H (03/16/99) 276.135 (m) GP( ) 4 1  
AA6240 NAD 83(1996)- 44 56 57.08009(N) 095 44 40.73762(W) AD( ) 1  
AA6240 NAD 83(1986)- 44 56 57.08297(N) 095 44 40.73127(W) AD( ) 1

AA6240 NAVD 88 (08/24/10) 302.40 (m) UNKNOWN model used GPS OBS  
AA6240 NAVD 88 (07/28/95) 302.4 (m) GEOID93 model used GPS OBS

AA6240  
AA6240.Superseded values are not recommended for survey control.  
AA6240  
AA6240.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.  
AA6240.See file dsdata.txt to determine how the superseded data were derived.

AA6240  
AA6240 U.S. NATIONAL GRID SPATIAL ADDRESS: 15TTK8348880971(NAD 83)  
AA6240

AA6240\_MARKER: DD = SURVEY DISK  
AA6240\_SETTING: 50 = ALUMINUM ALLOY ROD W/O SLEEVE (10 FT.+)   
AA6240\_SP\_SET: /  
AA6240\_STAMPING: EAST 1993  
AA6240\_MARK LOGO: MNDT  
AA6240\_PROJECTION: FLUSH  
AA6240\_MAGNETIC: M = MARKER EQUIPPED WITH BAR MAGNET  
AA6240\_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL  
AA6240\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR  
AA6240+SATELLITE: SATELLITE OBSERVATIONS - April 11, 2012  
AA6240\_ROD/PIPE-DEPTH: 3.0 meters

AA6240  
AA6240 HISTORY - Date Condition Report By  
AA6240 HISTORY - 19931013 MONUMENTED MNDT  
AA6240 HISTORY - 20051005 GOOD MNDT  
AA6240 HISTORY - 20110511 GOOD MNDT  
AA6240 HISTORY - 20120411 GOOD MNDT

STATION DESCRIPTION

AA6240  
AA6240'DESCRIBED BY MN DEPT OF TRANSP 1993 (DKH)  
AA6240'DESCRIBED BY MINNESOTA DEPARTMENT OF TRANSPORTATION. THE MARK IS  
AA6240'LOCATED 1.5 MI (2.4 KM) EAST OF MONTEVIDEO, AT THE JCT OF TH 7 AND CO  
AA6240'RD 15, AT TH 7 MP 71.55, 63 FT (19.2 M) SW OF TH 7/59, 47.5 FT (14.5  
AA6240'M) SOUTH OF CO RD 15, 21.2 FT (6.5 M) SE OF A P-POLE, AND 9.5 FT (2.9  
AA6240'M) SSE OF A WIT POST.

STATION RECOVERY (2005)

AA6240  
AA6240  
AA6240'RECOVERY NOTE BY MN DEPT OF TRANSP 2005 (MPP)  
AA6240'THE MARK WAS RECOVERED IN GOOD CONDITON. A NEW DESCRIPTION FOLLOWS.  
AA6240'THE MARK IS 1.5 MILES (2.4 KM) EAST OF MONTEVIDEO, AT JUNCTION OF  
AA6240'TRUNK HIGHWAY 7 AND COUNTY ROAD 15, AT TRUNK HIGHWAY 7 MILEPOINT  
AA6240'71.55, 63 FEET (19.2 M) SOUTHWEST OF TRUNK HIGHWAY 7, 47.5 FEET (14.5  
AA6240'M) SOUTH OF COUNTY ROAD 15, 21.5 FEET (6.6 M) SOUTHEAST OF POWER POLE,

AA6240'9.5 FEET (2.9 M) SOUTH-SOUTHEAST OF WITNESS POST.  
AA6240  
AA6240 STATION RECOVERY (2011)  
AA6240  
AA6240'RECOVERY NOTE BY MN DEPT OF TRANSP 2011 (MAS)  
AA6240'RECOVERED AS DESCRIBED.  
AA6240  
AA6240 STATION RECOVERY (2012)  
AA6240  
AA6240'RECOVERY NOTE BY MN DEPT OF TRANSP 2012 (PXG)  
AA6240'1.5 MILES WEST OF MONTEVIDEO, 0.7 MILE WEST-SOUTHWEST ALONG TRUNK  
AA6240'HIGHWAY 7 FROM JUNCTION OF TRUNK HIGHWAY 7 AND TRUNK HIGHWAY 29 IN  
AA6240'MONTEVIDEO, THEN 0.8 MILE WEST ON COUNTY ROAD 15 (CANTON AVENUE  
AA6240'SHORTCUT TO TRUNK HIGHWAY 7 WEST), AT WEST JUNCTION OF TRUNK HIGHWAY 7  
AA6240'AND COUNTY ROAD 15, AT TRUNK HIGHWAY 7 MILEPOINT 71.55, 63 FEET  
AA6240'SOUTHWEST OF TRUNK HIGHWAY 7, 47.5 FEET SOUTH OF COUNTY ROAD 15, 75  
AA6240'FEET NORTHEAST OF REFERENCE MARK 1, 102 FEET SOUTHEAST OF REFERENCE  
AA6240'MARK 2, 21.5 FEET SOUTHEAST OF POWER POLE, 9.5 FEET SOUTH-SOUTHEAST OF  
AA6240'WITNESS POST.

PID	ADJ_ID	ADJ_DATE	DATUM	ELEV_AVAIL	ELEV_SOURCE	ELEV_TECH	HEIGHT	NUID	OBS_DATE
DE5506	L26347		LT	U	F	N	6.12396	11577166	20020219
DE5506	00000418/1	20030425	PR	U	A	N	6.07353	11577166	
DE5506	GPS1682	20040506	PR	U	H	B	6.074	11577166	

1 National Geodetic Survey, Retrieval Date = JANUARY 22, 2014  
DE5506 \*\*\*\*\*  
DE5506 DESIGNATION - F 1004  
DE5506 PID - DE5506  
DE5506 STATE/COUNTY- PR/ARECIBO  
DE5506 COUNTRY - US  
DE5506 USGS QUAD -  
DE5506  
DE5506 \*CURRENT SURVEY CONTROL  
DE5506  
DE5506\* NAD 83(2011) POSITION- 18 27 11.79208(N) 066 43 05.97413(W) ADJUSTED  
DE5506\* NAD 83(2011) ELLIP HT- -37.568 (meters) (06/27/12) ADJUSTED  
DE5506\* NAD 83(2011) EPOCH - 2010.00  
DE5506\* PRVD02 ORTHO HEIGHT - 6.074 (meters) 19.93 (feet) ADJUSTED  
DE5506  
DE5506 NAD 83(2011) X - 2,392,134.915 (meters) COMP  
DE5506 NAD 83(2011) Y - -5,559,369.130 (meters) COMP  
DE5506 NAD 83(2011) Z - 2,006,025.168 (meters) COMP  
DE5506 LAPLACE CORR - 0.57 (seconds) DEFLEC12A  
DE5506 GEOID HEIGHT - -43.65 (meters) GEOID12A  
DE5506 VERT ORDER - FIRST CLASS II  
DE5506  
DE5506 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)  
DE5506 Type Horiz Ellip Dist(km)  
DE5506 -----  
DE5506 NETWORK 0.89 2.00  
DE5506 -----  
DE5506 MEDIAN LOCAL ACCURACY AND DIST (013 points) 0.95 1.72 36.84  
DE5506 -----  
DE5506 NOTE: Click here for information on individual local accuracy  
DE5506 values and other accuracy information.  
DE5506  
DE5506  
DE5506.The horizontal coordinates were established by GPS observations  
DE5506.and adjusted by the National Geodetic Survey in June 2012.

DE5506  
DE5506.NAD 83(2011) refers to NAD 83 coordinates where the reference  
DE5506.frame has been affixed to the stable North American tectonic plate. See  
DE5506.www.ngs.noaa.gov/web/surveys/NA2011 for more information.  
DE5506  
DE5506.The horizontal coordinates are valid at the epoch date displayed above  
DE5506.which is a decimal equivalence of Year/Month/Day.  
DE5506  
DE5506.The orthometric height was determined by differential leveling and  
DE5506.adjusted by the NATIONAL GEODETIC SURVEY  
DE5506.in April 2003.  
DE5506  
DE5506.No vertical observational check was made to the station.  
DE5506  
DE5506.Photographs are available for this station.  
DE5506  
DE5506.The X, Y, and Z were computed from the position and the ellipsoidal ht.  
DE5506  
DE5506.The Laplace correction was computed from DEFLEC12A derived deflections.  
DE5506  
DE5506.The ellipsoidal height was determined by GPS observations  
DE5506.and is referenced to NAD 83.  
DE5506  
DE5506. The following values were computed from the NAD 83(2011) position.  
DE5506  
DE5506;  
DE5506;                                North                East                Units Scale Factor Converg.  
DE5506;SPC PRVI          -      268,639.898      169,895.868      MT      1.00000127      -0 05 21.0  
DE5506;UTM 19          -      2,041,854.675      740,970.606      MT      1.00031791      +0 43 21.3  
DE5506  
DE5506!  
DE5506;!SPC PRVI          -      Elev Factor x Scale Factor = Combined Factor  
DE5506;!SPC PRVI          -      1.00000591 x 1.00000127 = 1.00000718  
DE5506;!UTM 19          -      1.00000591 x 1.00031791 = 1.00032382  
DE5506  
DE5506  SUPERSEDED SURVEY CONTROL  
DE5506  
DE5506 NAD 83(2007)- 18 27 11.79102(N)          066 43 05.97912(W) AD(2002.00) 0  
DE5506 ELLIP H (02/10/07) -37.583 (m)  GP(2002.00)  
DE5506 NAD 83(2002)- 18 27 11.79108(N)          066 43 05.97897(W) AD(          ) A  
DE5506 ELLIP H (05/06/04) -37.554 (m)  GP(          ) 4 1  
DE5506  
DE5506.Superseded values are not recommended for survey control.  
DE5506  
DE5506.NGS no longer adjusts projects to the PR datum.  
DE5506.See file dsdata.txt to determine how the superseded data were derived.  
DE5506  
DE5506\_U.S. NATIONAL GRID SPATIAL ADDRESS: 19QGA4097041854(NAD 83)  
DE5506  
DE5506\_MARKER: F = FLANGE-ENCASED ROD  
DE5506\_SETTING: 59 = STAINLESS STEEL ROD IN SLEEVE (10 FT.+)   
DE5506\_STAMPING: F 1004 2002  
DE5506\_MARK LOGO: NGS  
DE5506\_PROJECTION: FLUSH  
DE5506\_MAGNETIC: I = MARKER IS A STEEL ROD  
DE5506\_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL  
DE5506\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR  
DE5506+SATELLITE: SATELLITE OBSERVATIONS - September 02, 2012  
DE5506\_ROD/PIPE-DEPTH: 8.0 meters  
DE5506\_SLEEVE-DEPTH : 0.9 meters  
DE5506  
DE5506 HISTORY          - Date          Condition                Report By  
DE5506 HISTORY          - 2002          MONUMENTED                NGS  
DE5506 HISTORY          - 20020507 GOOD                NGS  
DE5506 HISTORY          - 20100630 GOOD                RLDA

DE5506 HISTORY - 20120902 GOOD

DE5506

DE5506 STATION DESCRIPTION

DE5506

DE5506'DESCRIBED BY NATIONAL GEODETIC SURVEY 2002 (JMW)
DE5506'IN ARECIBO, AT THE JUNCTION OF STATE HIGHWAYS 10 AND 2, IN A TRIANGLE
DE5506'MEDIAN FORMED BY THE NORTHBOUND STATE HIGHWAY 10, THE STATE HIGHWAY 10
DE5506'NORTHBOUND ON-RAMP LEADING TO WESTBOUND STATE HIGHWAY 22, AND THE
DE5506'STATE HIGHWAY 22 WESTBOUND OFF-RAMP LEADING TO NORTHBOUND STATE
DE5506'HIGHWAY 10, 129.0 M NORTH OF THE CENTERLINE OF THE WESTBOUND HIGHWAY
DE5506'22, 33.9 M EAST OF THE CENTERLINE OF THE NORTHBOUND STATE HIGHWAY 10,
DE5506'20.8 M EAST OF A METAL LIGHT POLE, 20.3 M SOUTHWEST OF THE CENTER OF
DE5506'THE STATE HIGHWAY 22 OFF-RAMP, 19.1 M SOUTHEAST OF A WITNESS POST AND
DE5506'A UTILITY POLE, 16.8 M NORTHWEST OF THE CENTER OF THE STATE HIGHWAY 22
DE5506'ON-RAMP, AND 1.0 M ABOVE THE LEVEL OF STATE HIGHWAY 10.
DE5506'NOTE--ACCESS TO THE DATUM POINT IS THROUGH A 5-INCH LOGO CAP. THE
DE5506'SLEEVE DEPTH DOES NOT MEET THE SPECIFICATIONS FOR A CLASS A MARK. THE
DE5506'MARK IS ON THE HIGHWAY RIGHT-OF-WAY.

DE5506

DE5506 STATION RECOVERY (2002)

DE5506

DE5506'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2002 (JMW)
DE5506'RECOVERED AS DESCRIBED.

DE5506

DE5506 STATION RECOVERY (2010)

DE5506

DE5506'RECOVERY NOTE BY RLDA SURVEYING AND MAPPING 2010 (RLD)
DE5506'RECOVERED AS DESCRIBED.

DE5506

DE5506 STATION RECOVERY (2012)

DE5506

DE5506'RECOVERY NOTE BY POLYTECHNIC UNIVERSITY OF PUERTO RICO 2012 (LMR)
DE5506'RECOVERED AS DESCRIBED

Table with 10 columns: PID, ADJ\_ID, ADJ\_DATE, DATUM, ELEV\_AVAIL, ELEV\_SOURCE, ELEV\_TECH, HEIGHT, NUID, OBS\_DATE. Contains two rows of station data with highlighted values.

1 National Geodetic Survey, Retrieval Date = JANUARY 22, 2014
DM7511 \*\*\*\*\*
DM7511 CORRS - This is a GPS Continuously Operating Reference Station.
DM7511 DESIGNATION - CRBT\_SCGN\_CN2001 GRP
DM7511 CORS\_ID - CRBT
DM7511 PID - DM7511
DM7511 STATE/COUNTY- CA/MONTEREY
DM7511 COUNTRY - US
DM7511 USGS QUAD - SAN MIGUEL (1979)
DM7511
DM7511 \*CURRENT SURVEY CONTROL
DM7511
DM7511\* NAD 83 (2011) POSITION- 35 47 29.78910(N) 120 45 02.66558(W) ADJUSTED
DM7511\* NAD 83 (2011) ELLIP HT- 206.025 (meters) (08/??/12) ADJUSTED
DM7511\* NAD 83 (2011) EPOCH - 2010.00
DM7511\* NAVD 88 ORTHO HEIGHT - 240.134 (meters) 787.84 (feet) ADJUSTED
DM7511
DM7511 NAD 83 (2011) X - -2,648,414.056 (meters) COMP
DM7511 NAD 83 (2011) Y - -4,451,452.882 (meters) COMP
DM7511 NAD 83 (2011) Z - 3,709,580.951 (meters) COMP
DM7511 LAPLACE CORR - 1.73 (seconds) DEFLEC12A
DM7511 GEOID HEIGHT - -34.10 (meters) GEOID12A

DM7511 VERT ORDER - SECOND CLASS II  
DM7511  
DM7511. Formal positional accuracy estimates are not available for this CORS  
DM7511. because its coordinates were determined in part using modeled  
DM7511. velocities. Approximate one-sigma accuracies for latitude, longitude,  
DM7511. and ellipsoid height can be obtained from the short-term time series.  
DM7511. Additional information regarding modeled velocities is available on  
DM7511. the CORS Coordinates and Multi-Year CORS Solution FAQ web pages.  
DM7511  
DM7511. The horizontal coordinates were established by GPS observations  
DM7511. and adjusted by the National Geodetic Survey in August 2012.  
DM7511  
DM7511. NAD 83(2011) refers to NAD 83 coordinates where the reference  
DM7511. frame has been affixed to the stable North American Tectonic Plate.  
DM7511  
DM7511. The horizontal coordinates are valid at the epoch date displayed above  
DM7511. which is a decimal equivalence of Year/Month/Day.  
DM7511  
DM7511. The orthometric height was determined by differential leveling and  
DM7511. adjusted by the NATIONAL GEODETIC SURVEY  
DM7511. in April 2006.  
DM7511  
DM7511. No vertical observational check was made to the station.  
DM7511  
DM7511. The XYZ, and position/ellipsoidal ht. are equivalent.  
DM7511  
DM7511. The Laplace correction was computed from DEFLEC12A derived deflections.  
DM7511  
DM7511. The ellipsoidal height was determined by GPS observations  
DM7511. and is referenced to NAD 83.  
DM7511  
DM7511. The following values were computed from the NAD 83(2011) position.  
DM7511  
DM7511;  

	North	East	Units	Scale	Factor	Converg.
DM7511; SPC CA 4	- 552,294.392	1,841,734.031	MT	1.00004593	-1 02	40.1
DM7511; SPC CA 4	- 1,811,985.85	6,042,422.40	sFT	1.00004593	-1 02	40.1
DM7511; UTM 10	- 3,963,169.274	703,269.051	MT	1.00010917	+1 18	57.3

DM7511  
DM7511!  

	Elev Factor	x	Scale Factor	=	Combined Factor
DM7511! SPC CA 4	- 0.99996766	x	1.00004593	=	1.00001359
DM7511! UTM 10	- 0.99996766	x	1.00010917	=	1.00007683

DM7511  
DM7511  

SUPERSEDED SURVEY CONTROL

DM7511  
DM7511 NAD 83(2011)- 35 47 29.78909(N) 120 45 02.66558(W) AD(2010.00) A  
DM7511 ELLIP H (08/??/11) 206.017 (m) GP(2010.00) 4 1  
DM7511 NAD 83(CORS)- 35 47 29.78023(N) 120 45 02.65743(W) AD(2002.00) A  
DM7511 ELLIP H (05/??/11) 206.031 (m) GP(2002.00) 4 1  
DM7511 NAVD 88 (06/30/05) 240.1 (m) GEOID03 model used GPS OBS  
DM7511  
DM7511. Superseded values are not recommended for survey control.  
DM7511  
DM7511. NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.  
DM7511. See file dsdata.txt to determine how the superseded data were derived.  
DM7511  
DM7511 U.S. NATIONAL GRID SPATIAL ADDRESS: 10SGE0326963169(NAD 83)  
DM7511  
DM7511\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR  
DM7511+SATELLITE: SATELLITE OBSERVATIONS - August 01, 2004  
DM7511  
DM7511 HISTORY - Date Condition Report By  
DM7511 HISTORY - 20010913 MONUMENTED  
DM7511 HISTORY - 2004 SEE DESCRIPTION USGS

DM7511 HISTORY - 20040801 SEE DESCRIPTION CSRC

DM7511

DM7511 STATION DESCRIPTION

DM7511

DM7511'DESCRIBED BY US GEOLOGICAL SURVEY 2004 (MSP)

DM7511'THIS MONUMENT IS ASSOCIATED WITH CORS SITE 'CRBT'

DM7511'LATEST INFORMATION INCLUDING POSITIONS AND VELOCITIES

DM7511'ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE

DM7511'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.

DM7511' ftp://cors.ngs.noaa.gov/cors/README.txt

DM7511' ftp://cors.ngs.noaa.gov/cors/coord/coord\_08

DM7511' ftp://cors.ngs.noaa.gov/cors/station\_log

DM7511' http://geodesy.noaa.gov/CORS

PID	ADJ_ID	ADJ_DATE	DATUM	ELEV_AVAIL	ELEV_SOURCE	ELEV_TECH	HEIGHT	NUID	OBS_DATE
AJ8468	GPS2447	20080611	LT	U	H	G	5.486	11575920	
AJ8468	GPS2597	20091204	LT	U	H	G	5.546	11575920	

1 National Geodetic Survey, Retrieval Date = JANUARY 22, 2014

AJ8468 \*\*\*\*\*

AJ8468 HT MOD - This is a Height Modernization Survey Station.

AJ8468 CORS - This is a GPS Continuously Operating Reference Station.

AJ8468 DESIGNATION - HONOLULU TIDE GAU CORS ARP

AJ8468 CORS\_ID - HNLC

AJ8468 PID - AJ8468

AJ8468 STATE/COUNTY- HI/HONOLULU

AJ8468 COUNTRY - US

AJ8468 USGS QUAD - HONOLULU (1983)

AJ8468

AJ8468 \*CURRENT SURVEY CONTROL

AJ8468

AJ8468\* NAD 83 (PA11) POSITION- 21 18 11.81027(N) 157 51 52.28441(W) ADJUSTED

AJ8468\* NAD 83 (PA11) ELLIP HT- 21.687 (meters) (08/??/11) ADJUSTED

AJ8468\* NAD 83 (PA11) EPOCH - 2010.00

AJ8468\* LMSL ORTHO HEIGHT - 5.55 (meters) 18.2 (feet) GPS OBS

AJ8468

AJ8468 LMSL orthometric height was determined with an earlier geoid model

AJ8468 NAD 83 (PA11) X - -5,506,797.917 (meters) COMP

AJ8468 NAD 83 (PA11) Y - -2,240,051.673 (meters) COMP

AJ8468 NAD 83 (PA11) Z - 2,302,719.535 (meters) COMP

AJ8468 GEOID HEIGHT - 15.50 (meters) GEOID12A

AJ8468

AJ8468 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)

AJ8468 Type Horiz Ellip Dist(km)

AJ8468 -----

AJ8468 NETWORK 0.15 0.16

AJ8468 -----

AJ8468 NOTE: Click here for information on individual local accuracy

AJ8468 values and other accuracy information.

AJ8468

AJ8468

AJ8468.The coordinates were established by GPS observations

AJ8468.and adjusted by the National Geodetic Survey in August 2011.

AJ8468

AJ8468.NAD 83 (PA11) refers to NAD 83 coordinates where the reference

AJ8468.frame has been affixed to the stable Pacific Tectonic Plate.

AJ8468

AJ8468.The coordinates are valid at the epoch date displayed above

AJ8468.which is a decimal equivalence of Year/Month/Day.

AJ8468

AJ8468.The orthometric height was determined by GPS observations and a

AJ8468.high-resolution geoid model using precise GPS observation and

AJ8468.processing techniques.  
 AJ8468  
 AJ8468.The PID for the CORS L1 Phase Center is AJ8469.  
 AJ8468  
 AJ8468.The XYZ, and position/ellipsoidal ht. are equivalent.  
 AJ8468  
 AJ8468.The ellipsoidal height was determined by GPS observations  
 AJ8468.and is referenced to NAD 83.  
 AJ8468  
 AJ8468. The following values were computed from the NAD 83(PA11) position.  
 AJ8468  
 AJ8468;  
 AJ8468;SPC HI 4 - North East Units Scale Factor Converg.  
 57,809.090 669,710.676 MT 1.00034578 +0 35 39.5  
 AJ8468  
 AJ8468!  
 AJ8468!SPC HI 4 - Elev Factor x Scale Factor = Combined Factor  
 0.99999659 x 1.00034578 = 1.00034237  
 AJ8468  
 AJ8468 SUPERSEDED SURVEY CONTROL  
 AJ8468  
 AJ8468 NAD 83(CORS)- 21 18 11.81080(N) 157 51 52.28411(W) AD(2002.00) c  
 AJ8468 ELLIP H (06/??/07) 21.706 (m) GP(2002.00) c c  
 AJ8468 NAD 83(CORS)- 21 18 11.81046(N) 157 51 52.28420(W) AD(2002.00) c  
 AJ8468 ELLIP H (10/??/02) 21.695 (m) GP(2002.00) c c  
 AJ8468 NAD 83(CORS)- 21 18 11.81653(N) 157 51 52.29486(W) AD(1997.00) c  
 AJ8468 ELLIP H (03/??/02) 21.593 (m) GP(1997.00) c c  
 AJ8468 NAD 83(CORS)- 21 18 11.81653(N) 157 51 52.29486(W) AD(1993.62) c  
 AJ8468 ELLIP H (03/??/02) 21.593 (m) GP(1993.62) c c  
 AJ8468  
 AJ8468.Superseded values are not recommended for survey control.  
 AJ8468  
 AJ8468.NGS no longer adjusts projects to the OLD HI datum.  
 AJ8468.See file dsdata.txt to determine how the superseded data were derived.  
 AJ8468  
 AJ8468\_U.S. NATIONAL GRID SPATIAL ADDRESS: 4QFJ1777456137(NAD 83)  
 AJ8468  
 AJ8468\_MARKER: STATION IS THE ANTENNA REFERENCE POINT OF THE GPS ANTENNA  
 AJ8468  
 AJ8468 STATION DESCRIPTION  
 AJ8468  
 AJ8468'DESCRIBED BY NATIONAL GEODETIC SURVEY 2011  
 AJ8468'STATION IS A GPS CORS. LATEST INFORMATION INCLUDING POSITIONS AND  
 AJ8468'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE  
 AJ8468'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.  
 AJ8468' ftp://cors.ngs.noaa.gov/cors/README.txt  
 AJ8468' ftp://cors.ngs.noaa.gov/cors/coord/coord\_08  
 AJ8468' ftp://cors.ngs.noaa.gov/cors/station\_log  
 AJ8468' http://geodesy.noaa.gov/CORS

PID	ADJ_ID	ADJ_DATE	DATUM	ELEV_AVAIL	ELEV_SOURCE	ELEV_TECH	HEIGHT	NUID	OBS_DATE
AE8289	00000317	19990721	88	U	A	N	184.34788	11549919	
AE8289	GPS1212	19990525	88	U	H	B	184.347	11549919	

1 National Geodetic Survey, Retrieval Date = JANUARY 22, 2014  
 AE8289 \*\*\*\*\*  
 AE8289 CBN - This is a Cooperative Base Network Control Station.  
 AE8289 WATER LEVEL - This is a Water Level Survey Control Monument.  
 AE8289 DESIGNATION - 602  
 AE8289 PID - AE8289  
 AE8289 STATE/COUNTY- MN/ST LOUIS  
 AE8289 COUNTRY - US  
 AE8289 USGS QUAD - DULUTH (1993)  
 AE8289

AE8289 \*CURRENT SURVEY CONTROL  
AE8289  
AE8289\* NAD 83(2011) POSITION- 46 46 29.10992(N) 092 05 37.38770(W) ADJUSTED  
AE8289\* NAD 83(2011) ELLIP HT- 156.085 (meters) (06/27/12) ADJUSTED  
AE8289\* NAD 83(2011) EPOCH - 2010.00  
**AE8289\* NAVD 88 ORTHO HEIGHT - 184.348 (meters) 604.82 (feet) ADJUSTED**  
AE8289  
AE8289 NAD 83(2011) X - -159,876.179 (meters) COMP  
AE8289 NAD 83(2011) Y - -4,373,152.958 (meters) COMP  
AE8289 NAD 83(2011) Z - 4,624,765.036 (meters) COMP  
AE8289 LAPLACE CORR - -2.92 (seconds) DEFLEC12A  
AE8289 GEOID HEIGHT - -28.27 (meters) GEOID12A  
AE8289 DYNAMIC HEIGHT - 184.373 (meters) 604.90 (feet) COMP  
AE8289 MODELED GRAVITY - 980,748.1 (mgal) NAVD 88  
AE8289  
AE8289 VERT ORDER - FIRST CLASS II  
AE8289  
AE8289 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)  
AE8289 Type Horiz Ellip Dist(km)  
AE8289 -----  
AE8289 NETWORK 0.33 0.53  
AE8289 -----  
AE8289 MEDIAN LOCAL ACCURACY AND DIST (055 points) 0.42 0.61 77.83  
AE8289 -----  
AE8289 NOTE: Click here for information on individual local accuracy  
AE8289 values and other accuracy information.  
AE8289  
AE8289  
AE8289.The horizontal coordinates were established by GPS observations  
AE8289.and adjusted by the National Geodetic Survey in June 2012.  
AE8289  
AE8289.NAD 83(2011) refers to NAD 83 coordinates where the reference  
AE8289.frame has been affixed to the stable North American tectonic plate. See  
AE8289.www.ngs.noaa.gov/web/surveys/NA2011 for more information.  
AE8289  
AE8289.The horizontal coordinates are valid at the epoch date displayed above  
AE8289.which is a decimal equivalence of Year/Month/Day.  
AE8289  
AE8289.The orthometric height was determined by differential leveling and  
AE8289.adjusted by the NATIONAL GEODETIC SURVEY  
AE8289.in July 1999.  
AE8289  
AE8289.No vertical observational check was made to the station.  
AE8289  
AE8289.This Water Level Mark is designated as VM 13392  
AE8289.by the CENTER FOR OPERATIONAL OCEANOGRAPHIC PRODUCTS AND SERVICES.  
AE8289  
AE8289.Photographs are available for this station.  
AE8289  
AE8289.The X, Y, and Z were computed from the position and the ellipsoidal ht.  
AE8289  
AE8289.The Laplace correction was computed from DEFLEC12A derived deflections.  
AE8289  
AE8289.The ellipsoidal height was determined by GPS observations  
AE8289.and is referenced to NAD 83.  
AE8289  
AE8289.The dynamic height is computed by dividing the NAVD 88  
AE8289.geopotential number by the normal gravity value computed on the  
AE8289.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45  
AE8289.degrees latitude (g = 980.6199 gals.).  
AE8289  
AE8289.The modeled gravity was interpolated from observed gravity values.  
AE8289



AE8289. The following values were computed from the NAD 83(2011) position.

AE8289

	North	East	Units	Scale Factor	Converg.
AE8289;SPC MN N	- 131,046.494	876,858.168	MT	1.00007249	+0 44 45.2
AE8289;SPC MN N	- 429,941.71	2,876,825.51	sFT	1.00007249	+0 44 45.2
AE8289;UTM 15	- 5,180,532.442	569,189.402	MT	0.99965884	+0 39 37.5

AE8289

	Elev Factor	x	Scale Factor	=	Combined Factor
AE8289!SPC MN N	- 0.99997553	x	1.00007249	=	1.00004802
AE8289!UTM 15	- 0.99997553	x	0.99965884	=	0.99963438

AE8289

	Primary Azimuth Mark	Grid Az
AE8289:SPC MN N	- ALDER 2	158 06 20.5
AE8289:UTM 15	- ALDER 2	158 11 28.2

AE8289

PID	Reference Object	Distance	Geod. Az
			dddmmss.s
AE8289  DO4896	ALDER 2	447.259 METERS	1585105.7

AE8289

SUPERSEDED SURVEY CONTROL

AE8289	NAD 83(2007)-	46 46 29.11030(N)	092 05 37.38857(W)	AD(2002.00)	0
AE8289	ELLIP H (02/10/07)	156.113 (m)		GP(2002.00)	
AE8289	NAD 83(1997)-	46 46 29.11054(N)	092 05 37.38918(W)	AD( )	A
AE8289	ELLIP H (05/25/99)	156.130 (m)		GP( )	3 1
AE8289	NAVD 88 (05/25/99)	184.35 (m)	604.8 (f)	LEVELING	3

AE8289

AE8289.Superseded values are not recommended for survey control.

AE8289

AE8289.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

AE8289.See file dsdata.txt to determine how the superseded data were derived.

AE8289

AE8289\_U.S. NATIONAL GRID SPATIAL ADDRESS: 15TWM6918980532(NAD 83)

AE8289

AE8289\_MARKER: DS = TRIANGULATION STATION DISK

AE8289\_SETTING: 32 = SET IN A RETAINING WALL OR CONCRETE LEDGE

AE8289\_SP\_SET: DOCK WALL

AE8289\_STAMPING: 602 1988

AE8289\_MARK LOGO: USACE

AE8289\_PROJECTION: FLUSH

AE8289\_MAGNETIC: N = NO MAGNETIC MATERIAL

AE8289\_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO

AE8289+STABILITY: SURFACE MOTION

AE8289\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

AE8289+SATELLITE: SATELLITE OBSERVATIONS - August 27, 2012

AE8289

HISTORY	- Date	Condition	Report By
AE8289	- 19880401	MONUMENTED	USACE
AE8289	- 19940917	GOOD	NOS
AE8289	- 19950828	GOOD	NOS
AE8289	- 19970616	GOOD	MNDT
AE8289	- 20000114	GOOD	NGS
AE8289	- 20010909	GOOD	USPSQD
AE8289	- 20040421	GOOD	MNDT
AE8289	- 20050714	GOOD	NGS
AE8289	- 20050801	GOOD	NGS
AE8289	- 20100706	GOOD	MNDT
AE8289	- 20100719	GOOD	NGS
AE8289	- 20120725	GOOD	GEOCAC
AE8289	- 20120827	GOOD	MNDT

AE8289

AE8289 STATION DESCRIPTION  
AE8289  
AE8289'DESCRIBED BY NATIONAL OCEAN SERVICE 1994 (JRS)  
AE8289'IN DULUTH, ON MINNESOTA POINT, MN. LOCATED ON THE U.S. CORPS OF  
AE8289'ENGINEERS VESSEL YARD, AT THE WEST END OF SOUTHERN DOCK ON COE BASE,  
AE8289'23.2 METERS (76.1 FT) SOUTH OF THE NORTH FACE OF CONCRETE BULKHEAD,  
AE8289'0.90 METERS (2.95 FT) NORTH OF SOUTH FACE OF COE CONCRETE BULKHEAD,  
AE8289'0.90 METERS (2.95 FT) EAST OF THE WEST FACE OF COE CONCRETE BULKHEAD  
AE8289'AND 0.65 METERS (2.13 FT) NW OF THE LAST CLEET ON THE NORTH SIDE OF  
AE8289'COE CONCRETE BULKHEAD.  
AE8289  
AE8289 STATION RECOVERY (1995)  
AE8289  
AE8289'RECOVERY NOTE BY NATIONAL OCEAN SERVICE 1995 (MJB)  
AE8289'RECOVERED AS DESCRIBED.  
AE8289  
AE8289 STATION RECOVERY (1997)  
AE8289  
AE8289'RECOVERY NOTE BY MN DEPT OF TRANSP 1997 (WAS)  
AE8289'THE MARK WAS RECOVERED AS DESCRIBED IN GOOD CONDITION.  
AE8289  
AE8289 STATION RECOVERY (2000)  
AE8289  
AE8289'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2000 (DBH)  
AE8289'RECOVERED AS DESCRIBED.  
AE8289'  
AE8289'OBTAIN PERMISSION TO WALK ON THE DOCK AT THE OFFICE JUST INSIDE  
AE8289'THE GATE ON THE WEST SIDE. IF THE DOCK IS UNMANNED, GET  
AE8289'PERMISSION AT THE CORPS HEADQUARTERS LOCATED AT THE NORTHWEST  
AE8289'BASE OF THE HIGH LIFT BRIDGE. ELECTRICAL POWER IS AVAILABLE WITHIN  
AE8289'100 FEET OF THE STATION.  
AE8289'  
AE8289  
AE8289 STATION RECOVERY (2001)  
AE8289  
AE8289'RECOVERY NOTE BY US POWER SQUADRON 2001 (VO)  
AE8289'RECOVERED IN GOOD CONDITION.  
AE8289  
AE8289 STATION RECOVERY (2004)  
AE8289  
AE8289'RECOVERY NOTE BY MN DEPT OF TRANSP 2004 (DKH)  
AE8289'IN DULUTH, ON MINNESOTA POINT, AT COE VESSEL YARD, AT WEST END OF  
AE8289'SOUTH DOCK, 2.9 FEET NORTH OF SOUTH FACE OF CONCRETE BULKHEAD, 76 FEET  
AE8289'SOUTH OF NORTH FACE OF CONCRETE BULKHEAD, 2.9 FEET EAST OF WEST FACE  
AE8289'OF BULKHEAD, 2.1 FEET NORTHWEST OF LAST CLEAT.  
AE8289  
AE8289 STATION RECOVERY (2005)  
AE8289  
AE8289'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2005 (DW)  
AE8289'TO ACCESS MARK GO SSE ON LAKE AVE., OVER LIFT BRIDGE, TO 9TH ST.,  
AE8289'THENCE WSW (RIGHT) TO USE (COE) FACILITY AT 9TH ST. AND MINNESOTA ST.  
AE8289'  
AE8289'SOUTH DOCK IS SSE OF TWO DOCKS AND EXTENDS WSW ('WEST' ON PREVIOUS  
AE8289'DESCRPTIONS) INTO DULUTH HARBOR BASIN.  
AE8289  
AE8289 STATION RECOVERY (2005)  
AE8289  
AE8289'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2005 (DAC)  
AE8289'RECOVERED AS DESCRIBED.  
AE8289  
AE8289 STATION RECOVERY (2010)  
AE8289  
AE8289'RECOVERY NOTE BY MN DEPT OF TRANSP 2010 (KMS)

AE8289'IN DULUTH, ON MINNESOTA POINT, AT CORPS OF ENGINEERS VESSEL YARD, 0.25  
 AE8289'MILE SOUTHEAST ALONG LAKE STREET FROM THE LIFT BRIDGE AT CANEL PARK,  
 AE8289'THEN 0.05 MILES SOUTHWEST ON NINTH STREET TO UNITED STATES CORPS OF  
 AE8289'ENGINEERS BUILDING, THEN 0.10 MILES THROUGH GATE, AT WEST END OF SOUTH  
 AE8289'DOCK, 76 FEET SOUTH OF NORTH FACE OF CONCRETE BULKHEAD, 2.9 FEET NORTH  
 AE8289'OF SOUTH FACE OF CONCRETE BULKHEAD, 2.9 FEET EAST OF WEST FACE OF  
 AE8289'BULKHEAD, 2.1 FEET NORTHWEST OF LAST CLEAT.

AE8289  
 AE8289 STATION RECOVERY (2010)  
 AE8289

AE8289'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2010 (JDR)  
 AE8289'RECOVERED AS DESCRIBED.

AE8289  
 AE8289 STATION RECOVERY (2012)  
 AE8289

AE8289'RECOVERY NOTE BY GEOCACHING 2012 (LPC)  
 AE8289'RECOVERED IN GOOD CONDITION.

AE8289  
 AE8289 STATION RECOVERY (2012)  
 AE8289

AE8289'RECOVERY NOTE BY MN DEPT OF TRANSP 2012 (BXS)  
 AE8289'IN DULUTH, ON MINNESOTA POINT, AT CORPS OF ENGINEERS VESSEL YARD, 0.25  
 AE8289'MILE SOUTHEAST ALONG LAKE STREET FROM THE LIFT BRIDGE AT CANAL PARK,  
 AE8289'THEN 0.05 MILES SOUTHWEST ON NINTH STREET TO UNITED STATES CORPS OF  
 AE8289'ENGINEERS BUILDING, THEN 0.10 MILES THROUGH GATE, AT WEST END OF SOUTH  
 AE8289'DOCK, 76 FEET SOUTH OF NORTH FACE OF CONCRETE BULKHEAD, 2.9 FEET NORTH  
 AE8289'OF SOUTH FACE OF CONCRETE BULKHEAD, 2.9 FEET EAST OF WEST FACE OF  
 AE8289'BULKHEAD, 2.1 FEET NORTHWEST OF LAST CLEAT.

4. Make sure that mark AH5645 displays the proper best elevation in the CURRENT SURVEY CONTROL section of the datasheet and that the superseded elevations are properly displayed in the SUPERSEDED SURVEY CONTROL section of the datasheet. AH5445 currently displays a superseded elevation as the best elevation and should display an N-Height as the best elevation.

This issue occurred for this PID and others because the best height algorithm expected the best height to be an adjusted elevation, a HT\_MOD, or a leveled benchmark. Elevations where this issue occurs will have an ELEV\_SOURCE of 'B', 'C', 'M', 'N', 'P', 'R', or 'U'. The definitions of these ELEV\_SOURCE codes is below.

'B' - UNCHECKED ADJUSTED  
 'C' - COMPUTED USING UNCORRECTED HEIGHT DIFFERENCES,  
 'M' - OLDER OBS APPLIED TO ADJUSTED HEIGHT GENERATED FROM A MORE RECENT SURVEY  
 'N' - HEIGHT FROM PRECISE LEVELING CONNECTED AT ONLY ONE NSRS PT-FOR GPS CHECK  
 'P' - POSTED BENCH MARK  
 'R' - RESET COMPUTATION,  
 'U' - UNVALIDATED HEIGHT FROM PRECISE LEVELING CONNECTED AT ONLY ONE NSRS PT

This issue has been corrected in the best height algorithm. Other PIDs where this situation occurred were AW6997, ER0673, ED2385, AH5645, DC2131, NP0165, JA0699, LA0533, GU3417, and DH6678.

The partial datasheet for AH5645 BEFORE it was corrected is shown below.

```
1 National Geodetic Survey, Retrieval Date = FEBRUARY 7, 2014
AH5645 *****
```

AH5645 SACS - This is a Secondary Airport Control Station.  
 AH5645 DESIGNATION - EHO A  
 AH5645 PID - AH5645  
 AH5645 STATE/COUNTY- NC/CLEVELAND  
 AH5645 COUNTRY - US  
 AH5645 USGS QUAD - SHELBY (1983)  
 AH5645  
 AH5645 \*CURRENT SURVEY CONTROL  
 AH5645  
 AH5645\* NAD 83(2011) POSITION- 35 15 33.14195(N) 081 35 51.11016(W) ADJUSTED  
 AH5645\* NAD 83(2011) ELLIP HT- 224.278 (meters) (06/27/12) ADJUSTED  
 AH5645\* NAD 83(2011) EPOCH - 2010.00  
 AH5645\* NAVD 88 ORTHO HEIGHT - 256.076 (meters) 840.14 (feet) SUPERSEDED  
 AH5645  
 AH5645 NAD 83(2011) X - 761,908.330 (meters) COMP  
 AH5645 NAD 83(2011) Y - -5,158,094.799 (meters) COMP  
 AH5645 NAD 83(2011) Z - 3,661,515.417 (meters) COMP  
 AH5645 LAPLACE CORR - 1.05 (seconds) DEFLEC12A  
 AH5645 GEOID HEIGHT - -31.80 (meters) GEOID12A  
 AH5645  
 AH5645 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)  
 AH5645 Type Horiz Ellip Dist(km)  
 AH5645 -----  
 AH5645 NETWORK 0.35 0.63  
 AH5645 -----  
 AH5645 MEDIAN LOCAL ACCURACY AND DIST (003 points) 0.16 0.14 0.51  
 AH5645 -----  
 AH5645 NOTE: Click here for information on individual local accuracy  
 AH5645 values and other accuracy information.  
 AH5645  
 AH5645  
 AH5645.This mark is at Shelby Airport (EHO)  
 AH5645  
 AH5645.The horizontal coordinates were established by GPS observations  
 AH5645.and adjusted by the National Geodetic Survey in June 2012.  
 AH5645  
 AH5645.NAD 83(2011) refers to NAD 83 coordinates where the reference  
 AH5645.frame has been affixed to the stable North American tectonic plate. See  
 AH5645.www.ngs.noaa.gov/web/surveys/NA2011 for more information.  
 AH5645  
 AH5645.The horizontal coordinates are valid at the epoch date displayed above  
 AH5645.which is a decimal equivalence of Year/Month/Day.  
 AH5645  
 AH5645.GPS derived orthometric heights for airport stations designated as  
 AH5645.PACS or SACS are published to 2 decimal places. This maintains  
 AH5645.centimeter relative accuracy between the PACS and SACS. It does  
 AH5645.not indicate centimeter accuracy relative to other marks which are  
 AH5645.part of the NAVD 88 network.  
 AH5645  
 AH5645.The X, Y, and Z were computed from the position and the ellipsoidal ht.  
 AH5645  
 AH5645.The Laplace correction was computed from DEFLEC12A derived deflections.  
 AH5645  
 AH5645.The ellipsoidal height was determined by GPS observations  
 AH5645.and is referenced to NAD 83.  
 AH5645  
 AH5645. The following values were computed from the NAD 83(2011) position.  
 AH5645  
 AH5645;  

	North	East	Units	Scale	Factor	Converg.
AH5645;SPC NC	- 170,508.090	373,284.683	MT	0.99987260	-1	29 57.2
AH5645;SPC NC	- 559,408.63	1,224,684.83	sFT	0.99987260	-1	29 57.2
AH5645;UTM 17	- 3,901,952.268	445,646.517	MT	0.99963641	-0	20 41.8

 AH5645

AH5645! - Elev Factor x Scale Factor = Combined Factor  
AH5645!SPC NC - 0.99996480 x 0.99987260 = 0.99983740  
AH5645!UTM 17 - 0.99996480 x 0.99963641 = 0.99960122  
AH5645  
AH5645: Primary Azimuth Mark Grid Az  
AH5645:SPC NC - SHELPOR 206 23 57.0  
AH5645:UTM 17 - SHELPOR 205 14 41.6  
AH5645  
AH5645|-----|  
AH5645| PID Reference Object Distance Geod. Az |  
AH5645| | | | dddmmss.s |  
AH5645| DG6083 CLEV 000 269.566 METERS 20206 |  
AH5645| FA3604 SHELPOR APPROX. 0.5 KM 2045359.8 |  
AH5645|-----|  
AH5645  
AH5645 SUPERSEDED SURVEY CONTROL  
AH5645  
AH5645 NAD 83(2007)- 35 15 33.14199(N) 081 35 51.11092(W) AD(2002.00) 0  
AH5645 ELLIP H (02/10/07) 224.284 (m) GP(2002.00)  
AH5645 NAD 83(1986)- 35 15 33.15776(N) 081 35 51.11203(W) AD( ) 1  
AH5645 NAD 83(2001)- 35 15 33.14213(N) 081 35 51.11096(W) AD( ) B  
AH5645 ELLIP H (01/30/03) 224.295 (m) GP( ) 4 2  
AH5645 NAD 83(1995)- 35 15 33.14229(N) 081 35 51.11070(W) AD( ) B  
AH5645 ELLIP H (12/21/98) 224.300 (m) GP( ) 4 1  
AH5645 NAVD 88 (07/13/99) 256.08 (m) 840.2 (f) N HEIGHT 3  
AH5645 NAVD 88 (12/21/98) 256.08 (m) 840.2 (f) LEVELING 3  
AH5645  
AH5645.Superseded values are not recommended for survey control.

The partial datasheet for AH5645 AFTER it was corrected is shown below.

1 National Geodetic Survey, Retrieval Date = FEBRUARY 7, 2014  
AH5645 \*\*\*\*\*  
AH5645 SACS - This is a Secondary Airport Control Station.  
AH5645 DESIGNATION - EHO A  
AH5645 PID - AH5645  
AH5645 STATE/COUNTY- NC/CLEVELAND  
AH5645 COUNTRY - US  
AH5645 USGS QUAD - SHELBY (1983)  
AH5645  
AH5645 \*CURRENT SURVEY CONTROL  
AH5645  
AH5645\* NAD 83(2011) POSITION- 35 15 33.14195(N) 081 35 51.11016(W) ADJUSTED  
AH5645\* NAD 83(2011) ELLIP HT- 224.278 (meters) (06/27/12) ADJUSTED  
AH5645\* NAD 83(2011) EPOCH - 2010.00  
AH5645\* NAVD 88 ORTHO HEIGHT - 256.08 (meters) 840.2 (feet) N HEIGHT  
AH5645  
AH5645 NAD 83(2011) X - 761,908.330 (meters) COMP  
AH5645 NAD 83(2011) Y - -5,158,094.799 (meters) COMP  
AH5645 NAD 83(2011) Z - 3,661,515.417 (meters) COMP  
AH5645 LAPLACE CORR - 1.05 (seconds) DEFLEC12A  
AH5645 GEOID HEIGHT - -31.80 (meters) GEOID12A  
AH5645 DYNAMIC HEIGHT - 255.83 (meters) 839.3 (feet) COMP  
AH5645 MODELED GRAVITY - 979,651.0 (mgal) NAVD 88  
AH5645  
AH5645 VERT ORDER - THIRD  
AH5645  
AH5645 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)  
AH5645 Type Horiz Ellip Dist(km)  
AH5645 |-----|  
AH5645 NETWORK 0.35 0.63  
AH5645 |-----|  
AH5645 MEDIAN LOCAL ACCURACY AND DIST (003 points) 0.16 0.14 0.51



```

AH5645 ELLIP H (02/10/07) 224.284 (m) GP(2002.00)
AH5645 NAD 83(1986)- 35 15 33.15776(N) 081 35 51.11203(W) AD( ) 1
AH5645 NAD 83(2001)- 35 15 33.14213(N) 081 35 51.11096(W) AD( ) B
AH5645 ELLIP H (01/30/03) 224.295 (m) GP( ) 4 2
AH5645 NAD 83(1995)- 35 15 33.14229(N) 081 35 51.11070(W) AD( ) B
AH5645 ELLIP H (12/21/98) 224.300 (m) GP( ) 4 1
AH5645 NAVD 88 (12/21/98) 256.08 (m) 840.2 (f) LEVELING 3
AH5645 NAVD 88 (07/10/98) 256.076 (m) 840.14 (f) SUPERSEDED 2 2
AH5645
AH5645.Superseded values are not recommended for survey control.

```

Other PIDs where this situation occurs are AW6997, ER0673, ED2385, AH5645, DC2131, NP0165, JA0699, LA0533, GU3417, and DH6678.

- Update the dsdata.txt file's Horizontal Control section as well as the section on historical US datums. The added text can be seen below.

```

DSDATA.TXT
*****
* dsdata.txt *
*****
...

***

DATA ITEM: Text regarding Horizontal Control
DISPLAYED: As required when explaining source of data values.
COMMENTS :

EXAMPLES :
AA0000.The horizontal coordinates were established by classical geodetic methods
AA0000.and adjusted by the National Geodetic Survey in June, 1995.

AA0000.The horizontal coordinates were established by classical geodetic methods
AA0000.and adjusted by the National Geodetic Survey.

AA0000.The horizontal coordinates were established by GPS observations
AA0000.and adjusted by the National Geodetic Survey in June, 1995.

AA0000.The horizontal coordinates were established by GPS observations
AA0000.and adjusted by the National Geodetic Survey.

AA0000.The coordinates were established by GPS observations
AA0000.and adjusted by the National Geodetic Survey in June, 1995.

AA0000.The coordinates were established by GPS observations
AA0000.and adjusted by the National Geodetic Survey.

AA0000.The horizontal coordinates were established by VLBI observations
AA0000.and local terrestrial surveys and adjusted by the National Geodetic
AA0000.Survey in June, 1995.

AA0000.The horizontal coordinates were established by VLBI observations
AA0000.and local terrestrial surveys and adjusted by the National Geodetic
AA0000.Survey.

AA0000.The horizontal coordinates were scaled from a topographic map and have
AA0000.an estimated accuracy of +/- 6 seconds.

AA0000.The horizontal coordinates were established by autonomous hand held GPS
AA0000.observations and have an estimated accuracy of +/- 10 meters.

```

AA0000.The horizontal coordinates were determined by differentially corrected  
AA0000.hand held GPS observations or other comparable positioning techniques  
AA0000.and have an estimated accuracy of +/- 3 meters.

AA0000.No horizontal observational check was made to the station.

AA0000.NAD 83(2011) refers to NAD 83 coordinates where the reference  
AA0000.frame has been affixed to the stable North American Tectonic Plate.

AA0000.NAD 83(MA11) refers to NAD 83 coordinates where the reference  
AA0000.frame has been affixed to the stable Mariana Tectonic Plate.

AA0000.NAD 83(PA11) refers to NAD 83 coordinates where the reference  
AA0000.frame has been affixed to the stable Pacific Tectonic Plate.

AA0000.The datum tag of NAD 83(CORS) is equivalent to NAD83(MARP00).

AA0000.The datum tag of NAD 83(CORS) is equivalent to NAD83(PACP00).

AA0000.The datum tag of NAD 83(CORS) is equivalent to NAD 83(CORS96).

AA0000.The horizontal coordinates are valid at the epoch date displayed above.  
AA0000.The epoch date for horizontal control is a decimal equivalence  
AA0000.of Year/Month/Day.

AA0000.The coordinates are valid at the epoch date displayed above.  
AA0000.The epoch date for horizontal control is a decimal equivalence  
AA0000.of Year/Month/Day.

\*\*\*

...

DATA ITEM: Superseded Survey Control

DISPLAYED: When available.

COMMENTS : Superseded control are previously published data control values  
that are obsolete but reprinted for continuity of records.  
Format is similar to 'Current Survey Control',  
but is not marked with '\*' in cc 8.  
AD means ADJUSTED, referring to horizontal position.  
GP means GPS\_OBS, referring to GPS derived ellipsoidal height.  
This is followed by an epoch date (if available).  
This is followed by Order (if available, Horizontal or Vertical),  
then is followed by Class (if available, Vertical only).

A horizontal Order of 'c' is used for CORS stations.  
Superseded elevations have no epoch date but the  
Order and Class are displayed for bench mark heights.  
The determination text used for superseded elevations  
is identical to that used for the current survey control.

USSD refers to positions computed on the US Standard Datum  
(also called the North American Datum), which was realized  
prior to the North American Datum of 1927. The positions  
were obtained from historical documents and the supporting  
observations are not stored in the NGS database. Therefore  
USSD values should be used with caution."

EXAMPLES :

AA0000 \_\_\_\_\_ SUPERSEDED SURVEY CONTROL



AA0000  
 AB6382 NAD 83 (CORS)- 31 52 26.11223(N) 102 18 54.55641(W) AD(1996.00) c  
 FV1057 NAD 83(1992)- 35 33 50.72286(N) 120 54 24.79262(W) AD(1991.35) 1  
 HW3152 NAD 83(1986)- 38 26 14.08939(N) 079 49 54.57180(W) AD( ) 3  
 HW3152 NAD 27 - 38 26 13.66570(N) 079 49 55.35309(W) AD( ) 3  
 TV1290 PR - 18 28 33.07855(N) 066 48 04.76640(W) AD( ) 2  
 TU3368 OLD HI - 21 12 45.75000(N) 156 58 20.86500(W) AD( ) 3  
 GA3397 USSD - 36 03 40.80000(N) 082 37 38.87300(W) AD( ) 3  
 RF0849 ELLIP HT - 164.56 (m) (04/19/96) GP(1995.00) 3 1  
 HV9260 ELLIP HT - 131.19 (m) (06/29/94) GP( ) 4 1  
 HV0454 NGVD 29 - 1.266 (m) 4.15 (f) ADJUSTED 1 2  
 GW1440 NGVD 29 - 304.876 (m) 1000.25 (f) ADJ UNCH 2 0  
 AA4380 NGVD 29 - 175.86 (m) 577.0 (f) LEVELING 3  
 FE2754 NGVD 29 - 84.07 (m) 275.8 (f) N HEIGHT 3  
 FV1057 NGVD 29 - 564.37 (m) 1851.6 (f) RESET 3  
 CA0570 NGVD 29 - 545.10 (m) 1788.4 (f) COMPUTED 1 2  
 AA8531 NGVD 29 - 75.8 (m) 249. (f) GPS OBS  
 UV2087 NGVD 29 - 6.8 (m) 22. (f) VERT ANG  
 LX3119.No superseded survey control is available for this station.

The following datums refer to positions computed on the US Standard Datum (also called the North American Datum) or earlier datums, which were realized prior to the North American Datum of 1927. The positions were obtained from historical documents and the supporting observations are not stored in the NGS database. Therefore, these superseded values should be used with caution.

US (CONUS) DATUMS:

ABBREVIATION	DEFINITION
USBS	BESSEL SPHEROID
USCA	CALIFORNIA STANDARD DATUM
USCC	CAMP COLONA 1890 DATUM
USCH	CHARLESTON AND SAVANNAH DATUM
ELPS	EL PASO DATUM
USIA	INDEPENDENT ASTRO DATUM 1880
MORC	MISSOURI RIVER COMMISSION DATUM
USNO	NEW ORLEANS MOBILE DATUM
USSD	US STANDARD DATUM
USVN	VICKSBURG NATCHEZ DATUM

ALASKA DATUMS:

ABBREVIATION	DEFINITION
AKAN	ANCHORAGE PT ASTRO DATUM
AKBA	BARTER ISLAND DATUM OF 1948
AKCC	CAMP COLONA 1890 DATUM
AKFW	KRIPNIYUK KWIKLOKCHUN DATUM
AKFX	FLAXMAN ISLAND DATUM 1912
AKGO	GOLOFNIN BAY 1899 DATUM
AKIL	ILIAMNA ASTRO DATUM
AKMI	MARY ISLAND POINT SIMPSON ASTRO DATUM
AKPB	POINT BARROW DATUM 1945
AKPC	POINT CLARENCE ASTRO DATUM
USPU	PUGET SOUND
AKPW	PRINCE WILLIAM SOUND DATUM
AKSE	SOUTHEAST ALASKA DATUM
AKSG	ST GEORGE 1897 DATUM
AKSM	SAINT MICHAEL ASTRO DATUM
AKSP	SAINT PAUL 1897
AKUN	UNALASKA DATUM
AKVD	VALDEZ DATUM
AKYA	YAKUTAT 1897 DATUM
AKYK	YUKON DATUM

**Version 8.3 at 10:01am on 09/17/2013 (Sybase version) and re-released at 11:43am on 05/08/2014 (Oracle version) as part of the final changeover from Sybase to Oracle.**

This release encompasses 5 change requests and 2 bug fixes:

6. Display the message “NAVD 88 orthometric height was determined with an earlier geoid model.” whenever there is no orthometric height record in the database that matches the current geoid model. Note: the only orthometric height (elevation) records that [can] have a matching GEOID\_HT record are those with an ELEV\_SOURCE=”H” and an ELEV\_TECH=”G”.

and

7. Remove of the HORIZ ORDER and ELLIP ORDER lines from CORS data sheets for all CORS stations except those where the CORS dtm\_tag is “(CORS)” (a.k.a. CORS96).

An example datasheet BEFORE these two changes were made is shown below.

```
PROGRAM = datasheet95, VERSION = 8.2
1      National Geodetic Survey, Retrieval Date = AUGUST 7, 2013
AF9658 *****
AF9658 HT MOD      - This is a Height Modernization Survey Station.
AF9658 CORS       - This is a GPS Continuously Operating Reference Station.
AF9658 DESIGNATION - TUCUMCARI CORS ARP
AF9658 CORS_ID    - TCUN
AF9658 PID        - AF9658
AF9658 STATE/COUNTY- NM/QUAY
AF9658 COUNTRY    - US
AF9658 USGS QUAD  - TUCUMCARI SE (1968)
AF9658
AF9658                      *CURRENT SURVEY CONTROL
AF9658
AF9658* NAD 83(2011) POSITION- 35 05 06.05130(N) 103 36 32.79519(W) ADJUSTED
AF9658* NAD 83(2011) ELLIP HT- 1219.309 (meters) (08/??/11) ADJUSTED
AF9658* NAD 83(2011) EPOCH - 2010.00
AF9658* NAVD 88 ORTHO HEIGHT - 1242.76 (meters) 4077.3 (feet) GPS OBS
AF9658
AF9658 NAD 83(2011) X - -1,229,662.429 (meters) COMP
AF9658 NAD 83(2011) Y - -5,079,281.616 (meters) COMP
AF9658 NAD 83(2011) Z - 3,646,289.652 (meters) COMP
AF9658 GEOID HEIGHT - -23.49 (meters) GEOID12A
AF9658 HORZ ORDER - SPECIAL (CORS)
AF9658 ELLIP ORDER - SPECIAL (CORS)
AF9658
AF9658 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)
AF9658 Type Horiz Ellip Dist(km)
AF9658 -----
AF9658 NETWORK 0.29 0.87
AF9658 -----
AF9658 NOTE: Click here for information on individual local accuracy
AF9658 values and other accuracy information.
AF9658
AF9658
AF9658.The coordinates were established by GPS observations
```

AF9658.and adjusted by the National Geodetic Survey in August 2011.  
AF9658  
AF9658.NAD 83(2011) refers to NAD 83 coordinates where the reference  
AF9658.frame has been affixed to the stable North American Tectonic Plate.  
AF9658  
AF9658.The coordinates are valid at the epoch date displayed above  
AF9658.which is a decimal equivalence of Year/Month/Day.  
AF9658  
AF9658.The orthometric height was determined by GPS observations and a  
AF9658.high-resolution geoid model using precise GPS observation and  
AF9658.processing techniques.  
AF9658  
AF9658.The PID for the CORS L1 Phase Center is AE5457.  
AF9658  
AF9658.The XYZ, and position/ellipsoidal ht. are equivalent.  
AF9658  
AF9658.The ellipsoidal height was determined by GPS observations  
AF9658.and is referenced to NAD 83.  
AF9658  
AF9658. The following values were computed from the NAD 83(2011) position.  
AF9658  
AF9658;  

	North	East	Units	Scale	Factor	Converg.
AF9658;SPC NM E	- 453,248.896	231,039.189	MT	0.99996282	+0 24	58.7
AF9658;SPC NM E	- 1,487,034.09	758,001.07	sFT	0.99996282	+0 24	58.7

AF9658  
AF9658!  

AF9658!SPC NM E	- Elev Factor	x	Scale Factor	=	Combined Factor
	0.99980865	x	0.99996282	=	0.99977147

AF9658  
AF9658  

SUPERSEDED SURVEY CONTROL

AF9658  
AF9658 NAD 83(CORS)- 35 05 06.05115(N) 103 36 32.79604(W) AD(2002.00) c  
AF9658 ELLIP H (03/??/02) 1219.316 (m) GP(2002.00) c c  
AF9658 NAD 83(CORS)- 35 05 06.05061(N) 103 36 32.79572(W) AD(1997.00) c  
AF9658 ELLIP H (07/??/98) 1219.360 (m) GP(1997.00) c c  
AF9658 NAD 83(CORS)- 35 05 06.05061(N) 103 36 32.79572(W) AD(1996.00) c  
AF9658 ELLIP H (01/??/98) 1219.360 (m) GP(1996.00) c c  
AF9658  
AF9658.Superseded values are not recommended for survey control.  
AF9658  
AF9658.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.  
AF9658.See file dsdata.txt to determine how the superseded data were derived.  
AF9658  
AF9658\_U.S. NATIONAL GRID SPATIAL ADDRESS: 13SFU2679383355(NAD 83)  
AF9658  
AF9658\_MARKER: STATION IS THE ANTENNA REFERENCE POINT OF THE GPS ANTENNA  
AF9658  
AF9658  

STATION DESCRIPTION

AF9658  
AF9658'DESCRIBED BY NATIONAL GEODETIC SURVEY 2011  
AF9658'STATION IS A GPS CORS. LATEST INFORMATION INCLUDING POSITIONS AND  
AF9658'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE  
AF9658'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.  
AF9658' ftp://cors.ngs.noaa.gov/cors/README.txt  
AF9658' ftp://cors.ngs.noaa.gov/cors/coord/coord\_08  
AF9658' ftp://cors.ngs.noaa.gov/cors/station\_log  
AF9658' http://geodesy.noaa.gov/CORS  
  
\*\*\* retrieval complete.  
Elapsed Time = 00:00:02

The example datasheet AFTER the two changes were made is shown below.

```

1      National Geodetic Survey,  Retrieval Date = AUGUST 7, 2013
AF9658 *****
AF9658 HT MOD      -   This is a Height Modernization Survey Station.
AF9658 CORS       -   This is a GPS Continuously Operating Reference Station.
AF9658 DESIGNATION -   TUCUMCARI CORS ARP
AF9658 CORS_ID    -   TCUN
AF9658 PID        -   AF9658
AF9658 STATE/COUNTY- NM/QUAY
AF9658 COUNTRY    -   US
AF9658 USGS QUAD  -   TUCUMCARI SE (1968)
AF9658
AF9658                      *CURRENT SURVEY CONTROL
AF9658
AF9658* NAD 83(2011) POSITION- 35 05 06.05130(N) 103 36 32.79519(W) ADJUSTED
AF9658* NAD 83(2011) ELLIP HT- 1219.309 (meters) (08/??/11) ADJUSTED
AF9658* NAD 83(2011) EPOCH - 2010.00
AF9658* NAVD 88 ORTHO HEIGHT - 1242.76 (meters) 4077.3 (feet) GPS OBS
AF9658
AF9658 NAVD 88 orthometric height was determined with an earlier geoid model
AF9658 NAD 83(2011) X - -1,229,662.429 (meters) COMP
AF9658 NAD 83(2011) Y - -5,079,281.616 (meters) COMP
AF9658 NAD 83(2011) Z - 3,646,289.652 (meters) COMP
AF9658 GEOID HEIGHT - -23.49 (meters) GEOID12A
AF9658
AF9658 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)
AF9658 Type Horiz Ellip Dist(km)
AF9658 -----
AF9658 NETWORK 0.29 0.87
AF9658 -----
AF9658 NOTE: Click here for information on individual local accuracy
AF9658 values and other accuracy information.
AF9658
AF9658
AF9658.The coordinates were established by GPS observations
AF9658.and adjusted by the National Geodetic Survey in August 2011.
AF9658
AF9658.NAD 83(2011) refers to NAD 83 coordinates where the reference
AF9658.frame has been affixed to the stable North American Tectonic Plate.
AF9658
AF9658.The coordinates are valid at the epoch date displayed above
AF9658.which is a decimal equivalence of Year/Month/Day.
AF9658
AF9658.The orthometric height was determined by GPS observations and a
AF9658.high-resolution geoid model using precise GPS observation and
AF9658.processing techniques.
AF9658
AF9658.The PID for the CORS L1 Phase Center is AE5457.
AF9658
AF9658.The XYZ, and position/ellipsoidal ht. are equivalent.
AF9658
AF9658.The ellipsoidal height was determined by GPS observations
AF9658.and is referenced to NAD 83.
AF9658
AF9658. The following values were computed from the NAD 83(2011) position.
AF9658
AF9658;
AF9658;SPC NM E - North East Units Scale Factor Converg.
AF9658;SPC NM E - 453,248.896 231,039.189 MT 0.99996282 +0 24 58.7
AF9658;SPC NM E - 1,487,034.09 758,001.07 sFT 0.99996282 +0 24 58.7
AF9658
AF9658!
AF9658!SPC NM E - Elev Factor x Scale Factor = Combined Factor
AF9658!SPC NM E - 0.99980865 x 0.99996282 = 0.99977147
AF9658
AF9658                      SUPERSEDED SURVEY CONTROL

```

```

AF9658
AF9658 NAD 83(CORS)- 35 05 06.05115(N) 103 36 32.79604(W) AD(2002.00) c
AF9658 ELLIP H (03/??/02) 1219.316 (m) GP(2002.00) c c
AF9658 NAD 83(CORS)- 35 05 06.05061(N) 103 36 32.79572(W) AD(1997.00) c
AF9658 ELLIP H (07/??/98) 1219.360 (m) GP(1997.00) c c
AF9658 NAD 83(CORS)- 35 05 06.05061(N) 103 36 32.79572(W) AD(1996.00) c
AF9658 ELLIP H (01/??/98) 1219.360 (m) GP(1996.00) c c
AF9658
AF9658.Superseded values are not recommended for survey control.
AF9658
AF9658.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AF9658.See file dsdata.txt to determine how the superseded data were derived.
AF9658
AF9658_U.S. NATIONAL GRID SPATIAL ADDRESS: 13SFU2679383355(NAD 83)
AF9658
AF9658_MARKER: STATION IS THE ANTENNA REFERENCE POINT OF THE GPS ANTENNA
AF9658
AF9658 STATION DESCRIPTION
AF9658
AF9658'DESCRIBED BY NATIONAL GEODETIC SURVEY 2011
AF9658'STATION IS A GPS CORS. LATEST INFORMATION INCLUDING POSITIONS AND
AF9658'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE
AF9658'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.
AF9658' ftp://cors.ngs.noaa.gov/cors/README.txt
AF9658' ftp://cors.ngs.noaa.gov/cors/coord/coord_08
AF9658' ftp://cors.ngs.noaa.gov/cors/station_log
AF9658' http://geodesy.noaa.gov/CORS

*** retrieval complete.
Elapsed Time = 00:00:08

```

An example partial datasheet where the (CORS) dtm\_tag should still display (because it's a CORS96 station) is shown below.

```

1 National Geodetic Survey, Retrieval Date = AUGUST 7, 2013
AF9556 *****
AF9556 CORS - This is a GPS Continuously Operating Reference Station.
AF9556 DESIGNATION - OLD TABLE MOUNTN CORS ARP
AF9556 CORS_ID - TMG0
AF9556 PID - AF9556
AF9556 STATE/COUNTY- CO/BOULDER
AF9556 COUNTRY - US
AF9556 USGS QUAD - HYGIENE (1979)
AF9556
AF9556 *CURRENT SURVEY CONTROL
AF9556
AF9556* NAD 83(CORS) POSITION- 40 07 51.33464(N) 105 13 57.72238(W) ADJUSTED
AF9556* NAD 83(CORS) ELLIP HT- 1673.646 (meters) (10/??/95) ADJUSTED
AF9556* NAD 83(CORS) EPOCH - 1996.00
AF9556* NAVD 88 ORTHO HEIGHT - ** (meters) ** (feet)
AF9556
AF9556 NAD 83(CORS) X - -1,283,387.210 (meters) COMP
AF9556 NAD 83(CORS) Y - -4,713,016.789 (meters) COMP
AF9556 NAD 83(CORS) Z - 4,090,189.996 (meters) COMP
AF9556 GEOID HEIGHT - -15.92 (meters) GEOID12A
AF9556 HORZ ORDER - SPECIAL (CORS)
AF9556 ELLP ORDER - SPECIAL (CORS)
AF9556

```

8. Remove the warning message:

<PID>.WARNING-GPS observations at this control monument resulted in a GPS  
<PID>.derived orthometric height which differed from the leveled height by  
<PID>.more than one decimeter (0.1 meter).

This message displayed whenever there was a bad bench mark (BM).

The example partial datasheet BEFORE this message was removed is shown below.

```
1      National Geodetic Survey,  Retrieval Date = AUGUST 7, 2013
FQ0454 *****
FQ0454 FBN - This is a Federal Base Network Control Station.
FQ0454 DESIGNATION - FLAGSTAFF NCMN
FQ0454 PID - FQ0454
FQ0454 STATE/COUNTY- AZ/COCONINO
FQ0454 COUNTRY - US
FQ0454 USGS QUAD - FLAGSTAFF WEST (1983)
FQ0454
FQ0454 *CURRENT SURVEY CONTROL
FQ0454
FQ0454* NAD 83(2011) POSITION- 35 12 52.88891(N) 111 38 05.04140(W) ADJUSTED
FQ0454* NAD 83(2011) ELLIP HT- 2145.357 (meters) (06/27/12) ADJUSTED
FQ0454* NAD 83(2011) EPOCH - 2010.00
FQ0454* NAVD 88 ORTHO HEIGHT - 2168.480 (meters) 7114.42 (feet) ADJUSTED
FQ0454
FQ0454 NAD 83(2011) X - -1,923,992.157 (meters) COMP
FQ0454 NAD 83(2011) Y - -4,850,855.823 (meters) COMP
FQ0454 NAD 83(2011) Z - 3,658,589.266 (meters) COMP
FQ0454 LAPLACE CORR - -2.41 (seconds) DEFLEC12A
FQ0454 GEOID HEIGHT - -23.14 (meters) GEOID12A
FQ0454 DYNAMIC HEIGHT - 2165.393 (meters) 7104.29 (feet) COMP
FQ0454 MODELED GRAVITY - 979,132.0 (mgal) NAVD 88
FQ0454
FQ0454 VERT ORDER - FIRST CLASS II
FQ0454
FQ0454 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)
FQ0454 Type Horiz Ellip Dist(km)
FQ0454 -----
FQ0454 NETWORK 0.18 0.37
FQ0454 -----
FQ0454 MEDIAN LOCAL ACCURACY AND DIST (121 points) 0.46 1.00 107.25
FQ0454 -----
FQ0454 NOTE: Click here for information on individual local accuracy
FQ0454 values and other accuracy information.
FQ0454
FQ0454
FQ0454.The horizontal coordinates were established by GPS observations
FQ0454.and adjusted by the National Geodetic Survey in June 2012.
FQ0454
FQ0454.NAD 83(2011) refers to NAD 83 coordinates where the reference
FQ0454.frame has been affixed to the stable North American tectonic plate. See
FQ0454.www.ngs.noaa.gov/web/surveys/NA2011 for more information.
FQ0454
FQ0454.The horizontal coordinates are valid at the epoch date displayed above
FQ0454.which is a decimal equivalence of Year/Month/Day.
FQ0454
FQ0454.The orthometric height was determined by differential leveling and
FQ0454.adjusted by the NATIONAL GEODETIC SURVEY
FQ0454.in June 1991.
FQ0454
FQ0454.WARNING-GPS observations at this control monument resulted in a GPS
FQ0454.derived orthometric height which differed from the leveled height by
```

FQ0454.more than one decimeter (0.1 meter)

FQ0454

FQ0454.Photographs are available for this station.

FQ0454

This same example partial datasheet AFTER this message was removed is shown below.

```
1      National Geodetic Survey,   Retrieval Date = AUGUST 7, 2013
FQ0454 *****
FQ0454 FBN - This is a Federal Base Network Control Station.
FQ0454 DESIGNATION - FLAGSTAFF NCMN
FQ0454 PID - FQ0454
FQ0454 STATE/COUNTY- AZ/COCONINO
FQ0454 COUNTRY - US
FQ0454 USGS QUAD - FLAGSTAFF WEST (1983)
FQ0454
FQ0454 *CURRENT SURVEY CONTROL
FQ0454
FQ0454* NAD 83(2011) POSITION- 35 12 52.88891(N) 111 38 05.04140(W) ADJUSTED
FQ0454* NAD 83(2011) ELLIP HT- 2145.357 (meters) (06/27/12) ADJUSTED
FQ0454* NAD 83(2011) EPOCH - 2010.00
FQ0454* NAVD 88 ORTHO HEIGHT - 2168.480 (meters) 7114.42 (feet) ADJUSTED
FQ0454
FQ0454 NAD 83(2011) X - -1,923,992.157 (meters) COMP
FQ0454 NAD 83(2011) Y - -4,850,855.823 (meters) COMP
FQ0454 NAD 83(2011) Z - 3,658,589.266 (meters) COMP
FQ0454 LAPLACE CORR - -2.41 (seconds) DEFLEC12A
FQ0454 GEOID HEIGHT - -23.14 (meters) GEOID12A
FQ0454 DYNAMIC HEIGHT - 2165.393 (meters) 7104.29 (feet) COMP
FQ0454 MODELED GRAVITY - 979,132.0 (mgal) NAVD 88
FQ0454
FQ0454 VERT ORDER - FIRST CLASS II
FQ0454
FQ0454 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)
FQ0454 Type Horiz Ellip Dist(km)
FQ0454 -----
FQ0454 NETWORK 0.18 0.37
FQ0454 -----
FQ0454 MEDIAN LOCAL ACCURACY AND DIST (121 points) 0.46 1.00 107.25
FQ0454 -----
FQ0454 NOTE: Click here for information on individual local accuracy
FQ0454 values and other accuracy information.
FQ0454
FQ0454
FQ0454.The horizontal coordinates were established by GPS observations
FQ0454.and adjusted by the National Geodetic Survey in June 2012.
FQ0454
FQ0454.NAD 83(2011) refers to NAD 83 coordinates where the reference
FQ0454.frame has been affixed to the stable North American tectonic plate. See
FQ0454.www.ngs.noaa.gov/web/surveys/NA2011 for more information.
FQ0454
FQ0454.The horizontal coordinates are valid at the epoch date displayed above
FQ0454.which is a decimal equivalence of Year/Month/Day.
FQ0454
FQ0454.The orthometric height was determined by differential leveling and
FQ0454.adjusted by the NATIONAL GEODETIC SURVEY
FQ0454.in June 1991.
FQ0454
FQ0454.Photographs are available for this station.
```

9. Make sure the STATE/COUNTY and COUNTRY lines on the datasheet for only the countries of Canada, Mexico, and those in Central America (Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama) come out in the following format:

```
STATE/COUNTY- <state_name>
COUNTRY      - <country_name>
```

versus

```
STATE/COUNTY- <state_code>/<county_name>
COUNTRY      - <country_code>
```

Example datasheets in these countries BEFORE the correction was made are below.

```
1      National Geodetic Survey,  Retrieval Date = SEPTEMBER 5, 2013
TY7857 *****
TY7857 DESIGNATION - LAKE IBC 1910
TY7857 PID        - TY7857
TY7857 STATE/COUNTY- YK/
TY7857 COUNTRY   - CA
TY7857 USGS QUAD -
. . .
```

```
1      National Geodetic Survey,  Retrieval Date = SEPTEMBER 5, 2013
DK4127 *****
DK4127 CORS      - This is a GPS Continuously Operating Reference Station.
DK4127 DESIGNATION - MERIDA WAAS CORS L1 PHASE CENTER
DK4127 CORS_ID   - MMD1
DK4127 PID      - DK4127
DK4127 STATE/COUNTY- YU/
DK4127 COUNTRY   - MX
DK4127 USGS QUAD -
. . .
```

```
1      National Geodetic Survey,  Retrieval Date = SEPTEMBER 5, 2013
CQ9108 *****
CQ9108 DESIGNATION - WIN 1960 RM NORTH
CQ9108 PID        - CQ9108
CQ9108 STATE/COUNTY- BH/
CQ9108 COUNTRY   - BH
CQ9108 USGS QUAD -
. . .
```

```
1      National Geodetic Survey,  Retrieval Date = SEPTEMBER 5, 2013
TZ0618 *****
TZ0618 DESIGNATION - 2129 PIEDRA
TZ0618 PID        - TZ0618
TZ0618 STATE/COUNTY- CR/
TZ0618 COUNTRY   - CS
TZ0618 USGS QUAD -
. . .
```

```
1      National Geodetic Survey,  Retrieval Date = SEPTEMBER 5, 2013
BF4543 *****
BF4543 DESIGNATION - LA UNION
BF4543 PID        - BF4543
BF4543 STATE/COUNTY- ES/LA UNION
BF4543 COUNTRY   - ES
BF4543 USGS QUAD -
. . .
```



1 National Geodetic Survey, Retrieval Date = SEPTEMBER 5, 2013  
DH4292 \*\*\*\*\*  
DH4292 DESIGNATION - SANTA ELENA CA  
DH4292 PID - DH4292  
DH4292 STATE/COUNTY- PT/  
DH4292 COUNTRY - GT  
DH4292 USGS QUAD -

1 National Geodetic Survey, Retrieval Date = SEPTEMBER 5, 2013  
DH4295 \*\*\*\*\*  
DH4295 DESIGNATION - SAN LORENZO CA  
DH4295 PID - DH4295  
DH4295 STATE/COUNTY- VX/  
DH4295 COUNTRY - HC  
DH4295 USGS QUAD -

1 National Geodetic Survey, Retrieval Date = SEPTEMBER 5, 2013  
BF4548 \*\*\*\*\*  
BF4548 DESIGNATION - 2954 II 2  
BF4548 PID - BF4548  
BF4548 STATE/COUNTY- NU/MATAGALPA  
BF4548 COUNTRY - NU  
BF4548 USGS QUAD -

1 National Geodetic Survey, Retrieval Date = SEPTEMBER 5, 2013  
TZ0548 \*\*\*\*\*  
TZ0548 DESIGNATION - 2201 LAIBON  
TZ0548 PID - TZ0548  
TZ0548 STATE/COUNTY- PN/  
TZ0548 COUNTRY - PM  
TZ0548 USGS QUAD -

1 National Geodetic Survey, Retrieval Date = SEPTEMBER 5, 2013  
AA4438 \*\*\*\*\*  
AA4438 DESIGNATION - LELU  
AA4438 PID - AA4438  
AA4438 STATE/COUNTY- FM/KOSRAE  
AA4438 COUNTRY - FM  
AA4438 USGS QUAD -

1 National Geodetic Survey, Retrieval Date = SEPTEMBER 5, 2013  
DM7818 \*\*\*\*\*  
DM7818 DESIGNATION - MAJURO CGPS PILLAR ARP  
DM7818 PID - DM7818  
DM7818 STATE/COUNTY- ML/MAJURO  
DM7818 COUNTRY - ML  
DM7818 USGS QUAD -

1 National Geodetic Survey, Retrieval Date = SEPTEMBER 5, 2013  
AA4432 \*\*\*\*\*  
AA4432 DESIGNATION - NGAT  
AA4432 PID - AA4432  
AA4432 STATE/COUNTY- PW/NGATPANG  
AA4432 COUNTRY - PW

AA4432 USGS QUAD -

Example datasheets in these countries AFTER the correction was made are below.

```
1 National Geodetic Survey, Retrieval Date = SEPTEMBER 5, 2013
TY7857 *****
TY7857 DESIGNATION - LAKE IBC 1910
TY7857 PID - TY7857
TY7857 STATE/COUNTY- YK/YUKON TERRITORY
TY7857 COUNTRY - CANADA
TY7857 USGS QUAD -
```

...

```
1 National Geodetic Survey, Retrieval Date = SEPTEMBER 5, 2013
DK4127 *****
DK4127 CORS - This is a GPS Continuously Operating Reference Station.
DK4127 DESIGNATION - MERIDA WAAS CORS L1 PHASE CENTER
DK4127 CORS_ID - MMD1
DK4127 PID - DK4127
DK4127 STATE/COUNTY- YU/YUCATAN
DK4127 COUNTRY - MEXICO
DK4127 USGS QUAD -
```

...

```
1 National Geodetic Survey, Retrieval Date = SEPTEMBER 5, 2013
CQ9108 *****
CQ9108 DESIGNATION - WIN 1960 RM NORTH
CQ9108 PID - CQ9108
CQ9108 STATE/COUNTY- BH/DISTRICT OF BELIZE (BRITISH HONDURAS)
CQ9108 COUNTRY - BELIZE (BRITISH HONDURAS)
CQ9108 USGS QUAD -
```

...

```
1 National Geodetic Survey, Retrieval Date = SEPTEMBER 5, 2013
TZ0618 *****
TZ0618 DESIGNATION - 2129 PIEDRA
TZ0618 PID - TZ0618
TZ0618 STATE/COUNTY- CR/PROVINCE OF COSTA RICA
TZ0618 COUNTRY - COSTA RICA
TZ0618 USGS QUAD -
```

...

```
1 National Geodetic Survey, Retrieval Date = SEPTEMBER 5, 2013
BF4543 *****
BF4543 DESIGNATION - LA UNION
BF4543 PID - BF4543
BF4543 STATE/COUNTY- ES/LA UNION
BF4543 COUNTRY - EL SALVADOR
BF4543 USGS QUAD -
```

...

```
1 National Geodetic Survey, Retrieval Date = SEPTEMBER 5, 2013
DH4292 *****
DH4292 DESIGNATION - SANTA ELENA CA
DH4292 PID - DH4292
DH4292 STATE/COUNTY- PT/PETEN
DH4292 COUNTRY - GUATEMALA
DH4292 USGS QUAD -
```

...

1 National Geodetic Survey, Retrieval Date = SEPTEMBER 5, 2013  
DH4295 \*\*\*\*\*  
DH4295 DESIGNATION - SAN LORENZO CA  
DH4295 PID - DH4295  
DH4295 STATE/COUNTY- VX/VALLE  
DH4295 COUNTRY - HONDURAS  
DH4295 USGS QUAD -

...

1 National Geodetic Survey, Retrieval Date = SEPTEMBER 5, 2013  
BF4548 \*\*\*\*\*  
BF4548 DESIGNATION - 2954 II 2  
BF4548 PID - BF4548  
BF4548 STATE/COUNTY- NU/MATAGALPA  
BF4548 COUNTRY - NICARAGUA  
BF4548 USGS QUAD -

...

1 National Geodetic Survey, Retrieval Date = SEPTEMBER 5, 2013  
TZ0548 \*\*\*\*\*  
TZ0548 DESIGNATION - 2201 LAIBON  
TZ0548 PID - TZ0548  
TZ0548 STATE/COUNTY- PN/PROVINCE OF PANAMA  
TZ0548 COUNTRY - PANAMA  
TZ0548 USGS QUAD -

...


1 National Geodetic Survey, Retrieval Date = SEPTEMBER 5, 2013  
AA4438 \*\*\*\*\*  
AA4438 DESIGNATION - LELU  
AA4438 PID - AA4438  
AA4438 STATE/COUNTY- FM/KOSRAE  
AA4438 COUNTRY - FEDERATED STATES OF MICRONESIA  
AA4438 USGS QUAD -

...

1 National Geodetic Survey, Retrieval Date = SEPTEMBER 5, 2013  
DM7818 \*\*\*\*\*  
DM7818 DESIGNATION - MAJURO CGPS PILLAR ARP  
DM7818 PID - DM7818  
DM7818 STATE/COUNTY- ML/MAJURO  
DM7818 COUNTRY - REPUBLIC OF MARSHAL ISLANDS  
DM7818 USGS QUAD -

...

1 National Geodetic Survey, Retrieval Date = SEPTEMBER 5, 2013  
AA4432 \*\*\*\*\*  
AA4432 DESIGNATION - NGAT  
AA4432 PID - AA4432  
AA4432 STATE/COUNTY- PW/NGATPANG  
AA4432 COUNTRY - REPUBLIC OF PALAU  
AA4432 USGS QUAD -

10. Remove the excess blank padding of the agency name in the descriptive text as shown below.  
Blank spaces are represented by a .

AA5758'6935.

```

AA5758
AA5758 STATION RECOVERY (2013)
AA5758
AA5758'RECOVERY NOTE BY BASE 9 GEODETIC CONSULTING
SERVICEbbbbbbbbbbbbbbbbbb
2013 (DRD)
AA5758'MARK IS 14.38 M (47.2 FT) NORTHWEST OF MAILBOX 6900 AND 1.47 M
(4.8
AA5758'FT) SOUTHWEST OF THE EDGE OF THE PAVEMENT OF THE ROAD.

```

11. Make it so that CORS sites PNB1 (PID=AH8904) and PNB2 (PID=AH8906) publicly publishable. We no longer have to look in the CORS\_SITE\_STATUS.STATUS field to see if a CORS ARP is publishable. This also means that on unpublishable datasheets that there no longer is a trigger/condition to display the horizontal or vertical reason code of "A - CORS site is not active" on them.

12. Make sure that on the NAVD88 line in the CURRENT SURVEY CONTROL section that the best height is the GPS\_OBS record and not the old ADJUSTED record for PIDs BW1876 and BW1864. Also make sure that in the superseded section that the last ADJUSTED record is in the SUPERSEDED SURVEY CONTROL section.

The example datasheet for one of these PIDs, BW1876, BEFORE the correction was made is shown below.

```

1 National Geodetic Survey, Retrieval Date = SEPTEMBER 11, 2013
BW1876 *****
BW1876 DESIGNATION - T 337
BW1876 PID - BW1876
BW1876 STATE/COUNTY- LA/TENSAS
BW1876 COUNTRY - US
BW1876 USGS QUAD - LAKE BRUIN (1994)
BW1876
BW1876 *CURRENT SURVEY CONTROL
BW1876
BW1876* NAD 83(2011) POSITION- 31 53 05.72415(N) 091 18 21.69085(W) ADJUSTED
BW1876* NAD 83(2011) ELLIP HT- 3.005 (meters) (06/27/12) ADJUSTED
BW1876* NAD 83(2011) EPOCH - 2010.00
BW1876* NAVD 88 ORTHO HEIGHT - 29.248 (meters) 95.96 (feet) ADJUSTED
BW1876
BW1876 NAD 83(2011) X - -123,553.673 (meters) COMP
BW1876 NAD 83(2011) Y - -5,419,403.633 (meters) COMP
BW1876 NAD 83(2011) Z - 3,349,604.836 (meters) COMP
BW1876 LAPLACE CORR - -0.13 (seconds) DEFLEC12A
BW1876 GEOID HEIGHT - -26.21 (meters) GEOID12A
BW1876 DYNAMIC HEIGHT - 29.214 (meters) 95.85 (feet) COMP
BW1876 MODELED GRAVITY - 979,472.7 (mgal) NAVD 88
BW1876
BW1876 VERT ORDER - FIRST CLASS II
BW1876
BW1876 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)
BW1876 Type Horiz Ellip Dist(km)
BW1876 -----
BW1876 NETWORK 1.32 1.78
BW1876 -----
BW1876 MEDIAN LOCAL ACCURACY AND DIST (010 points) 1.39 2.10 34.59
BW1876 -----
BW1876 NOTE: Click here for information on individual local accuracy
BW1876 values and other accuracy information.

```

BW1876  
 BW1876  
 BW1876.The horizontal coordinates were established by GPS observations  
 BW1876.and adjusted by the National Geodetic Survey in June 2012.  
 BW1876  
 BW1876.NAD 83(2011) refers to NAD 83 coordinates where the reference  
 BW1876.frame has been affixed to the stable North American tectonic plate. See  
 BW1876.www.ngs.noaa.gov/web/surveys/NA2011 for more information.  
 BW1876  
 BW1876.The horizontal coordinates are valid at the epoch date displayed above  
 BW1876.which is a decimal equivalence of Year/Month/Day.  
 BW1876  
 BW1876.The orthometric height was determined by differential leveling and  
 BW1876.adjusted by the NATIONAL GEODETIC SURVEY  
 BW1876.in February 1994.  
 BW1876  
 BW1876.The X, Y, and Z were computed from the position and the ellipsoidal ht.  
 BW1876  
 BW1876.The Laplace correction was computed from DEFLEC12A derived deflections.  
 BW1876  
 BW1876.The ellipsoidal height was determined by GPS observations  
 BW1876.and is referenced to NAD 83.  
 BW1876  
 BW1876.The dynamic height is computed by dividing the NAVD 88  
 BW1876.geopotential number by the normal gravity value computed on the  
 BW1876.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45  
 BW1876.degrees latitude (g = 980.6199 gals.).  
 BW1876  
 BW1876.The modeled gravity was interpolated from observed gravity values.  
 BW1876  
 BW1876. The following values were computed from the NAD 83(2011) position.  
 BW1876  
 BW1876;  

	North	East	Units	Scale	Factor	Converg.
BW1876;SPC LA N	- 154,175.371	1,112,951.213	MT	0.99991490	+0 37	52.5
BW1876;SPC LA N	- 505,823.70	3,651,407.44	sFT	0.99991490	+0 37	52.5
BW1876;UTM 15	- 3,528,931.689	660,214.885	MT	0.99991658	+0 53	41.9

 BW1876  
 BW1876!  

BW1876!SPC LA N	- 0.99999953	x	0.99991490	=	0.99991443
BW1876!UTM 15	- 0.99999953	x	0.99991658	=	0.99991611

 BW1876  
 BW1876  

SUPERSEDED SURVEY CONTROL

 BW1876  

BW1876	NAD 83(2007)-	31 53 05.72402(N)	091 18 21.69142(W)	AD(2002.00)	0
BW1876	ELLIP H (02/10/07)	3.013 (m)		GP(2002.00)	
BW1876	NAD 83(1992)-	31 53 05.72380(N)	091 18 21.69127(W)	AD( )	B
BW1876	ELLIP H (06/28/04)	3.012 (m)		GP( )	4 2
BW1876	NAVD 88 (06/28/04)	29.17 (m)	GEOID03 model used	GPS OBS	
BW1876	NAVD 88 (06/15/91)	29.259 (m)	95.99 (f)	SUPERSEDED	1 2
BW1876	NGVD 29 (??/??/??)	29.260 (m)	96.00 (f)	ADJUSTED	1 2

 BW1876  
 BW1876.Superseded values are not recommended for survey control.  
 BW1876  
 BW1876.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.  
 BW1876.See file dsdata.txt to determine how the superseded data were derived.  
 BW1876  
 BW1876\_U.S. NATIONAL GRID SPATIAL ADDRESS: 15RXR6021428931(NAD 83)  
 BW1876  
 BW1876\_MARKER: DB = BENCH MARK DISK  
 BW1876\_SETTING: 49 = STAINLESS STEEL ROD W/O SLEEVE (10 FT.+)
   
 BW1876\_SP\_SET: STAINLESS STEEL ROD  
 BW1876\_STAMPING: T 337 1979  
 BW1876\_PROJECTION: RECESSED 5 CENTIMETERS

BW1876\_MAGNETIC: N = NO MAGNETIC MATERIAL  
 BW1876\_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL  
 BW1876\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR  
 BW1876+SATELLITE: SATELLITE OBSERVATIONS - 2003  
 BW1876\_ROD/PIPE-DEPTH: 7.62 meters  
 BW1876  
 BW1876 HISTORY - Date Condition Report By  
 BW1876 HISTORY - 1979 MONUMENTED NGS  
 BW1876 HISTORY - 2003 GOOD PYBURN  
 BW1876  
 STATION DESCRIPTION  
 BW1876  
 BW1876'DESCRIBED BY NATIONAL GEODETIC SURVEY 1979  
 BW1876'8.15 MI NE FROM WATERPROOF.  
 BW1876'8.15 MILES NORTHEAST ALONG THE GRAVEL ROAD ON TOP OF THE LEVEE FROM  
 BW1876'THE WATER TANK AT THE JUNCTION OF 4TH STREET IN WATERPROOF, TO A  
 BW1876'CATTLE GUARD AND THE MARK ON THE LEFT, 0.15 MILE EAST OF AN OIL WELL  
 BW1876'AND A CLUSTER OF OIL TANKS, 9.5 FEET NORTH OF THE CENTER OF THE CATTLE  
 BW1876'GUARD AND ROAD, 2 FEET NORTHWEST OF THE SOUTH FENCE POST AT THE NORTH  
 BW1876'SIDE OF THE CATTLE GUARD, 1 FOOT WEST OF THE BARB WIRE FENCE.  
 BW1876'THE MARK IS 1 FT S FROM A WITNESS POST.  
 BW1876'THE MARK IS 1 FT BELOW ROAD.  
 BW1876  
 STATION RECOVERY (2003)  
 BW1876  
 BW1876'RECOVERY NOTE BY PYBURN AND ODOM, INCORPORATED 2003 (RC)  
 BW1876'RECOVERED AS DESCRIBED IPYBURN  
  
 \*\*\* retrieval complete.  
 Elapsed Time = 00:00:03

The example datasheet for one of these PIDs, BW1876, AFTER the correction was made is shown below.

```

1      National Geodetic Survey, Retrieval Date = SEPTEMBER 11, 2013
BW1876 *****
BW1876 HT_MOD - This is a Height Modernization Survey Station.
BW1876 DESIGNATION - T 337
BW1876 PID - BW1876
BW1876 STATE/COUNTY- LA/TENSAS
BW1876 COUNTRY - US
BW1876 USGS QUAD - LAKE BRUIN (1994)
BW1876
BW1876 *CURRENT SURVEY CONTROL
BW1876
BW1876* NAD 83(2011) POSITION- 31 53 05.72415(N) 091 18 21.69085(W) ADJUSTED
BW1876* NAD 83(2011) ELLIP HT- 3.005 (meters) (06/27/12) ADJUSTED
BW1876* NAD 83(2011) EPOCH - 2010.00
BW1876* NAVD 88 ORTHO HEIGHT - 29.17 (meters) 95.7 (feet) GPS OBS
BW1876
BW1876 NAVD 88 orthometric height was determined with geoid model GEOID03
BW1876 GEOID HEIGHT - -26.16 (meters) GEOID03
BW1876 GEOID HEIGHT - -26.21 (meters) GEOID12A
BW1876 NAD 83(2011) X - -123,553.673 (meters) COMP
BW1876 NAD 83(2011) Y - -5,419,403.633 (meters) COMP
BW1876 NAD 83(2011) Z - 3,349,604.836 (meters) COMP
BW1876 LAPLACE CORR - -0.13 (seconds) DEFLEC12A
BW1876
BW1876 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)
BW1876 Type Horiz Ellip Dist(km)
BW1876 -----
  
```

```

BW1876 NETWORK 1.32 1.78
BW1876 -----
BW1876 MEDIAN LOCAL ACCURACY AND DIST (010 points) 1.39 2.10 34.59
BW1876 -----
BW1876 NOTE: Click here for information on individual local accuracy
BW1876 values and other accuracy information.
BW1876
BW1876
BW1876.The horizontal coordinates were established by GPS observations
BW1876.and adjusted by the National Geodetic Survey in June 2012.
BW1876
BW1876.NAD 83(2011) refers to NAD 83 coordinates where the reference
BW1876.frame has been affixed to the stable North American tectonic plate. See
BW1876.www.ngs.noaa.gov/web/surveys/NA2011 for more information.
BW1876
BW1876.The horizontal coordinates are valid at the epoch date displayed above
BW1876.which is a decimal equivalence of Year/Month/Day.
BW1876
BW1876.The orthometric height was determined by GPS observations and a
BW1876.high-resolution geoid model using precise GPS observation and
BW1876.processing techniques.
BW1876
BW1876.The X, Y, and Z were computed from the position and the ellipsoidal ht.
BW1876
BW1876.The Laplace correction was computed from DEFLEC12A derived deflections.
BW1876
BW1876.The ellipsoidal height was determined by GPS observations
BW1876.and is referenced to NAD 83.
BW1876
BW1876. The following values were computed from the NAD 83(2011) position.
BW1876
BW1876;
BW1876;          North          East          Units Scale Factor Converg.
BW1876;SPC LA N - 154,175.371 1,112,951.213 MT 0.99991490 +0 37 52.5
BW1876;SPC LA N - 505,823.70 3,651,407.44 sFT 0.99991490 +0 37 52.5
BW1876;UTM 15 - 3,528,931.689 660,214.885 MT 0.99991658 +0 53 41.9
BW1876
BW1876! - Elev Factor x Scale Factor = Combined Factor
BW1876!SPC LA N - 0.99999953 x 0.99991490 = 0.99991443
BW1876!UTM 15 - 0.99999953 x 0.99991658 = 0.99991611
BW1876
BW1876
BW1876 SUPERSEDED SURVEY CONTROL
BW1876
BW1876 NAD 83(2007)- 31 53 05.72402(N) 091 18 21.69142(W) AD(2002.00) 0
BW1876 ELLIP H (02/10/07) 3.013 (m) GP(2002.00)
BW1876 NAD 83(1992)- 31 53 05.72380(N) 091 18 21.69127(W) AD( ) B
BW1876 ELLIP H (06/28/04) 3.012 (m) GP( ) 4 2
BW1876 NAVD 88 (02/14/94) 29.248 (m) 95.96 (f) ADJUSTED 1 2
BW1876 NAVD 88 (06/15/91) 29.259 (m) 95.99 (f) SUPERSEDED 1 2
BW1876 NGVD 29 (??/??/??) 29.260 (m) 96.00 (f) ADJUSTED 1 2
BW1876
BW1876.Superseded values are not recommended for survey control.
BW1876
BW1876.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
BW1876.See file dsdata.txt to determine how the superseded data were derived.
BW1876
BW1876_U.S. NATIONAL GRID SPATIAL ADDRESS: 15RXR6021428931(NAD 83)
BW1876
BW1876_MARKER: DB = BENCH MARK DISK
BW1876_SETTING: 49 = STAINLESS STEEL ROD W/O SLEEVE (10 FT.+)
BW1876_SP_SET: STAINLESS STEEL ROD
BW1876_STAMPING: T 337 1979
BW1876_PROJECTION: RECESSED 5 CENTIMETERS
BW1876_MAGNETIC: N = NO MAGNETIC MATERIAL

```

BW1876\_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL  
BW1876\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR  
BW1876+SATELLITE: SATELLITE OBSERVATIONS - 2003  
BW1876\_ROD/PIPE-DEPTH: 7.62 meters

BW1876	HISTORY	- Date	Condition	Report By
BW1876	HISTORY	- 1979	MONUMENTED	NGS
BW1876	HISTORY	- 2003	GOOD	PYBURN

BW1876

BW1876 STATION DESCRIPTION

BW1876

BW1876'DESCRIBED BY NATIONAL GEODETIC SURVEY 1979

BW1876'8.15 MI NE FROM WATERPROOF.

BW1876'8.15 MILES NORTHEAST ALONG THE GRAVEL ROAD ON TOP OF THE LEVEE FROM  
BW1876'THE WATER TANK AT THE JUNCTION OF 4TH STREET IN WATERPROOF, TO A  
BW1876'CATTLE GUARD AND THE MARK ON THE LEFT, 0.15 MILE EAST OF AN OIL WELL  
BW1876'AND A CLUSTER OF OIL TANKS, 9.5 FEET NORTH OF THE CENTER OF THE CATTLE  
BW1876'GUARD AND ROAD, 2 FEET NORTHWEST OF THE SOUTH FENCE POST AT THE NORTH  
BW1876'SIDE OF THE CATTLE GUARD, 1 FOOT WEST OF THE BARB WIRE FENCE.

BW1876'THE MARK IS 1 FT S FROM A WITNESS POST.

BW1876'THE MARK IS 1 FT BELOW ROAD.

BW1876

BW1876 STATION RECOVERY (2003)

BW1876

BW1876'RECOVERY NOTE BY PYBURN AND ODOM, INCORPORATED 2003 (RC)

BW1876'RECOVERED AS DESCRIBED IPYBURN

\*\*\* retrieval complete.

Elapsed Time = 00:00:05



## Version 8.2 at 12:55pm on 07/25/2013

This release adds the default crustal motion epoch of 2002.00 to positions found in the SUPERSEDED SURVEY CONTROL section of a datasheet where:

- (1) The control point's superseded position has a dtm\_tag of (2007) and
- (2) The control point is located in a US state other than the six western states of "AK", "AZ", "CA", "NV", "OR", and WA.

and it adds the same default crustal motion epoch of 2002.00 to the this superseded position's matching ellipsoid height if and only if it's crustal motion is blank.

The crustal motion default epoch of 2002.00 on an ellipsoid height in the superseded survey control section of a datasheet (that matches by adj\_id a superseded NAD83(2007) position) should not replace a *non-blank crustal motion epoch* already there such as 2006.81 for control point AU0092, a control point that resides in the dynamic regions/subsidence areas.

Example: The 2006.81 crustal motion epoch on the superseded ellipsoid height should not be replaced with 2002.00 as 2006.81 is a non-blank crustal motion epoch.

```
AU0092                SUPERSEDED SURVEY CONTROL
AU0092
AU0092  ELLIP H (10/11/11)  -22.177  (m)                GP (      ) 4 1
AU0092  NAD 83 (2007) - 29 46 22.52606 (N)  091 10 36.97894 (W) AD (2002.00) A
AU0092  ELLIP H (03/12/08)  -22.114  (m)                GP (2006.81) 3 1
AU0092  NAVD 88 (02/14/94)   3.834  (m)                12.58  (F) ADJUSTED 1 1
AU0092  NGVD 29 (??/??/??)   3.913  (m)                12.84  (F) ADJUSTED 1 1
```

*Note: dtm\_tag (i.e. "(2007)") is not to be confused with the horizontal datum (i.e. NAD83), even though both of them appear concatenated together (i.e. NAD83(2007)) on a datasheet. They are really two separate fields. Only positions with NAD83 can have the dtm\_tag of (2007).*

## Version 8.1 release at 5:54pm on 03/19/2013

This release incorporates the new requirements for modifying the datasheet display rules for VTDP information in the Gulf Region found in the document [https://source.ngs.noaa.gov/svn/repos/NGSIDBAPI/RetrievalApi/datasheet/docs/V8.1/RD\\_2013-02-11\\_Modify\\_rules\\_for\\_display\\_of\\_VTDP\\_messages.docx](https://source.ngs.noaa.gov/svn/repos/NGSIDBAPI/RetrievalApi/datasheet/docs/V8.1/RD_2013-02-11_Modify_rules_for_display_of_VTDP_messages.docx) This release builds on top of dynamic region (in LA) initially defined in datasheet95 V7.89. Please refer to [https://source.ngs.noaa.gov/svn/repos/NGSIDBAPI/RetrievalApi/datasheet/docs/V7.89/DATASHEET95\\_ReleaseNotes\\_7\\_89\\_updated.docx](https://source.ngs.noaa.gov/svn/repos/NGSIDBAPI/RetrievalApi/datasheet/docs/V7.89/DATASHEET95_ReleaseNotes_7_89_updated.docx) for more information on how the Gulf Region's dynamic regions.

A dynamic region/subsidence area is an area known or suspected of subsidence, uplift, or other tectonic vertical motion. In 2005, there was a single dynamic region in the state of LA that was defined with a *latitude/longitude polygon*. In 2007 the LA dynamic region polygon was put aside in favor of defining the dynamic regions in the state of LA with a series of *three minimum/maximum latitude/longitude areas*. As of 2012 the dynamic regions now spans the lower parts of Gulf Coast states of AL, FL, MS, and LA and is comprised of several

minimum/maximum latitude/longitude areas. These regions have been updated in this release and are comprised of the following sub-areas shown in Table 1. The changes to the latitude and longitude ranges are highlighted in green.

**Table 1: Dynamic Regions/Subsidence Areas of the Gulf Coast**

State	Latitude Range	Longitude Range
LA	latitude ≤ N303432	longitude ≥ W0912738
LA	latitude ≤ N304850	W0903401 ≤ longitude ≤ W0912738
LA	None	longitude ≤ W0903401
MS	latitude ≤ N320608	None
AL	latitude ≤ N312344	longitude ≥ W0880000
FL	latitude ≤ N303716	longitude ≥ W0870744

In a dynamic region/subsidence area, datasheets are publicly publishable for control points in specific projects (a.k.a. adjustment identifiers). If a control point is not part of these specific projects, then a public datasheet also includes the reason that the elevation for this control point should not be used in project (sample output below).

```

DATABASE = QCTESTNGSIDB., PROGRAM = datasheet95, VERSION = 8.1
1      National Geodetic Survey, Retrieval Date = MARCH 15, 2013
AU2715 *****
AU2715 DESIGNATION - BLOUNT
AU2715 PID - AU2715
AU2715 STATE/COUNTY- LA/ORLEANS
AU2715 COUNTRY - US
AU2715 USGS QUAD - NEW ORLEANS EAST (1992)
AU2715
AU2715 *CURRENT SURVEY CONTROL
AU2715
AU2715* NAD 83(1992) POSITION- 29 59 16.91707(N) 090 04 04.03998(W) ADJUSTED
AU2715* NAD 83(1992) ELLIP HT- -26.558 (meters) (01/21/03) ADJUSTED
AU2715* NAVD 88 ORTHO HEIGHT - ** (meters) ** (feet) NOT PUB
AU2715 **This station is located in a suspected subsidence area (see below).
AU2715
AU2715 NAD 83(1992) X - -6,541.453 (meters) COMP
AU2715 NAD 83(1992) Y - -5,528,892.959 (meters) COMP
AU2715 NAD 83(1992) Z - 3,169,211.502 (meters) COMP
AU2715 LAPLACE CORR - -0.03 (seconds) DEFLEC12A
AU2715 GEOID HEIGHT - -26.07 (meters) GEOID12A
AU2715 MODELED GRAVITY - 979,315.7 (mgal) NAVD 88
AU2715
AU2715 HORZ ORDER - FIRST
AU2715 VERT ORDER - FIRST CLASS II (See Below)
AU2715 ELLP ORDER - FOURTH CLASS II
AU2715
AU2715.The horizontal coordinates were established by GPS observations
AU2715.and adjusted by the National Geodetic Survey in January 1993.
AU2715
AU2715 ** This station is in an area of known vertical motion. If an
AU2715 ** orthometric height was ever established but is not available
AU2715 ** in the current survey control section, the orthometric height
AU2715 ** is considered suspect. Suspect heights are available in the
AU2715 ** superseded section only if requested.
AU2715
AU2715.The vertical order pertains to the NGVD 29 superseded value.

```

AU2715  
 AU2715.The X, Y, and Z were computed from the position and the ellipsoidal ht.  
 AU2715  
 AU2715.The Laplace correction was computed from DEFLEC12A derived deflections.  
 AU2715  
 AU2715.The ellipsoidal height was determined by GPS observations  
 AU2715.and is referenced to NAD 83.  
 AU2715  
 AU2715.The modeled gravity was interpolated from observed gravity values.  
 AU2715  
 AU2715. The following values were computed from the NAD 83(1992) position.  
 AU2715  
 AU2715;

	North	East	Units	Scale	Factor	Converg.
AU2715;SPC LA S	- 165,614.205	1,122,110.777	MT	0.99992577	+0 37	58.0
AU2715;SPC LA S	- 543,352.60	3,681,458.44	sFT	0.99992577	+0 37	58.0
AU2715;UTM 15	- 3,321,079.437	782,901.138	MT	1.00058755	+1 27	59.6
AU2715;UTM 16	- 3,321,422.241	204,012.094	MT	1.00068105	-1 32	04.0

AU2715  
 AU2715!  
 AU2715!SPC LA S  
 AU2715!UTM 15  
 AU2715!UTM 16

	Elev Factor	x	Scale Factor	=	Combined Factor
AU2715!SPC LA S	- 1.00000417	x	0.99992577	=	0.99992994
AU2715!UTM 15	- 1.00000417	x	1.00058755	=	1.00059172
AU2715!UTM 16	- 1.00000417	x	1.00068105	=	1.00068522

AU2715  
 AU2715: Primary Azimuth Mark Grid Az

AU2715:SPC LA S	- NEW ORLEANS TV STA WGNO TOWER	173 56 45.5
AU2715:UTM 15	- NEW ORLEANS TV STA WGNO TOWER	173 06 43.9
AU2715:UTM 16	- NEW ORLEANS TV STA WGNO TOWER	176 06 47.5

AU2715  
 AU2715|-----|

AU2715	PID	Reference Object	Distance	Geod. Az
AU2715				dddmss.s
AU2715	DD6373	BLOUNT RM 1	9.753 METERS	00927
AU2715	DD6374	BLOUNT RM 2	7.636 METERS	12049
AU2715	AU2712	NEW ORLEANS TV STA WGNO TOWER	APPROX. 4.4 KM	1743443.5
AU2715	AU2716	BLOUNT LDH 1972 A POINT	11.035 METERS	31101

AU2715|-----|  
 AU2715  
 AU2715 SUPERSEDED SURVEY CONTROL  
 AU2715  
 AU2715 ELLIP H (01/21/93) -26.535 (m) GP( ) 4 2  
 AU2715 NAD 83(1986)- 29 59 16.93360(N) 090 04 04.03759(W) AD( ) 1  
 AU2715 NAD 83(1986)- 29 59 16.93200(N) 090 04 04.03840(W) AD( ) 2  
 AU2715 NAD 27 - 29 59 16.20246(N) 090 04 03.78046(W) AD( ) 2  
 AU2715  
 AU2715.Superseded values are not recommended for survey control.  
 AU2715  
 AU2715.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.  
 AU2715.See file dsdata.txt to determine how the superseded data were derived.  
 AU2715  
 AU2715\_U.S. NATIONAL GRID SPATIAL ADDRESS: 15RYP8290121079(NAD 83)  
 AU2715  
 AU2715\_MARKER: DS = TRIANGULATION STATION DISK  
 AU2715\_SETTING: 31 = SET IN A PAVEMENT SUCH AS STREET, SIDEWALK, CURB, ETC.  
 AU2715\_SP\_SET: APRON  
 AU2715\_STAMPING: BLOUNT 1972  
 AU2715\_MARK LOGO: LADHGS  
 AU2715\_MAGNETIC: N = NO MAGNETIC MATERIAL  
 AU2715\_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY  
 AU2715\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR  
 AU2715+SATELLITE: SATELLITE OBSERVATIONS - November 04, 1994  
 AU2715  
 AU2715 HISTORY - Date Condition Report By  
 AU2715 HISTORY - 1972 MONUMENTED LADH

AU2715	HISTORY	- 1972	GOOD	LADH
AU2715	HISTORY	- 19880920	GOOD	LADTD
AU2715	HISTORY	- 19890125	GOOD	
AU2715	HISTORY	- 19910110	GOOD	NGS
AU2715	HISTORY	- 19941104	GOOD	NGS

AU2715

AU2715 STATION DESCRIPTION

AU2715

AU2715'DESCRIBED BY LA DEPT OF HIGHWAYS 1972 (RT)

AU2715'THE STATION IS LOCATED 3 MILES NORTHEAST OF DOWNTOWN NEW ORLEANS, 5

AU2715'MILES NORTH OF GRETNA AND 8 MILES EAST OF KENNER, IN THE SOUTHEAST

AU2715'QUARTER OF SECTION 24, T12S, R11E, AND ON THE PROPERTY OWNED BY

AU2715'ORLEANS PARISH WATER BOARD.

AU2715'

AU2715'TO REACH THE STATION FROM THE INTERSECTION OF NORTH BROAD STREET AND

AU2715'TULANE AVENUE IN DOWNTOWN NEW ORLEANS, GO NORTHEAST ALONG NORTH

AU2715'BROAD STREET FOR 2.3 MILES TO PUMPING STATION NO. 3 ON THE LEFT AND

AU2715'NORTHWEST OF THE STREET. THE STATION IS SET TO THE SOUTH OF

AU2715'THE PUMPING STATION NEAR A CLEAN-OUT RAMP ON A CANAL.

AU2715'

AU2715'THE STATION MARK IS A STANDARD LOUISIANA DEPARTMENT OF HIGHWAYS AND

AU2715'U. S. COAST AND GEODETIC SURVEY DISK SET IN A DRILL HOLE IN A

AU2715'CONCRETE SLAB CLEAN-OUT RAMP ON A CANAL, FLUSH WITH THE SLAB. IT

AU2715'IS STAMPED BLOUNT 1972. IT IS 74 FEET NORTH OF A POWER POLE, 58

AU2715'FEET WEST OF THE CENTER OF THE SOUTH BOUND LANE ON NORTH BROAD

AU2715'STREET, 43 FEET WEST OF A METAL DRAIN, 42 FEET NORTHWEST OF A

AU2715'SIGNAL LIGHT STANDARD, 39 FEET EAST OF THE NORTHEAST CORNER OF

AU2715'A METAL BUILDING, 2 FEET NORTH OF A METAL WITNESS POST AND SIGN, AND

AU2715'1 FOOT EAST OF THE WEST END OF A CONVEYOR FOR CLEAN-OUT ON CANAL.

AU2715'

AU2715'REFERENCE MARK 1 IS A STANDARD LOUISIANA DEPARTMENT OF HIGHWAYS AND

AU2715'U. S. COAST AND GEODETIC SURVEY DISK SET IN A DRILL HOLE IN THE

AU2715'SOUTHWEST CORNER OF A CONCRETE BASE FOR CONVEYOR, FLUSH WITH

AU2715'CONCRETE, 4 FEET ABOVE GROUND. IT IS STAMPED BLOUNT R.M. 1 1972. IT

AU2715'IS 71 FEET WEST-SOUTHWEST OF THE CENTER OF THE SOUTH BOUND LANE OF

AU2715'NORTH BROAD STREET, 24 FEET NORTH-NORTHEAST OF THE NORTHEAST

AU2715'CORNER OF A METAL BUILDING, 21 FEET EAST-SOUTHEAST OF A CANAL

AU2715'CLEAN-OUT PLATFORM, AND 14 FEET NORTHWEST OF AN ELECTRIC CONTROL

AU2715'PANEL.

AU2715'

AU2715'REFERENCE MARK 2 IS A STANDARD LOUISIANA DEPARTMENT OF HIGHWAYS AND

AU2715'U. S. COAST AND GEODETIC SURVEY DISK SET IN A DRILL HOLE IN A

AU2715'CONCRETE SLAB FOR A CLEAN-OUT FOR CANAL, FLUSH WITH THE CONCRETE

AU2715'SLAB. IT IS STAMPED BLOUNT R.M. 2 1972. IT IS 80 FEET NORTH OF A

AU2715'POWER POLE, 33 FEET NORTH-NORTHWEST OF A SIGNAL LIGHT STANDARD, 32

AU2715'FEET WEST OF THE CENTER OF THE SOUTH BOUND LANE ON NORTH BROAD

AU2715'STREET, 18 FEET NORTH OF A METAL DRAIN, AND 1.5 FEET WEST OF THE EAST

AU2715'END OF A CONVEYOR ON A CLEAN-OUT FOR A CANAL.

AU2715'

AU2715'HEIGHT OF LIGHT ABOVE STATION MARK 1 METERS.

AU2715

AU2715 STATION RECOVERY (1972)

AU2715

AU2715'RECOVERY NOTE BY LA DEPT OF HIGHWAYS 1972

AU2715'RECOVERED IN GOOD CONDITION.

AU2715

AU2715 STATION RECOVERY (1988)

AU2715

AU2715'RECOVERY NOTE BY LA TRANSP AND DEV 1988

AU2715'THE STATION IS LOCATED 4.8 KM (3.00 MI) NORTHEAST OF DOWNTOWN NEW

AU2715'ORLEANS, 8 KM (4.95 MI) NORTH OF GRETNA AND 12.8 KM (7.95 MI) EAST OF

AU2715'KENNER, IN THE SOUTHEAST QUARTER OF SECTION 24, T 12 S, R 11 E.

AU2715'OWNERSHIP--ORLEANS PARISH WATER BOARD.

AU2715'TO REACH THE STATION FROM THE INTERSECTION OF NORTH BROAD STREET AND  
AU2715'TULANE AVENUE IN DOWNTOWN NEW ORLEANS, GO NORTHEAST ALONG NORTH BROAD  
AU2715'STREET FOR 3.7 KM (2.30 MI) TO PUMPING STATION NO. 3 ON THE LEFT AND  
AU2715'NORTHWEST OF THE STREET. THE STATION IS SET TO THE SOUTH OF THE  
AU2715'PUMPING STATION NEAR A CLEAN-OUT RAMP ON A CANAL.  
AU2715'THE STATION MARK IS A STANDARD LOUISIANA DEPARTMENT OF HIGHWAYS AND U.  
AU2715'S. COAST AND GEODETIC SURVEY DISK SET IN A DRILL HOLE IN A CONCRETE  
AU2715'SLAB FLUSH WITH THE SURFACE OF THE RAMP 22.6 M (74.1 FT) NORTH OF A  
AU2715'POWER POLE, 17.7 M (58.1 FT) WEST OF THE CENTER OF THE SOUTH BOUND  
AU2715'LANE OF NORTH BROAD STREET, 13.1 M (43.0 FT) WEST OF A METAL DRAIN,  
AU2715'12.8 M (42.0 FT) NORTHWEST OF A SIGNAL LIGHT STANDARD, 11.9 M  
AU2715'(39.0 FT) EAST OF THE NORTHEAST CORNER OF A METAL BUILDING, 0.6 M  
AU2715'(2.0 FT) NORTH OF A METAL WITNESS POST AND SIGN AND 0.3 M (1.0 FT)  
AU2715'EAST OF THE WEST END OF A CONVEYER FOR CLEAN-OUT ON THE CANAL.  
AU2715'REFERENCE MARK 1 IS A STANDARD LOUISIANA DEPARTMENT OF HIGHWAYS AND U  
AU2715'S COAST AND GEODETIC SURVEY DISK SET IN A DRILL HOLE IN THE SOUTHWEST  
AU2715'CORNER OF A CONCRETE BASE FOR A CONVEYER, 1.2 M (3.9 FT) ABOVE THE  
AU2715'GROUND STAMPED---BLOUNT RM 1 1972---, 21.6 M (70.9 FT) WEST-SOUTHWEST  
AU2715'OF THE CENTER OF THE SOUTH BOUND LANE OF NORTH BROAD STREET, 7.3 M  
AU2715'(24.0 FT) NORTH-NORTHEAST OF THE NORTHEAST CORNER OF A METAL BUILDING,  
AU2715'6.4 M (21.0 FT) EAST-SOUTHEAST OF A CANAL CLEAN-OUT PLATFORM AND 4.3 M  
AU2715'(14.1 FT) NORTHWEST OF AN ELECTRIC CONTROL PANEL.  
AU2715'REFERENCE MARK 2 IS A STANDARD LOUISIANA DEPARTMENT OF HIGHWAYS AND U  
AU2715'S COAST AND GEODETIC SURVEY DISK STAMPED---BLOUNT RM 2 1972---SET IN A  
AU2715'DRILL HOLE IN A CONCRETE SLAB FOR A CLEAN-OUT FOR THE CANAL 24.4 M  
AU2715'(80.1 FT) NORTH OF A POWER POLE, 10.1 M (33.1 FT) NORTH-NORTHWEST OF A  
AU2715'SIGNAL LIGHT STANDARD, 9.8 M (32.2 FT) WEST OF THE CENTER OF THE SOUTH  
AU2715'BOUND LANE OF NORTH BROAD STREET, 5.5 M (18.0 FT) NORTH OF A METAL  
AU2715'DRAIN AND 0.46 M (1.5 FT) WEST OF THE EAST END OF THE CONVEYER.  
AU2715  
AU2715 STATION RECOVERY (1989)  
AU2715  
AU2715'RECOVERED 1989  
AU2715'RECOVERED IN GOOD CONDITION.  
AU2715  
AU2715 STATION RECOVERY (1991)  
AU2715  
AU2715'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1991  
AU2715'IN NEW ORLEANS, AT THE INTERSECTION OF NORTH BROAD STREET AND A.P.  
AU2715'TUREAUD AVENUE, IN A CONCRETE APRON AT THE SOUTHWEST CORNER OF A  
AU2715'CANAL CLEAN OUT RAMP AT PUMP STATION 3, 17.7 M (58.1 FT) NORTHWEST OF  
AU2715'THE CENTER OF THE SOUTHWEST BOUND LANES OF THE STREET, 12.8 M (42.0  
AU2715'FT) NORTH OF A TRAFFIC LIGHT, 3.3 M (10.8 FT) EAST OF A CHAIN-LINK  
AU2715'FENCE, 2.0 M (6.6 FT) NORTH OF A CHAIN-LINK FENCE, 0.6 M (2.0 FT)  
AU2715'ABOVE THE LEVEL OF THE STREET, AND ON THE EXTENDED CENTER OF THE  
AU2715'NORTHBOUND LANES OF THE AVENUE.  
AU2715  
AU2715 STATION RECOVERY (1994)  
AU2715  
AU2715'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1994 (GAS)  
AU2715'IN NEW ORLEANS, AT THE INTERSECTION OF NORTH BROAD STREET AND A P  
AU2715'TUREAUD AVENUE, IN A CONCRETE APRON AT THE SOUTHWEST CORNER OF A CANAL  
AU2715'CLEAN OUT RAMP AT PUMP STATION NUMBER 3, 17.7 M (58.1 FT) NORTHWEST OF  
AU2715'THE CENTER OF THE SOUTHWEST BOUND LANES OF THE STREET, 12.8 M (42.0  
AU2715'FT) NORTH OF A TRAFFIC LIGHT, 3.3 M (10.8 FT) SOUTHEAST OF A  
AU2715'CHAIN-LINK FENCE, 2.0 M (6.6 FT) NORTHEAST OF A CHAIN-LINK FENCE, 0.6  
AU2715'M (2.0 FT) ABOVE THE LEVEL OF THE STREET, AND ON THE EXTENDED CENTER  
AU2715'OF THE NORTHBOUND LANES OF THE AVENUE. NOTE--THE MARK IS ON PROPERTY  
AU2715'OWNED BY THE CITY OF NEW ORLEANS. TO GAIN ACCESS TO THE MARK  
AU2715'CONTACT--RAY FABRE, 2800 PEOPLES AVENUE, NEW ORLEANS, LA 70119,  
AU2715'TELEPHONE NUMBER (504) 585 2420.

\*\*\* retrieval complete.

Elapsed Time = 00:00:04

```
-----  
- This listing contains control for which complete digital  
- data sheets were not provided. The complete data sheets were  
- not provided for the reason listed below. The reason below is  
- associated with a horizontal control Nonpub code shown under  
- the heading 'H' and/or a vertical control Nonpub code shown under  
- the heading 'v'  
-  
- The format of the records are as follows:  
- Pid = Station Permanent Identifier)  
- Name = Station Designation  
- Lat = Approx. Latitude (Degrees, Minutes, truncated Seconds)  
- Lon = Approx. Longitude (Degrees, Minutes, truncated Seconds)  
- O = Horizontal Order  
- o = Vertical Order  
- H = Horizontal Nonpub Code  
- v = Vertical Nonpub Code  
-  
- H Nonpub HORIZONTAL CONTROL NONPUB REASON  
- -----  
- A CORS site is not active  
- B Station is a RBN antenna  
- C Not a publishable datum within the state  
- D No descriptive text available  
- L CORS L1 Phase Center is not publishable  
- N No geodetic control  
- O Outside NGS publication area  
- P Purpose of position is not for network control  
- R Restricted position  
- T Station is a temporary point/bench mark  
- V Station is a VOR antenna  
- W Weakly determined position  
- X Surface mark reported destroyed  
- Y Surface and underground mark reported destroyed  
-  
- v Nonpub VERTICAL CONTROL NONPUB REASON  
- -----  
- A CORS site is not active  
- D No descriptive text available  
- F Bench mark not yet adjusted  
- N No geodetic control  
- L CORS L1 Phase Center is not publishable  
- O Outside NGS publication area  
- R Restricted elevation  
- S Mark is in a subsidence area  
- T Station is a temporary point/bench mark  
- X Surface mark reported destroyed  
- Y Surface and underground mark reported destroyed  
- Z Presumed destroyed  
-  
- NOTE - Stations found in this listing may still have a valid  
- datasheet produced by use of other publishable values.  
- For example, an ADJUSTED height may be non-publishable  
- but a good GPS height might be found on the datasheet.  
- This listing does not imply that values found on the datasheet  
- are restricted. If it's on the datasheet, use it.  
-  
-----  
Pid Name Lat Lon Elev O o Hv  
-----
```

Control points in a dynamic region/subsidence area are publicly publishable if:

- (1) The control point is in the Gulf Coast dynamic regions/subsidence areas (Table 1) **and** the control point is a list of publishable project/state combinations in the dynamic regions/subsidence areas (Table 3).
- (2) The control point is in the Gulf Coast dynamic regions/subsidence areas (Table 1) **and** the control point itself is designated as being publicly publishable in the normally unpublishable region due to being constrained (i.e. must appear in a list of publishable UIDs for the region found in Table 4).

Below is a complete list of projects (a.k.a. ADJ\_IDs) and their epochs that are in the Gulf Coast dynamic regions/subsidence areas. New projects added in datasheet95 V8.0 that weren't in datasheet95 V7.89 are highlighted in green.

**Table 2: List of Publishable Projects in the Gulf Coast Dynamic Regions/Subsidence Areas**

<b>Project</b>	<b>Epoch</b>
00000729/1	2009.55
00000729/2	2009.55
00000730/1	2009.55
00000730/2	2009.55
00000730/3	2009.55
00000730/4	2009.55
00000731	2009.55
00000732	2009.55
00000772	2009.55
GPS2329	2006.81
GPS2100	2004.65
GPS2021/C	2004.65
GPS2212	2004.65
GPS2287	2004.65
GPS2307	2004.65
GPS2262	2004.65
GPS2896/B	2009.55
GPS2896/C	2009.55

Table 3 consists of a list of publishable project/state combinations in the dynamic regions/subsidence areas that generate a publicly publishable datasheet. The project and states that have changed in datasheet95 V8.0 from datasheet95 V7.89 are highlighted in green.

**Table 3: Valid Project/State Combinations in the Dynamic Regions/Subsidence Areas**

<b>Project</b>	<b>State</b>
00000729/1	AL
00000729/1	FL
00000729/1	LA
00000729/1	MS
00000729/1	TX
00000729/2	AL
00000729/2	MS
00000730/1	AL
00000730/2	AL
00000730/3	AL
00000730/4	AL
00000731	FL
00000732	TX
00000772	MS
GPS2896/B	LA
GPS2896/B	MS
GPS2896/B	AL
GPS2896/C	LA
GPS2896/C	MS
GPS2896/C	AL

\*In the near future, control points in the state of LA and in project GPS2772 will be added to the list above.

Below is a list of control points (by their individual UID and PID) designated as publicly publishable regardless of the fact that they are in the dynamic regions/subsidence areas. These control points were constrained (held constant).

**Table 4: Specific Control Points publishable in the Dynamic Regions/Subsidence Areas (unchanged from datasheet V7.89)**

<b>UID</b>	<b>PID</b>
10478369	BH1210
10478372	BH1213
11634989	DL9666
11634990	DL9667
10478371	BH1212
10484553	BG1724



Control points not in a publishable project/state combination (Table 3) or not exceptions to the rule by UID (Table 4) formerly generated a datasheet with “NOT PUB” in the CURRENT SURVEY CONTROL section. This included control points in past project/state combinations that formerly generated a publishable datasheet if the control point was in one of them. A list of these formerly valid project/state combinations appears in Table 5 below. All control points that had one of these projects (a.k.a. ADJ\_IDs) as their “best” NAVD88 elevation, have been superseded with projects in table 3 above.

**Table 5: Past HT\_MOD Projects in Louisiana that formerly generated a publishable datasheet if the control point was in one of them**

Project	State
GPS2100	LA
GPS2021/C	LA
GPS2212	LA
GPS2307	LA
GPS2262	LA

There is a message (paragraph) that is new in datasheet95 V8.1. The message:

```
<PID> ** The orthometric height was determined with a Vertical Time-Dependent
<PID> ** Positioning (VTDP) model and has been validated through GNSS
<PID> ** observations for the NAVD 88 epoch indicated. For additional
<PID> ** information on VTDP, please refer to the following web pages:
<PID> ** www.ngs.noaa.gov/heightmod/GulfCoastProject.shtml
<PID> ** www.ngs.noaa.gov/heightmod/NOAANOSNGSTR50.pdf
<PID>
```

Is displayed if:

- (1) The control point is in a dynamic region/subsidence area (Table 1) and the control point is publishable in this area because it appears in either Table 3 or Table 4 *and*
- (2) The control point was a HT\_MOD (i.e. ELEVATION.ELEV\_SOURCE="H" and ELEVATION.ELEV\_TECH="G") or a Precise Leveled Bench Mark (ELEVATION.ELEV\_SOURCE="H" and ELEVATION.ELEV\_SOURCE="B") *and*
- (3) The control point is VTDP constrained (i.e. UID appears in the LA\_VTDP\_CONSTRAINT table).

An example PID that produces this message on a datasheet is BH3030:

```
DATABASE = QCTESTNGSIDB., PROGRAM = datasheet95, VERSION = 8.1
1 National Geodetic Survey, Retrieval Date = MARCH 15, 2013
BJ1655 *****
BJ1655 DESIGNATION - E 191
BJ1655 PID - BJ1655
BJ1655 STATE/COUNTY- LA/ST JAMES
BJ1655 COUNTRY - US
BJ1655 USGS QUAD - LUTCHER (1994)
BJ1655
BJ1655 *CURRENT SURVEY CONTROL
BJ1655 _____
```

BJ1655\* NAD 83(2011) POSITION- 30 01 07.27893(N) 090 43 50.57444(W) ADJUSTED  
 BJ1655\* NAD 83(2011) ELLIP HT- -21.910 (meters) (06/27/12) ADJUSTED  
 BJ1655\* NAD 83(2011) EPOCH - 2010.00  
 BJ1655\* NAVD 88 ORTHO HEIGHT - 4.40 (meters) 14.4 (feet) LEVELING  
 BJ1655\* NAVD 88 EPOCH - 2009.55  
 BJ1655 \*\*This station is located in a suspected subsidence area (see below).  
 BJ1655 \*\*This station is included in the VTDP model (see below).  
 BJ1655  

BJ1655	GEOID HEIGHT	-	-26.31	(meters)	GEOID12A
BJ1655	NAD 83(2011) X	-	-70,488.617	(meters)	COMP
BJ1655	NAD 83(2011) Y	-	-5,526,752.046	(meters)	COMP
BJ1655	NAD 83(2011) Z	-	3,172,156.732	(meters)	COMP
BJ1655	LAPLACE CORR	-	0.53	(seconds)	DEFLEC12A
BJ1655	HORZ ORDER	-	B		
BJ1655	VERT ORDER	-	THIRD		

BJ1655  
 BJ1655 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)  
 BJ1655 Type Horiz Ellip Dist(km)  
 BJ1655 -----  
 BJ1655 NETWORK 0.32 1.23  
 BJ1655 -----  
 BJ1655 MEDIAN LOCAL ACCURACY AND DIST (140 points) 0.50 2.02 61.05  
 BJ1655 -----  
 BJ1655 NOTE: Click here for information on individual local accuracy  
 BJ1655 values and other accuracy information.  
 BJ1655  
 BJ1655  
 BJ1655.The horizontal coordinates were established by GPS observations  
 BJ1655.and adjusted by the National Geodetic Survey in February 2013.  
 BJ1655  
 BJ1655.NAD 83(2011) refers to NAD 83 coordinates where the reference  
 BJ1655.frame has been affixed to the stable North American tectonic plate. See  
 BJ1655.[www.ngs.noaa.gov/web/surveys/NA2011](http://www.ngs.noaa.gov/web/surveys/NA2011) for more information.  
 BJ1655  
 BJ1655.The horizontal coordinates are valid at the epoch date displayed above  
 BJ1655.which is a decimal equivalence of Year/Month/Day.  
 BJ1655  
 BJ1655 \*\* This station is in an area of known vertical motion. Due to the  
 BJ1655 \*\* variability of land subsidence, uplift, and crustal motion, NGS has,  
 BJ1655 \*\* determined the orthometric heights for marks in these suspect  
 BJ1655 \*\* subsidence areas should be considered valid only at the epoch date  
 BJ1655 \*\* associated with the orthometric height. These heights must always  
 BJ1655 \*\* be validated when used as control. All previously superseded  
 BJ1655 \*\* orthometric heights are now considered suspect and are available  
 BJ1655 \*\* in the superseded section. NGS does not recommend using suspect  
 BJ1655 \*\* or superseded heights as control.  
 BJ1655  
 BJ1655 \*\* The orthometric height was determined with a Vertical Time-dependent  
 BJ1655 \*\* Positioning (VTDP) model and has been validated through GNSS  
 BJ1655 \*\* observations for the epoch indicated. For additional  
 BJ1655 \*\* information on VTDP, please refer to the following web pages:  
 BJ1655 \*\* [www.ngs.noaa.gov/heightmod/GulfCoastProject.shtml](http://www.ngs.noaa.gov/heightmod/GulfCoastProject.shtml)  
 BJ1655 \*\* [www.ngs.noaa.gov/heightmod/NOAANOSNGSTR50.pdf](http://www.ngs.noaa.gov/heightmod/NOAANOSNGSTR50.pdf)  
 BJ1655

. . .

\*\*\* retrieval complete.  
 Elapsed Time = 00:00:06

## Version 8.0 released at 10:21am on 03/04/2013

In prior releases of the datasheet95 program, only passive marks had network and local accuracies as shown below:

```
AC6803  FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)
AC6803  Type                                     Horiz  Ellip  Dist(km)
AC6803  -----
AC6803  NETWORK                                     0.56   1.10
AC6803  -----
AC6803  MEDIAN LOCAL ACCURACY AND DIST (032 points)  0.81   1.74   58.94
AC6803  -----
AC6803  NOTE: Click here for information on individual local accuracy
AC6803  values and other accuracy information.
```

In this version of datasheet95, computed CORS stations (i.e. those CORS sites in the CORS\_POSITION table with non-NULL sigma field values) have network accuracies (but not local accuracies/median calculations) on datasheets similar to that shown below:

```
AF9562  FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)
AF9562  Type                                     Horiz  Ellip  Dist(km)
AF9562  -----
AF9562  NETWORK                                     0.35   1.07
AF9562  -----
AF9562  NOTE: Click here for information on individual local accuracy
AF9562  values and other accuracy information.
```

In addition, datasheets will display the paragraph below for modeled CORS stations (i.e. those CORS stations in the CORS\_POSITION table with NULL sigma field values) only:

```
DH7952.Formal positional accuracy estimates are not available for this CORS
DH7952.because its coordinates were determined in part using modeled
DH7952.velocities. Approximate one-sigma accuracies for latitude, longitude,
DH7952.and ellipsoid height can be obtained from the short-term time series.
DH7952.Additional information regarding modeled velocities is available on
DH7952.the CORS Coordinates and Multi-Year CORS Solution FAQ web pages.
```

It is important to note that if the PID/mark selected is a CORS L1 Phase Center (i.e. CORS\_GROUP.CORS\_TYPE="L") or a CORS Monument (i.e. CORS\_GROUP.CORS\_TYPE="M") and not a CORS ARP (i.e. CORS\_GROUP.CORS\_TYPE="A") that the calculations for Horiz, and Ellip are based on the CORS ARP position and network accuracy data. This can be seen in the datasheets for DN9092/DN9093/AI4469 which are the ARP/L1 Phase Center/Monument for the CORS site of AZU1 in the state of California.

Also important to note is that for a modeled CORS site, the link [short-term time series](#) in the paragraph:

```
DH7952.Formal positional accuracy estimates are not available for this CORS
DH7952.because its coordinates were determined in part using modeled
DH7952.velocities. Approximate one-sigma accuracies for latitude, longitude,
```

DH7952.and ellipsoid height can be obtained from the [short-term time series](#).  
 DH7952.Additional information regarding modeled velocities is available on  
 DH7952.the [CORS Coordinates](#) and [Multi-Year CORS Solution FAQ](#) web pages.

will give a blank short-term time series graph if the site was decommissioned (i.e. DH7952), and a non-blank short-term time series graph otherwise (i.e. DN7446) .

**Test 1:** Run the datasheet95.w via the web link <http://dev.ngs.noaa.gov/cgi-bin/datasheet.prl> on the following PIDs to see if the network accuracies come out properly for the computed CORS components (ARP, L1 Phase Centers, Reference Monument). Make sure that the Horiz, and Ellip values (highlighted in purple below) are the same in the network accuracy section as the ARP position and sigma values are to be used in their calculations.

- DN9092(CORS ARP),
- DN9093 (L1 Phase Center),
- AI4469 (Reference Monument)

The 3 example datasheet AFTER this correction has been completed can be seen below.

```

1      National Geodetic Survey,   Retrieval Date = NOVEMBER 28, 2012
DN9092 *****
DN9092 CORS - This is a GPS Continuously Operating Reference Station.
DN9092 DESIGNATION - AZUSA CORS ARP
DN9092 CORS_ID - AZU1
DN9092 PID - DN9092
DN9092 STATE/COUNTY- CA/LOS ANGELES
DN9092 COUNTRY - US
DN9092 USGS QUAD - AZUSA (1972)
DN9092
DN9092 *CURRENT SURVEY CONTROL
DN9092
DN9092* NAD 83(2011) POSITION- 34 07 33.65475(N) 117 53 47.30636(W) ADJUSTED
DN9092* NAD 83(2011) ELLIP HT- 145.525 (meters) (06/??/12) ADJUSTED
DN9092* NAD 83(2011) EPOCH - 2010.00
DN9092* NAVD 88 ORTHO HEIGHT - ** (meters) ** (feet)
DN9092
DN9092 NAD 83(2011) X - -2,472,978.788 (meters) COMP
DN9092 NAD 83(2011) Y - -4,671,339.303 (meters) COMP
DN9092 NAD 83(2011) Z - 3,558,107.930 (meters) COMP
DN9092 GEOID HEIGHT - -33.63 (meters) GEOID12
DN9092 HORZ ORDER - SPECIAL (CORS)
DN9092 ELLP ORDER - SPECIAL (CORS)
DN9092
DN9092 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)
DN9092 Type Horiz Ellip Dist(km)
DN9092 -----
DN9092 NETWORK 1.45 5.18
DN9092 -----
DN9092 NOTE: Click here for information on individual local accuracy
DN9092 values and other accuracy information.
DN9092
DN9092
DN9092.The coordinates were established by GPS observations
DN9092.and adjusted by the National Geodetic Survey in June 2012.
DN9092
DN9092.NAD 83(2011) refers to NAD 83 coordinates where the reference
DN9092.frame has been affixed to the stable North American Tectonic Plate.
DN9092
  
```

DN9092.The coordinates are valid at the epoch date displayed above  
DN9092.which is a decimal equivalence of Year/Month/Day.  
DN9092  
DN9092.The PID for the CORS L1 Phase Center is DN9093.  
DN9092  
DN9092.The XYZ, and position/ellipsoidal ht. are equivalent.  
DN9092  
DN9092.The ellipsoidal height was determined by GPS observations  
DN9092.and is referenced to NAD 83.  
DN9092  
DN9092. The following values were computed from the NAD 83(2011) position.  
DN9092  
DN9092;  

	North	East	Units	Scale Factor	Converg.
DN9092;SPC CA 5	- 569,446.071	2,009,549.901	MT	0.99998121	+0 03 32.4
DN9092;SPC CA 5	- 1,868,257.65	6,592,998.30	sFT	0.99998121	+0 03 32.4

DN9092  
DN9092! - Elev Factor x Scale Factor = Combined Factor  
DN9092!SPC CA 5 - 0.99997716 x 0.99998121 = 0.99995837  
DN9092  
DN9092 SUPERSEDED SURVEY CONTROL  
DN9092  
DN9092 NAD 83(CORS)- 34 07 33.64838(N) 117 53 47.29833(W) AD(2002.00) c  
DN9092 ELLIP H (06/??/12) 145.542 (m) GP(2002.00) c c  
DN9092  
DN9092.Superseded values are not recommended for survey control.  
DN9092  
DN9092.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.  
DN9092.[See file dsdata.txt](#) to determine how the superseded data were derived.  
DN9092  
DN9092\_U.S. NATIONAL GRID SPATIAL ADDRESS: 11SMT1733376491(NAD 83)  
DN9092  
DN9092\_MARKER: STATION IS THE ANTENNA REFERENCE POINT OF THE GPS ANTENNA  
DN9092  
DN9092 STATION DESCRIPTION  
DN9092  
DN9092'DESCRIBED BY NATIONAL GEODETIC SURVEY 2012  
DN9092'STATION IS A GPS CORS. LATEST INFORMATION INCLUDING POSITIONS AND  
DN9092'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE  
DN9092'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.  
DN9092' ftp://cors.ngs.noaa.gov/cors/README.txt  
DN9092' ftp://cors.ngs.noaa.gov/cors/coord/coord\_08  
DN9092' ftp://cors.ngs.noaa.gov/cors/station\_log  
DN9092' http://geodesy.noaa.gov/CORS  
1 National Geodetic Survey, Retrieval Date = NOVEMBER 28, 2012  
DN9093 \*\*\*\*\*  
DN9093 CORS - This is a GPS Continuously Operating Reference Station.  
DN9093 DESIGNATION - AZUSA CORS L1 PHASE CENTER  
DN9093 CORS\_ID - AZU1  
DN9093 PID - DN9093  
DN9093 STATE/COUNTY- CA/LOS ANGELES  
DN9093 COUNTRY - US  
DN9093 USGS QUAD - AZUSA (1972)  
DN9093  
DN9093 \*CURRENT SURVEY CONTROL  
DN9093  

DN9093*	NAD 83(2011) POSITION-	34 07 33.65477(N)	117 53 47.30636(W)	ADJUSTED
DN9093*	NAD 83(2011) ELLIP HT-	145.615 (meters)	(06/??/12)	ADJUSTED
DN9093*	NAD 83(2011) EPOCH	- 2010.00		
DN9093*	<a href="#">NAVD 88</a> ORTHO HEIGHT	- ** (meters)	** (feet)	

DN9093  

DN9093	NAD 83(2011) X	- -2,472,978.823 (meters)	COMP
DN9093	NAD 83(2011) Y	- -4,671,339.368 (meters)	COMP
DN9093	NAD 83(2011) Z	- 3,558,107.981 (meters)	COMP

```

DN9093 GEOID HEIGHT      -          -33.63 (meters)                GEOID12
DN9093 HORZ ORDER       - SPECIAL (CORS)
DN9093 ELLP ORDER       - SPECIAL (CORS)
DN9093
DN9093 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)
DN9093 Type              Horiz Ellip Dist(km)
DN9093 -----
DN9093 NETWORK           1.45    5.18
DN9093 -----
DN9093 NOTE: Click here for information on individual local accuracy
DN9093 values and other accuracy information.
DN9093
DN9093
DN9093.The coordinates were established by GPS observations
DN9093.and adjusted by the National Geodetic Survey in June 2012.
DN9093
DN9093.NAD 83(2011) refers to NAD 83 coordinates where the reference
DN9093.frame has been affixed to the stable North American Tectonic Plate.
DN9093
DN9093.The coordinates are valid at the epoch date displayed above
DN9093.which is a decimal equivalence of Year/Month/Day.
DN9093
DN9093.The PID for the CORS ARP is DN9092.
DN9093
DN9093.The XYZ, and position/ellipsoidal ht. are equivalent.
DN9093
DN9093.The ellipsoidal height was determined by GPS observations
DN9093.and is referenced to NAD 83.
DN9093
DN9093. The following values were computed from the NAD 83(2011) position.
DN9093
DN9093;          North          East          Units Scale Factor Converg.
DN9093;SPC CA 5    -   569,446.072  2,009,549.901  MT  0.99998121  +0 03 32.4
DN9093;SPC CA 5    -  1,868,257.65  6,592,998.30  sFT 0.99998121  +0 03 32.4
DN9093
DN9093!          - Elev Factor x Scale Factor = Combined Factor
DN9093!SPC CA 5    -   0.99997714 x  0.99998121 =  0.99995835
DN9093
DN9093          SUPERSEDED SURVEY CONTROL
DN9093
DN9093 NAD 83(CORS)-  34 07 33.64840(N)    117 53 47.29833(W) AD(2002.00) c
DN9093 ELLIP H (06/??/12) 145.631 (m)          GP(2002.00) c c
DN9093
DN9093.Superseded values are not recommended for survey control.
DN9093
DN9093.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
DN9093.See file dsdata.txt to determine how the superseded data were derived.
DN9093
DN9093_U.S. NATIONAL GRID SPATIAL ADDRESS: 11SMT1733376491(NAD 83)
DN9093
DN9093_MARKER: STATION IS THE L1 PHASE CENTER OF THE GPS ANTENNA
DN9093
DN9093          STATION DESCRIPTION
DN9093
DN9093'DESCRIBED BY NATIONAL GEODETTIC SURVEY
DN9093'STATION IS A GPS CORS. LATEST INFORMATION INCLUDING POSITIONS AND
DN9093'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE
DN9093'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.
DN9093' ftp://cors.ngs.noaa.gov/cors/README.txt
DN9093' ftp://cors.ngs.noaa.gov/cors/coord/coord_08
DN9093' ftp://cors.ngs.noaa.gov/cors/station_log
DN9093' http://geodesy.noaa.gov/CORS
1 National Geodetic Survey, Retrieval Date = NOVEMBER 28, 2012

```

```

AI4469 *****
AI4469 CORS - This is a GPS Continuously Operating Reference Station.
AI4469 DESIGNATION - AZUSA 49911M001
AI4469 CORS_ID - AZU1
AI4469 PID - AI4469
AI4469 STATE/COUNTY- CA/LOS ANGELES
AI4469 COUNTRY - US
AI4469 USGS QUAD - AZUSA (1972)
AI4469
AI4469 *CURRENT SURVEY CONTROL
AI4469
AI4469* NAD 83(2011) POSITION- 34 07 33.65475(N) 117 53 47.30636(W) ADJUSTED
AI4469* NAD 83(2011) ELLIP HT- 145.444 (meters) (06/??/12) ADJUSTED
AI4469* NAD 83(2011) EPOCH - 2010.00
AI4469* NAVD 88 ORTHO HEIGHT - 179.1 (meters) 588. (feet) GPS OBS
AI4469
AI4469 NAD 83(2011) X - -2,472,978.757 (meters) COMP
AI4469 NAD 83(2011) Y - -4,671,339.243 (meters) COMP
AI4469 NAD 83(2011) Z - 3,558,107.884 (meters) COMP
AI4469 LAPLACE CORR - 4.77 (seconds) DEFLEC12A
AI4469 GEOID HEIGHT - -33.63 (meters) GEOID12
AI4469 HORZ ORDER - SPECIAL (CORS)
AI4469 ELLP ORDER - SPECIAL (CORS)
AI4469
AI4469 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)
AI4469 Type Horiz Ellip Dist(km)
AI4469 -----
AI4469 NETWORK 1.45 5.18
AI4469 -----
AI4469 NOTE: Click here for information on individual local accuracy
AI4469 values and other accuracy information.
AI4469
AI4469
AI4469.The horizontal coordinates were established by GPS observations
AI4469.and adjusted by the National Geodetic Survey in June 2012.
AI4469
AI4469.NAD 83(2011) refers to NAD 83 coordinates where the reference
AI4469.frame has been affixed to the stable North American Tectonic Plate.
AI4469
AI4469.The horizontal coordinates are valid at the epoch date displayed above
AI4469.which is a decimal equivalence of Year/Month/Day.
AI4469
AI4469.The orthometric height was determined by GPS observations and a
AI4469.high-resolution geoid model.
AI4469
AI4469.The XYZ, and position/ellipsoidal ht. are equivalent.
AI4469
AI4469.The Laplace correction was computed from DEFLEC12A derived deflections.
AI4469
AI4469.The ellipsoidal height was determined by GPS observations
AI4469.and is referenced to NAD 83.
AI4469
AI4469. The following values were computed from the NAD 83(2011) position.
AI4469
AI4469; North East Units Scale Factor Converg.
AI4469;SPC CA 6 - 718,506.638 1,848,114.621 MT 1.00004955 -0 54 17.2
AI4469;SPC CA 6 - 2,357,300.53 6,063,356.05 sFT 1.00004955 -0 54 17.2
AI4469;UTM 11 - 3,776,491.272 417,333.760 MT 0.99968424 -0 30 10.7
AI4469
AI4469! Elev Factor x Scale Factor = Combined Factor
AI4469!SPC CA 6 - 0.99997717 x 1.00004955 = 1.00002672
AI4469!UTM 11 - 0.99997717 x 0.99968424 = 0.99966142
AI4469

```

```

AI4469                SUPERSEDED SURVEY CONTROL
AI4469
AI4469  NAD 83(CORS)-  34 07 33.64838(N)      117 53 47.29833(W) AD(2002.00) A
AI4469  ELLIP H (06/??/12)  145.460 (m)                GP(2002.00) 4 1
AI4469  NAVD 88 (04/06/00)  179.2 (m)  GEOID99 model used  GPS OBS
AI4469
AI4469.Superseded values are not recommended for survey control.
AI4469
AI4469.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AI4469.See file dsdata.txt to determine how the superseded data were derived.
AI4469
AI4469_U.S. NATIONAL GRID SPATIAL ADDRESS: 11SMT1733376491(NAD 83)
AI4469
AI4469_MARKER: Z = SEE DESCRIPTION
AI4469_SETTING: 0 = UNSPECIFIED SETTING
AI4469_STAMPING: NONE
AI4469_MARK LOGO: NONE
AI4469_MAGNETIC: N = NO MAGNETIC MATERIAL
AI4469_STABILITY: A = MOST RELIABLE AND EXPECTED TO HOLD
AI4469+STABILITY: POSITION/ELEVATION WELL
AI4469_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AI4469+SATELLITE: SATELLITE OBSERVATIONS - 1998
AI4469
AI4469  HISTORY      - Date      Condition      Report By
AI4469  HISTORY      - 1998      MONUMENTED    NGS
AI4469
AI4469                STATION DESCRIPTION
AI4469
AI4469'DESCRIBED BY NATIONAL GEODETIC SURVEY 1998
AI4469'THIS MONUMENT IS ASSOCIATED WITH CORS SITE 'AZU1'
AI4469'LATEST INFORMATION INCLUDING POSITIONS AND VELOCITIES
AI4469'ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE
AI4469'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.
AI4469'  ftp://cors.ngs.noaa.gov/cors/README.txt
AI4469'  ftp://cors.ngs.noaa.gov/cors/coord/coord_08
AI4469'  ftp://cors.ngs.noaa.gov/cors/station_log
AI4469'  http://geodesy.noaa.gov/CORS

*** retrieval complete.
Elapsed Time = 00:00:02

```

**Test 2:** Run the datasheet95.w via the web link <http://dev.ngs.noaa.gov/cgi-bin/datasheet.prl> on two modeled CORS sites DN7446 and DNH7952. Note: DN7446 is an active modeled CORS site while DH7952 is not. The special modeled CORS paragraph should display on the datasheets.

```

1      National Geodetic Survey,  Retrieval Date = NOVEMBER 28, 2012
DN7446 *****
DN7446  CORS      -  This is a GPS Continuously Operating Reference Station.
DN7446  DESIGNATION -  ESSEX_CTY_CS2007 CORS ARP
DN7446  CORS_ID   -  P614
DN7446  PID       -  DN7446
DN7446  STATE/COUNTY-  CA/SAN BERNARDINO
DN7446  COUNTRY   -  US
DN7446  USGS QUAD  -  ESSEX (1985)
DN7446
DN7446                *CURRENT SURVEY CONTROL
DN7446
DN7446*  NAD 83(2011) POSITION- 34 43 54.44390(N) 115 15 00.89684(W)  ADJUSTED
DN7446*  NAD 83(2011) ELLIP HT- 491.766 (meters)                (04/??/12)  ADJUSTED
DN7446*  NAD 83(2011) EPOCH  - 2010.00

```



DN7446\* [NAVD 88](#) ORTHO HEIGHT -                   \*\* (meters)                   \*\* (feet)  
DN7446  
DN7446 NAD 83 (2011) X - -2,238,585.339 (meters)                   COMP  
DN7446 NAD 83 (2011) Y - -4,746,426.592 (meters)                   COMP  
DN7446 NAD 83 (2011) Z - 3,613,733.592 (meters)                   COMP  
DN7446 GEOID HEIGHT -                   -30.89 (meters)                   GEOID12  
DN7446 HORZ ORDER - SPECIAL (CORS)  
DN7446 ELLP ORDER - SPECIAL (CORS)  
DN7446  
DN7446. Formal positional accuracy estimates are not available for this CORS  
DN7446. because its coordinates were determined in part using modeled  
DN7446. velocities. Approximate one-sigma accuracies for latitude, longitude,  
DN7446. and ellipsoid height can be obtained from the [short-term time series](#).  
DN7446. Additional information regarding modeled velocities is available on  
DN7446. the [CORS Coordinates](#) and [Multi-Year CORS Solution FAQ](#) web pages.  
DN7446  
DN7446. The coordinates were established by GPS observations  
DN7446. and adjusted by the National Geodetic Survey in April 2012.  
DN7446  
DN7446. NAD 83 (2011) refers to NAD 83 coordinates where the reference  
DN7446. frame has been affixed to the stable North American Tectonic Plate.  
DN7446  
DN7446. The coordinates are valid at the epoch date displayed above  
DN7446. which is a decimal equivalence of Year/Month/Day.  
DN7446  
DN7446. The PID for the CORS L1 Phase Center is DN7447.  
DN7446  
DN7446. The XYZ, and position/ellipsoidal ht. are equivalent.  
DN7446  
DN7446. The ellipsoidal height was determined by GPS observations  
DN7446. and is referenced to NAD 83.  
DN7446  
DN7446. The following values were computed from the NAD 83 (2011) position.  
DN7446  
DN7446;  

	North	East	Units	Scale	Factor	Converg.
DN7446; SPC CA 5	- 640,080.125	2,251,785.044	MT	0.99992218	+1 34	02.6
DN7446; SPC CA 5	- 2,099,996.21	7,387,731.43	sFT	0.99992218	+1 34	02.6

DN7446  
DN7446!  

DN7446! SPC CA 5	- Elev Factor	x	Scale Factor	=	Combined Factor
	0.99992281	x	0.99992218	=	0.99984500

DN7446  
DN7446  

SUPERSEDED SURVEY CONTROL

DN7446  
DN7446 NAD 83 (CORS) - 34 43 54.44333 (N)                   115 15 00.89709 (W)                   AD (2002.00) c  
DN7446 ELLIP H (04/??/12) 491.761 (m)                   GP (2002.00) c c  
DN7446  
DN7446. Superseded values are not recommended for survey control.  
DN7446  
DN7446. NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.  
DN7446. [See file dsdata.txt](#) to determine how the superseded data were derived.  
DN7446  
DN7446\_ U.S. NATIONAL GRID SPATIAL ADDRESS: 11SPU6019544694 (NAD 83)  
DN7446  
DN7446\_ MARKER: STATION IS THE ANTENNA REFERENCE POINT OF THE GPS ANTENNA  
DN7446  

STATION DESCRIPTION

DN7446  
DN7446' DESCRIBED BY NATIONAL GEODETIC SURVEY 2012  
DN7446' STATION IS A GPS CORS. LATEST INFORMATION INCLUDING POSITIONS AND  
DN7446' VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE  
DN7446' BY ANONYMOUS FTP OR THE WORLDWIDE WEB.  
DN7446' <ftp://cors.ngs.noaa.gov/cors/README.txt>  
DN7446' [ftp://cors.ngs.noaa.gov/cors/coord/coord\\_08](ftp://cors.ngs.noaa.gov/cors/coord/coord_08)

DN7446' ftp://cors.ngs.noaa.gov/cors/station\_log  
 DN7446' http://geodesy.noaa.gov/CORS

1 National Geodetic Survey, Retrieval Date = NOVEMBER 28, 2012

DH7952 \*\*\*\*\*  
 DH7952 CORS - This is a GPS Continuously Operating Reference Station.  
 DH7952 DESIGNATION - LOYOLA 7 COOP CORS ARP  
 DH7952 CORS\_ID - LOY7  
 DH7952 PID - DH7952  
 DH7952 STATE/COUNTY- VA/C OF ROANOKE  
 DH7952 COUNTRY - US  
 DH7952 USGS QUAD - ROANOKE (1984)  
 DH7952  
 DH7952 \*CURRENT SURVEY CONTROL  
 DH7952

DH7952*	NAD 83(CORS)	POSITION-	37 19 56.61446(N)	079 58 39.26472(W)	ADJUSTED
DH7952*	NAD 83(CORS)	ELLIP HT-	319.329 (meters)	(02/??/06)	ADJUSTED
DH7952*	NAD 83(CORS)	EPOCH	- 2002.00		
DH7952*	<a href="#">NAVD 88</a>	ORTHO HEIGHT	-	** (meters)	** (feet)

DH7952

DH7952	NAD 83(CORS)	X	- 883,736.040 (meters)	COMP
DH7952	NAD 83(CORS)	Y	- -5,000,470.041 (meters)	COMP
DH7952	NAD 83(CORS)	Z	- 3,846,983.290 (meters)	COMP
DH7952	GEOID HEIGHT	-	-32.42 (meters)	GEOID12
DH7952	HORZ ORDER	-	SPECIAL (CORS)	
DH7952	ELLP ORDER	-	SPECIAL (CORS)	

DH7952

DH7952. Formal positional accuracy estimates are not available for this CORS because its coordinates were determined in part using modeled velocities. Approximate one-sigma accuracies for latitude, longitude, and ellipsoid height can be obtained from the [short-term time series](#). Additional information regarding modeled velocities is available on the [CORS Coordinates](#) and [Multi-Year CORS Solution FAQ](#) web pages.

DH7952

DH7952. The coordinates were established by GPS observations and adjusted by the National Geodetic Survey in February 2006.

DH7952

DH7952. The datum tag of NAD 83(CORS) is equivalent to NAD 83(CORS96).

DH7952

DH7952. The coordinates are valid at the epoch date displayed above which is a decimal equivalence of Year/Month/Day.

DH7952

DH7952. The PID for the CORS L1 Phase Center is DH7953.

DH7952

DH7952. The XYZ, and position/ellipsoidal ht. are equivalent.

DH7952

DH7952. The ellipsoidal height was determined by GPS observations and is referenced to NAD 83.

DH7952

DH7952. The following values were computed from the NAD 83(CORS) position.

DH7952

DH7952;	North	East	Units	Scale	Factor	Converg.
DH7952;SPC VA S	- 1,111,894.978	3,369,065.899	MT	0.99994559	-0 53 48.4	
DH7952;SPC VA S	- 3,647,942.11	11,053,343.70	sFT	0.99994559	-0 53 48.4	

DH7952

DH7952! - Elev Factor x Scale Factor = Combined Factor  
 DH7952!SPC VA S - 0.99994989 x 0.99994559 = 0.99989548

DH7952

DH7952 SUPERSEDED SURVEY CONTROL

DH7952

DH7952. No superseded survey control is available for this station.

DH7952

DH7952 U.S. NATIONAL GRID SPATIAL ADDRESS: 17SNB9057532236(NAD 83)

DH7952

```

DH7952_MARKER: STATION IS THE ANTENNA REFERENCE POINT OF THE GPS ANTENNA
DH7952
DH7952          STATION DESCRIPTION
DH7952
DH7952'DESCRIBED BY NATIONAL GEODETIC SURVEY 2006
DH7952'STATION IS A GPS CORS.  LATEST INFORMATION INCLUDING POSITIONS AND
DH7952'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE
DH7952'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.
DH7952'  ftp://cors.ngs.noaa.gov/cors/README.txt
DH7952'  ftp://cors.ngs.noaa.gov/cors/coord/coord_08
DH7952'  ftp://cors.ngs.noaa.gov/cors/station_log
DH7952'  http://geodesy.noaa.gov/CORS

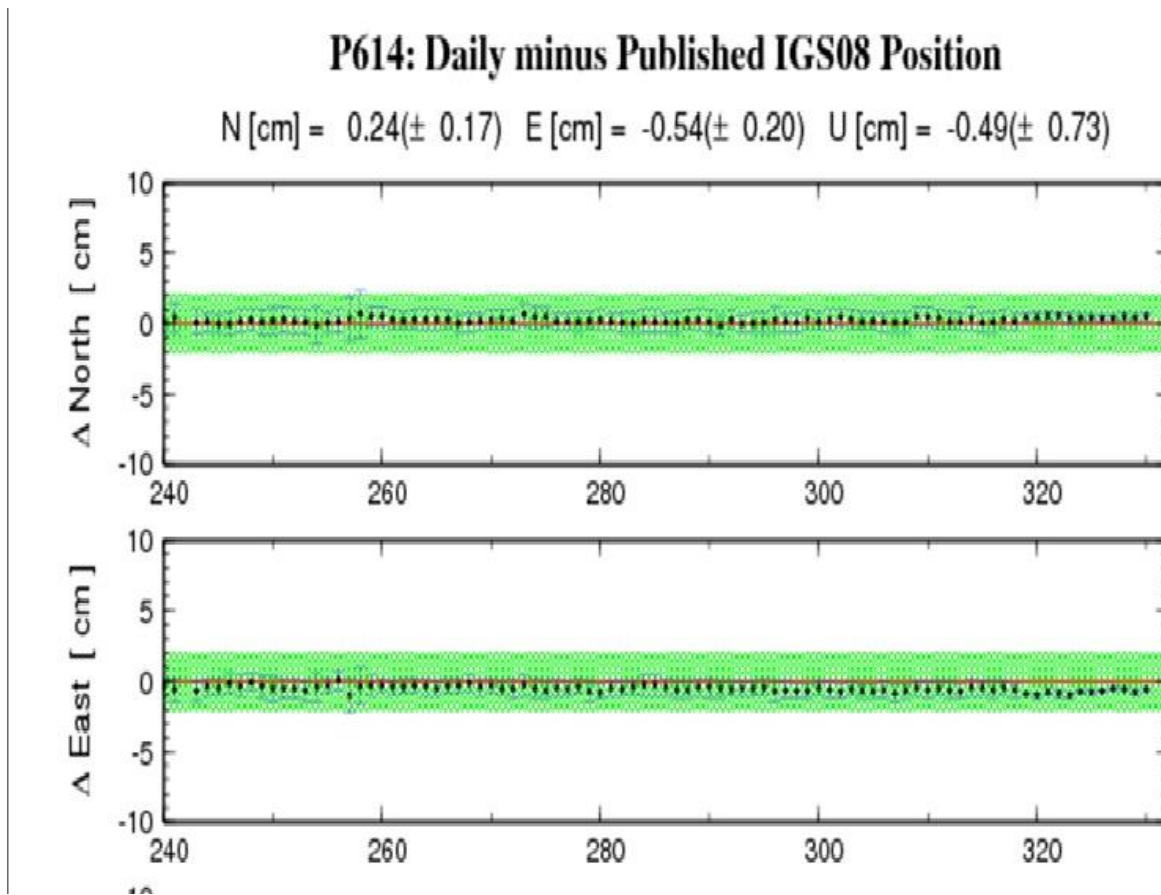
```

```

*** retrieval complete.
Elapsed Time = 00:00:01

```

Now when you test the link [short-term time series](#) in the green highlighted paragraph for DN7446 you will not see a short-term time series graph but when you click the link [short-term time series](#) for DH7952 you will see a short-term time series graph like below:



This is because DN7446 is an active modeled CORS site whereas DH7952 is for a decommissioned CORS site.

## Version 7.89.7 released at 4:34pm on 11/27/2012

This release incorporates 2 updates:

(1) The number format on the network accuracy lines on datasheets. The previous number format was:

```
AW5439 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)
AW5439 Type Horiz Ellip Dist(km)
AW5439 -----
AW5439 NETWORK 99.99 99.99
AW5439 -----
AW5439 MEDIAN LOCAL ACCURACY AND DIST (010 points) 99.99 99.99 9999.19
AW5439 -----
AW5439 NOTE: Click here for information on individual local accuracy
AW5439 values and other accuracy information.
```

The new number format is:

```
AW5439 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)
AW5439 Type Horiz Ellip Dist(km)
AW5439 -----
AW5439 NETWORK 9999.99 999.99
AW5439 -----
AW5439 MEDIAN LOCAL ACCURACY AND DIST (010 points)9999.99 999.99 9999.19
AW5439 -----
AW5439 NOTE: Click here for information on individual local accuracy
AW5439 values and other accuracy information.
```

An example datasheet BEFORE the number format was corrected can be seen below.

```
PROGRAM = datasheet95, VERSION = 7.89.6
1 National Geodetic Survey, Retrieval Date = NOVEMBER 5, 2012
AW5439 *****
AW5439 HT_MOD - This is a Height Modernization Survey Station.
AW5439 DESIGNATION - HGCS D 18
AW5439 PID - AW5439
AW5439 STATE/COUNTY- TX/HARRIS
AW5439 COUNTRY - US
AW5439 USGS QUAD - SATSUMA (1982)
AW5439
AW5439 *CURRENT SURVEY CONTROL
AW5439
AW5439* NAD 83(2011) POSITION- 29 52 45.31333(N) 095 36 41.68693(W) ADJUSTED
AW5439* NAD 83(2011) ELLIP HT- 8.461 (meters) (06/27/12) ADJUSTED
AW5439* NAD 83(2011) EPOCH - 2010.00
AW5439* NAVD 88 ORTHO HEIGHT - 35.99 (meters) 118.1 (feet) GPS OBS
AW5439
AW5439 NAVD 88 orthometric height was determined with geoid model GEOID99
AW5439 GEOID HEIGHT - -27.36 (meters) GEOID99
AW5439 GEOID HEIGHT - -27.48 (meters) GEOID12A
AW5439 NAD 83(2011) X - -541,229.190 (meters) COMP
AW5439 NAD 83(2011) Y - -5,508,418.859 (meters) COMP
AW5439 NAD 83(2011) Z - 3,158,779.244 (meters) COMP
AW5439 LAPLACE CORR - 0.43 (seconds) DEFLEC12A
AW5439
AW5439 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)
AW5439 Type Horiz Ellip Dist(km)
AW5439 -----
```

AW5439 NETWORK 22.91 28.03

AW5439 -----  
AW5439 MEDIAN LOCAL ACCURACY AND DIST (010 points) 22.91 28.05 8.19

AW5439 NOTE: Click here for information on individual local accuracy values and other accuracy information.

AW5439.The horizontal coordinates were established by GPS observations and adjusted by the National Geodetic Survey in June 2012.

AW5439.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has been affixed to the stable North American tectonic plate. See www.ngs.noaa.gov/web/surveys/NA2011 for more information.

AW5439.The horizontal coordinates are valid at the epoch date displayed above which is a decimal equivalence of Year/Month/Day.

AW5439.The orthometric height was determined by GPS observations and a high-resolution geoid model using precise GPS observation and processing techniques.

AW5439.The X, Y, and Z were computed from the position and the ellipsoidal ht.

AW5439.The Laplace correction was computed from DEFLEC12A derived deflections.

AW5439.The ellipsoidal height was determined by GPS observations and is referenced to NAD 83.

AW5439. The following values were computed from the NAD 83(2011) position.

	North	East	Units	Scale Factor	Converg.
AW5439;SPC TXSC	- 4,231,486.323	927,255.306	MT	0.99990823	+1 39 36.1
AW5439;SPC TXSC	-13,882,801.38	3,042,170.12	sFT	0.99990823	+1 39 36.1
AW5439;UTM 15	- 3,308,270.762	247,770.506	MT	1.00038501	-1 18 06.2
AW5439!	- Elev Factor x Scale Factor = Combined Factor				
AW5439!SPC TXSC	- 0.99999867	x 0.99990823	=	0.99990690	
AW5439!UTM 15	- 0.99999867	x 1.00038501	=	1.00038368	

SUPERSEDED SURVEY CONTROL

AW5439 NAD 83(2007)-	29 52 45.31261(N)	095 36 41.68785(W)	AD( )	0
AW5439 ELLIP H (02/10/07)	8.547 (m)		GP( )	
AW5439 NAD 83(1993)-	29 52 45.31234(N)	095 36 41.68786(W)	AD( )	1
AW5439 ELLIP H (12/03/01)	8.553 (m)		GP( )	4 2
AW5439 ELLIP H (10/25/00)	8.840 (m)		GP( )	4 1
AW5439 NAD 83(1993)-	29 52 45.31262(N)	095 36 41.68709(W)	AD( )	1
AW5439 ELLIP H (10/17/96)	8.957 (m)		GP( )	3 1
AW5439 NAD 83(1993)-	29 52 45.31197(N)	095 36 41.68755(W)	AD( )	1
AW5439 ELLIP H (02/16/96)	9.333 (m)		GP( )	5 1
AW5439 NAD 83(1986)-	29 52 45.32657(N)	095 36 41.66906(W)	AD( )	1
AW5439 NAVD 88 (10/17/96)	36.28 (m)	UNKNOWN model used	GPS OBS	
AW5439 NAVD 88 (06/15/91)	36.872 (m)	120.97 (f)	ADJUSTED	1 2
AW5439 NGVD 29 (12/23/87)	36.865 (m)	120.95 (f)	ADJUSTED	1 2

AW5439.Superseded values are not recommended for survey control.

AW5439.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums. See file dsdata.txt to determine how the superseded data were derived.

AW5439\_U.S. NATIONAL GRID SPATIAL ADDRESS: 15RTP4777008270(NAD 83)

AW5439\_MARKER: I = METAL ROD  
 AW5439\_SETTING: 59 = STAINLESS STEEL ROD IN SLEEVE (10 FT.+)

AW5439\_SP\_SET: STAINLESS STEEL ROD IN SLEEVE  
 AW5439\_STAMPING: HGCSO 18 1986  
 AW5439\_MARK LOGO: NGS  
 AW5439\_PROJECTION: FLUSH  
 AW5439\_MAGNETIC: I = MARKER IS A STEEL ROD  
 AW5439\_STABILITY: A = MOST RELIABLE AND EXPECTED TO HOLD  
 AW5439+STABILITY: POSITION/ELEVATION WELL  
 AW5439\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR  
 AW5439+SATELLITE: SATELLITE OBSERVATIONS - March 28, 2011  
 AW5439\_ROD/PIPE-DEPTH: 16.8 meters  
 AW5439\_SLEEVE-DEPTH : 6.1 meters

AW5439	HISTORY	- Date	Condition	Report By
AW5439	HISTORY	- 1986	MONUMENTED	NGS
AW5439	HISTORY	- 1987	GOOD	NGS
AW5439	HISTORY	- 19940326	GOOD	USPSQD
AW5439	HISTORY	- 19941117	GOOD	HGCSO
AW5439	HISTORY	- 20041011	GOOD	USPSQD
AW5439	HISTORY	- 20110328	GOOD	SAM1

AW5439 STATION DESCRIPTION

AW5439'DESCRIBED BY NATIONAL GEODETIC SURVEY 1986  
 AW5439'8.1 KM (5.05 MI) NW FROM FAIRBANKS.  
 AW5439'3.9 KM (2.4 MI) NORTHWESTERLY ALONG U.S. HIGHWAY 290 FROM THE POST  
 AW5439'OFFICE IN FAIRBANKS, THENCE 4.2 KM (2.6 MI) WESTERLY ALONG FARM ROAD  
 AW5439'529, 29.9 M (98.1 FT) SOUTH OF THE CENTERLINE OF THE ROAD, 22.7 M  
 AW5439'(74.5 FT) NORTH OF THE NORTHEAST CORNER OF THE SYSTEMS OFFICE  
 AW5439'BUILDING, AND 1.5 M (4.9 FT) WEST OF THE WEST EDGE OF A SIDEWALK.  
 AW5439'NOTE--ACCESS TO DATUM POINT IS HAD THROUGH A 5-INCH LOGO CAP.  
 AW5439'THE MARK IS ABOVE LEVEL WITH THE ROAD.

AW5439 STATION RECOVERY (1987)

AW5439'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1987 (REP)  
 AW5439'THE STATION IS LOCATED ABOUT 28.2 KM (17.5 MI)  
 AW5439'NORTHWEST OF HOUSTON, 23.3 KM (14.5 MI) NORTHEAST OF KATY AND  
 AW5439'12.9 KM (8.0 MI) SOUTHEAST OF CYPRESS.  
 AW5439'OWNERSHIP--JOHN B GOSS SR, 13223 SPENCER ROAD, HOUSTON TX 77041,  
 AW5439'PHONE 713-466-3441.  
 AW5439'  
 AW5439'TO REACH THE STATION FROM THE INTERSECTION OF U.S. HIGHWAY 290 AND  
 AW5439'FARM ROAD 529, WHICH IS ABOUT 24.1 KM (15.0 MI) NORTHWEST OF  
 AW5439'HOUSTON, GO WEST ON FARM ROAD 529 FOR 4.0 KM (2.5 MI) TO THE  
 AW5439'STATION ON THE LEFT.  
 AW5439'  
 AW5439'THE STATION IS A PUNCH MARK IN THE TOP OF A STAINLESS STEEL ROD  
 AW5439'DRIVEN INTO THE GROUND AND INSIDE A 1-INCH PVC PIPE THAT IS 20 FEET  
 AW5439'LONG FILLED WITH GREASE THAT IS ENCASED IN A 5-INCH PVC PIPE WITH A  
 AW5439'LOGO CAP STAMPED---HGCSO 18 1986---, THE ROD IS RECESSED 10 CM  
 AW5439'BELOW THE GROUND. LOCATED  
 AW5439'29.9 METERS (98.0 FT) SOUTH FROM THE CENTERLINE OF FARM ROAD 529,  
 AW5439'22.5 METERS (73.7 FT) NORTH FROM THE NORTHEAST CORNER OF THE  
 AW5439'MECHANICAL SYSTEMS BUILDING AND  
 AW5439'1.5 METERS (4.8 FT) WEST FROM THE WEST EDGE OF A NORTH-SOUTH  
 AW5439'SIDEWALK.  
 AW5439'  
 AW5439'HARRIS-GALVESTON, TEXAS, SUBSIDENCE NETWORK, JAN 1987.  
 AW5439'  
 AW5439'THIS STATION IS SUITABLE FOR GPS SURVEYS.  
 AW5439'

AW5439'DESCRIBED BY P.C. OSLEY.  
 AW5439  
 AW5439 STATION RECOVERY (1994)  
 AW5439  
 AW5439'RECOVERY NOTE BY US POWER SQUADRON 1994  
 AW5439'RECOVERED IN GOOD CONDITION.  
 AW5439  
 AW5439 STATION RECOVERY (1994)  
 AW5439  
 AW5439'RECOVERY NOTE BY HARRIS-GALV CO DIST 1994 (JCH)  
 AW5439'RECOVERED AS DESCRIBED.  
 AW5439  
 AW5439 STATION RECOVERY (2004)  
 AW5439  
 AW5439'RECOVERY NOTE BY US POWER SQUADRON 2004 (GWS)  
 AW5439'THE NAME OF THE OFFICE BUILDING IS SEATRAZ SYSTEMS.  
 AW5439  
 AW5439 STATION RECOVERY (2011)  
 AW5439  
 AW5439'RECOVERY NOTE BY SURVEYING AND MAPPING, INC 2011 (TAT)  
 AW5439'RECOVERED IN GOOD CONDITION.

An example datasheet AFTER the number format was corrected can be seen below.

```

1      National Geodetic Survey, Retrieval Date = NOVEMBER 5, 2012
AW5439 *****
AW5439 HT_MOD - This is a Height Modernization Survey Station.
AW5439 DESIGNATION - HGCS D 18
AW5439 PID - AW5439
AW5439 STATE/COUNTY- TX/HARRIS
AW5439 COUNTRY - US
AW5439 USGS QUAD - SATSUMA (1982)
AW5439
AW5439 *CURRENT SURVEY CONTROL
AW5439
AW5439* NAD 83(2011) POSITION- 29 52 45.31333(N) 095 36 41.68693(W) ADJUSTED
AW5439* NAD 83(2011) ELLIP HT- 8.461 (meters) (06/27/12) ADJUSTED
AW5439* NAD 83(2011) EPOCH - 2010.00
AW5439* NAVD 88 ORTHO HEIGHT - 35.99 (meters) 118.1 (feet) GPS OBS
AW5439
AW5439 NAVD 88 orthometric height was determined with geoid model GEOID99
AW5439 GEOID HEIGHT - -27.36 (meters) GEOID99
AW5439 GEOID HEIGHT - -27.48 (meters) GEOID12A
AW5439 NAD 83(2011) X - -541,229.190 (meters) COMP
AW5439 NAD 83(2011) Y - -5,508,418.859 (meters) COMP
AW5439 NAD 83(2011) Z - 3,158,779.244 (meters) COMP
AW5439 LAPLACE CORR - 0.43 (seconds) DEFLEC12A
AW5439
AW5439 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)
AW5439 Type Horiz Ellip Dist(km)
AW5439 -----
AW5439 NETWORK 22.91 28.03
AW5439 -----
AW5439 MEDIAN LOCAL ACCURACY AND DIST (010 points) 22.91 28.05 8.19
AW5439 -----
AW5439 NOTE: Click here for information on individual local accuracy
AW5439 values and other accuracy information.
AW5439
AW5439
AW5439.The horizontal coordinates were established by GPS observations
AW5439.and adjusted by the National Geodetic Survey in June 2012.
AW5439
AW5439.NAD 83(2011) refers to NAD 83 coordinates where the reference
  
```

AW5439.frame has been affixed to the stable North American tectonic plate. See  
AW5439.www.ngs.noaa.gov/web/surveys/NA2011 for more information.

AW5439

AW5439.The horizontal coordinates are valid at the epoch date displayed above  
AW5439.which is a decimal equivalence of Year/Month/Day.

AW5439

AW5439.The orthometric height was determined by GPS observations and a  
AW5439.high-resolution geoid model using precise GPS observation and  
AW5439.processing techniques.

AW5439

AW5439.The X, Y, and Z were computed from the position and the ellipsoidal ht.  
AW5439

AW5439.The Laplace correction was computed from DEFLEC12A derived deflections.  
AW5439

AW5439.The ellipsoidal height was determined by GPS observations  
AW5439.and is referenced to NAD 83.

AW5439

AW5439. The following values were computed from the NAD 83(2011) position.

AW5439

AW5439;	North	East	Units	Scale	Factor	Converg.
AW5439;SPC TXSC	- 4,231,486.323	927,255.306	MT	0.99990823	+1 39 36.1	
AW5439;SPC TXSC	-13,882,801.38	3,042,170.12	sFT	0.99990823	+1 39 36.1	
AW5439;UTM 15	- 3,308,270.762	247,770.506	MT	1.00038501	-1 18 06.2	

AW5439

AW5439! - Elev Factor x Scale Factor = Combined Factor

AW5439!SPC TXSC - 0.99999867 x 0.99990823 = 0.99990690

AW5439!UTM 15 - 0.99999867 x 1.00038501 = 1.00038368

AW5439

#### SUPERSEDED SURVEY CONTROL

AW5439

AW5439	NAD 83(2007)-	29 52 45.31261(N)	095 36 41.68785(W)	AD( )	0
AW5439	ELLIP H (02/10/07)	8.547 (m)		GP( )	
AW5439	NAD 83(1993)-	29 52 45.31234(N)	095 36 41.68786(W)	AD( )	1
AW5439	ELLIP H (12/03/01)	8.553 (m)		GP( )	4 2
AW5439	ELLIP H (10/25/00)	8.840 (m)		GP( )	4 1
AW5439	NAD 83(1993)-	29 52 45.31262(N)	095 36 41.68709(W)	AD( )	1
AW5439	ELLIP H (10/17/96)	8.957 (m)		GP( )	3 1
AW5439	NAD 83(1993)-	29 52 45.31197(N)	095 36 41.68755(W)	AD( )	1
AW5439	ELLIP H (02/16/96)	9.333 (m)		GP( )	5 1
AW5439	NAD 83(1986)-	29 52 45.32657(N)	095 36 41.66906(W)	AD( )	1
AW5439	NAVD 88 (10/17/96)	36.28 (m)	UNKNOWN model used	GPS OBS	
AW5439	NAVD 88 (06/15/91)	36.872 (m)	120.97 (f)	ADJUSTED	1 2
AW5439	NGVD 29 (12/23/87)	36.865 (m)	120.95 (f)	ADJUSTED	1 2

AW5439

AW5439.Superseded values are not recommended for survey control.

AW5439

AW5439.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

AW5439.See file dsdata.txt to determine how the superseded data were derived.

AW5439

AW5439\_U.S. NATIONAL GRID SPATIAL ADDRESS: 15RTP4777008270(NAD 83)

AW5439

AW5439\_MARKER: I = METAL ROD

AW5439\_SETTING: 59 = STAINLESS STEEL ROD IN SLEEVE (10 FT.+)

AW5439\_SP\_SET: STAINLESS STEEL ROD IN SLEEVE

AW5439\_STAMPING: HGCS D 18 1986

AW5439\_MARK LOGO: NGS

AW5439\_PROJECTION: FLUSH

AW5439\_MAGNETIC: I = MARKER IS A STEEL ROD

AW5439\_STABILITY: A = MOST RELIABLE AND EXPECTED TO HOLD

AW5439+STABILITY: POSITION/ELEVATION WELL

AW5439\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

AW5439+SATELLITE: SATELLITE OBSERVATIONS - March 28, 2011

AW5439\_ROD/PIPE-DEPTH: 16.8 meters



AW5439\_SLEEVE-DEPTH : 6.1 meters

AW5439

AW5439	HISTORY	- Date	Condition	Report By
AW5439	HISTORY	- 1986	MONUMENTED	NGS
AW5439	HISTORY	- 1987	GOOD	NGS
AW5439	HISTORY	- 19940326	GOOD	USPSQD
AW5439	HISTORY	- 19941117	GOOD	HGCS
AW5439	HISTORY	- 20041011	GOOD	USPSQD
AW5439	HISTORY	- 20110328	GOOD	SAM1

AW5439

STATION DESCRIPTION

AW5439

AW5439'DESCRIBED BY NATIONAL GEODETIC SURVEY 1986

AW5439'8.1 KM (5.05 MI) NW FROM FAIRBANKS.

AW5439'3.9 KM (2.4 MI) NORTHWESTERLY ALONG U.S. HIGHWAY 290 FROM THE POST

AW5439'OFFICE IN FAIRBANKS, THENCE 4.2 KM (2.6 MI) WESTERLY ALONG FARM ROAD

AW5439'529, 29.9 M (98.1 FT) SOUTH OF THE CENTERLINE OF THE ROAD, 22.7 M

AW5439'(74.5 FT) NORTH OF THE NORTHEAST CORNER OF THE SYSTEMS OFFICE

AW5439'BUILDING, AND 1.5 M (4.9 FT) WEST OF THE WEST EDGE OF A SIDEWALK.

AW5439'NOTE--ACCESS TO DATUM POINT IS HAD THROUGH A 5-INCH LOGO CAP.

AW5439'THE MARK IS ABOVE LEVEL WITH THE ROAD.

AW5439

STATION RECOVERY (1987)

AW5439

AW5439

AW5439'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1987 (REP)

AW5439'THE STATION IS LOCATED ABOUT 28.2 KM (17.5 MI)

AW5439'NORTHWEST OF HOUSTON, 23.3 KM (14.5 MI) NORTHEAST OF KATY AND

AW5439'12.9 KM (8.0 MI) SOUTHEAST OF CYPRESS.

AW5439'OWNERSHIP--JOHN B GOSS SR, 13223 SPENCER ROAD, HOUSTON TX 77041,

AW5439'PHONE 713-466-3441.

AW5439'

AW5439'TO REACH THE STATION FROM THE INTERSECTION OF U.S. HIGHWAY 290 AND

AW5439'FARM ROAD 529, WHICH IS ABOUT 24.1 KM (15.0 MI) NORTHWEST OF

AW5439'HOUSTON, GO WEST ON FARM ROAD 529 FOR 4.0 KM (2.5 MI) TO THE

AW5439'STATION ON THE LEFT.

AW5439'

AW5439'THE STATION IS A PUNCH MARK IN THE TOP OF A STAINLESS STEEL ROD

AW5439'DRIVEN INTO THE GROUND AND INSIDE A 1-INCH PVC PIPE THAT IS 20 FEET

AW5439'LONG FILLED WITH GREASE THAT IS ENCASED IN A 5-INCH PVC PIPE WITH A

AW5439'LOGO CAP STAMPED---HGCS 18 1986---, THE ROD IS RECESSED 10 CM

AW5439'BELOW THE GROUND. LOCATED

AW5439'29.9 METERS (98.0 FT) SOUTH FROM THE CENTERLINE OF FARM ROAD 529,

AW5439'22.5 METERS (73.7 FT) NORTH FROM THE NORTHEAST CORNER OF THE

AW5439'MECHANICAL SYSTEMS BUILDING AND

AW5439'1.5 METERS (4.8 FT) WEST FROM THE WEST EDGE OF A NORTH-SOUTH

AW5439'SIDEWALK.

AW5439'

AW5439'HARRIS-GALVESTON, TEXAS, SUBSIDENCE NETWORK, JAN 1987.

AW5439'

AW5439'THIS STATION IS SUITABLE FOR GPS SURVEYS.

AW5439'

AW5439'DESCRIBED BY P.C. OSLEY.

AW5439

STATION RECOVERY (1994)

AW5439

AW5439'RECOVERY NOTE BY US POWER SQUADRON 1994

AW5439'RECOVERED IN GOOD CONDITION.

AW5439

STATION RECOVERY (1994)

AW5439

AW5439'RECOVERY NOTE BY HARRIS-GALV CO DIST 1994 (JCH)

AW5439'RECOVERED AS DESCRIBED.

AW5439

```

AW5439                STATION RECOVERY (2004)
AW5439
AW5439'RECOVERY NOTE BY US POWER SQUADRON 2004 (GWS)
AW5439'THE NAME OF THE OFFICE BUILDING IS SEATRAZ SYSTEMS.
AW5439
AW5439                STATION RECOVERY (2011)
AW5439
AW5439'RECOVERY NOTE BY SURVEYING AND MAPPING, INC 2011 (TAT)
AW5439'RECOVERED IN GOOD CONDITION.

```

(2) Publish the latest available network and local accuracies on the datasheet based on the most recent load date for GPS projects loaded since the 2011 national readjustment. So if there were three local accuracies that were loaded at the time of the 2011 national readjustment, and two more were loaded after the 2011 national readjustment, then all five should be displayed on the listing of local accuracies. Also if no new position record is added (i.e. the position is held fixed) they can still add new network and local accuracy records. This means that we can no longer retrieve the network and local accuracies by UID/ADJ\_ID/DATUM key but by UID/DATUM now.

An example datasheet BEFORE this correction can be seen below.

```

PROGRAM = datasheet95, VERSION = 7.89.6
1      National Geodetic Survey, Retrieval Date = NOVEMBER 5, 2012
FX4859 *****
FX4859 DESIGNATION - JACKSON AZ MK
FX4859 PID - FX4859
FX4859 STATE/COUNTY- NC/NORTHAMPTON
FX4859 COUNTRY - US
FX4859 USGS QUAD - JACKSON (1974)
FX4859
FX4859                *CURRENT SURVEY CONTROL
FX4859
FX4859* NAD 83(2011) POSITION- 36 24 44.66001(N) 077 26 08.41822(W) ADJUSTED
FX4859* NAD 83(2011) ELLIP HT- 5.614 (meters) (06/27/12) ADJUSTED
FX4859* NAD 83(2011) EPOCH - 2010.00
FX4859* NAVD 88 ORTHO HEIGHT - 40.032 (meters) 131.34 (feet) ADJUSTED
FX4859
FX4859 NAD 83(2011) X - 1,117,909.431 (meters) COMP
FX4859 NAD 83(2011) Y - -5,015,906.121 (meters) COMP
FX4859 NAD 83(2011) Z - 3,765,119.867 (meters) COMP
FX4859 LAPLACE CORR - -2.41 (seconds) DEFLEC12A
FX4859 GEOID HEIGHT - -34.40 (meters) GEOID12A
FX4859 DYNAMIC HEIGHT - 40.001 (meters) 131.24 (feet) COMP
FX4859 MODELED GRAVITY - 979,847.3 (mgal) NAVD 88
FX4859
FX4859 VERT ORDER - SECOND CLASS II
FX4859
FX4859 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)
FX4859 Type Horiz Ellip Dist(km)
FX4859 -----
FX4859 NETWORK 0.48 0.53
FX4859 -----
FX4859 MEDIAN LOCAL ACCURACY AND DIST (000 points) 0.00 0.00 0.00
FX4859 -----
FX4859 NOTE: Click here for information on individual local accuracy
FX4859 values and other accuracy information.
FX4859
FX4859
FX4859.This is a reference station for the JACKSON NC

```



FX4859  
FX4859.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.  
FX4859.See file dsdata.txt to determine how the superseded data were derived.  
FX4859  
FX4859\_U.S. NATIONAL GRID SPATIAL ADDRESS: 18STF8160732448(NAD 83)  
FX4859  
FX4859\_MARKER: DZ = AZIMUTH MARK DISK  
FX4859\_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT  
FX4859\_STAMPING: JACKSON 1959  
FX4859\_MARK LOGO: CGS  
FX4859\_MAGNETIC: O = OTHER; SEE DESCRIPTION  
FX4859\_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO  
FX4859+STABILITY: SURFACE MOTION  
FX4859\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR  
FX4859+SATELLITE: SATELLITE OBSERVATIONS - February 28, 2012  
FX4859  
FX4859 HISTORY - Date Condition Report By  
FX4859 HISTORY - 1959 MONUMENTED CGS  
FX4859 HISTORY - 20041229 GOOD NCGS  
FX4859 HISTORY - 20050124 GOOD NCGS  
FX4859 HISTORY - 20120228 GOOD NCGS  
FX4859  
FX4859 STATION DESCRIPTION  
FX4859  
FX4859'DESCRIBED BY NORTH CAROLINA GEODETIC SURVEY 2004 (EJH)  
FX4859'STATION IS LOCATED ABOUT 1.7 MI (2.7 KM) NORTHWEST OF JACKSON AND 5.8  
FX4859'MI (9.3 KM) SOUTH OF SEABOARD. ALONG NC 305 FOR 1.8 MI (2.9 KM) NORTH  
FX4859'FROM THE INTERSECTION WITH US 158, IN JACKSON, TO THE NORTH ENTRANCE  
FX4859'TO JOHN W. FAISON ADMINISTRATIVE CENTER (9495) AND STATION, IN THE  
FX4859'SOUTHWEST QUADRANT. MARK IS ABOUT LEVEL WITH NC 305 AND PROJECTS  
FX4859'4-INCHES ABOVE THE GROUND. LOCATED 23.0 FT (7.0 M) WEST-NORTHWEST OF  
FX4859'THE CENTERLINE OF NC 305, 27 FEET (8.2 M) SOUTH OF THE CENTER OF THE  
FX4859'NORTH ENTRANCE , 16.6 FT (5.1 M) SOUTHEAST OF A METAL LIGHT POLE AND  
FX4859'52.8 FT (16.1 M) SOUTH OF A FIRE HYDRANT.  
FX4859  
FX4859 STATION RECOVERY (2005)  
FX4859  
FX4859'RECOVERY NOTE BY NORTH CAROLINA GEODETIC SURVEY 2005 (EJH)  
FX4859'STATION IS LOCATED ABOUT 1.7 MI (2.7 KM) NORTHWEST OF JACKSON AND 5.8  
FX4859'MI (9.3 KM) SOUTH OF SEABOARD. ALONG NC 305 FOR 1.8 MI (2.9 KM) NORTH  
FX4859'FROM THE INTERSECTION WITH US 158, IN JACKSON, TO THE NORTH ENTRANCE  
FX4859'TO JOHN W. FAISON ADMINISTRATIVE CENTER (9495) AND STATION, IN THE  
FX4859'SOUTHWEST QUADRANT. MARK IS ABOUT LEVEL WITH NC 305 AND PROJECTS  
FX4859'4-INCHES ABOVE THE GROUND. LOCATED 23.0 FT (7.0 M) WEST-NORTHWEST OF  
FX4859'THE CENTERLINE OF NC 305, 27 FEET (8.2 M) SOUTH OF THE CENTER OF THE  
FX4859'NORTH ENTRANCE , 16.6 FT (5.1 M) SOUTHEAST OF A METAL LIGHT POLE AND  
FX4859'52.8 FT (16.1 M) SOUTH OF A FIRE HYDRANT.  
FX4859  
FX4859 STATION RECOVERY (2012)  
FX4859  
FX4859'RECOVERY NOTE BY NORTH CAROLINA GEODETIC SURVEY 2012 (WMK)  
FX4859'RECOVERED IN GOOD CONDITION WITH THE FOLLOWING ADDITION.  
FX4859'  
FX4859'22.5 FT WEST-NORTHWEST OF THE CENTERLINE NC 305 THE SITE LOCATION WAS  
FX4859'REPORTED AS SUITABLE FOR SATELLITE OBSERVATIONS-FEBRUARY 28, 2012.

An example datasheet BEFORE this correction can be seen below.

```

1      National Geodetic Survey, Retrieval Date = NOVEMBER 5, 2012
FX4859 *****
FX4859 DESIGNATION - JACKSON AZ MK
FX4859 PID - FX4859
FX4859 STATE/COUNTY- NC/NORTHAMPTON

```

```

FX4859 COUNTRY - US
FX4859 USGS QUAD - JACKSON (1974)
FX4859
FX4859 *CURRENT SURVEY CONTROL
FX4859
FX4859* NAD 83(2011) POSITION- 36 24 44.66001(N) 077 26 08.41822(W) ADJUSTED
FX4859* NAD 83(2011) ELLIP HT- 5.614 (meters) (06/27/12) ADJUSTED
FX4859* NAD 83(2011) EPOCH - 2010.00
FX4859* NAVD 88 ORTHO HEIGHT - 40.032 (meters) 131.34 (feet) ADJUSTED
FX4859
FX4859 NAD 83(2011) X - 1,117,909.431 (meters) COMP
FX4859 NAD 83(2011) Y - -5,015,906.121 (meters) COMP
FX4859 NAD 83(2011) Z - 3,765,119.867 (meters) COMP
FX4859 LAPLACE CORR - -2.41 (seconds) DEFLEC12A
FX4859 GEOID HEIGHT - -34.40 (meters) GEOID12A
FX4859 DYNAMIC HEIGHT - 40.001 (meters) 131.24 (feet) COMP
FX4859 MODELED GRAVITY - 979,847.3 (mgal) NAVD 88
FX4859
FX4859 VERT ORDER - SECOND CLASS II
FX4859
FX4859 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)
FX4859 Type Horiz Ellip Dist(km)
FX4859 -----
FX4859 NETWORK 0.49 0.67
FX4859 -----
FX4859 MEDIAN LOCAL ACCURACY AND DIST (005 points) 0.54 1.04 14.86
FX4859 -----
FX4859 NOTE: Click here for information on individual local accuracy
FX4859 values and other accuracy information.
FX4859
FX4859
FX4859.This is a reference station for the JACKSON NC
FX4859.National Continuously Operating Reference Station (NCJA).
FX4859
FX4859.The horizontal coordinates were established by GPS observations
FX4859.and adjusted by the National Geodetic Survey in June 2012.
FX4859
FX4859.NAD 83(2011) refers to NAD 83 coordinates where the reference
FX4859.frame has been affixed to the stable North American tectonic plate. See
FX4859.www.ngs.noaa.gov/web/surveys/NA2011 for more information.
FX4859
FX4859.The horizontal coordinates are valid at the epoch date displayed above
FX4859.which is a decimal equivalence of Year/Month/Day.
FX4859
FX4859.The orthometric height was determined by differential leveling and
FX4859.adjusted by the NATIONAL GEODETIC SURVEY
FX4859.in August 2007.
FX4859
FX4859.No vertical observational check was made to the station.
FX4859
FX4859.The X, Y, and Z were computed from the position and the ellipsoidal ht.
FX4859
FX4859.The Laplace correction was computed from DEFLEC12A derived deflections.
FX4859
FX4859.The ellipsoidal height was determined by GPS observations
FX4859.and is referenced to NAD 83.
FX4859
FX4859.The dynamic height is computed by dividing the NAVD 88
FX4859.geopotential number by the normal gravity value computed on the
FX4859.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
FX4859.degrees latitude (g = 980.6199 gals.).
FX4859
FX4859.The modeled gravity was interpolated from observed gravity values.

```

```

FX4859
FX4859. The following values were computed from the NAD 83(2011) position.
FX4859
FX4859;           North          East          Units Scale Factor Converg.
FX4859;SPC NC    -   296,468.584    749,913.923    MT    1.00007786    +0 54 10.4
FX4859;SPC NC    -   972,664.01    2,460,342.60    sFT    1.00007786    +0 54 10.4
FX4859;UTM 18    -   4,032,448.245    281,607.746    MT    1.00018768    -1 26 46.9
FX4859
FX4859!           -   Elev Factor   x   Scale Factor =   Combined Factor
FX4859!SPC NC    -   0.99999912   x   1.00007786 =   1.00007698
FX4859!UTM 18    -   0.99999912   x   1.00018768 =   1.00018680
FX4859
FX4859:           Primary Azimuth Mark           Grid Az
FX4859:SPC NC    -   JACKSON NC CORS ARP           200 36 35.7
FX4859:UTM 18    -   JACKSON NC CORS ARP           202 57 33.0
FX4859
FX4859|-----|
FX4859| PID      Reference Object                Distance      Geod. Az      |
FX4859|                |                |                | dddmss.s |
FX4859| DH7133 JACKSON NC CORS ARP            467.302 METERS 2013046.1 |
FX4859|-----|
FX4859
FX4859                          SUPERSEDED SURVEY CONTROL
FX4859
FX4859 NAD 83(2007)- 36 24 44.66020(N)      077 26 08.41856(W) AD(2002.00) B
FX4859 ELLIP H (11/08/07)      5.623 (m) GP(2002.00) 4 2
FX4859 NAD 83(1986)- 36 24 44.66760(N)      077 26 08.43126(W) AD( ) 1
FX4859 NAD 83(2001)- 36 24 44.66031(N)      077 26 08.41856(W) AD( ) B
FX4859 ELLIP H (03/06/06)      5.623 (m) GP( ) 4 2
FX4859 NAVD 88 (03/06/06)      40.03 (m) 131.3 (f) LEVELING 3
FX4859
FX4859.Superseded values are not recommended for survey control.
FX4859
FX4859.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
FX4859.See file dsdata.txt to determine how the superseded data were derived.
FX4859
FX4859_U.S. NATIONAL GRID SPATIAL ADDRESS: 18STF8160732448(NAD 83)
FX4859
FX4859_MARKER: DZ = AZIMUTH MARK DISK
FX4859_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
FX4859_STAMPING: JACKSON 1959
FX4859_MARK LOGO: CGS
FX4859_MAGNETIC: O = OTHER; SEE DESCRIPTION
FX4859_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
FX4859+STABILITY: SURFACE MOTION
FX4859_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
FX4859+SATELLITE: SATELLITE OBSERVATIONS - February 28, 2012
FX4859
FX4859 HISTORY - Date      Condition      Report By
FX4859 HISTORY - 1959      MONUMENTED    CGS
FX4859 HISTORY - 20041229 GOOD              NCGS
FX4859 HISTORY - 20050124 GOOD              NCGS
FX4859 HISTORY - 20120228 GOOD              NCGS
FX4859
FX4859                          STATION DESCRIPTION
FX4859
FX4859'DESCRIBED BY NORTH CAROLINA GEODETIC SURVEY 2004 (EJH)
FX4859'STATION IS LOCATED ABOUT 1.7 MI (2.7 KM) NORTHWEST OF JACKSON AND 5.8
FX4859'MI (9.3 KM) SOUTH OF SEABOARD. ALONG NC 305 FOR 1.8 MI (2.9 KM) NORTH
FX4859'FROM THE INTERSECTION WITH US 158, IN JACKSON, TO THE NORTH ENTRANCE
FX4859'TO JOHN W. FAISON ADMINISTRATIVE CENTER (9495) AND STATION, IN THE
FX4859'SOUTHWEST QUADRANT. MARK IS ABOUT LEVEL WITH NC 305 AND PROJECTS
FX4859'4-INCHES ABOVE THE GROUND. LOCATED 23.0 FT (7.0 M) WEST-NORTHWEST OF

```

FX4859'THE CENTERLINE OF NC 305, 27 FEET (8.2 M) SOUTH OF THE CENTER OF THE  
FX4859'NORTH ENTRANCE , 16.6 FT (5.1 M) SOUTHEAST OF A METAL LIGHT POLE AND  
FX4859'52.8 FT (16.1 M) SOUTH OF A FIRE HYDRANT.

FX4859

STATION RECOVERY (2005)

FX4859

FX4859'RECOVERY NOTE BY NORTH CAROLINA GEODETIC SURVEY 2005 (EJH)

FX4859'STATION IS LOCATED ABOUT 1.7 MI (2.7 KM) NORTHWEST OF JACKSON AND 5.8

FX4859'MI (9.3 KM) SOUTH OF SEABOARD. ALONG NC 305 FOR 1.8 MI (2.9 KM) NORTH

FX4859'FROM THE INTERSECTION WITH US 158, IN JACKSON, TO THE NORTH ENTRANCE

FX4859'TO JOHN W. FAISON ADMINISTRATIVE CENTER (9495) AND STATION, IN THE

FX4859'SOUTHWEST QUADRANT. MARK IS ABOUT LEVEL WITH NC 305 AND PROJECTS

FX4859'4-INCHES ABOVE THE GROUND. LOCATED 23.0 FT (7.0 M) WEST-NORTHWEST OF

FX4859'THE CENTERLINE OF NC 305, 27 FEET (8.2 M) SOUTH OF THE CENTER OF THE

FX4859'NORTH ENTRANCE , 16.6 FT (5.1 M) SOUTHEAST OF A METAL LIGHT POLE AND

FX4859'52.8 FT (16.1 M) SOUTH OF A FIRE HYDRANT.

FX4859

STATION RECOVERY (2012)

FX4859

FX4859'RECOVERY NOTE BY NORTH CAROLINA GEODETIC SURVEY 2012 (WMK)

FX4859'RECOVERED IN GOOD CONDITION WITH THE FOLLOWING ADDITION.

FX4859'

FX4859'22.5 FT WEST-NORTHWEST OF THE CENTERLINE NC 305 THE SITE LOCATION WAS

FX4859'REPORTED AS SUITABLE FOR SATELLITE OBSERVATIONS-FEBRUARY 28, 2012.

## Version 7.89.6 released at 9:55am on 10/23/2012

This release updates datasheets to use the new DEFLEC12A model. The DEFLEC12A model's territory encompasses the states in CONUS, Alaska (AK), American Samoa (AS), Northern Marianas Islands (CQ), Guam (GU), Hawaii (HI), Puerto Rico (PR), and The US Virgin Islands (VQ).

An example datasheet BEFORE the updates to the deflections:

```
PROGRAM = datasheet95, VERSION = 7.89.5
1 National Geodetic Survey, Retrieval Date = OCTOBER 16, 2012
AC6803 *****
AC6803 HT_MOD - This is a Height Modernization Survey Station.
AC6803 PACS - This is a Primary Airport Control Station.
AC6803 DESIGNATION - AZC A
AC6803 PID - AC6803
AC6803 STATE/COUNTY- AZ/MOHAVE
AC6803 COUNTRY - US
AC6803 USGS QUAD - LOST SPRING MTN EAST (1988)
AC6803
AC6803 *CURRENT SURVEY CONTROL
AC6803
AC6803* NAD 83(2011) POSITION- 36 57 59.55452(N) 113 00 32.22876(W) ADJUSTED
AC6803* NAD 83(2011) ELLIP HT- 1462.778 (meters) (06/27/12) ADJUSTED
AC6803* NAD 83(2011) EPOCH - 2010.00
AC6803* NAVD 88 ORTHO HEIGHT - 1485.59 (meters) 4874.0 (feet) GPS OBS
AC6803
AC6803 NAVD 88 orthometric height was determined with geoid model GEOID09
AC6803 GEOID HEIGHT - -22.80 (meters) GEOID09
AC6803 GEOID HEIGHT - -22.80 (meters) GEOID12A
AC6803 NAD 83(2011) X - -1,994,789.478 (meters) COMP
AC6803 NAD 83(2011) Y - -4,697,388.715 (meters) COMP
AC6803 NAD 83(2011) Z - 3,815,306.832 (meters) COMP
AC6803 LAPLACE CORR - 3.37 (seconds) DEFLEC09
AC6803
AC6803 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)
AC6803 Type Horiz Ellip Dist(km)
AC6803 -----
AC6803 NETWORK 0.56 1.10
AC6803 -----
AC6803 MEDIAN LOCAL ACCURACY AND DIST (032 points) 0.81 1.74 58.94
AC6803 -----
AC6803 NOTE: Click here for information on individual local accuracy
AC6803 values and other accuracy information.
AC6803
AC6803
AC6803.This mark is at Colorado City Municipal Airport (AZC)
AC6803
AC6803.The horizontal coordinates were established by GPS observations
AC6803.and adjusted by the National Geodetic Survey in June 2012.
AC6803
AC6803.NAD 83(2011) refers to NAD 83 coordinates where the reference
AC6803.frame has been affixed to the stable North American tectonic plate. See
AC6803.www.ngs.noaa.gov/web/surveys/NA2011 for more information.
AC6803
AC6803.The horizontal coordinates are valid at the epoch date displayed above
AC6803.which is a decimal equivalence of Year/Month/Day.
AC6803
AC6803.The orthometric height was determined by GPS observations and a
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AC6803 HISTORY - 20080910 GOOD GEOANA

AC6803

AC6803 STATION DESCRIPTION

AC6803

AC6803'DESCRIBED BY JE CHANCE AND ASSOCIATES 1996 (SDC)  
AC6803'THE STATION IS LOCATED APPROXIMATELY 6.5 KM (4.05 MI) SOUTHWEST OF THE  
AC6803'TOWN OF COLORADO CITY AT THE COLORADO CITY MUNICIPAL AIRPORT.  
AC6803'OWNERSHIP -- TOWN OF COLORADO CITY, LADELL BISTLINE - AIRPORT MANAGER,  
AC6803'PHONE (520) 875-2308 TO REACH THE STATION FROM MILEPOST 1.4 OF STATE  
AC6803'HIGHWAY 389 NEAR COLORADO CITY AT THE JUNCTION WITH A PAVED ROAD,  
AC6803'PROCEED WEST ON THE PAVED ROAD FOR 1.3 KM (0.80 MI) , SOUTH FOR 2.4 KM  
AC6803'(1.50 MI) , THEN WEST FOR 0.8 KM (0.50 MI) TO THE AIRPORT TERMINAL AND  
AC6803'GATE. PROCEED THROUGH GATE AND CONTINUE WESTERLY ACROSS APRON AND  
AC6803'TAXIWAY FOR 0.15 KM (0.10 MI) TO THE JUNCTION WITH RUNWAY 2-20. TURN  
AC6803'RIGHT AND GO NORTH-NORTHEAST ALONG RUNWAY 2-20 FOR 0.65 KM (0.40 MI)  
AC6803'TO THE END OF THE RUNWAY AND THE STATION ON THE LEFT THE STATION IS  
AC6803'THE TOP CENTER OF A STAINLESS STEEL ROD DRIVEN TO REFUSAL AT A DEPTH  
AC6803'OF 20.60 M (67.59 FT) RECESSED 12 CM BELOW GROUND LEVEL IN A 2.5 CM  
AC6803'DIA GREASE FILLED FINNED PLASTIC SLEEVE 90 CM LONG ENCASED IN A 12.7  
AC6803'CM DIA PVC PIPE WITH NGS LOGO CAP SURROUNDED BY CONCRETE. THE LOGO  
AC6803'CAP AND CONCRETE ARE SET FLUSH WITH THE GROUND. THE STATION IS LOCATED  
AC6803'7.30 M (23.95 FT) SOUTHEAST OF A FENCE, 62.00 M (203.41 FT)  
AC6803'NORTH-NORTHWEST OF THE NORTHWEST CORNER OF THE APPROACH END OF RUNWAY  
AC6803'20, 57.60 M (188.98 FT) NORTH-NORTHWEST OF THE NORTHWESTERNMOST  
AC6803'THRESHOLD LIGHT, 43.85 M (143.86 FT) NORTHEAST OF A STEEL FENCE POST  
AC6803'SUPPORT THAT IS IN LINE WITH A NORTHWESTERLY EXTENSION OF THE NORTHERN  
AC6803'EDGE OF RUNWAY 20, 109.2 M (358.3 FT) SOUTH-SOUTHWEST OF THE  
AC6803'NORTHWESTERN FENCE CORNER, AND 0.9 M (3.0 FT) SOUTHEAST OF A CARSONITE  
AC6803'WITNESS POST THE STATION IS DESIGNATED AS A PRIMARY AIRPORT CONTROL  
AC6803'STATION (PACS) - ARIZONA ANA SURVEYS 1996

AC6803

AC6803 STATION RECOVERY (1997)

AC6803

AC6803'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1997 (AJL)  
AC6803'THE STATION IS LOCATED ABOUT 5.0 KM (3.10 MI) SOUTHWEST OF COLORADO  
AC6803'CITY AT THE COLORADO CITY MUNICIPAL AIRPORT, ALONG THE WEST SIDE OF  
AC6803'AND NEAR THE NORTH END OF RUNWAY 2-20. OWNERSHIP--CITY OF COLORADO  
AC6803'CITY, LADELL BISTLINE, AIRPORT MANAGER, BOX 70, COLORADO CITY, AZ  
AC6803'86021. THE PHONE NUMBER IS (520) 875-2646. TO REACH THE STATION FROM  
AC6803'THE JUNCTION OF STATE HIGHWAY 389 AND THE ARIZONA/UTAH STATE LINE, GO  
AC6803'SOUTHEASTERLY FOR 2.2 KM (1.35 MI) ON THE HIGHWAY TO A PAVED ROAD  
AC6803'RIGHT. TURN RIGHT AND GO WEST THEN SOUTH ON MOHAVE AVENUE THEN  
AC6803'REDWOOD STREET (THERE ARE NO STREET SIGNS) FOR 3.7 KM (2.30 MI) TO A  
AC6803'PAVED ROAD RIGHT. TURN RIGHT AND GO WEST THEN SOUTH FOR 0.9 KM (0.55  
AC6803'MI) ON AIRPORT AVENUE (THERE IS NO STREET SIGN) TO A LOCKED GATE AND  
AC6803'THE AIRPORT ADMINISTRATIVE BUILDING (UNATTENDED) ON THE RIGHT. PASS  
AC6803'THROUGH THE LOCKED GATE AND GO NORTHWEST FOR 0.2 KM (0.10 MI) ACROSS A  
AC6803'RAMP AND ALONG A TAXIWAY TO RUNWAY 2-20. TURN RIGHT AND GO NORTHEAST  
AC6803'FOR 0.6 KM (0.35 MI) ALONG THE RUNWAY TO THE STATION ON THE LEFT JUST  
AC6803'PAST RUNWAY END 20. THE STATION IS LOCATED 61.9 M (203.1 FT)  
AC6803'NORTH-NORTHWEST OF THE NORTHWEST CORNER OF THE RUNWAY, 53.6 M (175.9  
AC6803'FT) NORTHWEST OF THE EXTENDED CENTER OF THE RUNWAY, 7.3 M (24.0 FT)  
AC6803'SOUTHEAST OF A FENCE LINE, 0.9 M (3.0 FT) SOUTHEAST OF A CARSONITE  
AC6803'WITNESS POST, AND THE MONUMENT IS FLUSH WITH THE GROUND SURFACE.  
AC6803'NOTE--AIRPORT IS UNATTENDED. A PHILLIPS SCREW DRIVER IS REQUIRED TO  
AC6803'ACCESS THE DATUM POINT THROUGH THE LOGO CAP. THIS STATION SELECTED AS  
AC6803'THE PACS FOR THIS AIRPORT.

AC6803

AC6803 STATION RECOVERY (2008)

AC6803

AC6803'RECOVERY NOTE BY GEODETIC ANALYSIS LLC 2008 (MLD)  
AC6803'RECOVERED AS DESCRIBED. ADDITIONAL INFORMATION FOLLOWS.  
AC6803'

AC6803'OWNERSHIP--TOWN OF COLORADO CITY P.O. BOX 70, COLORADO CITY, ARIZONA  
 AC6803'86021, PHONE 928-875-2646.  
 AC6803'  
 AC6803'NOTE--ACCESS TO AIRPORT IS THROUGH AN ELECTRIC GATE THAT REQUIRES A  
 AC6803'SECURITY CODE TO OPEN. AIRPORT MANAGER IS LADELL BISTLINE, BOX 726,  
 AC6803'COLORADO CITY, ARIZONA 86021, PHONE 928-875-2871. AIRPORT MANAGER  
 AC6803'HOME PHONE IS 928-875-2308 AND CELL PHONE IS 435-616-2871.  
 AC6803'  
 AC6803'NOTE--A DIMPLE WAS DRILLED INTO THE TOP OF THE ROD TO ACCEPT THE TIP  
 AC6803'OF A FIXED HEIGHT POLE.

\*\*\* retrieval complete.  
 Elapsed Time = 00:00:03

## The example datasheet AFTER the updates to the

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1      National Geodetic Survey, Retrieval Date = OCTOBER 16, 2012
AC6803 *****
AC6803 HT_MOD      - This is a Height Modernization Survey Station.
AC6803 PACS       - This is a Primary Airport Control Station.
AC6803 DESIGNATION - AZC A
AC6803 PID        - AC6803
AC6803 STATE/COUNTY- AZ/MOHAVE
AC6803 COUNTRY    - US
AC6803 USGS QUAD  - LOST SPRING MTN EAST (1988)
AC6803
AC6803                                *CURRENT SURVEY CONTROL
AC6803
AC6803* NAD 83(2011) POSITION- 36 57 59.55452(N) 113 00 32.22876(W) ADJUSTED
AC6803* NAD 83(2011) ELLIP HT- 1462.778 (meters) (06/27/12) ADJUSTED
AC6803* NAD 83(2011) EPOCH - 2010.00
AC6803* NAVD 88 ORTHO HEIGHT - 1485.59 (meters) 4874.0 (feet) GPS OBS
AC6803
AC6803 NAVD 88 orthometric height was determined with geoid model GEOID09
AC6803 GEOID HEIGHT - -22.80 (meters) GEOID09
AC6803 GEOID HEIGHT - (meters) GEOID12A
AC6803 NAD 83(2011) X - -1,994,789.478 (meters) COMP
AC6803 NAD 83(2011) Y - -4,697,388.715 (meters) COMP
AC6803 NAD 83(2011) Z - 3,815,306.832 (meters) COMP
AC6803 LAPLACE CORR - 3.32 (seconds) DEFLEC12A
AC6803
AC6803 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)
AC6803 Type Horiz Ellip Dist(km)
AC6803 -----
AC6803 NETWORK 0.56 1.10
AC6803 -----
AC6803 MEDIAN LOCAL ACCURACY AND DIST (032 points) 0.81 1.74 58.94
AC6803 -----
AC6803 NOTE: Click here for information on individual local accuracy
AC6803 values and other accuracy information.
AC6803
AC6803
AC6803.This mark is at Colorado City Municipal Airport (AZC)
AC6803
AC6803.The horizontal coordinates were established by GPS observations
AC6803.and adjusted by the National Geodetic Survey in June 2012.
AC6803
AC6803.NAD 83(2011) refers to NAD 83 coordinates where the reference
AC6803.frame has been affixed to the stable North American tectonic plate. See
AC6803.www.ngs.noaa.gov/web/surveys/NA2011 for more information.
AC6803
AC6803.The horizontal coordinates are valid at the epoch date displayed above
  
```



AC6803	HISTORY	- Date	Condition	Report By
AC6803	HISTORY	- 1996	MONUMENTED	CHANCE
AC6803	HISTORY	- 19970506	GOOD	NGS
AC6803	HISTORY	- 20080910	GOOD	GEOANA

AC6803

AC6803

STATION DESCRIPTION

AC6803

AC6803'DESCRIBED BY JE CHANCE AND ASSOCIATES 1996 (SDC)  
AC6803'THE STATION IS LOCATED APPROXIMATELY 6.5 KM (4.05 MI) SOUTHWEST OF THE  
AC6803'TOWN OF COLORADO CITY AT THE COLORADO CITY MUNICIPAL AIRPORT.  
AC6803'OWNERSHIP -- TOWN OF COLORADO CITY, LADELL BISTLINE - AIRPORT MANAGER,  
AC6803'PHONE (520) 875-2308 TO REACH THE STATION FROM MILEPOST 1.4 OF STATE  
AC6803'HIGHWAY 389 NEAR COLORADO CITY AT THE JUNCTION WITH A PAVED ROAD,  
AC6803'PROCEED WEST ON THE PAVED ROAD FOR 1.3 KM (0.80 MI) , SOUTH FOR 2.4 KM  
AC6803'(1.50 MI) , THEN WEST FOR 0.8 KM (0.50 MI) TO THE AIRPORT TERMINAL AND  
AC6803'GATE. PROCEED THROUGH GATE AND CONTINUE WESTERLY ACROSS APRON AND  
AC6803'TAXIWAY FOR 0.15 KM (0.10 MI) TO THE JUNCTION WITH RUNWAY 2-20. TURN  
AC6803'RIGHT AND GO NORTH-NORTHEAST ALONG RUNWAY 2-20 FOR 0.65 KM (0.40 MI)  
AC6803'TO THE END OF THE RUNWAY AND THE STATION ON THE LEFT THE STATION IS  
AC6803'THE TOP CENTER OF A STAINLESS STEEL ROD DRIVEN TO REFUSAL AT A DEPTH  
AC6803'OF 20.60 M (67.59 FT) RECESSED 12 CM BELOW GROUND LEVEL IN A 2.5 CM  
AC6803'DIA GREASE FILLED FINNED PLASTIC SLEEVE 90 CM LONG ENCASED IN A 12.7  
AC6803'CM DIA PVC PIPE WITH NGS LOGO CAP SURROUNDED BY CONCRETE. THE LOGO  
AC6803'CAP AND CONCRETE ARE SET FLUSH WITH THE GROUND. THE STATION IS LOCATED  
AC6803'7.30 M (23.95 FT) SOUTHEAST OF A FENCE, 62.00 M (203.41 FT)  
AC6803'NORTH-NORTHWEST OF THE NORTHWEST CORNER OF THE APPROACH END OF RUNWAY  
AC6803'20, 57.60 M (188.98 FT) NORTH-NORTHWEST OF THE NORTHWESTERNMOST  
AC6803'THRESHOLD LIGHT, 43.85 M (143.86 FT) NORTHEAST OF A STEEL FENCE POST  
AC6803'SUPPORT THAT IS IN LINE WITH A NORTHWESTERLY EXTENSION OF THE NORTHERN  
AC6803'EDGE OF RUNWAY 20, 109.2 M (358.3 FT) SOUTH-SOUTHWEST OF THE  
AC6803'NORTHWESTERN FENCE CORNER, AND 0.9 M (3.0 FT) SOUTHEAST OF A CARSONITE  
AC6803'WITNESS POST THE STATION IS DESIGNATED AS A PRIMARY AIRPORT CONTROL  
AC6803'STATION (PACS) - ARIZONA ANA SURVEYS 1996

AC6803

AC6803

STATION RECOVERY (1997)

AC6803

AC6803'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1997 (AJL)  
AC6803'THE STATION IS LOCATED ABOUT 5.0 KM (3.10 MI) SOUTHWEST OF COLORADO  
AC6803'CITY AT THE COLORADO CITY MUNICIPAL AIRPORT, ALONG THE WEST SIDE OF  
AC6803'AND NEAR THE NORTH END OF RUNWAY 2-20. OWNERSHIP--CITY OF COLORADO  
AC6803'CITY, LADELL BISTLINE, AIRPORT MANAGER, BOX 70, COLORADO CITY, AZ  
AC6803'86021. THE PHONE NUMBER IS (520) 875-2646. TO REACH THE STATION FROM  
AC6803'THE JUNCTION OF STATE HIGHWAY 389 AND THE ARIZONA/UTAH STATE LINE, GO  
AC6803'SOUTHEASTERLY FOR 2.2 KM (1.35 MI) ON THE HIGHWAY TO A PAVED ROAD  
AC6803'RIGHT. TURN RIGHT AND GO WEST THEN SOUTH ON MOHAVE AVENUE THEN  
AC6803'REDWOOD STREET (THERE ARE NO STREET SIGNS) FOR 3.7 KM (2.30 MI) TO A  
AC6803'PAVED ROAD RIGHT. TURN RIGHT AND GO WEST THEN SOUTH FOR 0.9 KM (0.55  
AC6803'MI) ON AIRPORT AVENUE (THERE IS NO STREET SIGN) TO A LOCKED GATE AND  
AC6803'THE AIRPORT ADMINISTRATIVE BUILDING (UNATTENDED) ON THE RIGHT. PASS  
AC6803'THROUGH THE LOCKED GATE AND GO NORTHWEST FOR 0.2 KM (0.10 MI) ACROSS A  
AC6803'RAMP AND ALONG A TAXIWAY TO RUNWAY 2-20. TURN RIGHT AND GO NORTHEAST  
AC6803'FOR 0.6 KM (0.35 MI) ALONG THE RUNWAY TO THE STATION ON THE LEFT JUST  
AC6803'PAST RUNWAY END 20. THE STATION IS LOCATED 61.9 M (203.1 FT)  
AC6803'NORTH-NORTHWEST OF THE NORTHWEST CORNER OF THE RUNWAY, 53.6 M (175.9  
AC6803'FT) NORTHWEST OF THE EXTENDED CENTER OF THE RUNWAY, 7.3 M (24.0 FT)  
AC6803'SOUTHEAST OF A FENCE LINE, 0.9 M (3.0 FT) SOUTHEAST OF A CARSONITE  
AC6803'WITNESS POST, AND THE MONUMENT IS FLUSH WITH THE GROUND SURFACE.  
AC6803'NOTE--AIRPORT IS UNATTENDED. A PHILLIPS SCREW DRIVER IS REQUIRED TO  
AC6803'ACCESS THE DATUM POINT THROUGH THE LOGO CAP. THIS STATION SELECTED AS  
AC6803'THE PACS FOR THIS AIRPORT.

AC6803

AC6803

STATION RECOVERY (2008)

AC6803

AC6803'RECOVERY NOTE BY GEODETIC ANALYSIS LLC 2008 (MLD)  
AC6803'RECOVERED AS DESCRIBED. ADDITIONAL INFORMATION FOLLOWS.  
AC6803'  
AC6803'OWNERSHIP--TOWN OF COLORADO CITY P.O. BOX 70, COLORADO CITY, ARIZONA  
AC6803'86021, PHONE 928-875-2646.  
AC6803'  
AC6803'NOTE--ACCESS TO AIRPORT IS THROUGH AN ELECTRIC GATE THAT REQUIRES A  
AC6803'SECURITY CODE TO OPEN. AIRPORT MANAGER IS LADELL BISTLINE, BOX 726,  
AC6803'COLORADO CITY, ARIZONA 86021, PHONE 928-875-2871. AIRPORT MANAGER  
AC6803'HOME PHONE IS 928-875-2308 AND CELL PHONE IS 435-616-2871.  
AC6803'  
AC6803'NOTE--A DIMPLE WAS DRILLED INTO THE TOP OF THE ROD TO ACCEPT THE TIP  
AC6803'OF A FIXED HEIGHT POLE.

\*\*\* retrieval complete.  
Elapsed Time = 00:00:09

This release also incorporates the change request regarding the text message on the datasheets for HAND\_HELD1 positions. Replace:

The horizontal coordinates were established by differentially corrected hand held GPS obs and have an estimated accuracy of +/- 3 meters.

with:

The horizontal coordinates were determined by differentially corrected hand held GPS observations or other comparable positioning techniques and have an estimated accuracy of +/- 3 meters.

An example datasheet BEFORE the updates to the HAND\_HELD1 message is below.

```
PROGRAM = datasheet95, VERSION = 7.89.5
1      National Geodetic Survey, Retrieval Date = OCTOBER 16, 2012
DM7302 *****
DM7302 DESIGNATION - SOUTH CAROLINA
DM7302 PID - DM7302
DM7302 STATE/COUNTY- FL/MANATEE
DM7302 COUNTRY - US
DM7302 USGS QUAD - KEENTOWN (1987)
DM7302
DM7302 *CURRENT SURVEY CONTROL
DM7302
DM7302 * NAD 83(1986) POSITION- 27 35 14.70 (N) 082 11 55.30 (W) HD_HELD1
DM7302 * NAVD 88 ORTHO HEIGHT - 34.583 (meters) 113.46 (feet) ADJUSTED
DM7302
DM7302 GEOID HEIGHT - -24.90 (meters) GEOID12A
DM7302 DYNAMIC HEIGHT - 34.531 (meters) 113.29 (feet) COMP
DM7302 MODELED GRAVITY - 979,138.2 (mgal) NAVD 88
DM7302
DM7302 VERT ORDER - SECOND CLASS II
DM7302
DM7302.The horizontal coordinates were established by differentially corrected
DM7302.hand held GPS obs and have an estimated accuracy of +/- 3 meters.
DM7302.
DM7302.The orthometric height was determined by differential leveling and
DM7302.adjusted by the NATIONAL GEODETIC SURVEY
DM7302.in August 2011.
DM7302
DM7302.The dynamic height is computed by dividing the NAVD 88
DM7302.geopotential number by the normal gravity value computed on the
DM7302.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
DM7302.degrees latitude (g = 980.6199 gals.).
DM7302
DM7302.The modeled gravity was interpolated from observed gravity values.
DM7302
DM7302;
DM7302;SPC FL W - North East Units Estimated Accuracy
DM7302;SPC FL W - 360,506.5 180,383.2 MT (+/- 3 meters HHL GPS)
DM7302
DM7302 SUPERSEDED SURVEY CONTROL
DM7302
DM7302.No superseded survey control is available for this station.
DM7302
```

DM7302\_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RLL8169052072 (NAD 83)  
DM7302  
DM7302\_MARKER: DD = SURVEY DISK  
DM7302\_SETTING: 50 = ALUMINUM ALLOY ROD W/O SLEEVE (10 FT.)  
DM7302\_STAMPING: NAVD 1988 SOUTH CAROLINA 2010  
DM7302\_MARK LOGO: FL-081  
DM7302\_PROJECTION: RECESSED 3 CENTIMETERS  
DM7302\_MAGNETIC: N = NO MAGNETIC MATERIAL  
DM7302\_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL  
DM7302\_ROD/PIPE-DEPTH: 5.6 meters  
DM7302  
DM7302 HISTORY - Date Condition Report By  
DM7302 HISTORY - 20100517 MONUMENTED FL-081  
DM7302  
DM7302 STATION DESCRIPTION  
DM7302  
DM7302'DESCRIBED BY MANATEE COUNTY FLORIDA 2010 (CH)  
DM7302'THE MARK IS LOCATED ABOUT 7.7 MI (12.4 KM) SOUTH-SOUTHEAST OF WIMAUMA,  
DM7302'6.9 MI (11.1 KM) WEST-NORTHWEST OF DUETTE AND 6.6 MI (10.6 KM)  
DM7302'WEST-NORTHWEST OF KEENTOWN.  
DM7302'  
DM7302'TO REACH FROM THE JUNCTION OF US-301N AND FL-62E/WAUCHULA ROAD, GO  
DM7302'EAST ON FL-62E/WAUCHULA ROAD FOR 13.81 MI (22.2 KM) TO AN  
DM7302'INTERSECTION. TURN LEFT AND GO NORTH ON BUNKER HILL ROAD FOR 0.46 MI  
DM7302'(0.7 KM) TO THE MARK ON THE RIGHT.  
DM7302'  
DM7302'IT IS 52 FT (15.8 M) EAST-NORTHEAST OF A MAILBOX 32925, 48.3 FT (14.7  
DM7302'M) EAST-SOUTHEAST OF A MAILBOX 32926, 21 FT (6.4 M) EAST OF THE EAST  
DM7302'EDGE OF PAVEMENT OF BUNKER HILL ROAD AND 1.1 FT (0.3 M) WEST OF A  
DM7302'FIBERGLASS WITNESS POST ABOUT 0.1 FT (0.0 M) LOWER THAN THE GROUND.

\*\*\* retrieval complete.  
Elapsed Time = 00:00:02

An example datasheet AFTER the updates to the HAND HELD1 message is below.

1 National Geodetic Survey, Retrieval Date = OCTOBER 16, 2012  
DM7302 \*\*\*\*\*  
DM7302 DESIGNATION - SOUTH CAROLINA  
DM7302 PID - DM7302  
DM7302 STATE/COUNTY- FL/MANATEE  
DM7302 COUNTRY - US  
DM7302 USGS QUAD - KEENTOWN (1987)  
DM7302  
DM7302 \*CURRENT SURVEY CONTROL  
DM7302  
DM7302\* NAD 83(1986) POSITION- 27 35 14.70 (N) 082 11 55.30 (W) HD\_HELD1  
DM7302\* NAVD 88 ORTHO HEIGHT - 34.583 (meters) 113.46 (feet) ADJUSTED  
DM7302  
DM7302 GEOID HEIGHT - -24.90 (meters) GEOID12A  
DM7302 DYNAMIC HEIGHT - 34.531 (meters) 113.29 (feet) COMP  
DM7302 MODELED GRAVITY - 979,138.2 (mgal) NAVD 88  
DM7302  
DM7302 VERT ORDER - SECOND CLASS II  
DM7302  
DM7302.The horizontal coordinates were determined by differentially corrected  
DM7302.hand held GPS observations or other comparable positioning techniques  
DM7302.and have an estimated accuracy of +/- 3 meters.  
DM7302.  
DM7302.The orthometric height was determined by differential leveling and  
DM7302.adjusted by the NATIONAL GEODETIC SURVEY  
DM7302.in August 2011.



DM7302  
DM7302.The dynamic height is computed by dividing the NAVD 88  
DM7302.geopotential number by the normal gravity value computed on the  
DM7302.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45  
DM7302.degrees latitude (g = 980.6199 gals.).  
DM7302  
DM7302.The modeled gravity was interpolated from observed gravity values.  
DM7302  
DM7302;  
DM7302;SPC FL W                   North                   East                   Units   Estimated Accuracy  
DM7302;                                   -   360,506.5           180,383.2           MT   (+/- 3 meters HH1 GPS)  
DM7302  
DM7302                                   SUPERSEDED SURVEY CONTROL  
DM7302  
DM7302.No superseded survey control is available for this station.  
DM7302  
DM7302\_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RLL8169052072(NAD 83)  
DM7302  
DM7302\_MARKER: DD = SURVEY DISK  
DM7302\_SETTING: 50 = ALUMINUM ALLOY ROD W/O SLEEVE (10 FT.)  
DM7302\_STAMPING: NAVD 1988 SOUTH CAROLINA 2010  
DM7302\_MARK LOGO: FL-081  
DM7302\_PROJECTION: RECESSED 3 CENTIMETERS  
DM7302\_MAGNETIC: N = NO MAGNETIC MATERIAL  
DM7302\_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL  
DM7302\_ROD/PIPE-DEPTH: 5.6 meters  
DM7302  
DM7302   HISTORY           -   Date           Condition           Report By  
DM7302   HISTORY           -   20100517   MONUMENTED           FL-081  
DM7302  
DM7302                                   STATION DESCRIPTION  
DM7302  
DM7302'DESCRIBED BY MANATEE COUNTY FLORIDA 2010 (CH)  
DM7302'THE MARK IS LOCATED ABOUT 7.7 MI (12.4 KM) SOUTH-SOUTHEAST OF WIMAUMA,  
DM7302'6.9 MI (11.1 KM) WEST-NORTHWEST OF DUETTE AND 6.6 MI (10.6 KM)  
DM7302'WEST-NORTHWEST OF KEENTOWN.  
DM7302'  
DM7302'TO REACH FROM THE JUNCTION OF US-301N AND FL-62E/WAUCHULA ROAD, GO  
DM7302'EAST ON FL-62E/WAUCHULA ROAD FOR 13.81 MI (22.2 KM) TO AN  
DM7302'INTERSECTION.   TURN LEFT AND GO NORTH ON BUNKER HILL ROAD FOR 0.46 MI  
DM7302'(0.7 KM) TO THE MARK ON THE RIGHT.  
DM7302'  
DM7302'IT IS 52 FT (15.8 M) EAST-NORTHEAST OF A MAILBOX 32925, 48.3 FT (14.7  
DM7302'M) EAST-SOUTHEAST OF A MAILBOX 32926, 21 FT (6.4 M) EAST OF THE EAST  
DM7302'EDGE OF PAVEMENT OF BUNKER HILL ROAD AND 1.1 FT (0.3 M) WEST OF A  
DM7302'FIBERGLASS WITNESS POST ABOUT 0.1 FT (0.0 M) LOWER THAN THE GROUND.

\*\*\* retrieval complete.  
Elapsed Time = 00:00:02

## Version 7.89.5 released at 3:31pm on 10/18/2012

This release the datasheet for PN1345 is displaying the best height as a GPS\_OBS (i.e. adj\_id GPS2361/C) when it should be displaying the ADJUSTED leveled height (i.e. 00000712). Also it should not display the GEOID03 lines. The incorrect datasheet is below:

```
PROGRAM = datasheet95, VERSION = 7.89.4
1      National Geodetic Survey, Retrieval Date = OCTOBER 2, 2012
PN1345 *****
PN1345 HT_MOD      - This is a Height Modernization Survey Station.
PN1345 CBN        - This is a Cooperative Base Network Control Station.
PN1345 DESIGNATION - GREEN BAY GPS
PN1345 PID        - PN1345
PN1345 STATE/COUNTY- WI/BROWN
PN1345 COUNTRY    - US
PN1345 USGS QUAD  - ONEIDA NORTH (1992)
PN1345
PN1345                                *CURRENT SURVEY CONTROL
PN1345
PN1345* NAD 83(2011) POSITION- 44 34 36.08669(N) 088 10 12.44165(W) ADJUSTED
PN1345* NAD 83(2011) ELLIP HT- 194.934 (meters) (06/27/12) ADJUSTED
PN1345* NAD 83(2011) EPOCH - 2010.00
PN1345* NAVD 88 ORTHO HEIGHT - 231.12 (meters) 758.3 (feet) GPS OBS
PN1345
PN1345 NAVD 88 orthometric height was determined with geoid model GEOID03
PN1345 GEOID HEIGHT - -36.18 (meters) GEOID03
PN1345 GEOID HEIGHT - -36.25 (meters) GEOID12A
PN1345 NAD 83(2011) X - 145,318.171 (meters) COMP
PN1345 NAD 83(2011) Y - -4,548,549.081 (meters) COMP
PN1345 NAD 83(2011) Z - 4,454,099.390 (meters) COMP
PN1345 LAPLACE CORR - -0.49 (seconds) DEFLEC09
PN1345
PN1345 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)
PN1345 Type Horiz Ellip Dist(km)
PN1345 -----
PN1345 NETWORK 0.24 0.33
PN1345 -----
PN1345 MEDIAN LOCAL ACCURACY AND DIST (057 points) 0.39 0.47 45.26
PN1345 -----
PN1345 NOTE: Click here for information on individual local accuracy
PN1345 values and other accuracy information.
PN1345
PN1345
PN1345.The horizontal coordinates were established by GPS observations
PN1345.and adjusted by the National Geodetic Survey in June 2012.
PN1345
PN1345.NAD 83(2011) refers to NAD 83 coordinates where the reference
PN1345.frame has been affixed to the stable North American tectonic plate. See
PN1345.www.ngs.noaa.gov/web/surveys/NA2011 for more information.
PN1345
PN1345.The horizontal coordinates are valid at the epoch date displayed above
PN1345.which is a decimal equivalence of Year/Month/Day.
PN1345
PN1345.The orthometric height was determined by GPS observations and a
PN1345.high-resolution geoid model using precise GPS observation and
PN1345.processing techniques.
PN1345
PN1345.The X, Y, and Z were computed from the position and the ellipsoidal ht.
PN1345
PN1345.The Laplace correction was computed from DEFLEC09 derived deflections.
PN1345
```

PN1345.The ellipsoidal height was determined by GPS observations  
PN1345.and is referenced to NAD 83.

PN1345

PN1345. The following values were computed from the NAD 83(2011) position.

PN1345

PN1345;		North	East	Units	Scale Factor	Converg.
PN1345;SPC WI C	-	84,237.787	745,319.500	MT	0.99995429	+1 17 28.0
PN1345;SPC WI C	-	276,370.14	2,445,269.06	sFT	0.99995429	+1 17 28.0
PN1345;UTM 16	-	4,936,593.711	407,099.795	MT	0.99970613	-0 49 16.8

PN1345

PN1345! - Elev Factor x Scale Factor = Combined Factor

PN1345!SPC WI C - 0.99996944 x 0.99995429 = 0.99992373

PN1345!UTM 16 - 0.99996944 x 0.99970613 = 0.99967558

PN1345

PN1345 SUPERSEDED SURVEY CONTROL

PN1345

PN1345	NAD 83(2007)-	44 34 36.08675(N)	088 10 12.44242(W)	AD( )	0
PN1345	ELLIP H (02/10/07)	194.969 (m)		GP( )	
PN1345	NAD 83(1997)-	44 34 36.08662(N)	088 10 12.44265(W)	AD( )	A
PN1345	ELLIP H (04/28/99)	194.949 (m)		GP( )	3 1
PN1345	NAD 83(1991)-	44 34 36.08553(N)	088 10 12.44144(W)	AD( )	B
PN1345	ELLIP H (06/11/91)	195.045 (m)		GP( )	4 1
PN1345	NAVD 88 (05/08/12)	231.176 (m)	758.45 (f)	ADJUSTED	2 1
PN1345	NAVD 88 (06/11/03)	231.15 (m)	GEOID99 model used	GPS OBS	
PN1345	NAVD 88 (04/28/99)	231.1 (m)	GEOID96 model used	GPS OBS	
PN1345	NGVD 29 (06/11/91)	231.1 (m)	UNKNOWN model used	GPS OBS	

PN1345

PN1345.Superseded values are not recommended for survey control.

PN1345

PN1345.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

PN1345.See file dsdata.txt to determine how the superseded data were derived.

PN1345

PN1345\_U.S. NATIONAL GRID SPATIAL ADDRESS: 16TDQ0709936593(NAD 83)

PN1345

PN1345\_MARKER: DH = HORIZONTAL CONTROL DISK

PN1345\_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT

PN1345\_SP\_SET: CONCRETE POST

PN1345\_STAMPING: GREEN BAY GPS 1989

PN1345\_MARK LOGO: NGS

PN1345\_PROJECTION: FLUSH

PN1345\_MAGNETIC: N = NO MAGNETIC MATERIAL

PN1345\_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL

PN1345\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

PN1345+SATELLITE: SATELLITE OBSERVATIONS - January 01, 2011

PN1345

PN1345	HISTORY	- Date	Condition	Report By
PN1345	HISTORY	- 1989	MONUMENTED	WIHD
PN1345	HISTORY	- 19900814	GOOD	NGS
PN1345	HISTORY	- 19930524	GOOD	NOS
PN1345	HISTORY	- 19970814	GOOD	WIHD
PN1345	HISTORY	- 20010609	GOOD	WIDT
PN1345	HISTORY	- 20020611	GOOD	JCLS
PN1345	HISTORY	- 20020614	GOOD	JCLS
PN1345	HISTORY	- 20030709	GOOD	WIDT
PN1345	HISTORY	- 20040324	GOOD	USPSQD
PN1345	HISTORY	- 20060421	GOOD	JCLS
PN1345	HISTORY	- 20060505	GOOD	USPSQD
PN1345	HISTORY	- 20090110	GOOD	WIDT
PN1345	HISTORY	- 20110101	GOOD	WIDT

PN1345

PN1345 STATION DESCRIPTION

PN1345

PN1345'DESCRIBED BY WI HIGHWAY DEPT 1989

PN1345'THE STATION IS LOCATED ABOUT 11.26 KM (7.00 MI) NORTHWEST OF GREEN  
PN1345'BAY, 41.8 KM (25.95 MI) SOUTHEAST OF SHAWANO, 41.8 KM (25.95 MI)  
PN1345'NORTHEAST OF APPLETON. OWNERSHIP--STATE HIGHWAY R.O.W.  
PN1345'TO REACH FROM THE JUNCTION OF U.S. HIGHWAY 41 AND STATE ROUTE 29  
PN1345'NORTHWEST OF GREEN BAY, GO NORTHWEST FOR 8.55 KM (5.30 MI) ON STATE  
PN1345'ROUTE 29 TO THE STATION ON THE RIGHT.  
PN1345'THE STATION IS A STANDARD NGS HORIZONTAL CONTROL DISK STAMPED--GREEN  
PN1345'BAY GPS 1989--, SET INTO THE TOP OF A 40 CM DIAMETER CONCRETE MONUMENT  
PN1345'SET FLUSH WITH THE GROUND. LOCATED 34.4 M (112.9 FT) WEST FROM THE  
PN1345'CENTER-LINE OF MARLEY STREET, 53.6 M (175.9 FT) NORTHEAST FROM THE  
PN1345'CENTER-LINE OF STATE ROUTE 29, 1.92 M (6.3 FT) NORTHEAST FROM A STEEL  
PN1345'WITNESS POST, 0.98 M (3.2 FT) SOUTH FROM A CARSONITE WITNESS POST,  
PN1345'0.98 M (3.2 FT) NORTH FROM A CARSONITE WITNESS POST, 386.24 M  
PN1345'(1267.2 FT) NORTHWEST FROM THE CENTER-LINE OF THE JUNCTION OF COUNTY  
PN1345'ROAD VV SOUTH AND MARLEY STREET NORTH.

PN1345

STATION RECOVERY (1990)

PN1345

PN1345'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1990

PN1345'THE STATION IS LOCATED ABOUT 41.8 KM (26.0 MI) NORTHEAST OF APPLETON,  
PN1345'41.8 KM (26.0 MI) SOUTHEAST OF SHAWANO AND 11.3 KM (7.0 MI) NORTHWEST  
PN1345'OF GREEN BAY. OWNERSHIP--WISCONSIN DEPARTMENT OF TRANSPORTATION,  
PN1345'P.O. BOX 7916, MADISON, WI 53707, PHONE 608-267-2462.  
PN1345'TO REACH THE STATION FROM THE JUNCTION OF U.S. HIGHWAY 41 AND STATE  
PN1345'HIGHWAY 29 IN NORTHWEST GREEN BAY, GO NORTHWEST ON STATE HIGHWAY 29  
PN1345'FOR 8.55 KM (5.31 MI) TO THE STATION ON THE RIGHT IN A SMALL FIELD.  
PN1345'THE STATION IS LOCATED 386.2 M (1267.1 FT) NORTHWEST FROM THE CENTER  
PN1345'OF THE JUNCTION OF COUNTY ROAD VV AND MARLEY STREET, 53.6 M  
PN1345'(175.9 FT) NORTHEAST FROM THE CENTERLINE OF THE NORTHWEST BOUND LANES  
PN1345'OF STATE HIGHWAY 29, 34.4 M (112.9 FT) WEST FROM THE CENTERLINE OF  
PN1345'MARLEY STREET, 1.92 M (6.30 FT) NORTHEAST FROM A METAL WITNESS POST  
PN1345'AND 0.98 M (3.22 FT) SOUTH FROM A CARSONITE WITNESS POST AND IS FLUSH  
PN1345'WITH THE GROUND.

PN1345

PN1345

STATION RECOVERY (1993)

PN1345

PN1345'RECOVERY NOTE BY NATIONAL OCEAN SERVICE 1993 (RAH)

PN1345'RECOVERED AS DESCRIBED.

PN1345

PN1345

STATION RECOVERY (1997)

PN1345

PN1345'RECOVERY NOTE BY WI HIGHWAY DEPT 1997 (CSM)

PN1345'THE STATION IS LOCATED ABOUT 41.88 KM (26.00 MI) NORTHEAST OF  
PN1345'APPLETON, 41.88 KM (26.00 MI) SOUTHEAST OF SHAWANO, AND 11.3 KM (7.00  
PN1345'MI) NORTHWEST OF GREEN BAY ON THE NORTH RIGHT-OF-WAY OF STATE HIGHWAY  
PN1345'29 IN THE VILLAGE OF HOWARD. OWNERSHIP--WISCONSIN DEPARTMENT OF  
PN1345'TRANSPORTATION. TO REACH THE STATION FROM THE JUNCTION OF US HIGHWAY  
PN1345'41 WITH HIGHWAY 29 IN THE NORTHWEST PART OF THE CITY OF GREEN BAY, GO  
PN1345'NORTHWEST 8.1 KM (5.05 MI) ON STATE HIGHWAY 29 TO THE JUNCTION WITH  
PN1345'MARLEY STREET AND MILLTOWN ROAD ON THE RIGHT, TURN RIGHT AND GO NORTH  
PN1345'AND NORTHWEST 0.32 KM (0.20 MI) ON MARLEY STREET TO THE STATION ON THE  
PN1345'LEFT IN A GRASSY AREA THAT IS THE OBLITERATED PORTION OF THE OLD  
PN1345'MARLEY STREET. THE STATION IS A BRONZE NGS HORIZONTAL CONTROL MARK  
PN1345'DISK SET IN THE TOP OF A 40-CM (16-INCH) DIAMETER, 6-FOOT-DEEP  
PN1345'CONCRETE POST FLUSH WITH THE GROUND. THE STATION IS 53.6 M (175.9 FT)  
PN1345'NORTHEAST OF THE CENTERLINE OF THE WESTBOUND LANES OF HIGHWAY 29, 34.4  
PN1345'M (112.9 FT) WEST OF THE CENTERLINE OF MARLEY STREET, 25.7 M (84.3 FT)  
PN1345'SOUTH-SOUTHEAST OF A CONCRETE MONUMENT WITH AN ALUMINUM DISK STAMPED  
PN1345'--1220 HOR WIDOT--, 26.4 M (86.6 FT) SOUTH-SOUTHEAST OF A YELLOW  
PN1345'WOODEN RIGHT-OF-WAY POST WITH A SURVEY MARK WITNESS SIGN, 27.4 M (89.9  
PN1345'FT) SOUTH-SOUTHEAST OF A 15-CM (6-INCH) DIAMETER ELM TREE, 1.92 M  
PN1345'(6.30 FT) SOUTH OF A METAL WITNESS POST, 0.95 M (3.12 FT) NORTH OF AN  
PN1345'ORANGE FIBERGLASS WITNESS POST, AND 1.05 M (3.44 FT) WEST OF A WHITE

PN1345'PLASTIC WITNESS POST.  
 PN1345  
 PN1345 STATION RECOVERY (2001)  
 PN1345  
 PN1345'RECOVERY NOTE BY WI DEPT OF TRANSP 2001 (DJH)  
 PN1345'RECOVERED AS DESCRIBED. ---NOTE---THE STATION IS NOW 1.0 M EAST, 1.0  
 PN1345'M SOUTH, AND 1.0 M  
 PN1345'NORTH OF THREE 4X4 ORANGE PLASTIC WITNESS POSTS.  
 PN1345'  
 PN1345'  
 PN1345'  
 PN1345  
 PN1345 STATION RECOVERY (2002)  
 PN1345  
 PN1345'RECOVERY NOTE BY JOHN CHANCE LAND SURVEYS INC 2002 (MRY)  
 PN1345'RECOVERED IN GOOD CONDITION.  
 PN1345  
 PN1345 STATION RECOVERY (2002)  
 PN1345  
 PN1345'RECOVERY NOTE BY JOHN CHANCE LAND SURVEYS INC 2002  
 PN1345'RECOVERED IN GOOD CONDITION.  
 PN1345  
 PN1345 STATION RECOVERY (2003)  
 PN1345  
 PN1345'RECOVERY NOTE BY WI DEPT OF TRANSP 2003  
 PN1345'RECOVERED AS DESCRIBED.  
 PN1345'  
 PN1345  
 PN1345 STATION RECOVERY (2004)  
 PN1345  
 PN1345'RECOVERY NOTE BY US POWER SQUADRON 2004 (DRB)  
 PN1345'RECOVERED IN GOOD CONDITION. THE STATION IS WITHIN A TRIANGLE FORMED  
 PN1345'BY THREE 4X4 ORANGE GUARD POSTS.  
 PN1345  
 PN1345 STATION RECOVERY (2006)  
 PN1345  
 PN1345'RECOVERY NOTE BY JOHN CHANCE LAND SURVEYS INC 2006 (MRY)  
 PN1345'RECOVERED IN GOOD CONDITION.  
 PN1345  
 PN1345 STATION RECOVERY (2006)  
 PN1345  
 PN1345'RECOVERY NOTE BY US POWER SQUADRON 2006 (KW)  
 PN1345'STATION RECOVERED IN GOOD CONDITION.  
 PN1345  
 PN1345 STATION RECOVERY (2009)  
 PN1345  
 PN1345'RECOVERY NOTE BY WI DEPT OF TRANSP 2009 (EPS)  
 PN1345'RECOVERED AS DESCRIBED.  
 PN1345  
 PN1345 STATION RECOVERY (2011)  
 PN1345  
 PN1345'RECOVERY NOTE BY WI DEPT OF TRANSP 2011 (EPS)  
 PN1345'RECOVERED AS DESCRIBED.

\*\*\* retrieval complete.  
 Elapsed Time = 00:00:04

This issue occurred because of a new scenario we now have in the database where we are taking  
 GPS\_OBS (i.e. ELEVATION.ELEV\_SOURCE="H" and ELEVATION.ELEV\_TECH="G")  
 that was not re-observed (with a new OBS\_DATE in the GPS\_OBS table; it has no OBS\_DATE)  
 and readjusting it because of NA2011. Therefore, instead of looking at the OBS\_DATE here we

must look at the readjusted date in the ADJUSTMENTS table and then see if we have a later leveling date using the ADJUSTMENTS.ADJ\_DATE for ADJ\_ID in question and not the maximum LEV\_OBS date (since there is none; it is blank).

The corrected datasheet for PN1345 will now display the following datasheet.

```

1      National Geodetic Survey,  Retrieval Date = OCTOBER  3, 2012
PN1345 *****
PN1345 CBN - This is a Cooperative Base Network Control Station.
PN1345 DESIGNATION - GREEN BAY GPS
PN1345 PID - PN1345
PN1345 STATE/COUNTY- WI/BROWN
PN1345 COUNTRY - US
PN1345 USGS QUAD - ONEIDA NORTH (1992)
PN1345
PN1345 *CURRENT SURVEY CONTROL
PN1345
PN1345* NAD 83(2011) POSITION- 44 34 36.08669(N) 088 10 12.44165(W) ADJUSTED
PN1345* NAD 83(2011) ELLIP HT- 194.934 (meters) (06/27/12) ADJUSTED
PN1345* NAD 83(2011) EPOCH - 2010.00
PN1345* NAVD 88 ORTHO HEIGHT - 231.176 (meters) 758.45 (feet) ADJUSTED
PN1345
PN1345 NAD 83(2011) X - 145,318.171 (meters) COMP
PN1345 NAD 83(2011) Y - -4,548,549.081 (meters) COMP
PN1345 NAD 83(2011) Z - 4,454,099.390 (meters) COMP
PN1345 LAPLACE CORR - -0.49 (seconds) DEFLEC09
PN1345 GEOID HEIGHT - -36.25 (meters) GEOID12A
PN1345 DYNAMIC HEIGHT - 231.148 (meters) 758.36 (feet) COMP
PN1345 MODELED GRAVITY - 980,490.8 (mgal) NAVD 88
PN1345
PN1345 VERT ORDER - SECOND CLASS I
PN1345
PN1345 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)
PN1345 Type Horiz Ellip Dist(km)
PN1345 -----
PN1345 NETWORK 0.24 0.33
PN1345 -----
PN1345 MEDIAN LOCAL ACCURACY AND DIST (057 points) 0.39 0.47 45.26
PN1345 -----
PN1345 NOTE: Click here for information on individual local accuracy
PN1345 values and other accuracy information.
PN1345
PN1345
PN1345.The horizontal coordinates were established by GPS observations
PN1345.and adjusted by the National Geodetic Survey in June 2012.
PN1345
PN1345.NAD 83(2011) refers to NAD 83 coordinates where the reference
PN1345.frame has been affixed to the stable North American tectonic plate. See
PN1345.www.ngs.noaa.gov/web/surveys/NA2011 for more information.
PN1345
PN1345.The horizontal coordinates are valid at the epoch date displayed above
PN1345.which is a decimal equivalence of Year/Month/Day.
PN1345
PN1345.The orthometric height was determined by differential leveling and
PN1345.adjusted by the WI DEPT OF TRANSP
PN1345.in May 2012.
PN1345
PN1345.The X, Y, and Z were computed from the position and the ellipsoidal ht.
PN1345
PN1345.The Laplace correction was computed from DEFLEC09 derived deflections.
PN1345

```



PN1345 HISTORY - 20060505 GOOD USPSQD  
PN1345 HISTORY - 20090110 GOOD WIDT  
PN1345 HISTORY - 20110101 GOOD WIDT

PN1345  
PN1345

STATION DESCRIPTION

PN1345'DESCRIBED BY WI HIGHWAY DEPT 1989  
PN1345'THE STATION IS LOCATED ABOUT 11.26 KM (7.00 MI) NORTHWEST OF GREEN  
PN1345'BAY, 41.8 KM (25.95 MI) SOUTHEAST OF SHAWANO, 41.8 KM (25.95 MI)  
PN1345'NORTHEAST OF APPLETON. OWNERSHIP--STATE HIGHWAY R.O.W.  
PN1345'TO REACH FROM THE JUNCTION OF U.S. HIGHWAY 41 AND STATE ROUTE 29  
PN1345'NORTHWEST OF GREEN BAY, GO NORTHWEST FOR 8.55 KM (5.30 MI) ON STATE  
PN1345'ROUTE 29 TO THE STATION ON THE RIGHT.  
PN1345'THE STATION IS A STANDARD NGS HORIZONTAL CONTROL DISK STAMPED--GREEN  
PN1345'BAY GPS 1989--, SET INTO THE TOP OF A 40 CM DIAMETER CONCRETE MONUMENT  
PN1345'SET FLUSH WITH THE GROUND. LOCATED 34.4 M (112.9 FT) WEST FROM THE  
PN1345'CENTER-LINE OF MARLEY STREET, 53.6 M (175.9 FT) NORTHEAST FROM THE  
PN1345'CENTER-LINE OF STATE ROUTE 29, 1.92 M (6.3 FT) NORTHEAST FROM A STEEL  
PN1345'WITNESS POST, 0.98 M (3.2 FT) SOUTH FROM A CARSONITE WITNESS POST,  
PN1345'0.98 M (3.2 FT) NORTH FROM A CARSONITE WITNESS POST, 386.24 M  
PN1345'(1267.2 FT) NORTHWEST FROM THE CENTER-LINE OF THE JUNCTION OF COUNTY  
PN1345'ROAD VV SOUTH AND MARLEY STREET NORTH.

PN1345

STATION RECOVERY (1990)

PN1345

PN1345'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1990  
PN1345'THE STATION IS LOCATED ABOUT 41.8 KM (26.0 MI) NORTHEAST OF APPLETON,  
PN1345'41.8 KM (26.0 MI) SOUTHEAST OF SHAWANO AND 11.3 KM (7.0 MI) NORTHWEST  
PN1345'OF GREEN BAY. OWNERSHIP--WISCONSIN DEPARTMENT OF TRANSPORTATION,  
PN1345'P.O. BOX 7916, MADISON, WI 53707, PHONE 608-267-2462.  
PN1345'TO REACH THE STATION FROM THE JUNCTION OF U.S. HIGHWAY 41 AND STATE  
PN1345'HIGHWAY 29 IN NORTHWEST GREEN BAY, GO NORTHWEST ON STATE HIGHWAY 29  
PN1345'FOR 8.55 KM (5.31 MI) TO THE STATION ON THE RIGHT IN A SMALL FIELD.  
PN1345'THE STATION IS LOCATED 386.2 M (1267.1 FT) NORTHWEST FROM THE CENTER  
PN1345'OF THE JUNCTION OF COUNTY ROAD VV AND MARLEY STREET, 53.6 M  
PN1345'(175.9 FT) NORTHEAST FROM THE CENTERLINE OF THE NORTHWEST BOUND LANES  
PN1345'OF STATE HIGHWAY 29, 34.4 M (112.9 FT) WEST FROM THE CENTERLINE OF  
PN1345'MARLEY STREET, 1.92 M (6.30 FT) NORTHEAST FROM A METAL WITNESS POST  
PN1345'AND 0.98 M (3.22 FT) SOUTH FROM A CARSONITE WITNESS POST AND IS FLUSH  
PN1345'WITH THE GROUND.

PN1345

STATION RECOVERY (1993)

PN1345

PN1345

PN1345'RECOVERY NOTE BY NATIONAL OCEAN SERVICE 1993 (RAH)  
PN1345'RECOVERED AS DESCRIBED.

PN1345

STATION RECOVERY (1997)

PN1345

PN1345

PN1345'RECOVERY NOTE BY WI HIGHWAY DEPT 1997 (CSM)  
PN1345'THE STATION IS LOCATED ABOUT 41.88 KM (26.00 MI) NORTHEAST OF  
PN1345'APPLETON, 41.88 KM (26.00 MI) SOUTHEAST OF SHAWANO, AND 11.3 KM (7.00  
PN1345'MI) NORTHWEST OF GREEN BAY ON THE NORTH RIGHT-OF-WAY OF STATE HIGHWAY  
PN1345'29 IN THE VILLAGE OF HOWARD. OWNERSHIP--WISCONSIN DEPARTMENT OF  
PN1345'TRANSPORTATION. TO REACH THE STATION FROM THE JUNCTION OF US HIGHWAY  
PN1345'41 WITH HIGHWAY 29 IN THE NORTHWEST PART OF THE CITY OF GREEN BAY, GO  
PN1345'NORTHWEST 8.1 KM (5.05 MI) ON STATE HIGHWAY 29 TO THE JUNCTION WITH  
PN1345'MARLEY STREET AND MILLTOWN ROAD ON THE RIGHT, TURN RIGHT AND GO NORTH  
PN1345'AND NORTHWEST 0.32 KM (0.20 MI) ON MARLEY STREET TO THE STATION ON THE  
PN1345'LEFT IN A GRASSY AREA THAT IS THE OBLITERATED PORTION OF THE OLD  
PN1345'MARLEY STREET. THE STATION IS A BRONZE NGS HORIZONTAL CONTROL MARK  
PN1345'DISK SET IN THE TOP OF A 40-CM (16-INCH) DIAMETER, 6-FOOT-DEEP  
PN1345'CONCRETE POST FLUSH WITH THE GROUND. THE STATION IS 53.6 M (175.9 FT)  
PN1345'NORTHEAST OF THE CENTERLINE OF THE WESTBOUND LANES OF HIGHWAY 29, 34.4



PN1345'M (112.9 FT) WEST OF THE CENTERLINE OF MARLEY STREET, 25.7 M (84.3 FT)  
PN1345'SOUTH-SOUTHEAST OF A CONCRETE MONUMENT WITH AN ALUMINUM DISK STAMPED  
PN1345'--1220 HOR WIDOT--, 26.4 M (86.6 FT) SOUTH-SOUTHEAST OF A YELLOW  
PN1345'WOODEN RIGHT-OF-WAY POST WITH A SURVEY MARK WITNESS SIGN, 27.4 M (89.9  
PN1345'FT) SOUTH-SOUTHEAST OF A 15-CM (6-INCH) DIAMETER ELM TREE, 1.92 M  
PN1345'(6.30 FT) SOUTH OF A METAL WITNESS POST, 0.95 M (3.12 FT) NORTH OF AN  
PN1345'ORANGE FIBERGLASS WITNESS POST, AND 1.05 M (3.44 FT) WEST OF A WHITE  
PN1345'PLASTIC WITNESS POST.

PN1345

STATION RECOVERY (2001)

PN1345

PN1345

PN1345'RECOVERY NOTE BY WI DEPT OF TRANSP 2001 (DJH)

PN1345'RECOVERED AS DESCRIBED. ---NOTE---THE STATION IS NOW 1.0 M EAST, 1.0

PN1345'M SOUTH, AND 1.0 M

PN1345'NORTH OF THREE 4X4 ORANGE PLASTIC WITNESS POSTS.

PN1345'

PN1345'

PN1345'

PN1345

PN1345

STATION RECOVERY (2002)

PN1345

PN1345'RECOVERY NOTE BY JOHN CHANCE LAND SURVEYS INC 2002 (MRY)

PN1345'RECOVERED IN GOOD CONDITION.

PN1345

STATION RECOVERY (2002)

PN1345

PN1345

PN1345'RECOVERY NOTE BY JOHN CHANCE LAND SURVEYS INC 2002

PN1345'RECOVERED IN GOOD CONDITION.

PN1345

STATION RECOVERY (2003)

PN1345

PN1345

PN1345'RECOVERY NOTE BY WI DEPT OF TRANSP 2003

PN1345'RECOVERED AS DESCRIBED.

PN1345'

PN1345

STATION RECOVERY (2004)

PN1345

PN1345

PN1345'RECOVERY NOTE BY US POWER SQUADRON 2004 (DRB)

PN1345'RECOVERED IN GOOD CONDITION. THE STATION IS WITHIN A TRIANGLE FORMED

PN1345'BY THREE 4X4 ORANGE GUARD POSTS.

PN1345

STATION RECOVERY (2006)

PN1345

PN1345

PN1345'RECOVERY NOTE BY JOHN CHANCE LAND SURVEYS INC 2006 (MRY)

PN1345'RECOVERED IN GOOD CONDITION.

PN1345

STATION RECOVERY (2006)

PN1345

PN1345

PN1345'RECOVERY NOTE BY US POWER SQUADRON 2006 (KW)

PN1345'STATION RECOVERED IN GOOD CONDITION.

PN1345

STATION RECOVERY (2009)

PN1345

PN1345

PN1345'RECOVERY NOTE BY WI DEPT OF TRANSP 2009 (EPS)

PN1345'RECOVERED AS DESCRIBED.

PN1345

STATION RECOVERY (2011)

PN1345

PN1345

PN1345'RECOVERY NOTE BY WI DEPT OF TRANSP 2011 (EPS)

PN1345'RECOVERED AS DESCRIBED.

\*\*\* retrieval complete.

Elapsed Time = 00:00:10



## Version 7.89.4 released at 10:37am on 09/14/2012

This release includes 2 main changes:

- (1) The intg.w program has been updated to use the GEOID12A grids versus the GEOID12 grids it used previously. Several modules are common to intg.w and datasheet95.w and these modules were incorporated into datasheet95.w. Note: datasheet95.w calls the intg.w program to calculate/interpolate the geoid height on the datasheets. The latest version of intg.w is V3.17.
- (2) A change to the best (publishable) position algorithm. Eighteen CORS stations have only IGS08 positions/coordinates and no NAD83 (2011) positions/coordinates and thus they are no longer publicly publishable.

The 18 CORS stations that are no longer publicly publishable are:

TEGU  
INEG  
JAMA  
GALA  
ESTI  
MANA  
BARB  
CIC1  
GUAT  
SLOR  
SSIA  
BRMU  
TEG1  
ELEN  
HUEH  
GCGT  
CBSB  
CRCC

These CORS sites will generate the new reason code below on the datasheet output.

I            No NAD83 coordinates available, only IGS08 coordinates

An example of a CORS site that generates this message can be seen below.

DATABASE = DEVTESTNGSIDB , PROGRAM = datasheet95, VERSION = 7.89.4

\*\*\* retrieval complete.  
Elapsed Time = 00:00:01

```
-----  
- This listing contains control for which complete digital -  
- data sheets where not provided. The complete data sheets were -  
- not provided for the reason listed below. The reason below is -
```

- associated with a horizontal control Nonpub code shown under -  
 - the heading 'H' and/or a vertical control Nonpub code shown under -  
 - the heading 'v' -

- The format of the records are as follows: -  
 - Pid = Station Permanent Identifier) -  
 - Name = Station Designation -  
 - Lat = Approx. Latitude (Degrees, Minutes, truncated Seconds) -  
 - Lon = Approx. Longitude (Degrees, Minutes, truncated Seconds) -  
 - O = Horizontal Order -  
 - o = Vertical Order -  
 - H = Horizontal Nonpub Code -  
 - v = Vertical Nonpub Code -

- H Nonpub HORIZONTAL CONTROL NONPUB REASON -  
 - ----- -  
 - A CORS site is not active -  
 - B Station is a RBN antenna -  
 - C Not a publishable datum within the state -  
 - D No descriptive text available -  
 - I No NAD83 coordinates available, only IGS08 coordinates -  
 - L CORS L1 Phase Center is not publishable -  
 - N No geodetic control -  
 - O Outside NGS publication area -  
 - P Purpose of position is not for network control -  
 - R Restricted position -  
 - T Station is a temporary point/bench mark -  
 - V Station is a VOR antenna -  
 - W Weakly determined position -  
 - X Surface mark reported destroyed -  
 - Y Surface and underground mark reported destroyed -

- v Nonpub VERTICAL CONTROL NONPUB REASON -  
 - ----- -  
 - A CORS site is not active -  
 - D No descriptive text available -  
 - F Bench mark not yet adjusted -  
 - N No geodetic control -  
 - L CORS L1 Phase Center is not publishable -  
 - O Outside NGS publication area -  
 - R Restricted elevation -  
 - S Mark is in a subsidence area -  
 - T Station is a temporary point/bench mark -  
 - X Surface mark reported destroyed -  
 - Y Surface and underground mark reported destroyed -  
 - Z Presumed destroyed -

- NOTE - Stations found in this listing may still have a valid -  
 - datasheet produced by use of other publishable values. -  
 - For example, an ADJUSTED height may be non-publishable -  
 - but a good GPS height might be found on the datasheet. -  
 - This listing does not imply that values found on the datasheet -  
 - are restricted. If it's on the datasheet, use it. -

```
-----
```

Pid	Name	Lat	Lon	Elev	O	o	Hv
>AI7441	GUATEMALA CITY CORS ARP	14 35 25.4/090	31 12.6		A		I

**Version 7.89.3.1 released at 3:12pm on 09/11/2012**

This release fixes 3 issues. With the first issue, some datasheets in the dynamic regions that the EPOCH line was on were displaying the line with no date on it. An example of this is shown below.

```

PROGRAM = datasheet95, VERSION = 7.89.3
1      National Geodetic Survey,  Retrieval Date = AUGUST 22, 2012
AA1839 *****
AA1839 DESIGNATION - CP 5 1
AA1839 PID - AA1839
AA1839 STATE/COUNTY- LA/CALCASIEU
AA1839 COUNTRY - US
AA1839 USGS QUAD - SHOATS CREEK (1982)
AA1839
AA1839 *CURRENT SURVEY CONTROL
AA1839
AA1839* NAD 83(2011) POSITION- 30 22 58.06631(N) 093 40 22.50869(W) ADJUSTED
AA1839* NAD 83(2011) ELLIP HT- -17.729 (meters) (06/27/12) ADJUSTED
AA1839* NAD 83(2011) EPOCH - 2010.00
AA1839* NAVD 88 ORTHO HEIGHT - ** (meters) ** (feet)
AA1839* NAVD 88 EPOCH -
AA1839 **This station is located in a suspected subsidence area (see below).
AA1839
AA1839 NAD 83(2011) X - -352,775.586 (meters) COMP
AA1839 NAD 83(2011) Y - -5,495,590.042 (meters) COMP
AA1839 NAD 83(2011) Z - 3,207,043.519 (meters) COMP
AA1839 LAPLACE CORR - 0.69 (seconds) DEFLEC09
AA1839 GEOID HEIGHT - -27.38 (meters) GEOID12

```

The datasheet should not have printed out in the first place, as it is a mark within the dynamic regions/subsidence areas. Early on in the program, whenever a mark is not publishable, the UID and the ADJ\_ID (and several other fields) get blanked out. When we went to print out the datasheet, the functions that were used later on to determine if the mark was in a dynamic region/subsidence area didn't return the correct value when the UID and ADJ\_ID were blanked out. This is now corrected.

For the second issue when one retrieved datasheets by\_stream (i.e. by county, area, radius) and not as a single mark (i.e. by single PID) for some Pacific islands (such as Palau), one might get a single datasheet and then a core dump occurred.

This issue was caused by a global versus local variable issue in the [https://source.ngs.noaa.gov/svn/repos/commonLib/fortlib/tags/release-3.1/geoid\\_egm08.f](https://source.ngs.noaa.gov/svn/repos/commonLib/fortlib/tags/release-3.1/geoid_egm08.f) Fortran module for the geoid\_egm08 program which is then in turn called by datasheet95. This issue was corrected.

For the third issue it was noticed that on some datasheets that the agency name was not present on the differential leveling message paragraph. An example of this is the datasheet for FS0657 (shown below):

```

DATABASE = DEVTESTNGSIDB , PROGRAM = datasheet95, VERSION = 7.89.3
1      National Geodetic Survey,  Retrieval Date = AUGUST 23, 2012
FS0657 *****
FS0657 DESIGNATION - GLOW
FS0657 PID - FS0657

```

```

FS0657 STATE/COUNTY- AZ/MOHAVE
FS0657 COUNTRY - US
FS0657 USGS QUAD - SPIRIT MTN NE (1959)
FS0657
FS0657 *CURRENT SURVEY CONTROL
FS0657
FS0657* NAD 83(1992) POSITION- 35 28 30.99333(N) 114 36 56.94920(W) ADJUSTED
FS0657* NAVD 88 ORTHO HEIGHT - 291.705 (meters) 957.04 (feet) POSTED
FS0657
FS0657 LAPLACE CORR - 5.47 (seconds) DEFLEC09
FS0657 GEOID HEIGHT - -29.40 (meters) GEOID12A
FS0657 DYNAMIC HEIGHT - 291.41 (meters) 956.1 (feet) COMP
FS0657 MODELED GRAVITY - 979,621.1 (mgal) NAVD 88
FS0657
FS0657 HORZ ORDER - FIRST
FS0657 VERT ORDER - * POSTED, Code D , SEE BELOW
FS0657
FS0657.The horizontal coordinates were established by classical geodetic methods
FS0657.and adjusted by the National Geodetic Survey in August 1993.
FS0657.
FS0657.The orthometric height was determined by differential leveling
FS0657.and adjusted by the in 1992.
FS0657
FS0657.* This is a POSTED BENCH MARK height. Code D indicates a distribution
FS0657.rate of 3.1 thru 4.0 mm/km.
FS0657
FS0657.The Laplace correction was computed from DEFLEC09 derived deflections.
FS0657
FS0657.The dynamic height is computed by dividing the NAVD 88
FS0657.geopotential number by the normal gravity value computed on the
FS0657.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
FS0657.degrees latitude (g = 980.6199 gals.).
FS0657
FS0657.The modeled gravity was interpolated from observed gravity values.
FS0657
FS0657. The following values were computed from the NAD 83(1992) position.
FS0657
FS0657;
North East Units Scale Factor Converg.
FS0657;SPC AZ W - 496,659.509 134,784.938 MT 1.00000939 -0 30 09.0
FS0657;SPC AZ W - 1,629,460.33 442,207.80 iFT 1.00000939 -0 30 09.0
FS0657;SPC NV E - 8,080,886.233 287,801.450 MT 0.99999497 +0 33 41.5
FS0657;SPC NV E -26,512,040.92 944,228.59 sFT 0.99999497 +0 33 41.5
FS0657;UTM 11 - 3,928,364.268 716,315.532 MT 1.00017667 +1 23 03.1
FS0657
FS0657! - Elev Factor x Scale Factor = Combined Factor
FS0657!SPC AZ W - 0.99995883 x 1.00000939 = 0.99996822
FS0657!SPC NV E - 0.99995883 x 0.99999497 = 0.99995380
FS0657!UTM 11 - 0.99995883 x 1.00017667 = 1.00013549
FS0657
FS0657: Primary Azimuth Mark Grid Az
FS0657:SPC AZ W - MOUNT DAVIS 350 25 07.5
FS0657:SPC NV E - MOUNT DAVIS 349 21 17.0
FS0657:UTM 11 - MOUNT DAVIS 348 31 55.4
FS0657
FS0657|-----|
FS0657| PID Reference Object Distance Geod. Az |
FS0657| | | | | | | |
FS0657| FS0658 T29S R22W SECS 10 15 1/4 COR 11.918 METERS 16459 |
FS0657| FS0659 GLOW RM 1 10.642 METERS 24846 |
FS0657| FS1170 MOUNT DAVIS APPROX. 7.0 KM 3495458.5 |
FS0657|-----|
FS0657
FS0657 SUPERSEDED SURVEY CONTROL

```

FS0657  
 FS0657 NAD 83(1986)- 35 28 30.99320(N) 114 36 56.93936(W) AD( ) 1  
 FS0657 NAD 27 - 35 28 31.01600(N) 114 36 54.04900(W) AD( ) 1  
 FS0657 NGVD 29 (??/??/92) 290.996 (m) 954.71 (f) ADJ UNCH 1 2  
 FS0657  
 FS0657.Superseded values are not recommended for survey control.  
 FS0657  
 FS0657.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.  
 FS0657.See file dsdata.txt to determine how the superseded data were derived.  
 FS0657  
 FS0657\_U.S. NATIONAL GRID SPATIAL ADDRESS: 11SQV1631528364(NAD 83)  
 FS0657  
 FS0657\_MARKER: DS = TRIANGULATION STATION DISK  
 FS0657\_SETTING: 80 = SET IN A BOULDER  
 FS0657\_SP\_SET: BOULDER  
 FS0657\_STAMPING: GLOW 1934  
 FS0657\_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO  
 FS0657+STABILITY: SURFACE MOTION  
 FS0657  

FS0657	HISTORY	- Date	Condition	Report By
FS0657	HISTORY	- 1934	MONUMENTED	CGS
FS0657	HISTORY	- 1941	GOOD	CGS
FS0657	HISTORY	- 1950	GOOD	CGS

 FS0657  
 FS0657  

STATION DESCRIPTION

 FS0657  
 FS0657'DESCRIBED BY COAST AND GEODETIC SURVEY 1934 (CP)  
 FS0657'STATION IS ON TOP OF SMALL KNOLL ABOUT 120 FEET N OF THE  
 FS0657'SEARCHLIGHT FERRY ROAD. KNOLL IS 4.9 MILES BY ROAD E OF  
 FS0657'SEARCHLIGHT FERRY. STATION IS 11.918 METERS N OF GENERAL  
 FS0657'LAND OFFICE 1/4 CORNER SEC. MARK MARKING S10 S15 T 29 S,  
 FS0657'R 22 W, NEAR GILA AND SALT RIVERS.  
 FS0657'  
 FS0657'THE STATION MARK IS A STANDARD BRONZE DISK WEDGED IN A DRILL  
 FS0657'HOLE IN A BOULDER.  
 FS0657'  
 FS0657'REFERENCE MARK NO. 1 IS A STANDARD BRONZE DISK WEDGED IN A  
 FS0657'DRILL HOLE IN OUTCROPPING BEDROCK.  
 FS0657'  
 FS0657'U.S.C. AND G.S. BENCH MARK R-52 IS 200 YARDS E OF THE S SIDE  
 FS0657'OF ROAD AND WAS USED AS AN AZIMUTH MARK. IT IS A STANDARD  
 FS0657'DISK SET IN CONCRETE.  
 FS0657'  
 FS0657'REACH FROM SEARCHLIGHT FERRY BY GOING E ON THE ROAD TO CHLORIDE  
 FS0657'4.9 MILES TO THE KNOLL ON THE N OF THE ROAD. THE GENERAL  
 FS0657'LAND OFFICE PIPE CAN BE SEEN FROM THE ROAD AT THIS POINT.  
 FS0657  

STATION RECOVERY (1941)

 FS0657  
 FS0657  
 FS0657'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1941 (EHS)  
 FS0657'THIS STATION WAS RECOVERED AND FOUND TO BE IN GOOD CONDITION.  
 FS0657'PARTY DID NOT HAVE A COPY OF THE ORIGINAL DESCRIPTION AT THE  
 FS0657'TIME OF RECOVERY.  
 FS0657'  
 FS0657'STATION IS A STANDARD DISK SET IN TOP OF SMALL BOULDER,  
 FS0657'HORIZONTALLY. IT IS ON THE RIGHT-OF-WAY OF ROAD TO AERIAL  
 FS0657'FERRY. ON TOP OF A NARROW GRAVEL RIDGE ABOUT 500 FEET LONG.  
 FS0657'ABOUT 200 FEET EAST OF THE WEST END OF THE RIDGE. 175 FEET  
 FS0657'NORTH OF THE CENTER LINE OF THE ROAD AND ABOUT 4 FEET WEST OF  
 FS0657'A 4 X 4 INCH WHITE WOODEN POST PROJECTING ABOUT 2 FEET.  
 FS0657'  
 FS0657'R.M. NO. 1 IS A STANDARD DISK SET HORIZONTALLY IN TOP OF A  
 FS0657'ROCK OUTCROP. IT IS 36 FEET WEST OF THE STATION AND ABOUT

FS0657'55 YARDS NORTH OF THE CENTER LINE OF THE ROAD.  
FS0657'  
FS0657'TO REACH FROM CHLORIDE, ARIZONA GO SOUTHWESTERLY ON ARIZONA  
FS0657'STATE HIGHWAY 62 FOR 3.6 MILES TO U.S. HIGHWAY 93. TURN  
FS0657'RIGHT, NORTHERLY AND CONTINUE ON U.S. HIGHWAY 93 FOR 9.0  
FS0657'MILES TO INTERSECTION OF HIGHWAY WITH ROAD TO AERIAL FERRY.  
FS0657'THENCE CONTINUE ON ROAD TO AERIAL FERRY FOR 18.4 MILES TO  
FS0657'STATION SITE.  
FS0657  
FS0657 STATION RECOVERY (1950)  
FS0657  
FS0657'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1950  
FS0657'25.3 MI W FROM GRASSHOPPER JUNCTION.  
FS0657'7.4 MILES NORTHWEST ALONG U.S. HIGHWAY 93 FROM THE JUNCTION OF  
FS0657'STATE HIGHWAY 62 AT GRASSHOPPER JUNCTION, THENCE 17.9 MILES WEST  
FS0657'ALONG A DIRT ROAD LEADING TO THE OLD AERIAL FERRY LANDING, ON TOP  
FS0657'OF THE APPROXIMATE CENTER OF AND ABOUT 94 YARDS NORTHEAST OF THE  
FS0657'SOUTHWEST END OF A PROMINENT GRAVEL RIDGE ABOUT 250 YARDS LONG,  
FS0657'IN THE TOP OF A SMALL BOULDER PROJECTING 0.2 FOOT ABOVE THE GROUND,  
FS0657'168 1/2 FEET NORTHWEST OF THE CENTER LINE OF THE ROAD, 3.4 FEET  
FS0657'WEST OF A WITNESS POST, AND ABOUT 12 FEET HIGHER THAN THE ROAD.  
  
\*\*\* retrieval complete.  
Elapsed Time = 00:00:02

This issue is now corrected.



## Version 7.89.3 released at 10:29am on 08/23/2012

This release fixes an issue for archival datasheets. When the NGS webmaster went to create the monthly datasheet archive for the state of Alaska, he got two datasheets for AK and then a core dump. The core dump happened on PID TT3085. This was the output he got for TT3085.

Command: datasheet95 TT3085

### Output:

```
PROGRAM = datasheet95, VERSION = 7.89.2
1      National Geodetic Survey, Retrieval Date = AUGUST 16, 2012
TT3085 *****
TT3085 DESIGNATION - 1 C USLM
TT3085 PID - TT3085
TT3085 STATE/COUNTY- AK/NOME CENSUS
TT3085 COUNTRY - US
TT3085 USGS QUAD - NOME C-1
TT3085
TT3085 *CURRENT SURVEY CONTROL
TT3085
TT3085* NAD 83(1986) POSITION- 64 30 21.28674(N) 165 25 57.81709(W) ADJUSTED
TT3085* NAVD 88 ORTHO HEIGHT - ** (meters) ** (feet)
TT3085
TT3085 LAPLACE CORR - 3.37 (seconds) DEFLECO9
TT3085 GEOID HEIGHT - 5.25 (meters) GEOID12
TT3085 HORZ ORDER - SECOND
Segmentation Fault (core dumped)
```

This has been corrected in this version.

## Version 7.89.2 released at 3:53pm on 08/16/2012

This release covers 2 minor changes:

- (1) a fix where the Horiz value in the network accuracy on datasheets does not always match that of the Horiz value on the lna\_ret output and should.

An example of this non-matching occurring is with the datasheet for UW0219

```
UW0219 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)
UW0219 Type Horiz Ellip Dist(km)
UW0219 -----
UW0219 NETWORK 8.19 17.93
UW0219 -----
UW0219 MEDIAN LOCAL ACCURACY AND DIST (016 points) 8.27 17.93 73.85
UW0219 -----
```

And the lna\_ret output for UW0219

```
UW0219 Type/PID Horiz Ellip Dist(km) StdN StdE Stdh CorrNE
UW0219 -----
UW0219 NETWORK 8.26 17.93 0.00 2.48 3.89 9.15 +0.26232390
UW0219 -----
```

It was found that the datasheet output was the one that was incorrect due to using the atoi() function to convert a string to an integer versus correctly using the atof() function to convert the string to a double for the network\_correlation\_coefficient variable which is one of the parameters needed to calculate Horiz via the leenhout\_check() function.

datasheet95 as of this release has now been corrected to display 8.26 for the Horiz value as shown below:

```
UW0219 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)
UW0219 Type Horiz Ellip Dist(km)
UW0219 -----
UW0219 NETWORK 8.26 17.93
UW0219 -----
UW0219 MEDIAN LOCAL ACCURACY AND DIST (016 points) 8.27 17.93 73.85
UW0219 -----
```

- (2) While not an issue at present, the `geoid_abbreviation` variable was changed from eight characters in length to nine characters in length in the `ret_gh_srce_def.c` function. Nine characters were needed – eight for the data and one for the null character. This was a potential problem we could have run into later on in the code.

## Version 7.89.1 released at 4:38am on 07/13/2012

This release fixes the issue of superseded heights outside of the dynamic regions/subsidence areas not appearing in the SUPERSEDED SURVEY CONTROL section of the datasheet.

An example of the incorrect output was for PID DF9871.

```
DF9871          SUPERSEDED SURVEY CONTROL
DF9871
DF9871.No superseded survey control is available for this station.
DF9871
```

This has now been corrected to be:

```
DF9871          SUPERSEDED SURVEY CONTROL
DF9871
DF9871 NAVD 88 (04/20/07) 287.043 (m)    941.74 (f) SUPERSEDED 2 1
DF9871 NAVD 88 (02/25/04) 287.011 (m)    941.64 (f) SUPERSEDED 2 1
DF9871
```

**Version 7.89 released at 3:46pm on 07/12/2012**

This release covers the changes requested for the Gulf dynamic regions/subsidence areas. In completing this release, some of the flags/conditions that turned on and off messages were not quite what the document stated. Therefore the actual flags/conditions for the messages requested will be included in the below. First we have some definitions to go through.

A dynamic region/subsidence area is an area known or suspected of subsidence, uplift, or other tectonic vertical motion. In 2005, there was a single dynamic region in the state of LA that was defined with a *latitude/longitude polygon*. In 2007 the LA dynamic region polygon was put aside in favor of defining the dynamic regions in the state of LA with a series of *three minimum/maximum latitude/longitude areas*. As of 2012 (this release) the dynamic regions now spans the lower parts of Gulf Coast states of AL, FL, MS, and LA and is comprised of several *minimum/maximum latitude/longitude areas*.

These regions are comprised of the following sub-areas shown in Table 1.

**Table 1: Dynamic Regions/Subsidence Areas of the Gulf Coast**

State	Latitude Range	Longitude Range
LA	latitude $\leq$ N303432	longitude $\geq$ W0912738
LA	latitude $\leq$ N304850	W0903401 $\leq$ longitude $\leq$ W0912738
LA	latitude $\leq$ N310002	longitude $\leq$ W0903401
MS	latitude $\leq$ N320608	W0882650 $\leq$ longitude $\leq$ W0910952
AL	latitude $\leq$ N312344	longitude $\geq$ W0880000
FL	N301743 $\leq$ latitude $\leq$ N303716	longitude $\geq$ W0870744

In a dynamic region/subsidence area, datasheets are publicly publishable for control points in specific projects (a.k.a. adjustment identifiers). If a control point is not part of these specific projects, then a public datasheet also includes the reason that the elevation for this control point should not be used in project as shown in the datasheet for AU2715 below.

```

DATABASE = DEVTESTNGSIDB , PROGRAM = datasheet95, VERSION = 7.89
1 National Geodetic Survey, Retrieval Date = JUNE 14, 2012
AU2715 *****
AU2715 DESIGNATION - BLOUNT
AU2715 PID - AU2715
AU2715 STATE/COUNTY- LA/ORLEANS
AU2715 COUNTRY - US
AU2715 USGS QUAD - NEW ORLEANS EAST (1992)
AU2715
AU2715 *CURRENT SURVEY CONTROL
AU2715
AU2715* NAD 83(1992) POSITION- 29 59 16.91707(N) 090 04 04.03998(W) ADJUSTED
AU2715* NAD 83(1992) ELLIP HT- -26.558 (meters) (01/21/03) ADJUSTED
AU2715* NAVD 88 ORTHO HEIGHT - *(meters) *(feet) NOT PUB
AU2715 **This station is located in a suspected subsidence area (see below).
AU2715
AU2715 NAD 83(1992) X - -6,541.453 (meters) COMP
AU2715 NAD 83(1992) Y - -5,528,892.959 (meters) COMP
AU2715 NAD 83(1992) Z - 3,169,211.502 (meters) COMP

```

AU2715 LAPLACE CORR - 0.04 (seconds) DEFLEC09  
 AU2715 GEOID HEIGHT - -26.10 (meters) GEOID09  
 AU2715 MODELED GRAVITY - 979,315.7 (mgal) NAVD 88

AU2715  
 AU2715 HORZ ORDER - FIRST  
 AU2715 VERT ORDER - FIRST CLASS II (See Below)  
 AU2715 ELLP ORDER - FOURTH CLASS II

AU2715.The horizontal coordinates were established by GPS observations  
 AU2715.and adjusted by the National Geodetic Survey in January 1993.

AU2715  
 AU2715 \*\* This station is in an area of known vertical motion. If an  
 AU2715 \*\* orthometric height was ever established but is not available  
 AU2715 \*\* in the current survey control section, the orthometric height  
 AU2715 \*\* is considered suspect. Suspect heights are available in the  
 AU2715 \*\* superseded section only if requested.

AU2715.The vertical order pertains to the NGVD 29 superseded value.

AU2715.The X, Y, and Z were computed from the position and the ellipsoidal ht.

AU2715.The Laplace correction was computed from DEFLEC09 derived deflections.

AU2715.The ellipsoidal height was determined by GPS observations  
 AU2715.and is referenced to NAD 83.

AU2715.The modeled gravity was interpolated from observed gravity values.

AU2715. The following values were computed from the NAD 83(1992) position.

AU2715;		North	East	Units	Scale Factor	Converg.
AU2715;SPC LA S	-	165,614.205	1,122,110.777	MT	0.99992577	+0 37 58.0
AU2715;SPC LA S	-	543,352.60	3,681,458.44	sFT	0.99992577	+0 37 58.0
AU2715;UTM 15	-	3,321,079.437	782,901.138	MT	1.00058755	+1 27 59.6
AU2715;UTM 16	-	3,321,422.241	204,012.094	MT	1.00068105	-1 32 04.0

AU2715!		Elev Factor	x	Scale Factor	=	Combined Factor
AU2715!SPC LA S	-	1.00000417	x	0.99992577	=	0.99992994
AU2715!UTM 15	-	1.00000417	x	1.00058755	=	1.00059172
AU2715!UTM 16	-	1.00000417	x	1.00068105	=	1.00068522

AU2715:		Primary Azimuth Mark	Grid Az
AU2715:SPC LA S	-	NEW ORLEANS TV STA WGNO TOWER	173 56 45.5
AU2715:UTM 15	-	NEW ORLEANS TV STA WGNO TOWER	173 06 43.9
AU2715:UTM 16	-	NEW ORLEANS TV STA WGNO TOWER	176 06 47.5

AU2715	PID	Reference Object	Distance	Geod. Az
AU2715				dddmss.s
AU2715	DD6373	BLOUNT RM 1	9.753 METERS	00927
AU2715	DD6374	BLOUNT RM 2	7.636 METERS	12049
AU2715	AU2712	NEW ORLEANS TV STA WGNO TOWER	APPROX. 4.4 KM	1743443.5
AU2715	AU2716	BLOUNT LDH 1972 A POINT	11.035 METERS	31101

AU2715 SUPERSEDED SURVEY CONTROL

AU2715	ELLIP H (01/21/93)	-26.535 (m)		GP(	)	4 2
AU2715	NAD 83(1986)-	29 59 16.93360(N)	090 04 04.03759(W)	AD(	)	1
AU2715	NAD 83(1986)-	29 59 16.93200(N)	090 04 04.03840(W)	AD(	)	2
AU2715	NAD 27	- 29 59 16.20246(N)	090 04 03.78046(W)	AD(	)	2

AU2715.Superseded values are not recommended for survey control.

AU2715  
 AU2715.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.  
 AU2715.See file dsdata.txt to determine how the superseded data were derived.  
 AU2715  
 AU2715\_U.S. NATIONAL GRID SPATIAL ADDRESS: 15RYP8290121079(NAD 83)  
 AU2715  
 AU2715\_MARKER: DS = TRIANGULATION STATION DISK  
 AU2715\_SETTING: 31 = SET IN A PAVEMENT SUCH AS STREET, SIDEWALK, CURB, ETC.  
 AU2715\_SP\_SET: APRON  
 AU2715\_STAMPING: BLOUNT 1972  
 AU2715\_MARK LOGO: LADHGS  
 AU2715\_MAGNETIC: N = NO MAGNETIC MATERIAL  
 AU2715\_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY  
 AU2715\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR  
 AU2715+SATELLITE: SATELLITE OBSERVATIONS - November 04, 1994  
 AU2715  

AU2715	HISTORY	- Date	Condition	Report By
AU2715	HISTORY	- 1972	MONUMENTED	LADH
AU2715	HISTORY	- 1972	GOOD	LADH
AU2715	HISTORY	- 19880920	GOOD	LADTD
AU2715	HISTORY	- 19890125	GOOD	
AU2715	HISTORY	- 19910110	GOOD	NGS
AU2715	HISTORY	- 19941104	GOOD	NGS

 AU2715  
 AU2715 STATION DESCRIPTION  
 AU2715  
 AU2715'DESCRIBED BY LA DEPT OF HIGHWAYS 1972 (RT)  
 AU2715'THE STATION IS LOCATED 3 MILES NORTHEAST OF DOWNTOWN NEW ORLEANS, 5  
 AU2715'MILES NORTH OF GRETNA AND 8 MILES EAST OF KENNER, IN THE SOUTHEAST  
 AU2715'QUARTER OF SECTION 24, T12S, R11E, AND ON THE PROPERTY OWNED BY  
 AU2715'ORLEANS PARISH WATER BOARD.  
 AU2715'  
 AU2715'TO REACH THE STATION FROM THE INTERSECTION OF NORTH BROAD STREET AND  
 AU2715'TULANE AVENUE IN DOWNTOWN NEW ORLEANS, GO NORTHEAST ALONG NORTH  
 AU2715'BROAD STREET FOR 2.3 MILES TO PUMPING STATION NO. 3 ON THE LEFT AND  
 AU2715'NORTHWEST OF THE STREET. THE STATION IS SET TO THE SOUTH OF  
 AU2715'THE PUMPING STATION NEAR A CLEAN-OUT RAMP ON A CANAL.  
 AU2715'  
 AU2715'THE STATION MARK IS A STANDARD LOUISIANA DEPARTMENT OF HIGHWAYS AND  
 AU2715'U. S. COAST AND GEODETIC SURVEY DISK SET IN A DRILL HOLE IN A  
 AU2715'CONCRETE SLAB CLEAN-OUT RAMP ON A CANAL, FLUSH WITH THE SLAB. IT  
 AU2715'IS STAMPED BLOUNT 1972. IT IS 74 FEET NORTH OF A POWER POLE, 58  
 AU2715'FEET WEST OF THE CENTER OF THE SOUTH BOUND LANE ON NORTH BROAD  
 AU2715'STREET, 43 FEET WEST OF A METAL DRAIN, 42 FEET NORTHWEST OF A  
 AU2715'SIGNAL LIGHT STANDARD, 39 FEET EAST OF THE NORTHEAST CORNER OF  
 AU2715'A METAL BUILDING, 2 FEET NORTH OF A METAL WITNESS POST AND SIGN, AND  
 AU2715'1 FOOT EAST OF THE WEST END OF A CONVEYOR FOR CLEAN-OUT ON CANAL.  
 AU2715'  
 AU2715'REFERENCE MARK 1 IS A STANDARD LOUISIANA DEPARTMENT OF HIGHWAYS AND  
 AU2715'U. S. COAST AND GEODETIC SURVEY DISK SET IN A DRILL HOLE IN THE  
 AU2715'SOUTHWEST CORNER OF A CONCRETE BASE FOR CONVEYOR, FLUSH WITH  
 AU2715'CONCRETE, 4 FEET ABOVE GROUND. IT IS STAMPED BLOUNT R.M. 1 1972. IT  
 AU2715'IS 71 FEET WEST-SOUTHWEST OF THE CENTER OF THE SOUTH BOUND LANE OF  
 AU2715'NORTH BROAD STREET, 24 FEET NORTH-NORTHEAST OF THE NORTHEAST  
 AU2715'CORNER OF A METAL BUILDING, 21 FEET EAST-SOUTHEAST OF A CANAL  
 AU2715'CLEAN-OUT PLATFORM, AND 14 FEET NORTHWEST OF AN ELECTRIC CONTROL  
 AU2715'PANEL.  
 AU2715'  
 AU2715'REFERENCE MARK 2 IS A STANDARD LOUISIANA DEPARTMENT OF HIGHWAYS AND  
 AU2715'U. S. COAST AND GEODETIC SURVEY DISK SET IN A DRILL HOLE IN A  
 AU2715'CONCRETE SLAB FOR A CLEAN-OUT FOR CANAL, FLUSH WITH THE CONCRETE  
 AU2715'SLAB. IT IS STAMPED BLOUNT R.M. 2 1972. IT IS 80 FEET NORTH OF A  
 AU2715'POWER POLE, 33 FEET NORTH-NORTHWEST OF A SIGNAL LIGHT STANDARD, 32

AU2715'FEET WEST OF THE CENTER OF THE SOUTH BOUND LANE ON NORTH BROAD  
AU2715'STREET, 18 FEET NORTH OF A METAL DRAIN, AND 1.5 FEET WEST OF THE EAST  
AU2715'END OF A CONVEYOR ON A CLEAN-OUT FOR A CANAL.  
AU2715'  
AU2715'HEIGHT OF LIGHT ABOVE STATION MARK 1 METERS.  
AU2715  
AU2715 STATION RECOVERY (1972)  
AU2715  
AU2715'RECOVERY NOTE BY LA DEPT OF HIGHWAYS 1972  
AU2715'RECOVERED IN GOOD CONDITION.  
AU2715  
AU2715 STATION RECOVERY (1988)  
AU2715  
AU2715'RECOVERY NOTE BY LA TRANSP AND DEV 1988  
AU2715'THE STATION IS LOCATED 4.8 KM (3.00 MI) NORTHEAST OF DOWNTOWN NEW  
AU2715'ORLEANS, 8 KM (4.95 MI) NORTH OF GRETNA AND 12.8 KM (7.95 MI) EAST OF  
AU2715'KENNER, IN THE SOUTHEAST QUARTER OF SECTION 24, T 12 S, R 11 E.  
AU2715'OWNERSHIP--ORLEANS PARISH WATER BOARD.  
AU2715'TO REACH THE STATION FROM THE INTERSECTION OF NORTH BROAD STREET AND  
AU2715'TULANE AVENUE IN DOWNTOWN NEW ORLEANS, GO NORTHEAST ALONG NORTH BROAD  
AU2715'STREET FOR 3.7 KM (2.30 MI) TO PUMPING STATION NO. 3 ON THE LEFT AND  
AU2715'NORTHWEST OF THE STREET. THE STATION IS SET TO THE SOUTH OF THE  
AU2715'PUMPING STATION NEAR A CLEAN-OUT RAMP ON A CANAL.  
AU2715'THE STATION MARK IS A STANDARD LOUISIANA DEPARTMENT OF HIGHWAYS AND U.  
AU2715'S. COAST AND GEODETIC SURVEY DISK SET IN A DRILL HOLE IN A CONCRETE  
AU2715'SLAB FLUSH WITH THE SURFACE OF THE RAMP 22.6 M (74.1 FT) NORTH OF A  
AU2715'POWER POLE, 17.7 M (58.1 FT) WEST OF THE CENTER OF THE SOUTH BOUND  
AU2715'LANE OF NORTH BROAD STREET, 13.1 M (43.0 FT) WEST OF A METAL DRAIN,  
AU2715'12.8 M (42.0 FT) NORTHWEST OF A SIGNAL LIGHT STANDARD, 11.9 M  
AU2715'(39.0 FT) EAST OF THE NORTHEAST CORNER OF A METAL BUILDING, 0.6 M  
AU2715'(2.0 FT) NORTH OF A METAL WITNESS POST AND SIGN AND 0.3 M (1.0 FT)  
AU2715'EAST OF THE WEST END OF A CONVEYER FOR CLEAN-OUT ON THE CANAL.  
AU2715'REFERENCE MARK 1 IS A STANDARD LOUISIANA DEPARTMENT OF HIGHWAYS AND U  
AU2715'S COAST AND GEODETIC SURVEY DISK SET IN A DRILL HOLE IN THE SOUTHWEST  
AU2715'CORNER OF A CONCRETE BASE FOR A CONVEYER, 1.2 M (3.9 FT) ABOVE THE  
AU2715'GROUND STAMPED---BLOUNT RM 1 1972---, 21.6 M (70.9 FT) WEST-SOUTHWEST  
AU2715'OF THE CENTER OF THE SOUTH BOUND LANE OF NORTH BROAD STREET, 7.3 M  
AU2715'(24.0 FT) NORTH-NORTHEAST OF THE NORTHEAST CORNER OF A METAL BUILDING,  
AU2715'6.4 M (21.0 FT) EAST-SOUTHEAST OF A CANAL CLEAN-OUT PLATFORM AND 4.3 M  
AU2715'(14.1 FT) NORTHWEST OF AN ELECTRIC CONTROL PANEL.  
AU2715'REFERENCE MARK 2 IS A STANDARD LOUISIANA DEPARTMENT OF HIGHWAYS AND U  
AU2715'S COAST AND GEODETIC SURVEY DISK STAMPED---BLOUNT RM 2 1972---SET IN A  
AU2715'DRILL HOLE IN A CONCRETE SLAB FOR A CLEAN-OUT FOR THE CANAL 24.4 M  
AU2715'(80.1 FT) NORTH OF A POWER POLE, 10.1 M (33.1 FT) NORTH-NORTHWEST OF A  
AU2715'SIGNAL LIGHT STANDARD, 9.8 M (32.2 FT) WEST OF THE CENTER OF THE SOUTH  
AU2715'BOUND LANE OF NORTH BROAD STREET, 5.5 M (18.0 FT) NORTH OF A METAL  
AU2715'DRAIN AND 0.46 M (1.5 FT) WEST OF THE EAST END OF THE CONVEYER.  
AU2715  
AU2715 STATION RECOVERY (1989)  
AU2715  
AU2715'RECOVERED 1989  
AU2715'RECOVERED IN GOOD CONDITION.  
AU2715  
AU2715 STATION RECOVERY (1991)  
AU2715  
AU2715'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1991  
AU2715'IN NEW ORLEANS, AT THE INTERSECTION OF NORTH BROAD STREET AND A.P.  
AU2715'TUREAUD AVENUE, IN A CONCRETE APRON AT THE SOUTHWEST CORNER OF A  
AU2715'CANAL CLEAN OUT RAMP AT PUMP STATION 3, 17.7 M (58.1 FT) NORTHWEST OF  
AU2715'THE CENTER OF THE SOUTHWEST BOUND LANES OF THE STREET, 12.8 M (42.0  
AU2715'FT) NORTH OF A TRAFFIC LIGHT, 3.3 M (10.8 FT) EAST OF A CHAIN-LINK  
AU2715'FENCE, 2.0 M (6.6 FT) NORTH OF A CHAIN-LINK FENCE, 0.6 M (2.0 FT)  
AU2715'ABOVE THE LEVEL OF THE STREET, AND ON THE EXTENDED CENTER OF THE



AU2715'NORTHBOUND LANES OF THE AVENUE.

AU2715

AU2715

STATION RECOVERY (1994)

AU2715

AU2715'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1994 (GAS)

AU2715'IN NEW ORLEANS, AT THE INTERSECTION OF NORTH BROAD STREET AND A P  
AU2715'TUREAUD AVENUE, IN A CONCRETE APRON AT THE SOUTHWEST CORNER OF A CANAL  
AU2715'CLEAN OUT RAMP AT PUMP STATION NUMBER 3, 17.7 M (58.1 FT) NORTHWEST OF  
AU2715'THE CENTER OF THE SOUTHWEST BOUND LANES OF THE STREET, 12.8 M (42.0  
AU2715'FT) NORTH OF A TRAFFIC LIGHT, 3.3 M (10.8 FT) SOUTHEAST OF A  
AU2715'CHAIN-LINK FENCE, 2.0 M (6.6 FT) NORTHEAST OF A CHAIN-LINK FENCE, 0.6  
AU2715'M (2.0 FT) ABOVE THE LEVEL OF THE STREET, AND ON THE EXTENDED CENTER  
AU2715'OF THE NORTHBOUND LANES OF THE AVENUE. NOTE--THE MARK IS ON PROPERTY  
AU2715'OWNED BY THE CITY OF NEW ORLEANS. TO GAIN ACCESS TO THE MARK  
AU2715'CONTACT--RAY FABRE, 2800 PEOPLES AVENUE, NEW ORLEANS, LA 70119,  
AU2715'TELEPHONE NUMBER (504) 585 2420.

\*\*\* retrieval complete.

Elapsed Time = 00:00:03

-----  
- This listing contains control for which complete digital  
- data sheets were not provided. The complete data sheets were  
- not provided for the reason listed below. The reason below is  
- associated with a horizontal control Nonpub code shown under  
- the heading 'H' and/or a vertical control Nonpub code shown under  
- the heading 'v'  
-

- The format of the records are as follows:

- Pid = Station Permanent Identifier)  
- Name = Station Designation  
- Lat = Approx. Latitude (Degrees, Minutes, truncated Seconds)  
- Lon = Approx. Longitude (Degrees, Minutes, truncated Seconds)  
- O = Horizontal Order  
- o = Vertical Order  
- H = Horizontal Nonpub Code  
- v = Vertical Nonpub Code  
-

- H Nonpub HORIZONTAL CONTROL NONPUB REASON  
-----

- A CORS site is not active  
- B Station is a RBN antenna  
- C Not a publishable datum within the state  
- D No descriptive text available  
- L CORS L1 Phase Center is not publishable  
- N No geodetic control  
- O Outside NGS publication area  
- P Purpose of position is not for network control  
- R Restricted position  
- T Station is a temporary point/bench mark  
- V Station is a VOR antenna  
- W Weakly determined position  
- X Surface mark reported destroyed  
- Y Surface and underground mark reported destroyed

- v Nonpub VERTICAL CONTROL NONPUB REASON  
-----

- A CORS site is not active  
- D No descriptive text available  
- F Bench mark not yet adjusted  
- N No geodetic control  
- L CORS L1 Phase Center is not publishable

```

- O      Outside NGS publication area
- R      Restricted elevation
- S      Mark is in a subsidence area
- T      Station is a temporary point/bench mark
- X      Surface mark reported destroyed
- Y      Surface and underground mark reported destroyed
- Z      Presumed destroyed
-
-
- NOTE - Stations found in this listing may still have a valid
-        datasheet produced by use of other publishable values.
-        For example, an ADJUSTED height may be non-publishable
-        but a good GPS height might be found on the datasheet.
-        This listing does not imply that values found on the datasheet
-        are restricted.  If it's on the datasheet, use it.
-
-----
Pid      Name                      Lat      Lon      Elev      O o Hv
-----
>AU2715 BLOUNT                    29 59 16.9/090 04 04.0      -0.      1 1 S

```

Control points in a dynamic region/subsidence area are publicly publishable if:

- (3) The control point is in the Gulf Coast dynamic regions/subsidence areas (Table 1) *and* the control point is a list of publishable project/state combinations in the dynamic regions/subsidence areas (Table 3).
- (4) The control point is in the Gulf Coast dynamic regions/subsidence areas (Table 1) *and* the control point itself is designated as being publicly publishable in the normally unpublishable region due to being constrained (i.e. must appear in a list of publishable UIDs for the region found in Table 4).

Below is a complete list of projects (a.k.a. ADJ\_IDs) and their epochs that are in the Gulf Coast dynamic regions/subsidence areas:

**Table 2: List of Publishable Projects in the Gulf Coast Dynamic Regions/Subsidence Areas**

00000729/1	2009.55
00000729/2	2009.55
00000730/1	2009.55
00000730/2	2009.55
00000730/3	2009.55
00000730/4	2009.55
00000731	2009.55
00000732	2009.55
GPS2329	2006.81
GPS2100	2004.65
GPS2021/C	2004.65
GPS2212	2004.65
GPS2287	2004.65
GPS2307	2004.65
GPS2262	2004.65

Table 3 consists of a list of publishable project/state combinations in the dynamic regions/subsidence areas that generate a publicly publishable datasheet:

**Table 3: Valid Project/State Combinations in the Dynamic Regions/Subsidence Areas**

<b>Project</b>	<b>State</b>
00000729/1	AL
00000729/1	FL
00000729/1	LA
00000729/1	MS
00000729/1	TX
00000729/2	AL
00000729/2	MS
00000730/1	AL
00000730/2	AL
00000730/3	AL
00000730/4	AL
00000731	FL
00000732	TX
GPS2329	LA

\*In the near future, control points in the state of LA and in project GPS2772 will be added to the list above.

Below is a list of control points (by their individual UID and PID) designated as publicly publishable regardless of the fact that they are in the dynamic regions/subsidence areas. These control points were constrained (held constant):

**Table 4: Specific Control Points publishable in the Dynamic Regions/Subsidence Areas**

UID	PID
10478369	BH1210
10478372	BH1213
11634989	DL9666
11634990	DL9667
10478371	BH1212
10484553	BG1724

Control points not in a publishable project/state combination (Table 3) or not exceptions to the rule by UID (Table 4), will generate a datasheet with “NOT PUB” in the CURRENT SURVEY CONTROL section. This includes control points in past project/state combinations that formerly generated a publishable datasheet if the control point was in one of them. A list of these formerly valid project/state combinations appears is Table 5 below.

**Table 5: Past HT\_MOD Projects in Louisiana that formerly generated a publishable datasheet if the control point was in one of them**

Project	State
GPS2100	LA
GPS2021/C	LA
GPS2212	LA
GPS2307	LA
GPS2262	LA

An example datasheet with “NOT PUB” on the ORTHO HEIGHT line for a control point in project GPS2100 and in the state of LA is shown below:

```

DATABASE = DEVTESTNGSIDB , PROGRAM = datasheet95, VERSION = 7.89
1 National Geodetic Survey, Retrieval Date = JUNE 15, 2012
BJ1655 *****
BJ1655 DESIGNATION - E 191
BJ1655 PID - BJ1655
BJ1655 STATE/COUNTY- LA/ST JAMES
BJ1655 COUNTRY - US
BJ1655 USGS QUAD - LUTCHER (1994)
BJ1655
BJ1655 *CURRENT SURVEY CONTROL
BJ1655
BJ1655* NAD 83(2007) POSITION- 30 01 07.27902(N) 090 43 50.57512(W) ADJUSTED
BJ1655* NAD 83(2007) ELLIP HT- -21.934 (meters) (10/11/11) ADJUSTED
BJ1655* NAD 83(2007) EPOCH - 2002.00
BJ1655* NAVD 88 ORTHO HEIGHT - ** (meters) ** (feet) NOT PUB
BJ1655 **This station is located in a suspected subsidence area (see below).
BJ1655
BJ1655 NAD 83(2007) X - -70,488.635 (meters) COMP
BJ1655 NAD 83(2007) Y - -5,526,752.023 (meters) COMP
BJ1655 NAD 83(2007) Z - 3,172,156.722 (meters) COMP
BJ1655 LAPLACE CORR - 0.56 (seconds) DEFLEC09
BJ1655 GEOID HEIGHT - -26.27 (meters) GEOID09
BJ1655 MODELED GRAVITY - 979,310.2 (mgal) NAVD 88
    
```

BJ1655  
 BJ1655 VERT ORDER - FIRST CLASS II (See Below)  
 BJ1655 ELLP ORDER - FOURTH CLASS I  
 BJ1655  
 BJ1655 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)  
 BJ1655 Type Horiz Ellip Dist(km)  
 BJ1655 -----  
 BJ1655 NETWORK 1.07 2.14  
 BJ1655 -----  
 BJ1655 MEDIAN LOCAL ACCURACY AND DIST (032 points) 1.31 2.62 48.19  
 BJ1655 -----  
 BJ1655 NOTE: Click here for information on individual local accuracy  
 BJ1655 values and other accuracy information.  
 BJ1655  
 BJ1655  
 BJ1655.The horizontal coordinates were established by GPS observations  
 BJ1655.and adjusted by the National Geodetic Survey in February 2007.  
 BJ1655  
 BJ1655.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).  
 BJ1655.See [www.ngs.noaa.gov/NationalReadjustment](http://www.ngs.noaa.gov/NationalReadjustment) for more information.  
 BJ1655  
 BJ1655.The horizontal coordinates are valid at the epoch date displayed above  
 BJ1655.which is a decimal equivalence of Year/Month/Day.  
 BJ1655  
 BJ1655 \*\* This station is in an area of known vertical motion. If an  
 BJ1655 \*\* orthometric height was ever established but is not available  
 BJ1655 \*\* in the current survey control section, the orthometric height  
 BJ1655 \*\* is considered suspect. Suspect heights are available in the  
 BJ1655 \*\* superseded section only if requested.  
 BJ1655  
 BJ1655.The vertical order pertains to the NGVD 29 superseded value.  
 BJ1655  
 BJ1655.The X, Y, and Z were computed from the position and the ellipsoidal ht.  
 BJ1655  
 BJ1655.The Laplace correction was computed from DEFLEC09 derived deflections.  
 BJ1655  
 BJ1655.The ellipsoidal height was determined by GPS observations  
 BJ1655.and is referenced to NAD 83.  
 BJ1655  
 BJ1655.The modeled gravity was interpolated from observed gravity values.  
 BJ1655  
 BJ1655. The following values were computed from the NAD 83(2007) position.  
 BJ1655  
 BJ1655;  

	North	East	Units	Scale	Factor	Converg.
BJ1655;SPC LA S	- 168,490.790	1,058,128.892	MT	0.99992579	+0 18	04.7
BJ1655;SPC LA S	- 552,790.20	3,471,544.54	sFT	0.99992579	+0 18	04.7
BJ1655;UTM 15	- 3,323,025.166	718,855.023	MT	1.00019098	+1 08	08.6

BJ1655!	- Elev Factor	x	Scale Factor	=	Combined Factor
BJ1655!SPC LA S	- 1.00000344	x	0.99992579	=	0.99992923
BJ1655!UTM 15	- 1.00000344	x	1.00019098	=	1.00019443

  
 BJ1655  
 BJ1655  

SUPERSEDED SURVEY CONTROL

 BJ1655  

BJ1655	ELLIP H (03/12/08)	-21.879	(m)	GP( )	3	1
BJ1655	ELLIP H (02/10/07)	-21.917	(m)	GP( )		
BJ1655	NAD 83(1992)- 30 01	07.27900	(N)	090 43 50.57510	(W)	AD(2004.65) B
BJ1655	ELLIP H (06/22/05)	-21.925	(m)	GP(2004.65)		4 1
BJ1655	NAVD 88 (06/04/12)	4.401	(m)	14.44	(f)	ADJUSTED 1 2
BJ1655	NAVD 88 (06/22/05)	4.39	(m)	14.4	(f)	LEVELING 3
BJ1655	NAVD 88 (02/14/94)	4.621	(m)	15.16	(f)	SUPERSEDED 1 2
BJ1655	NGVD 29 (??/??/??)	4.752	(m)	15.59	(f)	ADJUSTED 1 2

 BJ1655

BJ1655.Superseded values are not recommended for survey control.  
 BJ1655  
 BJ1655.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.  
 BJ1655.See file dsdata.txt to determine how the superseded data were derived.  
 BJ1655  
 BJ1655 U.S. NATIONAL GRID SPATIAL ADDRESS: 15RYP1885523025(NAD 83)  
 BJ1655  
 BJ1655\_MARKER: DB = BENCH MARK DISK  
 BJ1655\_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT  
 BJ1655\_SP\_SET: CONCRETE POST  
 BJ1655\_STAMPING: E 191 1964  
 BJ1655\_MARK LOGO: CGS  
 BJ1655\_PROJECTION: PROJECTING 8 CENTIMETERS  
 BJ1655\_MAGNETIC: N = NO MAGNETIC MATERIAL  
 BJ1655\_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO  
 BJ1655+STABILITY: SURFACE MOTION  
 BJ1655\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR  
 BJ1655+SATELLITE: SATELLITE OBSERVATIONS - September 26, 2010  
 BJ1655  

BJ1655	HISTORY	- Date	Condition	Report By
BJ1655	HISTORY	- 1964	MONUMENTED	CGS
BJ1655	HISTORY	- 1986	GOOD	NGS
BJ1655	HISTORY	- 20040421	GOOD	NGS
BJ1655	HISTORY	- 20051011	GOOD	NGS
BJ1655	HISTORY	- 20060430	GOOD	NGS
BJ1655	HISTORY	- 20090411	GOOD	WOOLPT
BJ1655	HISTORY	- 20100926	GOOD	GEOMET

 BJ1655  
 BJ1655 STATION DESCRIPTION  
 BJ1655  
 BJ1655'DESCRIBED BY COAST AND GEODETIC SURVEY 1964  
 BJ1655'3.1 MI SW FROM GRAMERCY.  
 BJ1655'3.1 MILES SOUTHWEST ALONG STATE HIGHWAY 44 FROM THE JUNCTION OF STATE  
 BJ1655'HIGHWAY 20 AT GRAMERCY, 39 FEET NORTH OF THE CENTER LINE OF THE  
 BJ1655'HIGHWAY, 127 YARDS NORTHWEST OF THE CENTER LINE OF A DRIVEWAY LEADING  
 BJ1655'TO A ONE STORY FRAME HOUSE, 2 1/2 FEET WEST OF A CONCRETE RIGHT OF WAY  
 BJ1655'MARKER, 4 1/2 FEET NORTH OF A POWER LINE POLE, 1 FOOT SOUTH OF AN  
 BJ1655'EAST-WEST FENCE LINE, 1 1/2 FEET EAST OF A METAL WITNESS POST, 1 FOOT  
 BJ1655'BELOW THE LEVEL OF THE HIGHWAY AND SET IN THE TOP OF A CONCRETE POST  
 BJ1655'PROJECTING 3 INCHES ABOVE THE LEVEL OF THE GROUND.  
 BJ1655  
 BJ1655 STATION RECOVERY (1986)  
 BJ1655  
 BJ1655'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1986  
 BJ1655'RECOVERED IN GOOD CONDITION.  
 BJ1655  
 BJ1655 STATION RECOVERY (2004)  
 BJ1655  
 BJ1655'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2004 (KLF)  
 BJ1655'THE STATION IS LOCATED ABOUT 3.1 MI SOUTHWEST OF GRAMERCY ON STATE  
 BJ1655'HIGHWAY RIGHT OF WAY.  
 BJ1655'  
 BJ1655'TO REACH THE STATION FROM THE CENTER OF THE INTERSECTION OF INTERSTATE  
 BJ1655'HWY 10 AND AND LA HWY 641 NORTH OF GRAMERCY, GO SOUTH THEN SOUTHEAST  
 BJ1655'FOR 6.7 MI ON LA 641 TO THE T JUNCTION WITH LA HWY 44, TURN RIGHT AND  
 BJ1655'GO WEST FOR 2.6 MI ALONG LA 44 TO THE MARK ON THE RIGHT BETWEEN A  
 BJ1655'UTILITY POLE AND CHAIN LINK FENCE. THE STATION IS 15.6 M WEST OF A  
 BJ1655'FIRE HYDRANT, 12.2 M NORTH OF THE CENTER OF THE HIGHWAY, 1.4 MI  
 BJ1655'NORTH-NORTHWEST OF A WOODEN UTILITY POLE, 1.0 M SOUTH OF A CHAIN LINK  
 BJ1655'FENCE, 0.9 M WEST OF A LDH CONCTETE RIGHT OF WAY POST, 0.4 M EAST OF  
 BJ1655'A METAL POST WITH A METAL WITNESS SIGN ATTACHED, AND ABOUT 0.7 M  
 BJ1655'BELOW THE LEVEL OF THE HIGHWAY.  
 BJ1655

BJ1655 STATION RECOVERY (2005)  
 BJ1655  
 BJ1655'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2005 (KLF)  
 BJ1655'RECOVERED AS DESCRIBED.  
 BJ1655  
 BJ1655 STATION RECOVERY (2006)  
 BJ1655  
 BJ1655'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2006 (RLT)  
 BJ1655'RECOVERED AS DESCRIBED.  
 BJ1655  
 BJ1655 STATION RECOVERY (2009)  
 BJ1655  
 BJ1655'RECOVERY NOTE BY WOOLPERT CONSULTANTS 2009 (JPD)  
 BJ1655'RECOVERED AS DESCRIBED  
 BJ1655  
 BJ1655 STATION RECOVERY (2010)  
 BJ1655  
 BJ1655'RECOVERY NOTE BY GEOMETRICS GPS INCORPORATED 2010 (RLJ)  
 BJ1655'RECOVERED AS DESCRIBED. NOT VERY GOOD FOR GPS FOR LONG SESSIONS.  
  
 \*\*\* retrieval complete.  
 Elapsed Time = 00:00:10

```

-----
- This listing contains control for which complete digital
- data sheets were not provided. The complete data sheets were
- not provided for the reason listed below. The reason below is
- associated with a horizontal control Nonpub code shown under
- the heading 'H' and/or a vertical control Nonpub code shown under
- the heading 'v'
-
- The format of the records are as follows:
-   Pid = Station Permanent Identifier)
-   Name = Station Designation
-   Lat = Approx. Latitude (Degrees, Minutes, truncated Seconds)
-   Lon = Approx. Longitude (Degrees, Minutes, truncated Seconds)
-   O   = Horizontal Order
-   o   = Vertical Order
-   H   = Horizontal Nonpub Code
-   v   = Vertical Nonpub Code
-
-   H Nonpub HORIZONTAL CONTROL NONPUB REASON
-   -----
-   A     CORS site is not active
-   B     Station is a RBN antenna
-   C     Not a publishable datum within the state
-   D     No descriptive text available
-   L     CORS L1 Phase Center is not publishable
-   N     No geodetic control
-   O     Outside NGS publication area
-   P     Purpose of position is not for network control
-   R     Restricted position
-   T     Station is a temporary point/bench mark
-   V     Station is a VOR antenna
-   W     Weakly determined position
-   X     Surface mark reported destroyed
-   Y     Surface and underground mark reported destroyed
-
-   v Nonpub VERTICAL CONTROL NONPUB REASON
-   -----
-   A     CORS site is not active
-   D     No descriptive text available
  
```

```

- F      Bench mark not yet adjusted
- N      No geodetic control
- L      CORS L1 Phase Center is not publishable
- O      Outside NGS publication area
- R      Restricted elevation
- S      Mark is in a subsidence area
- T      Station is a temporary point/bench mark
- X      Surface mark reported destroyed
- Y      Surface and underground mark reported destroyed
- Z      Presumed destroyed
-
-
- NOTE - Stations found in this listing may still have a valid
-        datasheet produced by use of other publishable values.
-        For example, an ADJUSTED height may be non-publishable
-        but a good GPS height might be found on the datasheet.
-        This listing does not imply that values found on the datasheet
-        are restricted.  If it's on the datasheet, use it.
-
-----
Pid      Name                      Lat      Lon      Elev      O o Hv
-----
>BJ1655 E 191                    30 01 07.2/090 43 50.5      5.    ? 1 S

```

There are several new messages (paragraphs) that are new in datasheet95 V7.89.

In the CURRENT SURVEY CONTROL section of the datasheet the message:

```

<pid> ** This station is in an area of known vertical motion.  Due to the
<pid> ** variability of land subsidence, uplift, and crustal motion, NGS has
<pid> ** determined the orthometric heights for marks in these suspect
<pid> ** subsidence areas should be considered valid only at the epoch date
<pid> ** associated with the orthometric height.  These heights must always
<pid> ** be validated when used as control.  All previously superseded
<pid> ** orthometric heights are now considered suspect and are available
<pid> ** in the superseded section.  NGS does not recommend using suspect
<pid> ** or superseded heights as control.
<pid>

```

will be displayed if the control point is in the dynamic regions/subsidence areas (Table 1) and a control point is publishable in this area because it appears in either Table 3 or Table 4.

An example PID with this message on the datasheet is BH0673:

```

DATABASE = NGSIDB , PROGRAM = datasheet95, VERSION = 7.89
1      National Geodetic Survey,  Retrieval Date = JULY 10, 2012
BH0673 *****
BH0673 DESIGNATION - E 17
BH0673 PID - BH0673
BH0673 STATE/COUNTY- MS/HARRISON
BH0673 COUNTRY - US
BH0673 USGS QUAD - MC HENRY (1982)
BH0673
BH0673 *CURRENT SURVEY CONTROL
BH0673
BH0673* NAD 83(2011) POSITION- 30 38 06.68079(N) 089 08 13.81269(W) ADJUSTED
BH0673* NAD 83(2011) ELLIP HT- 18.554 (meters) (06/27/12) ADJUSTED
BH0673* NAD 83(2011) EPOCH - 2010.00
BH0673* NAVD 88 ORTHO HEIGHT - 46.907 (meters) 153.89 (feet) ADJUSTED

```



```

BH0673* NAVD 88 EPOCH - 2009.55
BH0673 **This station is located in a suspected subsidence area (see below).
BH0673
BH0673 NAD 83(2011) X - 82,713.071 (meters) COMP
BH0673 NAD 83(2011) Y - -5,492,104.648 (meters) COMP
BH0673 NAD 83(2011) Z - 3,231,168.546 (meters) COMP
BH0673 LAPLACE CORR - -1.42 (seconds) DEFLEC09
BH0673 GEOID HEIGHT - -28.37 (meters) GEOID12
BH0673 DYNAMIC HEIGHT - 46.845 (meters) 153.69 (feet) COMP
BH0673 MODELED GRAVITY - 979,314.6 (mgal) NAVD 88
BH0673
BH0673 VERT ORDER - FIRST CLASS II
BH0673
BH0673 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)
BH0673 Type Horiz Ellip Dist(km)
BH0673 -----
BH0673 NETWORK 1.73 2.23
BH0673 -----
BH0673 MEDIAN LOCAL ACCURACY AND DIST (002 points) 1.59 1.88 12.64
BH0673 -----
BH0673 NOTE: Click here for information on individual local accuracy
BH0673 values and other accuracy information.
BH0673
BH0673
BH0673.The horizontal coordinates were established by GPS observations
BH0673.and adjusted by the National Geodetic Survey in June 2012.
BH0673
BH0673.NAD 83(2011) refers to NAD 83 coordinates where the reference
BH0673.frame has been affixed to the stable North American tectonic plate. See
BH0673.www.ngs.noaa.gov/web/surveys/NA2011 for more information.
BH0673
BH0673.The horizontal coordinates are valid at the epoch date displayed above
BH0673.which is a decimal equivalence of Year/Month/Day.
BH0673
BH0673 ** This station is in an area of known vertical motion. Due to the
BH0673 ** variability of land subsidence, uplift, and crustal motion, NGS has,
BH0673 ** determined the orthometric heights for marks in these suspect
BH0673 ** subsidence areas should be considered valid only at the epoch date
BH0673 ** associated with the orthometric height. These heights must always
BH0673 ** be validated when used as control. All previously superseded
BH0673 ** orthometric heights are now considered suspect and are available
BH0673 ** in the superseded section. NGS does not recommend using suspect
BH0673 ** or superseded heights as control.

```

If the control point is in the dynamic regions/subsidence areas (Table 1) and the control point is not publishable in this area because it does not appear in either Table 3 or Table 4 but the user checked the checkbox “Included suspect heights in subsidence areas” as shown in Figure 1, then the following message is displayed:

```

<pid> ** This station is in an area of known vertical motion. If no
<pid> ** orthometric height is shown in the current survey control section,
<pid> ** all orthometric heights are considered suspect and are only
<pid> ** available in the superseded section if suspect heights were
<pid> ** requested.
<pid>

```

If the control point is in the dynamic regions/subsidence areas (Table 1) and the control point is not publishable in this area because it does not appear in either Table 3 or Table 4 and the user

does not check the checkbox “Included suspect heights in subsidence areas” as shown in Figure 1, then the following message is displayed:

```
<pid> ** This station is in an area of known vertical motion.  If an
<pid> ** orthometric height was ever established but is not available
<pid> ** in the current survey control section, the orthometric height
<pid> ** is considered suspect.  Suspect heights are available in the
<pid> ** superseded section only if requested.
<pid>
```

An example PID that produces this message on a datasheet is BH3030:

```
DATABASE = NGSIDB , PROGRAM = datasheet95, VERSION = 7.89
1      National Geodetic Survey,  Retrieval Date = JULY 10, 2012
BH3030 *****
BH3030 CBN - This is a Cooperative Base Network Control Station.
BH3030 DESIGNATION - 15 V 15
BH3030 PID - BH3030
BH3030 STATE/COUNTY- MS/HARRISON
BH3030 COUNTRY - US
BH3030 USGS QUAD - WHITE PLAINS (1982)
BH3030
BH3030 *CURRENT SURVEY CONTROL
BH3030
BH3030* NAD 83(2011) POSITION- 30 36 54.97893(N) 088 55 20.53497(W) ADJUSTED
BH3030* NAD 83(2011) ELLIP HT- -7.670 (meters) (06/27/12) ADJUSTED
BH3030* NAD 83(2011) EPOCH - 2010.00
BH3030* NAVD 88 ORTHO HEIGHT - *(meters) *(feet) NOT PUB
BH3030 **This station is located in a suspected subsidence area (see below).
BH3030
BH3030 NAD 83(2011) X - 103,322.831 (meters) COMP
BH3030 NAD 83(2011) Y - -5,492,858.047 (meters) COMP
BH3030 NAD 83(2011) Z - 3,229,255.094 (meters) COMP
BH3030 LAPLACE CORR - -0.47 (seconds) DEFLEC09
BH3030 GEOID HEIGHT - -28.54 (meters) GEOID12
BH3030
BH3030 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)
BH3030 Type Horiz Ellip Dist(km)
BH3030 -----
BH3030 NETWORK 1.26 6.94
BH3030 -----
BH3030 MEDIAN LOCAL ACCURACY AND DIST (017 points) 1.39 7.19 40.82
BH3030 -----
BH3030 NOTE: Click here for information on individual local accuracy
BH3030 values and other accuracy information.
BH3030
BH3030
BH3030.The horizontal coordinates were established by GPS observations
BH3030.and adjusted by the National Geodetic Survey in June 2012.
BH3030
BH3030.NAD 83(2011) refers to NAD 83 coordinates where the reference
BH3030.frame has been affixed to the stable North American tectonic plate. See
BH3030.www.ngs.noaa.gov/web/surveys/NA2011 for more information.
BH3030
BH3030.The horizontal coordinates are valid at the epoch date displayed above
BH3030.which is a decimal equivalence of Year/Month/Day.
BH3030
BH3030 ** This station is in an area of known vertical motion.  If an
BH3030 ** orthometric height was ever established but is not available
```

```

BH3030 ** in the current survey control section, the orthometric height
BH3030 ** is considered suspect. Suspect heights are available in the
BH3030 ** superseded section only if requested.
BH3030
BH3030.The X, Y, and Z were computed from the position and the ellipsoidal ht.
BH3030
BH3030.The Laplace correction was computed from DEFLEC09 derived deflections.
BH3030
BH3030.The ellipsoidal height was determined by GPS observations
BH3030.and is referenced to NAD 83.
BH3030
BH3030. The following values were computed from the NAD 83(2011) position.
BH3030
BH3030;
BH3030;          North          East          Units Scale Factor Converg.
BH3030;SPC MS E   -   123,628.917   291,463.018   MT   0.99995090   -0 02 43.2
BH3030;SPC MS E   -   405,605.87   956,241.58   sFT  0.99995090   -0 02 43.2
BH3030;UTM 16     -  3,388,540.345   315,729.416   MT   1.00001890   -0 58 45.4
BH3030
BH3030!          - Elev Factor x Scale Factor = Combined Factor
BH3030!SPC MS E   -   1.00000120 x 0.99995090 = 0.99995210
BH3030!UTM 16     -   1.00000120 x 1.00001890 = 1.00002010

```

If the control point was a HT\_MOD (i.e. ELEVATION.ELEV\_SOURCE="H" and ELEVATION.ELEV\_TECH="G") and the control point was also VTDP constrained (i.e. UID appears in the LA\_VTDP\_CONSTRAINT table) then the following message is displayed:

```

<pid> ** The orthometric height was determined with a Vertical Time-dependent
<pid> ** Positioning (VTDP) model and has been validated through GPS observations
<pid> ** for the epoch indicated (see www.ngs.noaa.gov/heightmod/VTDP).
<pid>

```

An example PID that produces this message on a datasheet is BH3030:

```

DATABASE = NGSIDB , PROGRAM = datasheet95, VERSION = 7.89
1 National Geodetic Survey, Retrieval Date = JULY 10, 2012
BH3030 *****
BH3030 CBN - This is a Cooperative Base Network Control Station.
BH3030 DESIGNATION - 15 V 15
BH3030 PID - BH3030
BH3030 STATE/COUNTY- MS/HARRISON
BH3030 COUNTRY - US
BH3030 USGS QUAD - WHITE PLAINS (1982)
BH3030
BH3030 *CURRENT SURVEY CONTROL
BH3030
BH3030* NAD 83(2011) POSITION- 30 36 54.97893(N) 088 55 20.53497(W) ADJUSTED
BH3030* NAD 83(2011) ELLIP HT- -7.670 (meters) (06/27/12) ADJUSTED
BH3030* NAD 83(2011) EPOCH - 2010.00
BH3030* NAVD 88 ORTHO HEIGHT - ** (meters) ** (feet) NOT PUB
BH3030 **This station is located in a suspected subsidence area (see below).
BH3030
BH3030 NAD 83(2011) X - 103,322.831 (meters) COMP
BH3030 NAD 83(2011) Y - -5,492,858.047 (meters) COMP
BH3030 NAD 83(2011) Z - 3,229,255.094 (meters) COMP
BH3030 LAPLACE CORR - -0.47 (seconds) DEFLEC09
BH3030 GEOID HEIGHT - -28.54 (meters) GEOID12
BH3030
BH3030 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)
BH3030 Type Horiz Ellip Dist(km)
BH3030 -----

```

```

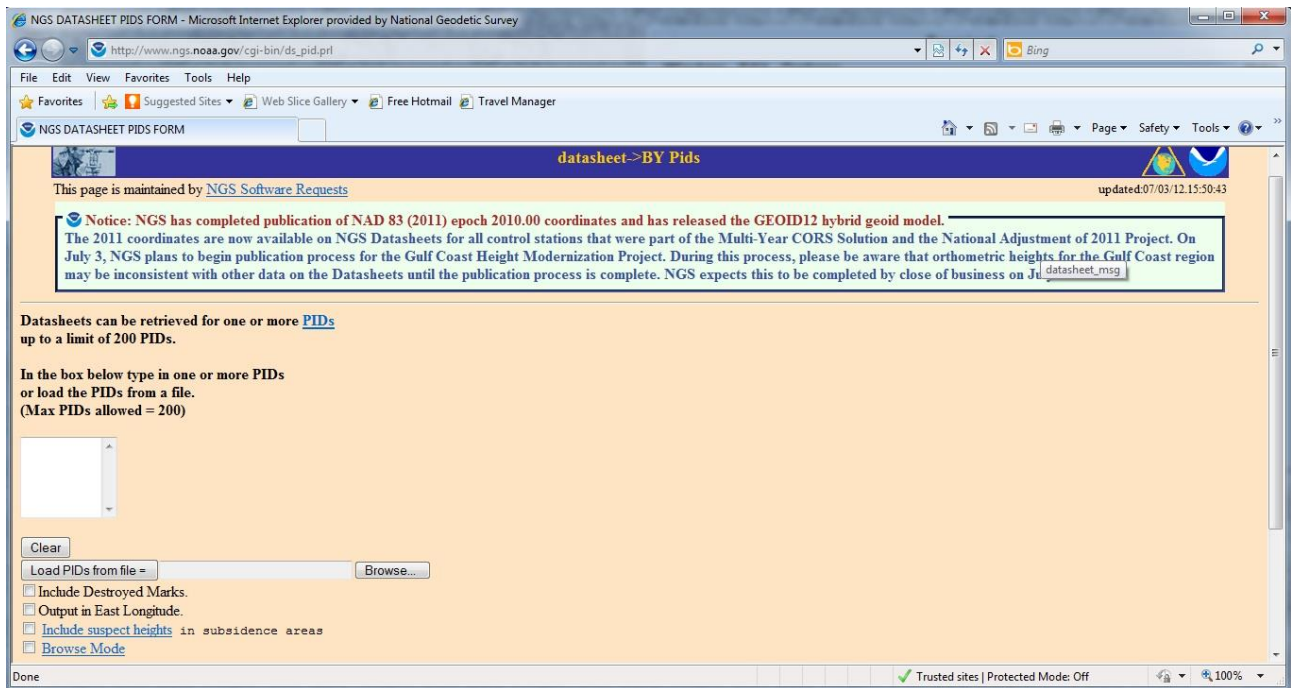
BH3030 NETWORK 1.26 6.94
BH3030 -----
BH3030 MEDIAN LOCAL ACCURACY AND DIST (017 points) 1.39 7.19 40.82
BH3030 -----
BH3030 NOTE: Click here for information on individual local accuracy
BH3030 values and other accuracy information.
BH3030
BH3030
BH3030.The horizontal coordinates were established by GPS observations
BH3030.and adjusted by the National Geodetic Survey in June 2012.
BH3030
BH3030.NAD 83(2011) refers to NAD 83 coordinates where the reference
BH3030.frame has been affixed to the stable North American tectonic plate. See
BH3030.www.ngs.noaa.gov/web/surveys/NA2011 for more information.
BH3030
BH3030.The horizontal coordinates are valid at the epoch date displayed above
BH3030.which is a decimal equivalence of Year/Month/Day.
BH3030
BH3030 ** This station is in an area of known vertical motion. If no
BH3030 ** orthometric height is shown in the current survey control section,
BH3030 ** all orthometric heights are considered suspect and are only
BH3030 ** available in the superseded section if suspect heights were
BH3030 ** requested.

```

Another change made in datasheet95 V7.89 in the SUPERSEDED SURVEY CONTROL section of the datasheet is how superseded heights get published/not published. A superseded height is publishable in this section if:

- (1) The control point is in a dynamic region/subsidence area (Table 1) and the control point is publishable in this area because it appears in either Table 3 or Table 4.
- (2) The control point is in a dynamic region/subsidence area (Table 1) and the user requested to see the suspect heights by checking the box labeled "Include suspect heights in subsidence areas" as show in Figure 1 below.

**Figure 1: Checkbox for users to select whether or not they want to see suspect heights in a subsidence area**



An example PID that generates a datasheet with publishable superseded heights because of condition #1 above is BJ3209:

```

BJ3209                                SUPERSEDED SURVEY CONTROL
BJ3209
BJ3209  ELLIP H (10/11/11)  -21.089  (m)                                GP (      ) 4 1
BJ3209  ELLIP H (03/12/08)  -21.079  (m)                                GP (      ) 3 1
BJ3209  NAD 83 (2007)- 30 18 07.53942(N)    091 50 52.80658(W)  AD (      ) 0
BJ3209  ELLIP H (02/10/07)  -21.073  (m)                                GP (      )
BJ3209  NAD 83 (1992)- 30 18 07.53934(N)    091 50 52.80638(W)  AD(2004.65) B
BJ3209  ELLIP H (06/22/05)  -21.070  (m)                                GP(2004.65) 4 1
BJ3209  ELLIP H (02/12/02)  -21.110  (m)                                GP (      ) 4 2
BJ3209  NAD 83 (1992)- 30 18 07.55868(N)    091 50 52.79831(W)  AD (      ) 1
BJ3209  NAD 83 (1992)- 30 18 07.53927(N)    091 50 52.80594(W)  AD (      ) B
BJ3209  ELLIP H (09/10/92)  -21.026  (m)                                GP (      ) 4 1
BJ3209  NAVD 88 (06/22/05)   6.32   (m)                20.7   (f)  LEVELING  3
BJ3209  NAVD 88 (08/12/94)   6.38   (m)                20.9   (f)  LEVELING  3
BJ3209  NAVD 88 (02/14/94)   6.380  (m)                20.93  (f)  ADJUSTED  1 2
BJ3209  NAVD 88 (09/10/92)   6.4    (m)                GEOID90 model used  GPS OBS
BJ3209  NGVD 29 (??/??/??)   6.378  (m)                20.93  (f)  ADJUSTED  1 2
BJ3209

```

An example PID that generates a datasheet with publishable superseded heights because of condition #2 above is BH3030 (note: checkbox labeled “Include suspect heights in subsidence area is checked by the user):

```

BH3030                                SUPERSEDED SURVEY CONTROL
BH3030

```

```

BH3030 NAD 83(2007)- 30 36 54.97870(N) 088 55 20.53572(W) AD( ) 0
BH3030 ELLIP H (02/10/07) -7.623 (m) GP( )
BH3030 ELLIP H (04/15/02) -7.652 (m) GP( ) 4 2
BH3030 NAD 83(1993)- 30 36 54.97869(N) 088 55 20.53558(W) AD( ) B
BH3030 ELLIP H (02/15/02) -7.657 (m) GP( ) 4 1
BH3030 NAVD 88 (02/15/02) 21.03 (m) 69.0 (f) LEVELING 3
BH3030 NAVD 88 (05/22/96) 21.034 (m) 69.01 (f) ADJUSTED 2 2

```

If the user did not check this checkbox, then they would not see the superseded heights in the SUPERSEDED SURVEY CONTROL section of the datasheets (see below):

```

BH3030 SUPERSEDED SURVEY CONTROL
BH3030
BH3030 NAD 83(2007)- 30 36 54.97870(N) 088 55 20.53572(W) AD( ) 0
BH3030 ELLIP H (02/10/07) -7.623 (m) GP( )
BH3030 ELLIP H (04/15/02) -7.652 (m) GP( ) 4 2
BH3030 NAD 83(1993)- 30 36 54.97869(N) 088 55 20.53558(W) AD( ) B
BH3030 ELLIP H (02/15/02) -7.657 (m) GP( ) 4 1

```

Datasheet95 V7.89 also includes a new message in the SUPERSEDED SURVEY CONTROL section of the datasheets. The below message:

```

<pid> ** No published orthometric height exists and therefore all are
<pid> ** considered suspect. This station did not take part in a recent
<pid> ** survey which established orthometric heights in the area. Therefore,
<pid> ** any previously published orthometric heights have not been validated.
<pid> ** NGS does not recommend using suspect or superseded heights as control
<pid> ** unless they can be validated or a new NAVD88 height established.
<pid> ** If this station were to take part in a new project and submitted
<pid> ** to NGS a new height could be published.

```

appears in this section whenever three conditions are true:

- (1) the control point is in a dynamic region/subsidence area (Table 1)
- (2) The control point is *not* publishable in the dynamic regions/subsidence areas by project/state combination (Table 3) or by UID (Table 4).
- (3) The user checked the checkbox in “Include suspect heights in subsidence areas” as shown in Figure 1.

An example PID that produces this message on a datasheet is BH3030 (assumes that the user checked the checkbox mentioned in Figure 1):

```

BH3030 SUPERSEDED SURVEY CONTROL
BH3030
BH3030 NAD 83(2007)- 30 36 54.97870(N) 088 55 20.53572(W) AD( ) 0
BH3030 ELLIP H (02/10/07) -7.623 (m) GP( )
BH3030 ELLIP H (04/15/02) -7.652 (m) GP( ) 4 2
BH3030 NAD 83(1993)- 30 36 54.97869(N) 088 55 20.53558(W) AD( ) B
BH3030 ELLIP H (02/15/02) -7.657 (m) GP( ) 4 1
BH3030 NAVD 88 (02/15/02) 21.03 (m) 69.0 (f) LEVELING 3
BH3030 NAVD 88 (05/22/96) 21.034 (m) 69.01 (f) ADJUSTED 2 2
BH3030
BH3030 ** No published orthometric height exists and therefore all are
BH3030 ** considered suspect. This station did not take part in a recent
BH3030 ** survey which established orthometric heights in the area. Therefore,
BH3030 ** any previously published orthometric heights have not been validated.
BH3030 ** NGS does not recommend using suspect or superseded heights as control
BH3030 ** unless they can be validated or a new NAVD88 height established.

```

BH3030 \*\* If this station were to take part in a new project and submitted  
BH3030 \*\* to NGS a new height could be published.

## Version 7.88.4 released at 3:38pm on 07/03/2012

This release incorporates the datasheet changes needed to release the new GEOID12 model on datasheets. In addition, there are some minor updates to the datasheet code to make sure that the `dtm_tag` of PA11 come out (versus 2011) on the datasheets whenever we have a passive mark in the Northern Mariana Islands (CQ), and MA11 whenever we have a passive mark in American Samoa (AS), or Hawaii (HI).

**Test 1:** Make sure that the geoid model, GEOID12, comes out properly on datasheets.

```
1      National Geodetic Survey,  Retrieval Date = JUNE 29, 2012
AC6803 *****
AC6803 HT_MOD      -   This is a Height Modernization Survey Station.
AC6803 PACS       -   This is a Primary Airport Control Station.
AC6803 DESIGNATION -   AZC A
AC6803 PID        -   AC6803
AC6803 STATE/COUNTY-   AZ/MOHAVE
AC6803 COUNTRY    -   US
AC6803 USGS QUAD  -   LOST SPRING MTN EAST (1988)
AC6803
AC6803                                *CURRENT SURVEY CONTROL
AC6803
AC6803* NAD 83(2007) POSITION- 36 57 59.55377(N) 113 00 32.22917(W) ADJUSTED
AC6803* NAD 83(2007) ELLIP HT- 1462.787 (meters) (02/10/07) ADJUSTED
AC6803* NAD 83(2007) EPOCH  - 2007.00
AC6803* NAVD 88 ORTHO HEIGHT - 1485.59 (meters) 4874.0 (feet) GPS OBS
AC6803
AC6803 NAVD 88 orthometric height was determined with geoid model GEOID09
AC6803 GEOID HEIGHT      -      -22.80 (meters) GEOID09
AC6803 GEOID HEIGHT      -      -22.80 (meters) GEOID12
AC6803 NAD 83(2007) X    - -1,994,789.496 (meters) COMP
AC6803 NAD 83(2007) Y    - -4,697,388.731 (meters) COMP
AC6803 NAD 83(2007) Z    -  3,815,306.819 (meters) COMP
AC6803 LAPLACE CORR      -           3.37 (seconds) DEFLEC09
```



**Test 2:** Make sure that if we have a mark in CONUS, Alaska, Hawaii, American Samoa, Guam, or The Northern Marianna Islands but not in within the GEOID12 model range, that we output the default geoid model, EGM08, on the datasheets.

```
DATABASE = QCTESTNGSIDB , PROGRAM = datasheet95, VERSION = 7.89
1      National Geodetic Survey,  Retrieval Date = JUNE 29, 2012
DK2827 *****
DK2827 DESIGNATION -  AGRIHAN LDGO
DK2827 PID          -  DK2827
DK2827 STATE/COUNTY-  CQ/NORTHERN ISLANDS
DK2827 COUNTRY      -  CQ
DK2827 USGS QUAD    -
DK2827
DK2827                      *CURRENT SURVEY CONTROL
DK2827
DK2827* NAD 83(2002) POSITION- 18 44 07.79870(N) 214 20 53.73575(W)  ADJUSTED
DK2827* NAD 83(2002) ELLIP HT- 48.919 (meters) (01/09/08)  ADJUSTED
DK2827* NAD 83(2002) EPOCH  - 2002.00
DK2827* NMVD03  ORTHO HEIGHT - 2.4 (meters) 8. (feet) GPS OBS
DK2827
DK2827 NMVD03 orthometric height was determined with geoid model  EGM96
DK2827 GEOID HEIGHT - 45.30 (meters) EGM96
DK2827 GEOID HEIGHT - 46.30 (meters) EGM08
DK2827 NAD 83(2002) X - -4,988,665.601 (meters) COMP
DK2827 NAD 83(2002) Y - 3,409,197.710 (meters) COMP
DK2827 NAD 83(2002) Z - 2,035,660.686 (meters) COMP
DK2827 HORZ ORDER - FIRST
DK2827 ELLP ORDER - FOURTH CLASS I
```

**Test Case 3:** Make sure that if we have a passive mark in the Northern Mariana Islands (CQ), that we have a realization of MA11 on the datasheet.

```
1      National Geodetic Survey,  Retrieval Date = JUNE 29, 2012
AA4415 *****
AA4415 FBN          -  This is a Federal Base Network Control Station.
AA4415 DESIGNATION -  SPN A
AA4415 PID          -  AA4415
AA4415 STATE/COUNTY-  CQ/SAIPAN
AA4415 COUNTRY      -  CQ
AA4415 USGS QUAD    -
AA4415
AA4415                      *CURRENT SURVEY CONTROL
AA4415
AA4415* NAD 83 (MA11) POSITION- 15 06 56.52397(N) 214 17 00.36074(W)  ADJUSTED
AA4415* NAD 83 (MA11) ELLIP HT- 117.361 (meters) (06/06/12)  ADJUSTED
AA4415* NAD 83 (MA11) EPOCH  - 2010.00
AA4415* NMVD03  ORTHO HEIGHT - 62.989 (meters) 206.66 (feet) ADJUSTED
AA4415
AA4415 NAD 83 (MA11) X - -5,088,923.250 (meters) COMP
AA4415 NAD 83 (MA11) Y - 3,469,272.397 (meters) COMP
AA4415 NAD 83 (MA11) Z - 1,652,493.406 (meters) COMP
AA4415 LAPLACE CORR - -4.57 (seconds) DEFLEC09
AA4415 GEOID HEIGHT - 54.35 (meters) GEOID12
AA4415 VERT ORDER - FIRST CLASS II
```

**Test Case 4:** Make sure that if we have a passive mark in American Samoa (AS), that we have a realization of PA11 on the datasheet.

```

1      National Geodetic Survey,   Retrieval Date = JUNE 29, 2012
AA4457 *****
AA4457 FBN          -   This is a Federal Base Network Control Station.
AA4457 DESIGNATION -   ROSE
AA4457 PID          -   AA4457
AA4457 STATE/COUNTY- AS/ROSE ISLAND
AA4457 COUNTRY     -   US
AA4457 USGS QUAD   -
AA4457
AA4457                                *CURRENT SURVEY CONTROL
AA4457
AA4457* NAD 83 (PA11) POSITION- 14 32 52.97424(S) 168 08 43.80253(W) ADJUSTED
AA4457* NAD 83 (PA11) ELLIP HT- 25.595 (meters) (06/06/12) ADJUSTED
AA4457* NAD 83 (PA11) EPOCH - 2010.00
AA4457* LMSL ORTHO HEIGHT - 2.2 (meters) 7. (feet) GPS OBS
AA4457
AA4457 LMSL orthometric height was determined with geoid model OSU 91A
AA4457 GEOID HEIGHT - 20.75 (meters) OSU 91A
AA4457 GEOID HEIGHT - 22.94 (meters) GEOID12
AA4457 NAD 83 (PA11) X - -6,043,268.941 (meters) COMP
AA4457 NAD 83 (PA11) Y - -1,268,505.041 (meters) COMP
AA4457 NAD 83 (PA11) Z - -1,591,753.094 (meters) COMP
AA4457 LAPLACE CORR - 2.38 (seconds) DEFLEC09

```

**Test Case 5:** Make sure that if we have a passive mark in Hawaii (HI), that we have a realization of PA11 on the datasheet.

```

1      National Geodetic Survey,   Retrieval Date = JUNE 29, 2012
AA3587 *****
AA3587 FBN          -   This is a Federal Base Network Control Station.
AA3587 DESIGNATION -   1311 NCMN C
AA3587 PID          -   AA3587
AA3587 STATE/COUNTY- HI/KAUAI
AA3587 COUNTRY     -   US
AA3587 USGS QUAD   -   MAKAHA POINT (1983)
AA3587
AA3587                                *CURRENT SURVEY CONTROL
AA3587
AA3587* NAD 83 (PA11) POSITION- 22 07 33.05007(N) 159 39 54.88060(W) ADJUSTED
AA3587* NAD 83 (PA11) ELLIP HT- 1155.422 (meters) (06/06/12) ADJUSTED
AA3587* NAD 83 (PA11) EPOCH - 2010.00
AA3587* LMSL ORTHO HEIGHT - 1138.1 (meters) 3734. (feet) GPS OBS
AA3587
AA3587 LMSL orthometric height was determined with geoid model GEOID93
AA3587 GEOID HEIGHT - 17.55 (meters) GEOID93
AA3587 GEOID HEIGHT - 16.77 (meters) GEOID12
AA3587 NAD 83 (PA11) X - -5,543,855.433 (meters) COMP
AA3587 NAD 83 (PA11) Y - -2,054,558.291 (meters) COMP
AA3587 NAD 83 (PA11) Z - 2,387,762.831 (meters) COMP
AA3587 LAPLACE CORR - 6.08 (seconds) DEFLEC09

```

**Test Case 6:** Make sure EGM08 is still the latest GEOID model for scan\_idb (internal NGS) datasheets for the world outside of the US territories/states, Caribbean, and Mexico. These foreign datasheets are not published for the public, hence you have to run datasheets with the scan\_idb option. Use a France datasheet for the example below.

```

1      National Geodetic Survey,   Retrieval Date = JUNE 29, 2012
BF4526 *****
BF4526 DESIGNATION -   BASE
BF4526 PID          -   BF4526
BF4526 STATE/COUNTY- FR/
BF4526 COUNTRY      -   HO
BF4526 USGS QUAD    -
BF4526
BF4526                                *CURRENT SURVEY CONTROL
BF4526
BF4526* NAD 83(2001) POSITION- 14 04 27.48061(N) 087 12 08.91145(W) ADJUSTED
BF4526* NAD 83(2001) ELLIP HT- 973.013 (meters) (05/23/02) ADJUSTED
BF4526* LMSL ORTHO HEIGHT - ** (meters) ** (feet)
BF4526
BF4526 NAD 83(2001) X - 302,056.428 (meters) COMP
BF4526 NAD 83(2001) Y - -6,181,466.113 (meters) COMP
BF4526 NAD 83(2001) Z - 1,541,193.513 (meters) COMP
BF4526 GEOID HEIGHT - 5.38 (meters) EGM08
BF4526 HORZ ORDER - A
BF4526 ELLP ORDER - FOURTH CLASS I

```

## Version 7.88.3 released at 9:49am on 06/06/2012

This release makes EGM08 as the primary GEOID model for the Caribbean, Mexico, and the non-US World. **There were no changes in the deflections that coincided with EGM08 at this time.**

The datasheet that stirred this request was for AB9264.

AB9264	LMSL orthometric height was determined with geoid model		EGM96
AB9264	GEOID HEIGHT	-26.08 (meters)	EGM96
AB9264	GEOID HEIGHT	-24.15 (meters)	CARIB97
AB9264	NAD 83(2007) X	-2,238,773.938 (meters)	COMP
AB9264	NAD 83(2007) Y	-5,819,521.182 (meters)	COMP
AB9264	NAD 83(2007) Z	-1,337,705.718 (meters)	COMP
AB9264	LAPLACE CORR	-0.62 (seconds)	DCAR97

Now that EGM08 is in place with this release one will see the following datasheet for AB9264:

AB9264	LMSL orthometric height was determined with geoid model		EGM96
AB9264	GEOID HEIGHT	-26.08 (meters)	EGM96
AB9264	GEOID HEIGHT	-24.40 (meters)	EGM08
AB9264	NAD 83(2007) X	-2,238,773.938 (meters)	COMP
AB9264	NAD 83(2007) Y	-5,819,521.182 (meters)	COMP
AB9264	NAD 83(2007) Z	-1,337,705.718 (meters)	COMP
AB9264	LAPLACE CORR	-0.62 (seconds)	DCAR97

## Version 7.88.2 released at 9:35am on 06/05/2012

This release simply removes the line below highlighted in red for any mark that has ITRF positions.

```
AF9520 *****
AF9520 CORS - This is a GPS Continuously Operating Reference Station.
AF9520 DESIGNATION - WESTFORD CORS ARP
AF9520 CORS_ID - WES2
AF9520 PID - AF9520
AF9520 STATE/COUNTY- MA/MIDDLESEX
AF9520 COUNTRY - US
AF9520 USGS QUAD -
AF9520
AF9520 *CURRENT SURVEY CONTROL
AF9520
AF9520* NAD 83(CORS) POSITION- 42 36 47.97506(N) 071 29 35.96894(W) ADJUSTED
AF9520* NAD 83(CORS) ELLIP HT- 86.217 (meters) (09/??/08) ADJUSTED
AF9520* NAD 83(CORS) EPOCH - 2002.00
AF9520* NAVD 88 ORTHO HEIGHT - ** (meters) ** (feet)
AF9520
AF9520 NAD 83(CORS) X - 1,492,233.923 (meters) COMP
AF9520 NAD 83(CORS) Y - -4,458,090.929 (meters) COMP
AF9520 NAD 83(CORS) Z - 4,296,046.095 (meters) COMP
AF9520 GEOID HEIGHT - -27.81 (meters) GEOID09
AF9520 HORZ ORDER - SPECIAL (CORS)
AF9520 ELLP ORDER - SPECIAL (CORS)
AF9520
AF9520 ITRF positions are available for this station.
AF9520
```

This request also corrects the SPC codes(s) for the Islands off the coast of California in LA county.

```

DATABASE = NGSIDB , PROGRAM = datasheet95, VERSION = 7.88.1
1      National Geodetic Survey,  Retrieval Date = MAY  4, 2012
TZ1896 *****
TZ1896 DESIGNATION - GRAY RESET
TZ1896 PID          - TZ1896
TZ1896 STATE/COUNTY- CA/LOS ANGELES
TZ1896 COUNTRY      - US
TZ1896 USGS QUAD    - SAN CLEMENTE ISLAND SOUTH (1980)
TZ1896
TZ1896                      *CURRENT SURVEY CONTROL
TZ1896
TZ1896* NAD 83(1992) POSITION- 32 51 58.03827(N) 118 25 50.91215(W)  ADJUSTED
TZ1896* NAD 83(1992) EPOCH   - 1991.35
TZ1896* NAVD 88 ORTHO HEIGHT - 513.      (meters)    1683.      (feet)  SCALED
TZ1896
TZ1896 NAVD 88 orthometric height was determined with geoid model  RAPP078
TZ1896 GEOID HEIGHT      -      -36.78 (meters)      RAPP078
TZ1896 GEOID HEIGHT      -      -37.05 (meters)      GEOID09
TZ1896 LAPLACE CORR      -      -4.28 (seconds)      DEFLEC09
TZ1896 HORZ ORDER        - SECOND
TZ1896
TZ1896.The horizontal coordinates were established by classical geodetic methods
TZ1896.and adjusted by the National Geodetic Survey in June 1996.
TZ1896.
TZ1896.The orthometric height was scaled from a topographic map.
TZ1896
TZ1896.The Laplace correction was computed from DEFLEC09 derived deflections.
TZ1896
TZ1896. The following values were computed from the NAD 83(1992) position.
TZ1896
TZ1896;
TZ1896;          North          East          Units Scale Factor Converg.
TZ1896;SPC CA 5  -  429,763.530 1,959,660.527  MT  1.00045692  -0 14 44.0
TZ1896;SPC CA 5  -  1,409,982.51 6,429,319.58  sFT 1.00045692  -0 14 44.0
TZ1896;UTM 11    -  3,637,352.543 366,132.531  MT  0.99982097  -0 46 35.7
TZ1896
TZ1896!          - Elev Factor x Scale Factor = Combined Factor
TZ1896!SPC CA 5  -  0.99992532 x 1.00045692 = 1.00038221
TZ1896!UTM 11    -  0.99992532 x 0.99982097 = 0.99974631

```

This mark is in the Channel Islands in the county of LA in the state of California. Its SPC zone should be 6 and not 5. This is a special case scenario.

Finally, this release resolves the issue reported about the geoid height model, RAPP078, coming out on the two lines highlighted in red below.

```

DATABASE = NGSIDB , PROGRAM = datasheet95, VERSION = 7.88.1
1      National Geodetic Survey,  Retrieval Date = MAY  4, 2012
KT1859 *****
KT1859 DESIGNATION -  QUEEN
KT1859 PID          -  KT1859
KT1859 STATE/COUNTY-  CA/COLUSA
KT1859 COUNTRY      -  US
KT1859 USGS QUAD    -  WILLIAMS (1994)
KT1859
KT1859                      *CURRENT SURVEY CONTROL
KT1859
KT1859* NAD 83(1992) POSITION- 39 09 09.46601(N) 122 13 45.34394(W)  ADJUSTED
KT1859* NAD 83(1992) EPOCH  - 1991.35
KT1859* NAVD 88 ORTHO HEIGHT - 37.5      (meters)      123.      (feet) VERTCON
KT1859
KT1859 NAVD 88 orthometric height was determined with geoid model      RAPP078
KT1859 GEOID HEIGHT      -      -30.08 (meters)      RAPP078
KT1859 GEOID HEIGHT      -      -29.97 (meters)      GEOID09
KT1859 LAPLACE CORR      -      -0.67 (seconds)      DEFLEC09
KT1859 HORZ ORDER        -  SECOND
KT1859
KT1859.The horizontal coordinates were established by classical geodetic methods
KT1859.and adjusted by the National Geodetic Survey in March 1994.
KT1859.
KT1859.The NAVD 88 height was computed by applying the VERTCON shift value to
KT1859.the NGVD 29 height (displayed under SUPERSEDED SURVEY CONTROL.)
KT1859
KT1859.The Laplace correction was computed from DEFLEC09 derived deflections.
KT1859
KT1859. The following values were computed from the NAD 83(1992) position.
KT1859
KT1859;
KT1859;          North          East          Units Scale Factor Converg.
KT1859;SPC CA 2  -  664,975.040 1,980,184.276  MT  0.99991537  -0 08 40.4
KT1859;SPC CA 2  -  2,181,672.28 6,496,654.58  sFT 0.99991537  -0 08 40.4
KT1859;UTM 10   -  4,333,997.083 566,596.326  MT  0.99965461  +0 29 11.9
KT1859
KT1859!          -  Elev Factor x Scale Factor = Combined Factor
KT1859!SPC CA 2  -  0.99999882 x 0.99991537 = 0.99991419
KT1859!UTM 10   -  0.99999882 x 0.99965461 = 0.99965344
KT1859
KT1859:          Primary Azimuth Mark          Grid Az
KT1859:SPC CA 2  -  QUEEN AZ MK          273 42 00.4
KT1859:UTM 10   -  QUEEN AZ MK          273 04 08.1
KT1859
KT1859|-----|
KT1859| PID      Reference Object          Distance          Geod. Az |
KT1859|          |          |          |          |          |
KT1859|          |          |          |          |          |
KT1859| DB6562 QUEEN RM 1          22.336 METERS  04339 |
KT1859| DB6561 QUEEN AZ MK          |          2733320.0 |
KT1859| DB6563 QUEEN RM 2          18.564 METERS  33120 |
KT1859|-----|
KT1859
KT1859                      SUPERSEDED SURVEY CONTROL
KT1859
KT1859 NAD 83(1986)- 39 09 09.45928(N)      122 13 45.33661(W) AD(1984.00) 2
KT1859 NAD 27      - 39 09 09.85283(N)      122 13 41.42228(W) AD(      ) 2
KT1859 NGVD 29 (07/19/86) 36.7      (m)          120.      (f) VERT ANG
KT1859

```

KT1859.Superseded values are not recommended for survey control.  
KT1859.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.  
KT1859.See file dsdata.txt to determine how the superseded data were derived.

KT1859

KT1859\_U.S. NATIONAL GRID SPATIAL ADDRESS: 10SEJ6659633997(NAD 83)

KT1859

KT1859\_MARKER: Z = SEE DESCRIPTION

KT1859\_SETTING: 0 = UNSPECIFIED SETTING

KT1859

KT1859	HISTORY	- Date	Condition	Report By
KT1859	HISTORY	- 1972	MONUMENTED	CADT
KT1859	HISTORY	- 20120210	MARK NOT FOUND	CADT

KT1859

KT1859 STATION DESCRIPTION

KT1859

KT1859'DESCRIBED BY CALTRANS 1972 (MLS)

KT1859'THE STATION IS LOCATED ABOUT 4.4 MILES WEST OF WILLIAMS AND

KT1859'ABOUT 9.0 MILES SOUTH OF MAXWELL ALONG HIGHWAY 20.

KT1859'

KT1859'TO REACH STATION FROM THE U.S. POST OFFICE IN WILLIAMS, GO WEST  
KT1859'ON E STREET 1.2 MILES TO HIGHWAY 20, TURN LEFT ON HIGHWAY 20 AND  
KT1859'GO 3.0 MILES TO DRIVEWAY ON LEFT, TURN LEFT ON DRIVEWAY AND GO  
KT1859'ABOUT 50 FEET TO STATION ON RIGHT.

KT1859'

KT1859'STATION MARK IS A DIVISION OF HIGHWAYS BRASS DISK STAMPED QUEEN  
KT1859'1972, SET IN CONCRETE POST PROJECTING 0.3 FOOT AND 5.5 FEET WEST  
KT1859'OF FENCE LINE, 51.2 FEET SOUTH OF FENCE LINE, 93.4 FEET SOUTH OF  
KT1859'THE CENTER LINE OF HIGHWAY 20.

KT1859'

KT1859'AN UNDERGROUND MARK IDENTICAL WITH SURFACE DISK WAS SET IN  
KT1859'CONCRETE 3.0 FEET BELOW GROUND.

KT1859'

KT1859'REFERENCE MARK 1 IS A DIVISION OF HIGHWAYS BRASS DISK STAMPED  
KT1859'QUEEN RM NO. 1 1972, SET IN CONCRETE POST PROJECTING 0.2 FOOT AND  
KT1859'0.3 FOOT LOWER THAN STATION, 1.5 FEET NORTH OF FENCE LINE, 2.3  
KT1859'FEET WEST OF TELEPHONE POLE, 19.7 FEET EAST OF FENCE CORNER, 39.8  
KT1859'FEET SOUTH OF THE CENTER LINE OF HIGHWAY 20.

KT1859'

KT1859'REFERENCE MARK 2 IS A DIVISION OF HIGHWAYS BRASS DISK STAMPED  
KT1859'QUEEN RM NO. 2 1972, SET IN CONCRETE POST PROJECTING 0.2 FOOT  
KT1859'AND 0.2 FOOT LOWER THAN STATION, 1.3 FEET NORTH OF FENCE LINE,  
KT1859'33.8 FEET WEST OF FENCE CORNER, 40.0 FEET SOUTH OF THE CENTER LINE  
KT1859'OF HIGHWAY 20.

KT1859'

KT1859'AZIMUTH MARK IS A DIVISION OF HIGHWAYS BRASS DISK STAMPED QUEEN  
KT1859'AZIMUTH MARK 1972, SET IN CONCRETE POST PROJECTING 0.2 FOOT AND  
KT1859'4.5 FEET EAST OF POWER POLE, 32.6 FEET EAST OF GRAVELED FIELD  
KT1859'ROAD, 38.2 FEET NORTH OF THE CENTER LINE OF HIGHWAY 20.

KT1859'

KT1859'TO REACH THE AZIMUTH MARK FROM STATION, CONTINUE WEST ON HIGHWAY  
KT1859'20 0.5 MILE TO AZIMUTH MARK ON RIGHT.

KT1859'

KT1859'HEIGHT OF LIGHT ABOVE STATION MARK 3.67 METERS.

KT1859

KT1859 STATION RECOVERY (2012)

KT1859

KT1859'RECOVERY NOTE BY CALTRANS 2012 (GGC)

KT1859'MARK NOT FOUND.

\*\*\* retrieval complete.

Elapsed Time = 00:00:02



## Version 7.88.1 released at 12:02pm on 05/04/2012

This minor release corrected the datasheet95 scan\_idb by\_stream command line option so that in-house NGS users could extract multiple datasheets within a single command. The program was giving zero results on this option.

Test Command: datasheet95 scan\_idb by\_stream X-0-0-0-0 "AC6803+UA0024"

```
1      National Geodetic Survey,      Retrieval Date = MAY  4, 2012
AC6803 *****
AC6803 HT_MOD      -   This is a Height Modernization Survey Station.
AC6803 PACS       -   This is a Primary Airport Control Station.
AC6803 DESIGNATION -   AZC A
AC6803 PID        -   AC6803
AC6803 STATE/COUNTY-  AZ/MOHAVE
AC6803 COUNTRY    -   US
AC6803 USGS QUAD   -   LOST SPRING MTN EAST (1988)
AC6803
AC6803                      *CURRENT SURVEY CONTROL
AC6803
AC6803* NAD 83(2007) POSITION- 36 57 59.55377(N) 113 00 32.22917(W) ADJUSTED
AC6803* NAD 83(2007) ELLIP HT- 1462.787 (meters) (02/10/07) ADJUSTED
AC6803* NAD 83(2007) EPOCH   - 2007.00
AC6803* NAVD 88 ORTHO HEIGHT - 1485.59 (meters) 4874.0 (feet) GPS OBS
AC6803
AC6803 GEOID HEIGHT      -      -22.80 (meters) GEOID09
AC6803 NAD 83(2007) X    - -1,994,789.496 (meters) COMP
AC6803 NAD 83(2007) Y    - -4,697,388.731 (meters) COMP
AC6803 NAD 83(2007) Z    -  3,815,306.819 (meters) COMP
AC6803 LAPLACE CORR     -           3.37 (seconds) DEFLEC09
AC6803
AC6803 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)
AC6803 Type                                     Horiz Ellip Dist(km)
AC6803 -----
AC6803 NETWORK                                     0.85  1.37
AC6803 -----
AC6803 MEDIAN LOCAL ACCURACY AND DIST (008 points) 0.83  1.41  44.46
AC6803 -----
AC6803 NOTE: Click here for information on individual local accuracy
AC6803 values and other accuracy information.
AC6803
AC6803
AC6803.This mark is at Colorado City Municipal Airport (AZC)
AC6803
AC6803.The horizontal coordinates were established by GPS observations
AC6803.and adjusted by the National Geodetic Survey in February 2007.
AC6803
AC6803.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
AC6803.See www.ngs.noaa.gov/web/surveys/NSRS2007 for more information.
AC6803
AC6803.The horizontal coordinates are valid at the epoch date displayed above
AC6803.which is a decimal equivalence of Year/Month/Day.
AC6803
AC6803.The orthometric height was determined by GPS observations and a
AC6803.high-resolution geoid model.
AC6803
AC6803.GPS derived orthometric heights for airport stations designated as
AC6803.PACS or SACS are published to 2 decimal places. This maintains
AC6803.centimeter relative accuracy between the PACS and SACS. It does
AC6803.not indicate centimeter accuracy relative to other marks which are
```

AC6803.part of the NAVD 88 network.  
AC6803  
AC6803.The X, Y, and Z were computed from the position and the ellipsoidal ht.  
AC6803  
AC6803.The Laplace correction was computed from DEFLEC09 derived deflections.  
AC6803  
AC6803.The ellipsoidal height was determined by GPS observations  
AC6803.and is referenced to NAD 83.  
AC6803  
AC6803. The following values were computed from the NAD 83(2007) position.  
AC6803  
AC6803;  
AC6803;SPC AZ W - North East Units Scale Factor Converg.  
AC6803;SPC AZ W - 662,036.150 279,346.877 MT 0.99998696 +0 26 44.3  
AC6803;SPC AZ W - 2,172,034.61 916,492.38 iFT 0.99998696 +0 26 44.3  
AC6803;UTM 12 - 4,093,046.689 321,162.779 MT 0.99999401 -1 12 30.2  
AC6803  
AC6803!  
AC6803!SPC AZ W - Elev Factor x Scale Factor = Combined Factor  
AC6803!SPC AZ W - 0.99977049 x 0.99998696 = 0.99975746  
AC6803!UTM 12 - 0.99977049 x 0.99999401 = 0.99976451  
AC6803  
AC6803|-----|  
AC6803| PID Reference Object Distance Geod. Az |  
AC6803| dddmmss.s |  
AC6803| AE3181 AZC CL END RWY 20 68.963 METERS 15655 |  
AC6803|-----|  
AC6803  
AC6803 SUPERSEDED SURVEY CONTROL  
AC6803  
AC6803 ELLIP H (01/12/01) 1462.805 (m) GP( ) 4 1  
AC6803 NAD 83(1992)- 36 57 59.55345(N) 113 00 32.22767(W) AD( ) B  
AC6803 ELLIP H (03/14/97) 1462.873 (m) GP( ) 3 1  
AC6803 NAVD 88 (02/17/09) 1485.56 (m) GEOID03 model used GPS OBS  
AC6803 NAVD 88 (03/14/97) 1485.51 (m) GEOID96 model used GPS OBS  
AC6803  
AC6803.Superseded values are not recommended for survey control.  
AC6803.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.  
AC6803.See file dsdata.txt to determine how the superseded data were derived.  
AC6803  
AC6803\_U.S. NATIONAL GRID SPATIAL ADDRESS: 12SUF2116293046(NAD 83)  
AC6803  
AC6803\_MARKER: F = FLANGE-ENCASED ROD  
AC6803\_SETTING: 49 = STAINLESS STEEL ROD W/O SLEEVE (10 FT.+)  
AC6803\_STAMPING: AZC A 1996  
AC6803\_MARK LOGO: NGS  
AC6803\_PROJECTION: FLUSH  
AC6803\_MAGNETIC: I = MARKER IS A STEEL ROD  
AC6803\_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL  
AC6803\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR  
AC6803+SATELLITE: SATELLITE OBSERVATIONS - September 10, 2008  
AC6803\_ROD/PIPE-DEPTH: 20.6 meters  
AC6803  
AC6803 HISTORY - Date Condition Report By  
AC6803 HISTORY - 1996 MONUMENTED CHANCE  
AC6803 HISTORY - 19970506 GOOD NGS  
AC6803 HISTORY - 20080910 GOOD GEOANA  
AC6803  
AC6803 STATION DESCRIPTION  
AC6803  
AC6803'DESCRIBED BY JE CHANCE AND ASSOCIATES 1996 (SDC)  
AC6803'THE STATION IS LOCATED APPROXIMATELY 6.5 KM (4.05 MI) SOUTHWEST OF THE  
AC6803'TOWN OF COLORADO CITY AT THE COLORADO CITY MUNICIPAL AIRPORT.  
AC6803'OWNERSHIP -- TOWN OF COLORADO CITY, LADELL BISTLINE - AIRPORT MANAGER,  
AC6803'PHONE (520) 875-2308 TO REACH THE STATION FROM MILEPOST 1.4 OF STATE

AC6803'HIGHWAY 389 NEAR COLORADO CITY AT THE JUNCTION WITH A PAVED ROAD,  
AC6803'PROCEED WEST ON THE PAVED ROAD FOR 1.3 KM (0.80 MI) , SOUTH FOR 2.4 KM  
AC6803'(1.50 MI) , THEN WEST FOR 0.8 KM (0.50 MI) TO THE AIRPORT TERMINAL AND  
AC6803'GATE. PROCEED THROUGH GATE AND CONTINUE WESTERLY ACROSS APRON AND  
AC6803'TAXIWAY FOR 0.15 KM (0.10 MI) TO THE JUNCTION WITH RUNWAY 2-20. TURN  
AC6803'RIGHT AND GO NORTH-NORTHEAST ALONG RUNWAY 2-20 FOR 0.65 KM (0.40 MI)  
AC6803'TO THE END OF THE RUNWAY AND THE STATION ON THE LEFT THE STATION IS  
AC6803'THE TOP CENTER OF A STAINLESS STEEL ROD DRIVEN TO REFUSAL AT A DEPTH  
AC6803'OF 20.60 M (67.59 FT) RECESSED 12 CM BELOW GROUND LEVEL IN A 2.5 CM  
AC6803'DIA GREASE FILLED FINNED PLASTIC SLEEVE 90 CM LONG ENCASED IN A 12.7  
AC6803'CM DIA PVC PIPE WITH NGS LOGO CAP SURROUNDED BY CONCRETE. THE LOGO  
AC6803'CAP AND CONCRETE ARE SET FLUSH WITH THE GROUND. THE STATION IS LOCATED  
AC6803'7.30 M (23.95 FT) SOUTHEAST OF A FENCE, 62.00 M (203.41 FT)  
AC6803'NORTH-NORTHWEST OF THE NORTHWEST CORNER OF THE APPROACH END OF RUNWAY  
AC6803'20, 57.60 M (188.98 FT) NORTH-NORTHWEST OF THE NORTHWESTERNMOST  
AC6803'THRESHOLD LIGHT, 43.85 M (143.86 FT) NORTHEAST OF A STEEL FENCE POST  
AC6803'SUPPORT THAT IS IN LINE WITH A NORTHWESTERLY EXTENSION OF THE NORTHERN  
AC6803'EDGE OF RUNWAY 20, 109.2 M (358.3 FT) SOUTH-SOUTHWEST OF THE  
AC6803'NORTHWESTERN FENCE CORNER, AND 0.9 M (3.0 FT) SOUTHEAST OF A CARSONITE  
AC6803'WITNESS POST THE STATION IS DESIGNATED AS A PRIMARY AIRPORT CONTROL  
AC6803'STATION (PACS) - ARIZONA ANA SURVEYS 1996

AC6803

STATION RECOVERY (1997)

AC6803

AC6803

AC6803'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1997 (AJL)  
AC6803'THE STATION IS LOCATED ABOUT 5.0 KM (3.10 MI) SOUTHWEST OF COLORADO  
AC6803'CITY AT THE COLORADO CITY MUNICIPAL AIRPORT, ALONG THE WEST SIDE OF  
AC6803'AND NEAR THE NORTH END OF RUNWAY 2-20. OWNERSHIP--CITY OF COLORADO  
AC6803'CITY, LADELL BISTLINE, AIRPORT MANAGER, BOX 70, COLORADO CITY, AZ  
AC6803'86021. THE PHONE NUMBER IS (520) 875-2646. TO REACH THE STATION FROM  
AC6803'THE JUNCTION OF STATE HIGHWAY 389 AND THE ARIZONA/UTAH STATE LINE, GO  
AC6803'SOUTHEASTERLY FOR 2.2 KM (1.35 MI) ON THE HIGHWAY TO A PAVED ROAD  
AC6803'RIGHT. TURN RIGHT AND GO WEST THEN SOUTH ON MOHAVE AVENUE THEN  
AC6803'REDWOOD STREET (THERE ARE NO STREET SIGNS) FOR 3.7 KM (2.30 MI) TO A  
AC6803'PAVED ROAD RIGHT. TURN RIGHT AND GO WEST THEN SOUTH FOR 0.9 KM (0.55  
AC6803'MI) ON AIRPORT AVENUE (THERE IS NO STREET SIGN) TO A LOCKED GATE AND  
AC6803'THE AIRPORT ADMINISTRATIVE BUILDING (UNATTENDED) ON THE RIGHT. PASS  
AC6803'THROUGH THE LOCKED GATE AND GO NORTHWEST FOR 0.2 KM (0.10 MI) ACROSS A  
AC6803'RAMP AND ALONG A TAXIWAY TO RUNWAY 2-20. TURN RIGHT AND GO NORTHEAST  
AC6803'FOR 0.6 KM (0.35 MI) ALONG THE RUNWAY TO THE STATION ON THE LEFT JUST  
AC6803'PAST RUNWAY END 20. THE STATION IS LOCATED 61.9 M (203.1 FT)  
AC6803'NORTH-NORTHWEST OF THE NORTHWEST CORNER OF THE RUNWAY, 53.6 M (175.9  
AC6803'FT) NORTHWEST OF THE EXTENDED CENTER OF THE RUNWAY, 7.3 M (24.0 FT)  
AC6803'SOUTHEAST OF A FENCE LINE, 0.9 M (3.0 FT) SOUTHEAST OF A CARSONITE  
AC6803'WITNESS POST, AND THE MONUMENT IS FLUSH WITH THE GROUND SURFACE.  
AC6803'NOTE--AIRPORT IS UNATTENDED. A PHILLIPS SCREW DRIVER IS REQUIRED TO  
AC6803'ACCESS THE DATUM POINT THROUGH THE LOGO CAP. THIS STATION SELECTED AS  
AC6803'THE PACS FOR THIS AIRPORT.

AC6803

STATION RECOVERY (2008)

AC6803

AC6803

AC6803'RECOVERY NOTE BY GEODETIC ANALYSIS LLC 2008 (MLD)  
AC6803'RECOVERED AS DESCRIBED. ADDITIONAL INFORMATION FOLLOWS.  
AC6803'

AC6803'OWNERSHIP--TOWN OF COLORADO CITY P.O. BOX 70, COLORADO CITY, ARIZONA  
AC6803'86021, PHONE 928-875-2646.

AC6803'

AC6803'NOTE--ACCESS TO AIRPORT IS THROUGH AN ELECTRIC GATE THAT REQUIRES A  
AC6803'SECURITY CODE TO OPEN. AIRPORT MANAGER IS LADELL BISTLINE, BOX 726,  
AC6803'COLORADO CITY, ARIZONA 86021, PHONE 928-875-2871. AIRPORT MANAGER  
AC6803'HOME PHONE IS 928-875-2308 AND CELL PHONE IS 435-616-2871.

AC6803'

AC6803'NOTE--A DIMPLE WAS DRILLED INTO THE TOP OF THE ROD TO ACCEPT THE TIP

AC6803'OF A FIXED HEIGHT POLE.

1 National Geodetic Survey, Retrieval Date = MAY 4, 2012

UA0024 \*\*\*\*\*

UA0024 FBN - This is a Federal Base Network Control Station.

UA0024 DESIGNATION - JEFFERSON PIER

UA0024 PID - UA0024

UA0024 STATE/COUNTY- DC/DISTRICT OF COLUMBIA

UA0024 COUNTRY - US

UA0024 USGS QUAD - WASHINGTON WEST (1983)

UA0024

UA0024 \*CURRENT SURVEY CONTROL

UA0024

UA0024*	NAD 83(2007) POSITION-	38 53 23.29463(N)	077 02 11.56258(W)	ADJUSTED
UA0024*	NAD 83(2007) ELLIP HT-	-25.045 (meters)	(02/10/07)	ADJUSTED
UA0024*	NAD 83(2007) EPOCH	- 2002.00		
UA0024*	NAVD 88 ORTHO HEIGHT -	7.020 (meters)	23.03 (feet)	ADJUSTED
UA0024	NAD 83(2007) X -	1,115,141.472 (meters)		COMP
UA0024	NAD 83(2007) Y -	-4,844,303.306 (meters)		COMP
UA0024	NAD 83(2007) Z -	3,982,786.811 (meters)		COMP
UA0024	LAPLACE CORR -	-2.52 (seconds)		DEFLEC09
UA0024	GEOID HEIGHT -	-32.06 (meters)		GEOID09
UA0024	DYNAMIC HEIGHT -	7.016 (meters)	23.02 (feet)	COMP
UA0024	MODELED GRAVITY -	980,097.6 (mgal)		NAVD 88

UA0024

UA0024 VERT ORDER - FIRST CLASS II

UA0024

UA0024 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)

UA0024 Type	Horiz	Ellip	Dist(km)
UA0024 NETWORK	0.36	0.78	
UA0024 MEDIAN LOCAL ACCURACY AND DIST (109 points)	0.64	1.29	47.88

UA0024

UA0024 NOTE: Click here for information on individual local accuracy values and other accuracy information.

UA0024

UA0024

UA0024.The horizontal coordinates were established by GPS observations and adjusted by the National Geodetic Survey in February 2007.

UA0024

UA0024.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).

UA0024.See [www.ngs.noaa.gov/web/surveys/NSRS2007](http://www.ngs.noaa.gov/web/surveys/NSRS2007) for more information.

UA0024

UA0024.The horizontal coordinates are valid at the epoch date displayed above which is a decimal equivalence of Year/Month/Day.

UA0024

UA0024.The orthometric height was determined by differential leveling and adjusted in April 2010.

UA0024

UA0024.Photographs are available for this station.

UA0024

UA0024.The X, Y, and Z were computed from the position and the ellipsoidal ht.

UA0024

UA0024.The Laplace correction was computed from DEFLEC09 derived deflections.

UA0024

UA0024.The ellipsoidal height was determined by GPS observations and is referenced to NAD 83.

UA0024

UA0024.The dynamic height is computed by dividing the NAVD 88 geopotential number by the normal gravity value computed on the Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45 degrees latitude (g = 980.6199 gals.).

UA0024  
 UA0024.The modeled gravity was interpolated from observed gravity values.  
 UA0024  
 UA0024. The following values were computed from the NAD 83(2007) position.  
 UA0024  
 UA0024;  

	North	East	Units	Scale Factor	Converg.
UA0024;SPC MD	- 135,774.106	396,829.478	MT	0.99994988	-0 01 22.6
UA0024;SPC MD	- 445,452.21	1,301,931.38	sFT	0.99994988	-0 01 22.6
UA0024;SPC VA N	- 2,136,780.288	3,626,959.736	MT	0.99995965	+0 54 48.1
UA0024;SPC VA N	- 7,010,419.99	11,899,450.40	sFT	0.99995965	+0 54 48.1
UA0024;UTM 18	- 4,306,519.398	323,370.814	MT	0.99998418	-1 16 44.1

 UA0024  
 UA0024!  

	Elev Factor	x	Scale Factor	=	Combined Factor
UA0024!SPC MD	- 1.00000393	x	0.99994988	=	0.99995381
UA0024!SPC VA N	- 1.00000393	x	0.99995965	=	0.99996358
UA0024!UTM 18	- 1.00000393	x	0.99998418	=	0.99998811

 UA0024

PID	Reference Object	Distance	Geod. Az
			ddmmss.s
UA0024  HV4442	WASHINGTON MONUMENT 1913	119.205 METERS	10816

SUPERSEDED SURVEY CONTROL

UA0024	ELLIP H (02/12/02)	-25.021 (m)		GP( )	4 1	
UA0024	NAD 83(1993)- 38 53 23.29439(N)		077 02 11.56216(W)	AD( )	B	
UA0024	ELLIP H (06/29/94)	-25.094 (m)		GP( )	4 1	
UA0024	NAD 83(1993)- 38 53 23.29440(N)		077 02 11.56215(W)	AD( )	B	
UA0024	ELLIP H (04/04/94)	-25.094 (m)		GP( )	4 1	
UA0024	NAD 27	- 38 53 22.89700(N)		077 02 12.64600(W)	AD( )	3
UA0024	USSD	- 38 53 23.23000(N)		077 02 12.48000(W)	AD( )	3
UA0024	NAVD 88 (08/03/00)	7.02 (m)	23.0 (f)	LEVELING	3	
UA0024	NAVD 88 (05/07/99)	7.021 (m)	23.03 (f)	SUPERSEDED	1 2	
UA0024	NAVD 88 (04/04/94)	7.0 (m)	GEOID93 model used		GPS OBS	

UA0024  
 UA0024.Superseded values are not recommended for survey control.  
 UA0024.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.  
 UA0024.See file dsdata.txt to determine how the superseded data were derived.

UA0024  
 UA0024\_U.S. NATIONAL GRID SPATIAL ADDRESS: 18SUJ2337006519(NAD 83)

UA0024  
 UA0024\_MARKER: Z = SEE DESCRIPTION  
 UA0024\_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT  
 UA0024\_MARK LOGO: CGS  
 UA0024\_PROJECTION: PROJECTING 91 CENTIMETERS  
 UA0024\_MAGNETIC: N = NO MAGNETIC MATERIAL  
 UA0024\_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO  
 UA0024+STABILITY: SURFACE MOTION  
 UA0024\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR  
 UA0024+SATELLITE: SATELLITE OBSERVATIONS - May 21, 2010

HISTORY	Date	Condition	Report By
UA0024	1907	MONUMENTED	CGS
UA0024	1907	GOOD	CGS
UA0024	1940	GOOD	CGS
UA0024	19930909	GOOD	NGS
UA0024	19960718	GOOD	DMW
UA0024	19980928	GOOD	NGS
UA0024	19991122	GOOD	NGS
UA0024	20000224	GOOD	NGS
UA0024	20000330	GOOD	NGS
UA0024	20000510	GOOD	NGS

UA0024 HISTORY - 20030515 GOOD DMW  
 UA0024 HISTORY - 20051216 GOOD GEOCAC  
 UA0024 HISTORY - 20061111 GOOD USPSQD  
 UA0024 HISTORY - 20081222 GOOD NGS  
 UA0024 HISTORY - 20090319 GOOD GEOCAC  
 UA0024 HISTORY - 20100521 GOOD GEOCAC  
 UA0024  
 UA0024 STATION DESCRIPTION  
 UA0024  
 UA0024'DESCRIBED BY COAST AND GEODETIC SURVEY 1907 (OBF)  
 UA0024'JEFFERSON PIER IS A CONCRETE POST ABOUT NW OF THE WASHINGTON  
 UA0024'MONUMENT, VERY NEARLY IN THE LATITUDE OF THE CAPITOL DOME AND THE  
 UA0024'LONGTITUDE OF THE WHITE HOUSE.  
 UA0024  
 UA0024 STATION RECOVERY (1907)  
 UA0024  
 UA0024'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1907  
 UA0024'RECOVERED IN GOOD CONDITION.  
 UA0024  
 UA0024 STATION RECOVERY (1940)  
 UA0024  
 UA0024'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1940 (TMP)  
 UA0024'THIS STATION WAS RECOVERED. THIS STATION IS LOCATED ON THE W  
 UA0024'SLOPE OF THE MOUND OF THE WASHINGTON MONUMENT, AND IS IN LINE  
 UA0024'WITH 16TH STREET EXTENDED, AND IN APPROXIMATE RANGE WITH THE  
 UA0024'N SIDE OF THE LINCOLN MEMORIAL. IT IS IN A DEPRESSION ABOUT 8  
 UA0024'INCHES BELOW THE LINCOLN MEMORIAL. IT IS IN A DEPRESSION ABOUT  
 UA0024'8 INCHES BELOW THE GENERAL GROUND SURFACE AND ABOUT 15 FEET IN  
 UA0024'DIAMETER. THE MARK IS ABOUT 2 FEET SQUARE AT BASE AND ABOUT 6  
 UA0024'INCHES SQUARE AT TOP AND EXTENDS ABOUT 2 FEET ABOVE GROUND.  
 UA0024'  
 UA0024'THIS MARK IS SAID TO HAVE BEEN RAISED FROM TIME TO TIME AS WORK  
 UA0024'WAS DONE ON THE MONUMENT GROUNDS, BUT THE POSITION OF THE  
 UA0024'STATION IS SUPPOSED TO HAVE BEEN HELD EACH TIME.  
 UA0024  
 UA0024 STATION RECOVERY (1993)  
 UA0024  
 UA0024'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1993  
 UA0024'THE STATION IS LOCATED IN WASHINGTON, D.C., ON THE WASHINGTON MONUMENT  
 UA0024'GROUNDS AT THE JEFFERSON PIER STONE WHICH LIES ON A LINE EXTENDING  
 UA0024'BETWEEN THE WHITE HOUSE AND THE JEFFERSON MEMORIAL. OWNERSHIP--UNITED  
 UA0024'STATES DEPARTMENT OF THE INTERIOR, NATIONAL PARK SERVICE. CONTACT  
 UA0024'THE NATIONAL PARK SERVICE, TELEPHONE NUMBER (202) 485-9880.  
 UA0024'THE STATION IS A BRASS PLUG WITH A PUNCH MARK, SET IN THE CENTER OF A  
 UA0024'RECESSED CROSS IN THE TOP OF A 2 BY 2-FOOT GRANITE MONUMENT WHICH IS  
 UA0024'INSCRIBED POSITION OF JEFFERSON PIER ERECTED DECEMBER 18, 1804,  
 UA0024'RECOVERED AND RE-ERECTED DECEMBER 2, 1889, DISTRICT OF COLUMBIA AND  
 UA0024'PROJECTS 26 INCHES ABOVE THE GROUND.  
 UA0024'LOCATED 110 M (360.9 FT) WEST-NORTHWEST OF THE WASHINGTON MONUMENT AND  
 UA0024'13.0 M (42.7 FT) SOUTH OF THE SOUTH EDGE OF A 15-FOOT WIDE CONCRETE  
 UA0024'WALKWAY.  
 UA0024'NOTE--PERMISSION MUST BE OBTAINED FROM THE NATIONAL PARK SERVICE TO  
 UA0024'OCCUPY THIS STATION.  
 UA0024  
 UA0024 STATION RECOVERY (1996)  
 UA0024  
 UA0024'RECOVERY NOTE BY DAFT MCCUNE WALKER INCORPORATED 1996 (JMS)  
 UA0024'RECOVERED AS DESCRIBED.  
 UA0024  
 UA0024 STATION RECOVERY (1998)  
 UA0024  
 UA0024'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1998 (RLA)  
 UA0024'RECOVERED AS DESCRIBED.

UA0024  
 UA0024 STATION RECOVERY (1999)  
 UA0024  
 UA0024'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1999 (RWA)  
 UA0024'RECOVERED AS DESCRIBED.  
 UA0024  
 UA0024 STATION RECOVERY (2000)  
 UA0024  
 UA0024'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2000 (MLM)  
 UA0024'RECOVERED BY NATIONAL GEODETIC SURVEY, RECOVERED AS PREVIOUSLY  
 UA0024'DESCRIBED.  
 UA0024  
 UA0024 STATION RECOVERY (2000)  
 UA0024  
 UA0024'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2000 (RWA)  
 UA0024'RECOVERED AS DESCRIBED.  
 UA0024  
 UA0024 STATION RECOVERY (2000)  
 UA0024  
 UA0024'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2000 (RWA)  
 UA0024'RECOVERED AS DESCRIBED.  
 UA0024  
 UA0024 STATION RECOVERY (2003)  
 UA0024  
 UA0024'RECOVERY NOTE BY DAFT MCCUNE WALKER INCORPORATED 2003 (JMS)  
 UA0024'RECOVERED IN GOOD CONDITION.  
 UA0024  
 UA0024 STATION RECOVERY (2005)  
 UA0024  
 UA0024'RECOVERY NOTE BY GEOCACHING 2005 (WD)  
 UA0024'THE PIER NOW LIES INSIDE A NEW PAVED PATH AND RETAINING WALL THAT  
 UA0024'CIRCLES THE WASHINGTON MONUMENT, ABOUT 60 FEET SOUTHEAST OF THE  
 UA0024'INTERSECTION OF THREE PAVED ACCESS PATHS AND THE CIRCULAR PATH, AND  
 UA0024'ABOUT THREE FEET HIGHER THAN THE CIRCULAR PATH.  
 UA0024  
 UA0024 STATION RECOVERY (2006)  
 UA0024  
 UA0024'RECOVERY NOTE BY US POWER SQUADRON 2006 (DEB)  
 UA0024'RECOVERED IN GOOD CONDITION.  
 UA0024  
 UA0024 STATION RECOVERY (2008)  
 UA0024  
 UA0024'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2008 (DBC)  
 UA0024'RECOVERED AS DESCRIBED.  
 UA0024  
 UA0024 STATION RECOVERY (2009)  
 UA0024  
 UA0024'RECOVERY NOTE BY GEOCACHING 2009 (SMC)  
 UA0024'RECOVERED IN GOOD CONDITION.  
 UA0024  
 UA0024 STATION RECOVERY (2010)  
 UA0024  
 UA0024'RECOVERY NOTE BY GEOCACHING 2010 (MTT)  
 UA0024'RECOVERED IN GOOD CONDITION.

\*\*\* retrieval complete.

**Version 7.88 released at 12:27pm on 05/01/2012**

This release will incorporate the following updates:

(a)	<p>This release is to enact the format changes as specified on the datasheet95 mockups of AC6803 and UA0024, and the requirements within the document <a href="https://source.ngs.noaa.gov/svn/repos/NGSIDBAPI/RetrievalApi/datasheet/docs/V7.87.7/descriptive_announcement.docx">https://source.ngs.noaa.gov/svn/repos/NGSIDBAPI/RetrievalApi/datasheet/docs/V7.87.7/descriptive_announcement.docx</a>. This release includes the local and network accuracies link if a mark/station has local or network accuracies associated with it.</p>
(b)	<p>In regard to Southern Louisiana, if a mark has a superseded orthometric height that was in one of the HT_MOD projects, GPS2100, GPS2021/C, GPS2212, GPS2287, or GPS2262, then the HT_MOD epoch of 2004.65 appears in the SUPERSEDED SURVEY CONTROL section of the datasheet like:</p> <pre> DH3818                                SUPERSEDED SURVEY CONTROL DH3818 DH3818  ELLIP H (02/10/07)  -17.075  (m)                                GP (      ) DH3818  NAD 83 (1992)-  30 13 14.83688 (N)    092 03 15.88117 (W) AD (2004.65) B DH3818  ELLIP H (06/22/05)  -17.076  (m)                                GP (2004.65) 4 1 DH3818  NAVD 88 (06/22/05)   10.25   (m)  GEOID03 model used  GP (2004.65) </pre> <p>Additionally, if a mark has a superseded orthometric height that was in the HT_MOD project, GPS2329, then the HT_MOD epoch of 2006.81 appears in the SUPERSEDED SURVEY CONTROL section of the datasheet like:</p> <pre> BK0189                                SUPERSEDED SURVEY CONTROL BK0189 BK0189  ELLIP H (03/12/08)  -17.854  (m)                                GP (2006.81) 3 1 BK0189  NAVD 88 (03/12/08)    9.44   (m)  GEOID03 model used  GP (2006.81) BK0189  NAVD 88 (02/14/94)    9.706  (m)                                31.84  (f) SUPERSEDED 1 1 BK0189  NAVD 88 (06/15/91)    9.705  (m)                                31.84  (f) SUPERSEDED 1 1 BK0189  NGVD 29 (??/??/??)   9.688  (m)                                31.78  (f) ADJUSTED 1 1 </pre> <p>Note: Currently the NGSIDB does not have any superseded orthometric heights for marks in project GPS2329. Thus we used BK0189 as a test case in the test database and added an elevation record so that we could make sure this case worked later on for the eventual superseding of marks in project GPS2329.</p> <pre> 1&gt; select * from ELEVATION where UID=10477285 2&gt; go   UID          HEIGHT      ELEV_SOURCE ELEV_QUALITY DATUM  ERR_DIST OBS_DATE       REDUNDANCY ELEV_TECH  ELEV_AVAIL  ADJ_ID          S_ORDER CLASS       HEIGHT STD_DEV </pre>



	<pre> ----- ----- 10477285      9.6876 A      1      29      .      NULL NULL          N      U      ADJPRE87      1 1 NULL 10477285      9.7046 X      NULL      88      NULL      NULL NULL          N      U      00000025      1 1 NULL 10477285      9.7055 X      NULL      88      0.2      NULL NULL          N      U      00000083      1 1 NULL <b>10477285 9.41251 H      NULL      88      0.35      NULL</b> <b>C          G      U      00000999      1 2</b> <b>21.23</b> 10477285      9.442 H      NULL      88      NULL      NULL C          G      U      GPS2329      NULL NULL NULL </pre>
(c)	<p>In this datasheet95.w release, the word “SUPERSEDED” will appear in the SUPERSEDED SURVEY CONTROL section of a datasheet if we cannot determine what type of superseded orthometric height we have:</p> <pre> HS1412                SUPERSEDED SURVEY CONTROL HS1412 HS1412  NAD 83(1998)- 37 02 59.70657(N)    120 38 20.78372(W) AD(2004.50) B HS1412  ELLIP H (06/30/05)    1.210 (m)                GP(2004.50) 4 1 HS1412  NAVD 88 (06/30/05)    34.3 (m)  GEOID03 model used  GPS OBS HS1412  NAVD 88 (06/15/91)    34.622 (m)                113.59 (f) <b>SUPERSEDED</b> 1 1 HS1412  NGVD 29 (??/??/??)    34.19 (m)                112.2 (f) RESET 3 </pre> <p>In the case of the example, HS1412, we cannot tell if the superseded orthometric height (in red) is a superseded adjusted orthometric height, or a superseded HNB elevation type of orthometric height.</p> <pre> 1&gt; select * from ELEVATION where UID=10292610 2&gt; go UID          HEIGHT      ELEV_SOURCE ELEV_QUALITY DATUM  ERR_DIST OBS_DATE REDUNDANCY  ELEV_TECH  ELEV_AVAIL ADJ_ID      S_ORDER CLASS HEIGHT_STD_DEV ----- ----- 10292610     34.1880 R      NULL        29      NULL      NULL NULL          N      U      RSTPRE87      3 0 NULL <b>10292610     34.6218 X      NULL        88      NULL      NULL</b> <b>NULL          N      U      00000025      1 1</b> <b>NULL</b> 10292610     34.32375 A      NULL        88      0.00      NULL C          N      U      00000528      2 2 </pre>

	<pre> 21.32 10292610      34.331  H      NULL      88      NULL      NULL C              G              U              GPS2017      NULL NULL NULL </pre>
(d)	<p>This release uses the leenhout_check function that the Chief Geodesist provided to calculate:</p> <ol style="list-style-type: none"> <li>(1) The Horz and Ellip values on a datasheet and on the local and network accuracy report (via the lna_ret.w program).</li> <li>(2) The CorrNE on the local and network accuracy report (via the lna_ret.w program).</li> </ol>
(e)	<p>This release uses the updated compute_dist algorithm from the Chief Geodesist to calculate the distance between the network and local accuracies on the datasheets and local and network accuracy report (via the lna_ret program).</p>
(f)	<p>As of 3/20/2012 the PPC asked for an update of the LNA note on datasheets with LNAs. They stated:</p> <p><b>Change NOTE as follows -</b>  <b>NOTE: Click here for information on individual local accuracy values and other accuracy information.</b></p> <p><i>here needs to be hyper-linked as it is now.</i></p>
(g)	<p>This release encompasses the Change Request dated 3/28/2012 by OAD.:</p> <ol style="list-style-type: none"> <li>(1) For a mark in NSRS2007 display the following paragraph/link:  AC6803.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).  AC6803.See <a href="#">NSRS2007</a> for more information.</li> <li>(2) For a mark in NA2011 display the following paragraph/link:  DW9002.NAD 83(2011) refers to NAD 83 coordinates where the reference  DW9002.frame has been affixed to the stable North American Tectonic Plate. See  DW9002.<a href="#">NA2011</a> for more information.  If the geoid height line comes out currently with CURRENT GEOID HT or GEOIDXX HEIGHT where XX is the geoid model (i.e. 03, 09), then make it display now like the following (with the GEOID model at the end of the line):  <pre> DW9002  GEOID HEIGHT      -      -32.49  (meters)      GEOID99 DW9002  GEOID HEIGHT      -      -32.54  (meters)      GEOID09 </pre> </li> <li>(3) For bench marks, don't display the following line:  <pre> &lt;PID&gt; NOTE: &lt;orthometric height datum abbreviation&gt; orthometric height was determined with geoid model  &lt;geoid model&gt; </pre> </li> </ol>
(h)	<p>This release updates the geoid model used in datasheet95 for the states of PR and VQ to match the latest geoid model used for these states in the intg program (and its associated grid files). Dan Roman specified that no changes to the deflection (i.e. intd grid file updates) are needed as they have not changed yet. The geoid model used for PR and VQ is <b>GEOID09</b>.</p> <p>Note: The [geoid] grid files are part of the Geodetic Toolkit.</p>

(i)	As of the 3/12/2012 PPC meeting, if a local accuracy control point is associated with the network control point is part of an FAA project survey, then its data is to be <i>excluded from the summary information</i> on the datasheet95.w report for the network and local accuracies.
-----	---

Please note that for the **COUNTRY** label on datasheets, if the country is the United States of America it will be abbreviated “US” and not “USA” (as requested on the AC6803 and UA0024 datasheet mockups) as this is the FIPS value for it in the database.

## Version 7.87.6.1 released at 11:59am on 05/01/2012

This release updates the geoid model used in datasheet95 for the states of PR and VQ to match the latest geoid model used for these states in the intg program (and its associated grid files). No changes to the deflection (i.e. intd grid file updates) are needed as they have not changed.

Test Case #1: test the PID of TV0381 (a passive mark) in the state of PR (Puerto Rico).

```
DATABASE = QCTESTNGSIDB , PROGRAM = datasheet95, VERSION = 7.87.6.1
1      National Geodetic Survey,  Retrieval Date = APRIL 12, 2012
TV0381 *****
TV0381 DESIGNATION - TORO 1900
TV0381 PID - TV0381
TV0381 STATE/COUNTY- PR/
TV0381 USGS QUAD -
TV0381
TV0381 *CURRENT SURVEY CONTROL
TV0381
TV0381 *-----*
TV0381* NAD 83(1997)- 17 58 02.90171(N) 066 48 21.29058(W) ADJUSTED
TV0381* LMSL - 56. (meters) 184. (feet) SCALED
TV0381
TV0381 *-----*
TV0381 LAPLACE CORR- -0.23 (seconds) DEFLEC99
TV0381 GEOID HEIGHT- -40.03 (meters) GEOID09
TV0381 HORZ ORDER - THIRD
TV0381
TV0381.The horizontal coordinates were established by classical geodetic methods
TV0381.and adjusted by the National Geodetic Survey in May 1997.
TV0381.
TV0381.The orthometric height was scaled from a topographic map.
TV0381
TV0381.The Laplace correction was computed from DEFLEC99 derived deflections.
TV0381
TV0381.The geoid height was determined by GEOID09.
```

**Test Case #2: Test the PID of DL7620 (a CORS ARP) in the state of PR (Puerto Rico).**

```

DATABASE = QCTESTNGSIDB , PROGRAM = datasheet95, VERSION = 7.87.6.1
1 National Geodetic Survey, Retrieval Date = APRIL 12, 2012
DL7620 *****
DL7620 CORS - This is a GPS Continuously Operating Reference Station.
DL7620 DESIGNATION - SAN SEBASTIAN CORS ARP
DL7620 CORS_ID - PRJC
DL7620 PID - DL7620
DL7620 STATE/COUNTY- PR/SAN SEBASTIAN
DL7620 USGS QUAD -
DL7620
DL7620 *CURRENT SURVEY CONTROL
DL7620
DL7620* NAD 83(CORS)- 18 20 32.02430(N) 066 59 58.19711(W) ADJUSTED
DL7620* LMSL - ** (meters) ** (feet)
DL7620
DL7620 EPOCH DATE - 2002.00
DL7620 X - 2,366,363.063 (meters) COMP
DL7620 Y - -5,574,666.545 (meters) COMP
DL7620 Z - 1,994,381.873 (meters) COMP
DL7620 ELLIP HEIGHT- 24.721 (meters) (05/??/10) ADJUSTED
DL7620 GEOID HEIGHT- -41.73 (meters) GEOID09
DL7620 HORZ ORDER - SPECIAL (CORS)
DL7620 ELLP ORDER - SPECIAL (CORS)
DL7620
DL7620. ITRF positions are available for this station.
DL7620
DL7620.The coordinates were established by GPS observations
DL7620.and adjusted by the National Geodetic Survey in May 2010.
DL7620
DL7620.The datum tag of NAD 83(CORS) is equivalent to NAD 83(CORS96).
DL7620
DL7620.The coordinates are valid at the epoch date displayed above
DL7620.which is a decimal equivalence of Year/Month/Day.
DL7620
DL7620.The PID for the CORS L1 Phase Center is DL7621.
DL7620
DL7620.The XYZ, and position/ellipsoidal ht. are equivalent.
DL7620
DL7620.The ellipsoidal height was determined by GPS observations
DL7620.and is referenced to NAD 83.
DL7620
DL7620.The geoid height was determined by GEOID09.

```

**Test Case #3: Test the PID of DL7621 (a CORS L1 Phase Center) in the state of PR (Puerto Rico).**

```

DATABASE = QCTESTNGSIDB , PROGRAM = datasheet95, VERSION = 7.87.6.1
1 National Geodetic Survey, Retrieval Date = APRIL 12, 2012
DL7621 *****
DL7621 CORS - This is a GPS Continuously Operating Reference Station.
DL7621 DESIGNATION - SAN SEBASTIAN CORS L1 PHASE CENTER
DL7621 CORS_ID - PRJC
DL7621 PID - DL7621
DL7621 STATE/COUNTY- PR/SAN SEBASTIAN
DL7621 USGS QUAD -
DL7621
DL7621 *CURRENT SURVEY CONTROL
DL7621
DL7621* NAD 83(CORS)- 18 20 32.02431(N) 066 59 58.19709(W) ADJUSTED

```

DL7621*	LMSL	-	** (meters)	** (feet)
DL7621	-----			
DL7621	EPOCH DATE	-	2002.00	
DL7621	X	-	2,366,363.090 (meters)	COMP
DL7621	Y	-	-5,574,666.607 (meters)	COMP
DL7621	Z	-	1,994,381.896 (meters)	COMP
DL7621	ELLIP HEIGHT-		24.792 (meters)	(05/??/10) ADJUSTED
DL7621	GEOID HEIGHT-		-41.73 (meters)	<b>GEOID09</b>
DL7621	HORZ ORDER	-	SPECIAL (CORS)	
DL7621	ELLP ORDER	-	SPECIAL (CORS)	

DL7621.ITRF positions are available for this station.

DL7621

DL7621.The coordinates were established by GPS observations

DL7621.and adjusted by the National Geodetic Survey in May 2010.

DL7621

DL7621.The datum tag of NAD 83(CORS) is equivalent to NAD 83(CORS96).

DL7621

DL7621.The coordinates are valid at the epoch date displayed above

DL7621.which is a decimal equivalence of Year/Month/Day.

DL7621

DL7621.The PID for the CORS ARP is DL7620.

DL7621

DL7621.The XYZ, and position/ellipsoidal ht. are equivalent.

DL7621

DL7621.The ellipsoidal height was determined by GPS observations

DL7621.and is referenced to NAD 83.

DL7621

DL7621.The geoid height was determined by **GEOID09**.

Test Case #4: Test the PID of DL3918 (a passive mark) in the state of VQ (US Virgin Islands/Saint Thomas).

```

DATABASE = QCTESTNGSIDB , PROGRAM = datasheet95, VERSION = 7.87.6.1
1      National Geodetic Survey,  Retrieval Date = APRIL 12, 2012
DL3918 *****
DL3918 DESIGNATION -  VITH B
DL3918 PID          -  DL3918
DL3918 STATE/COUNTY-  VQ/ST THOMAS
DL3918 USGS QUAD    -  CENTRAL SAINT THOMAS (1982)
DL3918
DL3918                      *CURRENT SURVEY CONTROL
DL3918
DL3918* NAD 83(2007)-  18 20 36.19391(N)    064 58 09.64699(W)    ADJUSTED
DL3918* LMSL          -                      ** (meters)          ** (feet)
DL3918
DL3918 EPOCH DATE   -          2002.00
DL3918 X            -          2,562,335.020 (meters)              COMP
DL3918 Y            -          -5,487,278.623 (meters)              COMP
DL3918 Z            -          1,994,495.204 (meters)              COMP
DL3918 LAPLACE CORR-          0.84 (seconds)                      DEFLEC99
DL3918 ELLIP HEIGHT-          -1.821 (meters)                      (01/22/10) ADJUSTED
DL3918 GEOID HEIGHT-          -42.25 (meters)                      GEOID09
DL3918 HORZ ORDER  -  B
DL3918 ELLP ORDER  -  FIFTH      CLASS I
DL3918
DL3918.The horizontal coordinates were established by GPS observations
DL3918.and adjusted by the National Geodetic Survey in January 2010.
DL3918
DL3918.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
DL3918.See NSRS2007 for more information.
DL3918
DL3918.The horizontal coordinates are valid at the epoch date displayed above
DL3918.which is a decimal equivalence of Year/Month/Day.
DL3918
DL3918.The X, Y, and Z were computed from the position and the ellipsoidal ht.
DL3918
DL3918.The Laplace correction was computed from DEFLEC99 derived deflections.
DL3918
DL3918.The ellipsoidal height was determined by GPS observations
DL3918.and is referenced to NAD 83.
DL3918
DL3918.The geoid height was determined by GEOID09.

```

Test Case #5: Test the PID of DI2149 (a CORS ARP) in the state of VQ (US Virgin Islands/Saint Thomas).

```

DATABASE = QCTESTNGSIDB , PROGRAM = datasheet95, VERSION = 7.87.6.1
1      National Geodetic Survey,  Retrieval Date = APRIL 12, 2012
DI2149 *****
DI2149 CORS          - This is a GPS Continuously Operating Reference Station.
DI2149 DESIGNATION - ST. THOMAS CORS ARP
DI2149 CORS_ID      - VITH
DI2149 PID          - DI2149
DI2149 STATE/COUNTY- VQ/ST THOMAS
DI2149 USGS QUAD    - CENTRAL SAINT THOMAS (1982)
DI2149
DI2149                      *CURRENT SURVEY CONTROL
DI2149
DI2149* NAD 83 (CORS)- 18 20 35.97708(N)  064 58 09.17651(W)  ADJUSTED
DI2149* LMSL          -                ** (meters)                ** (feet)
DI2149
DI2149 EPOCH DATE   -          2002.00
DI2149 X            - 2,562,351.711 (meters)                      COMP
DI2149 Y            - -5,487,281.721 (meters)                      COMP
DI2149 Z            - 1,994,491.453 (meters)                      COMP
DI2149 ELLIP HEIGHT-          6.366 (meters)                    (10/??/06) ADJUSTED
DI2149 GEOID HEIGHT-         -42.25 (meters)                      GEOID09
DI2149 HORZ ORDER  - SPECIAL (CORS)
DI2149 ELLP ORDER  - SPECIAL (CORS)
DI2149
DI2149. ITRF positions are available for this station.
DI2149
DI2149. The coordinates were established by GPS observations
DI2149. and adjusted by the National Geodetic Survey in October 2006.
DI2149
DI2149. The datum tag of NAD 83(CORS) is equivalent to NAD 83(CORS96).
DI2149
DI2149. The coordinates are valid at the epoch date displayed above
DI2149. which is a decimal equivalence of Year/Month/Day.
DI2149
DI2149. The PID for the CORS L1 Phase Center is DI2150.
DI2149
DI2149. The XYZ, and position/ellipsoidal ht. are equivalent.
DI2149
DI2149. The ellipsoidal height was determined by GPS observations
DI2149. and is referenced to NAD 83.
DI2149
DI2149. The geoid height was determined by GEOID09.

```



**Test Case #6: Test the PID of DI2150 (a CORS L1 Phase Center) in the state of VQ (US Virgin Islands/Saint Thomas).**

```

DATABASE = QCTESTNGSIDB , PROGRAM = datasheet95, VERSION = 7.87.6.1
1      National Geodetic Survey,   Retrieval Date = APRIL 12, 2012
DI2150 *****
DI2150  CORS          -   This is a GPS Continuously Operating Reference Station.
DI2150  DESIGNATION -   ST. THOMAS CORS L1 PHASE CENTER
DI2150  CORS_ID      -   VITH
DI2150  PID          -   DI2150
DI2150  STATE/COUNTY-   VQ/ST THOMAS
DI2150  USGS QUAD    -   CENTRAL SAINT THOMAS (1982)
DI2150
DI2150                                     *CURRENT SURVEY CONTROL
DI2150
DI2150*  NAD 83 (CORS)-  18 20 35.97709(N)   064 58 09.17649(W)   ADJUSTED
DI2150*  LMSL          -                   ** (meters)           ** (feet)
DI2150
DI2150  EPOCH DATE   -           2002.00
DI2150  X            -   2,562,351.741 (meters)                   COMP
DI2150  Y            -   -5,487,281.782 (meters)                   COMP
DI2150  Z            -   1,994,491.476 (meters)                   COMP
DI2150  ELLIP HEIGHT-           6.437 (meters)                   (10/??/06) ADJUSTED
DI2150  GEOID HEIGHT-          -42.25 (meters)                   GEOID09
DI2150  HORZ ORDER   -   SPECIAL (CORS)
DI2150  ELLP ORDER   -   SPECIAL (CORS)
DI2150
DI2150.ITRF positions are available for this station.
DI2150
DI2150.The coordinates were established by GPS observations
DI2150.and adjusted by the National Geodetic Survey in October 2006.
DI2150
DI2150.The datum tag of NAD 83(CORS) is equivalent to NAD 83(CORS96).
DI2150
DI2150.The coordinates are valid at the epoch date displayed above
DI2150.which is a decimal equivalence of Year/Month/Day.
DI2150
DI2150.The PID for the CORS ARP is DI2149.
DI2150
DI2150.The XYZ, and position/ellipsoidal ht. are equivalent.
DI2150
DI2150.The ellipsoidal height was determined by GPS observations
DI2150.and is referenced to NAD 83.
DI2150
DI2150.The geoid height was determined by GEOID09.

```

## Version 7.87.6 released at 3:21pm on 04/09/2012

This is to fix the algorithm that determines the best elevation for a passive mark. If we have more than one height mod height and one does not have observations – to be able to choose the best height, use the adjusted dates to determine which height to publish. The one with the latest date is the winner.

Examples: CY0606

UID	HEIGHT	ELEV_SOURCE	DATUM	ELEV_TECH	ELEV_AVAIL	ADJ_ID	ADJ_DATE	OBS_DATE
10263098	1281.8231	A	88	N	U	00000025	19910615	null
10263098	1281.702	H	88	G	U	GPS2160	20050822	20041105
10263098	1281.732	H	88	G	U	GPS2846	20120104	null

GPS2846 project was a readjustment for a HT\_MOD station using old observations and hence only the adjusted heights were loaded. No new observations were loaded for this height.

The current algorithm would compare the observation date of GPS2160 with the observation date of GPS2846 and pick GPS2160 as the best height.

The fix is to use the adjusted date of “20120104” for comparison when there are no observations for a HT\_MOD project.

**Version 7.87.5 released at 3:14pm on 01/25/2012**

This release is to:

1	<p>Implement a simplified retrieval/generation of the dtm_tag field that appears on the NAD 83 line of a datasheet as per the PPC meeting of July 28, 2011. We no longer needed to have a routine to generate the dtm_tag differently for high precision states. We could generate the dtm_tag from the REG_ADJ_TAG.EPOCH field. Also, she said that regions that have been adjusted multiple times such as North Carolina-South Carolina, Wisconsin, and Florida, only need to get their <i>last</i> regional adjustment. Thus the code was simplified greatly to remove the complexity of this code.</p> <p>This was done by updating the REG_ADJ_TAG table (shown later in this document) as well as some routines to retrieve this data that are transparent to the user.</p>
2	<p>Remove the hard-coding for CORS realizations and create database tables that will house the old and new realization codes for the US states/territories. The default CORS realizations are housed in the <i>new</i> CORS_REALIZATION_TAG table and any CORS realization for a state that is to override the default realizations are housed in the <i>new</i> CORS_STATE_REALIZATION_TAG table. Any specific message that appears on a datasheet for these realizations can also be found in these tables.</p>
3	<p>Whenever the datum and realization are “NAD 83(CORS)” on the datasheet, display the message “<i>The datum tag of NAD 83(CORS) is equivalent to NAD 83(CORS96).</i>” on the datasheet. This message is housed in the CORS_REALIZATION_TAG table for the REALIZATION=”CORS96”.</p> <p><b>Note:</b> There are two other statements missing from this request that were not included and should have been and even the above request needs a bit of clarification.</p> <ul style="list-style-type: none"> <li>• If the realization on the PV_RET output is CORS96, then the message “<i>The datum tag of NAD 83(CORS) is equivalent to NAD 83(CORS96).</i>” should appear on the datasheet.</li> <li>• If the realization on the PV_RET output is MARP00, then the message “<i>The datum tag of NAD 83(CORS) is equivalent to NAD 83(MARP00).</i>” should appear on the datasheet.</li> <li>• If the realization on the PV_RET output is PACP00, then the message “<i>The datum tag of NAD 83(CORS) is equivalent to NAD 83(PACP00).</i>” should appear on the datasheet.</li> </ul> <p>For CORS sites that are not part of the NAD 83 (2011) adjustment the following statement were added. Example:</p> <pre> AF9698  AF9698                                *CURRENT SURVEY CONTROL AF9698 AF9698*  NAD 83 (CORS)-  33 23 23.28607(N)    115 47 16.85288(W)    ADJUSTED AF9698*  NAVD 88      -      -48.4    (meters)    -159.    (feet)    GPS OBS AF9698 _____ AF9698 <b>AF9698.The datum tag of NAD 83(CORS) is equivalent to NAD 83(CORS96).</b> AF9698 </pre>

**For Guam (example: DF7984) the following line will be added for CORS sites that are not part of the NAD 83 (2011) adjustment.**

DF7984.The datum tag of NAD 83(CORS) is equivalent to NAD 83(MARP00)

**For Hawaii (example: AJ8468) the following line will be added for CORS sites that are not part of the NAD 83 (2011) adjustment.**

AJ8468.The datum tag of NAD 83(CORS) is equivalent to NAD 83(PACP00)

4 As per the meeting of August 2, 2011 at 10AM with the CORS team, make sure that the new realization of (MA11) includes not only the Northern Mariana Islands (CQ) but also Guam (GU), and that the new realization of (PA11) includes Hawaii (HI), American Samoa (AS) and also Marshall Islands (ML). The CORS team had *left out GU and ML* from his initial “Requirements for Datasheet95 to reflect new NAD 83 realizations (High)” it was found that they also meant to put these two states into the document as well.

**To test the NAD 83 (2011) realization for CORS the following configuration was setup in TEST. Any CORS coordinates loaded after 08/16/2011 will be treated as NAD 83(2011) for testing purposes. Example PIDs: KS1340, AA3921**

```
1> SELECT START_DATE, END_DATE, REALIZATION, DATASHEET_REALIZATION
FROM CORS_REALIZATION_TAG
```

```
2> GO
```

```
START_DATE END_DATE REALIZATION DATASHEET_REALIZATION
-----
18000101 20110815 CORS96 CORS
20110816 30990101 2011 2011
```

**In production this will be adjusted to reflect the actual date the CORS coordinates are loaded which would be sometime in 2012.**

**New:**

```
KS1340 *CURRENT SURVEY CONTROL
KS1340
KS1340* NAD 83(2011)- 39 58 28.38081(N) 120 56 39.88943(W) ADJUSTED
KS1340* NAVD 88 - 1130.197 (meters) 3707.99 (feet) ADJUSTED
KS1340
```

```
KS1340
KS1340.NAD 83(2011) refers to NAD 83 coordinates where the reference
KS1340.frame has been affixed to the stable North American Tectonic Plate.
KS1340
```

Data in the database tables shows that the coordinates were loaded on 10/24/2011.

```
PID UID LATITUDE LONGITUDE ADJ_ID ADJ_DATE
LOAD_DATE
-----
----
AF9564 11553323 N395828.37710 W1205639.88522 CORS0003 199609
19980722
AF9564 11553323 N395828.37731 W1205639.88553 CORS0097 199807
```

	<pre> 19980901 AF9564 11553323 N395828.37734 W1205639.88566 CORS0335 200007 20000908 AF9564 11553323 N395828.37734 W1205639.88566 CORS0595 200007 20020221 AF9564 11553323 N395828.37874 W1205639.88710 CORS0680 200203 20020405 AF9564 11553323 N395828.37874 W1205639.88710 CORS1899 200203 20060814 AF9564 11553323 N395828.37868 W1205639.88689 CORS2752 201009 20100901 AF9564 11553323 N395828.38081 W1205639.88943 CORS2892 201108 20111024 <b>AF9564 11553323 N395828.38081 W1205639.88943 CORS2911 201108</b> <b>20111024</b>  <b>Example for NAD 83 (PA11): DI8149, AJ8467, DI8149, DK7460, AN7336</b>  DI8149 *CURRENT SURVEY CONTROL DI8149 DI8149* NAD 83 (PA11)- 22 07 34.51886(N) 159 39 53.66113(W) ADJUSTED DI8149* LMSL - ** (meters) ** (feet) DI8149 DI8149 DI8149.NAD 83 (PA11) refers to NAD 83 coordinates where the reference DI8149.frame has been affixed to the stable Pacific Tectonic Plate. DI8149  <b>Example for NAD 83 (MA11): AA4397, AF9627, DF7980, DI0790</b> AA4397 *CURRENT SURVEY CONTROL AA4397 AA4397* NAD 83 (MA11)- 13 35 21.55606(N) 215 07 53.87275(W) ADJUSTED AA4397* LMSL - ** (meters) ** (feet) AA4397 AA4397 AA4397.NAD 83 (MA11) refers to NAD 83 coordinates where the reference AA4397.frame has been affixed to the stable Mariana Tectonic Plate. AA4397 </pre>
5	<p>All work done thus far on the local accuracies/the distance algorithm is incorporated into this code so as not to lose this valuable work, even though local accuracies are not to be displayed at this time on datasheets. Local accuracy output can be displayed if <code>&lt;compilearg value="-DLOCACC" /&gt;</code> is placed in the build.xml file that builds the datasheet95.w program. Local accuracy data will not display on the 7.87.5 datasheets.</p>
6	<p>All messages requested for the new realizations <i>are ready to go for the upcoming NSRS 2011 data as well as the new CORS data to be loaded at a future date.</i> The messages are:</p> <ul style="list-style-type: none"> <li>• “NAD 83(2011) refers to NAD 83 coordinates where the reference frame has been affixed to the stable North American Tectonic Plate.” for all passive and CORS stations in CONUS, Alaska (AK), Puerto Rico (PR), and the US Virgin Islands (VQ).</li> </ul>

	<ul style="list-style-type: none"> <li>• “NAD 83(MA11) refers to NAD 83 coordinates where the reference frame has been affixed to the stable Mariana Tectonic Plate.” for all CORS stations in Guam (GU) and the Northern Mariana Islands (CQ).</li> <li>• “NAD 83(PA11) refers to NAD 83 coordinates where the reference frame has been affixed to the stable Pacific Tectonic Plate.” for all CORS stations in American Samoa (AS), Hawaii (HI), and Marshall Islands (ML).</li> </ul>
7	<p>The definition for “LT” in the V_DATUM_DEF table was changed from “LOCAL TIDAL” to “LMSL” (i.e. Local Mean Sea Level).</p> <p>Example LOCAL TIDAL will be replaced with LMSL. Example PIDs: TV1539, AA3601, TV1053</p> <p>New:</p> <pre> TV1539                                *CURRENT SURVEY CONTROL TV1539 TV1539* NAD 83(2007)- 18 19 42.37949(N)    064 51 32.93057(W)    ADJUSTED TV1539* LMSL      -      168.8      (meters)    554.      (feet)    GPS OBS TV1539 </pre> <p>Current Production:</p> <pre> TV1539                                *CURRENT SURVEY CONTROL TV1539 TV1539* NAD 83(2007)- 18 19 42.37949(N)    064 51 32.93057(W)    ADJUSTED TV1539* LOCAL TIDAL -      168.8      (meters)    554.      (feet)    GPS OBS TV1539 </pre>
8	<p>Text change: added blank line between paragraphs that were running together as per the PPC’s request.</p> <p><b>Examples: AA4677, MY2216, AI5615</b></p> <p><b>New:</b></p> <p>AA4677.The horizontal coordinates were established by GPS observations AA4677.and adjusted by the National Geodetic Survey in February 2007. AA4677</p> <p>AA4677.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007). AA4677.See <a href="http://www.ngs.noaa.gov/NationalReadjustment">www.ngs.noaa.gov/NationalReadjustment</a> for more information. AA4677</p> <p>AA4677.The horizontal coordinates are valid at the epoch date displayed above AA4677.and is a decimal equivalence of Year/Month/Day.</p> <p>MY2216.The horizontal coordinates were established by VLBI observations MY2216.and local terrestrial surveys and adjusted by the MY2216.National Geodetic Survey in April 1992. MY2216.</p> <p>MY2216.The orthometric height was determined by differential leveling and MY2216.adjusted in June 1991. MY2216</p> <p>MY2216.WARNING-GPS observations at this control monument resulted in a GPS MY2216.derived orthometric height which differed from the leveled height by MY2216.more than one decimeter (0.1 meter). MY2216</p>

MY2216.The X, Y, and Z were computed from the position and the ellipsoidal ht.  
MY2216  
MY2216.The Laplace correction was computed from DEFLEC09 derived deflections.  
MY2216  
MY2216.The ellipsoidal height was determined by GPS observations  
MY2216.and is referenced to NAD 83.  
MY2216  
MY2216.The geoid height was determined by GEOID09.  
MY2216  
MY2216.The dynamic height is computed by dividing the NAVD 88  
MY2216.geopotential number by the normal gravity value computed on the  
MY2216.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45  
MY2216.degrees latitude (g = 980.6199 gals.).  
MY2216  
MY2216.The modeled gravity was interpolated from observed gravity values.

AI5615.The horizontal coordinates were established by GPS observations  
AI5615.and adjusted by the National Geodetic Survey in February 2007.  
AI5615  
AI5615.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).  
AI5615.See [www.ngs.noaa.gov/NationalReadjustment](http://www.ngs.noaa.gov/NationalReadjustment) for more information.  
AI5615  
AI5615.The horizontal coordinates are valid at the epoch date displayed above  
AI5615.and is a decimal equivalence of Year/Month/Day.  
AI5615  
AI5615.No horizontal observational check was made to the station.  
AI5615.  
AI5615.The orthometric height was determined by GPS observations and a  
AI5615.high-resolution geoid model.  
AI5615  
AI5615.GPS derived orthometric heights for airport stations designated as  
AI5615.PACS or SACS are published to 2 decimal places. This maintains  
AI5615.centimeter relative accuracy between the PACS and SACS. It does  
AI5615.not indicate centimeter accuracy relative to other marks which are  
AI5615.part of the NAVD 88 network.  
AI5615  
AI5615.Photographs are available for this station.  
AI5615  
AI5615.The X, Y, and Z were computed from the position and the ellipsoidal  
ht.  
AI5615  
AI5615.The Laplace correction was computed from DEFLEC09 derived deflections.  
AI5615  
AI5615.The ellipsoidal height was determined by GPS observations  
AI5615.and is referenced to NAD 83.  
AI5615  
AI5615.The geoid height was determined by GEOID09.  
AI5615

***Current Production:***

AA4677.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).  
AA4677.See [www.ngs.noaa.gov/NationalReadjustment](http://www.ngs.noaa.gov/NationalReadjustment) for more information.

	<p>AA4677.The horizontal coordinates are valid at the epoch date displayed above.</p> <p>AA4677.The epoch date for horizontal control is a decimal equivalence AA4677.of Year/Month/Day.</p> <p>AA4677</p> <p>MY2216.The horizontal coordinates were established by VLBI observations MY2216.and local terrestrial surveys and adjusted by the MY2216.National Geodetic Survey in April 1992.</p> <p>MY2216</p> <p>MY2216.The orthometric height was determined by differential leveling and MY2216.adjusted in June 1991.</p> <p>MY2216.WARNING-GPS observations at this control monument resulted in a GPS MY2216.derived orthometric height which differed from the leveled height by MY2216.more than one decimeter (0.1 meter).</p> <p>MY2216</p> <p>MY2216.The X, Y, and Z were computed from the position and the ellipsoidal ht.</p> <p>MY2216</p> <p>MY2216.The Laplace correction was computed from DEFLEC09 derived deflections.</p> <p>MY2216</p> <p>MY2216.The ellipsoidal height was determined by GPS observations MY2216.and is referenced to NAD 83.</p> <p>MY2216</p> <p>MY2216.The geoid height was determined by GEOID09.</p> <p>MY2216</p> <p>MY2216.The dynamic height is computed by dividing the NAVD 88 MY2216.geopotential number by the normal gravity value computed on the MY2216.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45 MY2216.degrees latitude (g = 980.6199 gals.).</p> <p>MY2216</p> <p>MY2216.The modeled gravity was interpolated from observed gravity values.</p> <p>MY2216</p> <p>AI5615.The horizontal coordinates were established by GPS observations AI5615.and adjusted by the National Geodetic Survey in February 2007.</p> <p>AI5615</p> <p>AI5615.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).</p> <p>AI5615.See <a href="http://www.ngs.noaa.gov/NationalReadjustment">www.ngs.noaa.gov/NationalReadjustment</a> for more information.</p> <p>AI5615.No horizontal observational check was made to the station.</p> <p>AI5615.The horizontal coordinates are valid at the epoch date displayed above.</p> <p>AI5615.The epoch date for horizontal control is a decimal equivalence AI5615.of Year/Month/Day.</p> <p>AI5615</p> <p>AI5615.The orthometric height was determined by GPS observations and a AI5615.high-resolution geoid model.</p> <p>AI5615</p> <p>AI5615.GPS derived orthometric heights for airport stations designated as AI5615.PACS or SACS are published to 2 decimal places. This maintains AI5615.centimeter relative accuracy between the PACS and SACS. It does AI5615.not indicate centimeter accuracy relative to other marks which are AI5615.part of the NAVD 88 network.</p> <p>AI5615</p>
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	<p>AI5615. Photographs are available for this station.  AI5615  AI5615. The X, Y, and Z were computed from the position and the ellipsoidal ht.  AI5615  AI5615. The Laplace correction was computed from DEFLEC09 derived deflections.  AI5615  AI5615. The ellipsoidal height was determined by GPS observations  AI5615. and is referenced to NAD 83.  AI5615  AI5615. The geoid height was determined by GEOID09.</p>																
	<p><b>Change to rounding algorithm. (orthometric height, geoid height)</b>  If a height ends with 5 as in 301.575 it will be rounded up to 301.58.</p> <p>Example PIDs: AJ5575, AH5044, AF9521, TU3063, TU1669, CN2071, CZ1335, AQ1920, SK0415</p> <p>Ellip Ht: DH8933, DM4115  Geoid Ht: RM0595, SC1468, TU3064  NGVD 29 Ht: MO0972, BH0329, DE0132</p> <p>New:</p> <table> <tr> <td>AH5044*</td> <td>NAVD 88</td> <td>-</td> <td>31.90</td> <td>(meters)</td> <td>104.7</td> <td>(feet)</td> <td>GPS OBS</td> </tr> </table> <p>Current Production:</p> <table> <tr> <td>AH5044*</td> <td>NAVD 88</td> <td>-</td> <td>31.89</td> <td>(meters)</td> <td>104.6</td> <td>(feet)</td> <td>GPS OBS</td> </tr> </table>	AH5044*	NAVD 88	-	31.90	(meters)	104.7	(feet)	GPS OBS	AH5044*	NAVD 88	-	31.89	(meters)	104.6	(feet)	GPS OBS
AH5044*	NAVD 88	-	31.90	(meters)	104.7	(feet)	GPS OBS										
AH5044*	NAVD 88	-	31.89	(meters)	104.6	(feet)	GPS OBS										
9	<p>In conjunction with this datasheet95.w 7.87.5 release, the chk_pub.w, get_mark_list.w, get_radius_list.w, sup_marks.w, and pv_ret.w programs were recompiled with the new code and released as well.</p>																

The following tables have been added into the database.

**CORS\_REALIZATION\_DEF table** – tells what the possible CORS\_REALIZATION\_IDs (locals) are.

CORS_REALIZATION_ID	DEFINITION
MA	MARIANA TECTONIC PLATE
NA	NORTH AMERICAN TECTONIC PLATE
PA	PACIFIC TECTONIC PLATE

**DATUM\_ORIGIN\_POINT table** – tells us what UIDs are datum origin points and tells us what messages to print out on the datasheet whenever someone requests a PID associated with these UIDs. This is a new table in the database.

UID	DATUM	DATASHEET_MESSAGE	DATASHEET_MESSAGE_CONT
10209294	GU	This bench mark was chosen by the National Geodetic Survey to serve as the Datum Origin Point for the Guam Vertical Datum of 2004 (GUVD04).	The GUV04 height for this point was defined by NGS to be exactly 0.419 meters which is identical to the MSL height of this bench mark for Tidal Epoch 1983-2001 as determined by CO-OPS in April 2003.
11420395	88	""	""
11515212	PR	This bench mark was chosen by the National Geodetic Survey to serve as the Datum Origin Point for the Puerto Rico Vertical Datum of 2002 (PRVD02).	The PRVD02 height for this point was defined by NGS to be exactly 1.334 meters which is identical to the MSL height of this bench mark for Tidal Epoch 1960-1978 as determined by CO-OPS in November 2002.
11580446	AS	This bench mark was chosen by the National Geodetic Survey to serve as the Datum Origin Point for the American Samoa Vertical Datum of 2002 (ASVD02).	The ASVD02 height for this point was defined by NGS to be exactly 1.364 meters which is identical to the MSL height of this bench mark for Tidal Epoch 1983-2001 as determined by CO-OPS in April 2003.
11588189	NM	This bench mark was chosen by the National Geodetic Survey to serve as the Datum Origin Point for the Northern Marianas Vertical Datum of 2003 (NMVD03).	The NMVD03 height for this point was defined by NGS to be exactly 1.657 meters which is identical to the MSL height of this bench mark for Tidal Epoch 1983-2001 as determined by CO-OPS in April 2003.
11624102	VI	This bench mark was chosen by the National Geodetic Survey to serve as the Datum Origin Point for the Virgin Island Vertical Datum of 2009 (VIVD09) as realized on the island of St. Croix.	The VIVD09 height for this point was defined by NGS to be exactly 3.111 meters which is identical to the MSL height of this bench mark for Tidal Epoch 1983-2001 as determine by CO-OPS in April 2003.
11628959	VI	This bench mark was chosen by the National Geodetic Survey to serve as the Datum Origin Point for the Virgin Island Vertical Datum of 2009 (VIVD09) as realized on the island of St. John.	The VIVD09 height for this point was defined by NGS to be exactly 1.077 meters which is identical to the MSL height of this bench mark for Tidal Epoch 1983-2001 as determine by CO-OPS in April 2003.
11629231	VI	This bench mark was chosen by the National Geodetic Survey to serve as the Datum Origin Point for the Virgin Island Vertical Datum of 2009 (VIVD09) as realized on the island of St. Thomas.	The VIVD09 height for this point was defined by NGS to be exactly 1.552 meters which is identical to the MSL height of this bench mark for Tidal Epoch 1983-2001 as determine by CO-OPS in April 2003.

The following tables have been modified in the database. Changes are shown in purple.

**CORS\_REALIZATION\_TAG table** – holds CORS realization tags and the message to be displayed on the datasheet within specified time frames. This is a new table in the database.

<b>START_</b> <b>DATE</b>	<b>END_</b> <b>DATE</b>	<b>REALIZATION</b>	<b>DATASHEET_</b> <b>REALIZATION</b>	<b>DATASHEET_</b> <b>MESSAGE</b>
18000101	20110805	MARP00	CORS	The datum tag of NAD 83(CORS) is equivalent to NAD 83(MARP00)
20110806	20990101	MA11	MA11	NAD 83(MA11) refers to NAD 83 coordinates where the reference frame has been affixed to the stable Mariana Tectonic Plate.
18000101	20110805	MARP00	CORS	The datum tag of NAD 83(CORS) is equivalent to NAD 83(CORS96).
20110806	20990101	2011	2011	NAD 83(2011) refers to NAD 83 coordinates where the reference frame has been affixed to the stable North American Tectonic Plate.
18000101	20110805	PACP00	CORS	The datum tag of NAD 83(CORS) is equivalent to NAD 83(PACP00)
20110806	20990101	PA11	PA11	NAD 83(PA11) refers to NAD 83 coordinates where the reference frame has been affixed to the stable Pacific Tectonic Plate.

**GH\_SRCE\_DEF table** – new field of ABBREV was added. The values in this new column was previously hard-coded in the datasheet program.

<b>GEOID_SOURCE</b>	<b>DEFINITION</b>	<b>ABBREVIATION</b>
1	USGG2009	USGG2009
2	GEOID09	GEOID09
B	OSU89B	OSU 89B
C	GEOID90	GEOID90
D	TENNESSEE GEOID	TENN MD
E	FFT METHOD	FFT MET
F	UNADJUSTED FIELD	UNADJFL
G	OSU91A	OSU 91A
H	GEOID93	GEOID93
J	GEOID96	GEOID96
K	G96SSS	G96SSS
L	CARIB97	CARIB97
M	POST NAD83 180 MODEL	RAPOU78
N	MEXICO97	MEXIO97
O	OTHER	UNKNOWN
P	NAD83 180 MODEL	RAPP078
Q	360 MODEL	RAPSU86
R	EARTH GRAVITY MODEL 96	EGM96
S	SCALED, APPROXIMATE	SCALED
T	GEOID99	GEOID99
U	G99SSS	G99SSS
V	GEOIDX-US HYBRID GEOID	GEOIDXU
W	GEOID03	GEOID03
X	USGG2003	USGG2003
Y	GEOID06	GEOID06
Z	USGG2006	USGG2006

**H\_DATUM\_DEF table** – new fields of ABBREVIATION and ITRF\_FLAG were added. The ABBREV values in this table were previously hard-coded in the datasheet program and the ITRF\_FLAG column was added so that the CORS\_RET program could tell what DATUMs were ITRF datums and which one's weren't with a simple flag.

DATUM	DEFINITION	ABBREVIATION	ITRF_FLAG
00	UNDETERMINED	UNDT	NULL
08	INTNL GNSS SERVICE 2008 (IGS08)	IGS08	Y
27	NORTH AMERICAN DATUM OF 1927 (NAD27)	NAD 27	NULL
64	INTERNATIONAL GREAT LAKES DATUM OF 1964 (IGLD64)	IGLD64	NULL
72	WORLD GEODETIC SYSTEM OF 1972 (WGS72)	WGS72	NULL
83	NORTH AMERICAN DATUM OF 1983 (NAD83)	NAD 83	NULL
84	WORLD GEODETIC SYSTEM OF 1984 (WGS84)	WGS84	NULL
93	INTNL TERRESTRIAL REFERENCE FRAME 1993 (ITRF93)	ITRF93	Y
94	INTNL TERRESTRIAL REFERENCE FRAME 1994 (ITRF94)	ITRF94	Y
96	INTNL TERRESTRIAL REFERENCE FRAME 1996 (ITRF96)	ITRF96	Y
97	INTNL TERRESTRIAL REFERENCE FRAME 1997 (ITRF97)	ITRF97	Y
AN	ANCHORAGE PT ASTRO DATUM	AKAN	NULL
AS	AMERICAN SAMOA DATUM OF 1962 (ASD62)	ASD 62	NULL
BA	BARTER ISLAND DATUM 1948	AKBA	NULL
BS	BESSEL SPHEROID	USBS	NULL
CC	CAMP COLONA 1890 DATUM	AKCC	NULL
CS	CHARLESTON AND SAVANNAH DATUM	USCH	NULL
FW	KRIPNIYUK - KWIKLOKCHUN DATUM	AKFW	NULL
FX	FLAXMAN ISLAND DATUM 1912	AKFX	NULL
GO	GOLOFNIN BAY 1899 DATUM	AKGO	NULL
GU	GUAM DATUM OF 1963	GU1963	NULL
HI	OLD HAWAIIAN DATUM	OLD HI	NULL
IA	INDEPENDENT ASTRO 1880	USIA	NULL
IL	ILIAMNA ASTRO DATUM	AKIL	NULL
JI	JOHNSTON ISLAND DATUM OF 1961	JI1961	NULL
MI	MARY IS PT SIMPSON ASTRO DATUM	AKMI	NULL
MQ	MIDWAY ASTRO DATUM OF 1961 (MAD61)	MAD61	NULL
NO	NEW ORLEANS AND MOBILE DATUM	USNO	NULL
PB	POINT BARROW DATUM 1945	AKPB	NULL
PC	PORT CLARENCE ASTRO DATUM	AKPC	NULL
PR	PUERTO RICAN DATUM	PR	NULL
PW	PRINCE WILLIAM SOUND DATUM	AKPW	NULL
SE	SOUTHEAST ALASKA DATUM	AKSE	NULL
SG	ST GEORGE 1897 DATUM	AKSG	NULL
SM	SAINT MICHAEL ASTRO DATUM	AKSM	NULL
SP	SAINT PAUL 1897	AKSP	NULL
UN	UNALASKA DATUM	AKUN	NULL
US	UNITED STATES STANDARD DATUM	USSD	NULL
VD	VALDEZ DATUM	AKVD	NULL
VN	VICKSBURG NATCHEZ	USVN	NULL
WE	WAKE-ENIWETOK DATUM OF 1960	WE1960	NULL
WK	WAKE ISLAND ASTRO DATUM OF 1952	WK1952	NULL
YA	YAKUTAT 1892 DATUM	AKYA	NULL
YK	YUKON DATUM	AKYK	NULL

Z0	INTNL TERRESTRIAL REFERENCE FRAME 2000 (ITRF00)	ITRF00	Y
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**REG\_ADJ\_TAG** table – new field MESSAGE was added to implement the PPC’s statements in change #1 for this release.

REG_ADJ_ID	EPOCH	REGION_ID	SPONSOR	MESSAGE
17471	1990	1	TENNESSEE	NULL
17478	1990	2	FLORIDA	NULL
17497	1991	3	WISCONSIN	NULL
17499	1991	6	MARYLAND/DELAWARE	NULL
17509	1991	4	OREGON	NULL
17522	1991	5	WASHINGTON	NULL
17540	1992	10	ALABAMA	NULL
17549	1992	7	MONTANA/IDAHO	NULL
17550	1992	8	CALIFORNIA	NULL
17550/B	1992	38	SOUTHERN CALIFORNIA	NULL
17553	1992	9	COLORADO	NULL
17564	1992	11	LOUISIANA	NULL
17565	1992	12	ALASKA	NULL
17572	1992	13	ARIZONA	NULL
17582	1992	14	NORTHEAST	NULL
17589	1992	15	NEW MEXICO	NULL
17593	1994	16	SOUTH CAROLINA	NULL
17595	1993	17	PUERTO RICO/VIRGIN ISLANDS	NULL
17596	1993	18	TEXAS	NULL
17597	1993	21	OKLAHOMA	NULL
17599	1993	19	MISSISSIPPI	NULL
17607	1993	20	VIRGINIA	NULL
17611	1993	22	KENTUCKY	NULL
17615	1993	23	WYOMING	NULL
17619	1994	24	GEORGIA	NULL
17620	1994	25	NEVADA	NULL
17622	1993	26	HAWAII	NULL
17623	1994	27	UTAH	NULL
17624	1993	28	PACIFIC RIM	NULL
17626	1994	30	NORTHRIDGE PROJECT	NULL
17627	1994	31	MICHIGAN	NULL
17628	1995	33	WEST VIRGINIA	NULL
17629	1995	34	TENNESSEE 2	NULL
17640	1995	36	NEBRASKA	NULL
17645	1995	39	NORTH CAROLINA - SOUTH CAROLINA	NULL
17647	1996	40	CARIBBEAN	NULL
17648	1996	41	MINNESOTA	NULL
17649	1997	46	PUERTO RICO/VIRGIN ISLANDS LARGE	NULL
17650	1996	42	SOUTH DAKOTA	NULL
17655	1996	43	NORTH DAKOTA - SOUTH DAKOTA	NULL
17656	1996	44	IOWA	NULL
17657	1996	45	NORTHEAST LARGE	NULL
17658	1995	50	OHIO/WEST VIRGINIA	NULL
17659	1997	47	ARKANSAS	NULL

17661	1997	48	KANSAS	NULL
17663	1997	53	ILLINOIS	NULL
17664	1997	51	INDIANA	NULL
17665	1997	49	MISSOURI	NULL
17673	1997	54	WISCONSIN 2	NULL
17676	1998	56	WASHINGTON 2	NULL
17677	1998	55	OREGON 2	NULL
17679	1998	57	CALIFORNIA 2	NULL
17680	1999	58	NEVADA 2	NULL
17682	1999	59	MONTANA/IDAHO 2	NULL
17684	1999	60	FLORIDA 2	NULL
17686	2001	61	HONDURAS	NULL
17690	2001	62	NORTH CAROLINA - SOUTH CAROLINA 2	NULL
17691	2002	63	AMERICAN SAMOA	NULL
17692	2002	64	PUERTO RICO/VIRGIN ISLANDS LARGE 2	NULL
17695	2002	65	NORTHERN MARIANAS	NULL
17696	2007	66	UNITED STATES	The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007). See <a href="http://www.ngs.noaa.gov/NationalReadjustment">www.ngs.noaa.gov/NationalReadjustment</a> for more information.
17697	2011	66	UNITED STATES	NAD 83(2011) refers to NAD 83 coordinates where the reference frame has been affixed to the stable North American Tectonic Plate.
17698	2011	65	NORTHERN MARIANAS	NAD 83(MA11) refers to NAD 83 coordinates where the reference frame has been affixed to the stable Mariana Tectonic Plate.
17699	2011	66	HAWAII-AMERICAN SAMOA	NAD 83(PA11) refers to NAD 83 coordinates where the reference frame has been affixed to the stable Pacific Tectonic Plate.

**STATES table** – new column of CORS\_REALIZATION\_ID added.

\*Note: Not all columns in the STATES table are shown here.

STATE	COUNTRY_FIPS	STATE_NAME	CORS_REALIZATION_ID	ASIA_FLAG	AFRICA_FLAG
AA	AA	UNIDENTIFIED REGION OF ARUBA	NULL	NULL	NULL
AB	CA	ALBERTA	NA	NULL	NULL
AC	AC	UNIDENTIFIED PARISH OF ANTIGUA AND BARBUDA	NULL	NULL	NULL

AD	HO	ATLANTIDA	NULL	NULL	NULL
AF	AF	UNIDENTIFIED DISTRICT OF AFGHANISTAN	NA	Y	N
AG	MX	AGUASCALIENTES	NA	NULL	NULL
AH	ES	AHUACHAPAN	NULL	NULL	NULL
AI	BN	ALIBORI DEPARTMENT	NA	NULL	Y
AJ	AR	UNIDENTIFIED PROVINCE OF ARGENTINA	NULL	NULL	NULL
AK	US	ALASKA	NA	NULL	NULL
AL	US	ALABAMA	NA	NULL	NULL
AN	NU	ATLANTICO NORTE	NULL	NULL	NULL
AO	BN	ATAKORA DEPARTMENT	NA	NULL	Y
AQ	BN	ATLANTIQUE DEPARTMENT	NULL	NULL	Y
AR	US	ARKANSAS	NA	NULL	NULL
AS	US	AMERICAN SAMOA	PA	NULL	NULL
AT	NU	ATLANTICO SUR	NULL	NULL	NULL
AV	AV	UNIDENTIFIED PROVINCE OF ANGUILLA	NULL	NULL	NULL
AY	AY	UNIDENTIFIED PROVINCE OF ANTARTICA	NULL	NULL	NULL
AZ	US	ARIZONA	NA	NULL	NULL
BA	HO	SANTA BARBARA	NULL	NULL	NULL
BB	BB	UNIDENTIFIED PARISH OF BARBADOS	NA	NULL	NULL
BC	CA	BRITISH COLUMBIA	NA	NULL	NULL
BD	BD	UNIDENTIFIED PARISH OF BERMUDA	NA	NULL	NULL
BE	BN	COLLINES DEPARTMENT	NA	NULL	Y
BF	BF	UNIDENTIFIED DISTRICT OF BAHAMA ISLANDS	NULL	NULL	NULL
BG	BN	BORGOU DEPARTMENT	NA	NULL	Y
BH	BH	UNIDENTIFIED DISTRICT OF BELIZE (BRITISH HONDURAS)	NULL	NULL	NULL
BL	BL	UNIDENTIFIED DEPARTMENT OF BOLIVA	NULL	NULL	NULL
BN	MX	BAJA CALIFORNIA NORTE	NA	NULL	NULL
BO	NU	BOACO	NULL	NULL	NULL
BQ	US	NAVASSA ISLAND	NA	NULL	NULL
BR	BR	UNIDENTIFIED STATE OF BRAZIL	NA	NULL	NULL
BS	MX	BAJA CALIFORNIA SUR	NA	NULL	NULL
BV	GT	BAJA VERAPAZ	NULL	NULL	NULL
CA	US	CALIFORNIA	NA	NULL	NULL
CB	CO	UNIDENTIFIED DEPARTMENT OF COLOMBIA	NA	NULL	NULL
CC	MX	CHIHUAHUA	NULL	NULL	NULL
CD	CA	UNIDENTIFIED PROVINCE OF CANADA	NULL	NULL	NULL
CE	HO	CHOLUTECA	NULL	NULL	NULL
CF	CT	UNIDENTIFIED PREFECTURE OF CENTRAL AFRICAN REPUBLIC	NULL	NULL	Y
CG	NU	CHINANDEGA	NULL	NULL	NULL
CH	MX	CHIAPAS	NA	NULL	NULL
CI	CI	UNIDENTIFIED REGION OF CHILE	NULL	NULL	NULL
CJ	CJ	UNIDENTIFIED DISTRICT OF CAYMAN ISLANDS	NA	NULL	NULL
CK	HO	COLON	NULL	NULL	NULL
CL	MX	COLIMA	NA	NULL	NULL
CM	MX	CAMPECHE	NA	NULL	NULL
CN	NU	CHONTALES	NULL	NULL	NULL



CO	US	COLORADO	NA	NULL	NULL
CP	CP	UNIDENTIFIED REGION OF CURACAO	NULL	NULL	NULL
CQ	CQ	PROVINCE OF NORTHERN MARIANA ISLANDS	MA	NULL	NULL
CR	CS	UNIDENTIFIED PROVINCE OF COSTA RICA	NA	NULL	NULL
CS	ES	CABANAS	NULL	NULL	NULL
CT	US	CONNECTICUT	NA	NULL	NULL
CU	CU	UNIDENTIFIED PROVINCE OF CUBA	NA	NULL	NULL
CV	HO	CORTES	NULL	NULL	NULL
CW	CH	UNIDENTIFIED PROVINCE OF CHINA	NULL	Y	NULL
CX	HO	COPAN	NULL	NULL	NULL
CY	HO	COMAYAGUA	NULL	NULL	NULL
CZ	MX	COAHUILA DE ZARAGOZA	NULL	NULL	NULL
DA	DA	UNIDENTIFIED COUNTY OF DENMARK	NULL	NULL	NULL
DC	US	DISTRICT OF COLUMBIA	NA	NULL	NULL
DE	US	DELAWARE	NA	NULL	NULL
DF	MX	DISTRITO FEDERAL	NA	NULL	NULL
DI	IN	UNIDENTIFIED TERRITORY OF INDIA	NULL	Y	NULL
DN	BN	DONGA DEPARTMENT	NULL	NULL	Y
DO	DO	UNIDENTIFIED PARISH OF DOMINICA	NULL	NULL	NULL
DR	DR	UNIDENTIFIED PROVINCE OF DOMINICAN REPUBLIC	NULL	NULL	NULL
DU	MX	DURANGO	NULL	NULL	NULL
EC	EC	UNIDENTIFIED PROVINCE OF ECUADOR	NA	NULL	NULL
EG	EG	UNIDENTIFIED GOVERNORATE OF EGYPT	NULL	NULL	Y
EL	NU	ESTELI	NULL	NULL	NULL
EN	GT	ESCUINTLA	NULL	NULL	NULL
EP	GT	EL PROGRESO	NULL	NULL	NULL
ER	HO	EL PARAISO	NULL	NULL	NULL
ES	ES	UNIDENTIFIED DEPARTMENT OF EL SALVADOR	NA	NULL	NULL
ET	ET	UNIDENTIFIED REGION OF ETHIOPIA	NA	NULL	Y
FG	FG	UNIDENTIFIED PROVINCE OF FRENCH GUIANA	NULL	NULL	Y
FI	FI	UNIDENTIFIED PROVINCE OF FINLAND	NULL	NULL	NULL
FL	US	FLORIDA	NA	NULL	NULL
FM	FM	UNIDENTIFIED PROVINCE OF FEDERATED STATES OF MICRONESIA	NULL	NULL	NULL
FN	FR	UNIDENTIFIED REGION OF FRANCE	NULL	NULL	NULL
FR	HO	FRANCISCO MORAZAN	NULL	NULL	NULL
GA	US	GEORGIA	NA	NULL	NULL
GB	MX	GUANAJUATO	NULL	NULL	NULL
GD	HO	GRACIAS A DIOS	NULL	NULL	NULL
GE	GT	GUATEMALA	NULL	NULL	NULL
GJ	GJ	UNIDENTIFIED PARISH OF GRENADA	NULL	NULL	NULL
GL	GL	UNIDENTIFIED MUNICIPALITY OF GREENLAND	NULL	NULL	NULL
GM	GM	UNIDENTIFIED STATE OF GERMANY	NULL	NULL	NULL
GN	NU	GRANADA	NULL	NULL	NULL
GP	GP	UNIDENTIFIED PROVINCE OF GUADELOUPE	NULL	NULL	NULL
GR	MX	GUERRERO	NULL	NULL	NULL

GT	GT	UNIDENTIFIED DEPARTMENT OF GUATEMALA	NA	NULL	NULL
GU	US	GUAM	MA	NULL	NULL
GY	GY	UNIDENTIFIED REGION OF GUYANA	NULL	NULL	NULL
HA	HA	UNIDENTIFIED DEPARTMENT OF HAITI	NA	NULL	NULL
HD	MX	HIDALGO	NULL	NULL	NULL
HI	US	HAWAII	PA	NULL	NULL
HL	ES	CHALATENANGO	NULL	NULL	NULL
HO	HO	UNIDENTIFIED DEPARTMENT OF HONDURAS	NA	NULL	NULL
HU	GT	HUEHUETENANGO	NULL	NULL	NULL
HV	GT	ALTA VERAPAZ	NULL	NULL	NULL
IA	US	IOWA	NA	NULL	NULL
IB	HO	ISLAS DE LA BAHIA	NULL	NULL	NULL
IC	IC	UNIDENTIFIED COUNTY OF ICELAND	NULL	NULL	NULL
ID	US	IDAHO	NA	NULL	NULL
II	HO	INTIBUCA	NULL	NULL	NULL
IL	US	ILLINOIS	NA	NULL	NULL
IN	US	INDIANA	NA	NULL	NULL
IT	IT	UNIDENTIFIED REGION OF ITALY	NULL	NULL	NULL
IZ	IZ	IRAQ	NA	Y	NULL
JA	JA	UNIDENTIFIED PREFECTURE OF JAPAN	NULL	Y	NULL
JI	NU	JINOTEGA	NULL	NULL	NULL
JL	MX	JALISCO	NA	NULL	NULL
JM	JM	UNIDENTIFIED PARISH OF JAMAICA	NA	NULL	NULL
JQ	US	JOHNSTON ATOLL	NA	NULL	NULL
JU	GT	JUTIAPA	NULL	NULL	NULL
KO	BN	KOUFFO DEPARTMENT	NULL	NULL	Y
KS	US	KANSAS	NA	NULL	NULL
KY	US	KENTUCKY	NA	NULL	NULL
LA	US	LOUISIANA	NA	NULL	NULL
LE	NU	LEON	NULL	NULL	NULL
LI	BN	LITTORAL DEPARTMENT	NA	NULL	Y
LL	ES	LA LIBERTAD	NULL	NULL	NULL
LM	HO	LEMPIRA	NULL	NULL	NULL
LN	ES	CUSCATLAN	NULL	NULL	NULL
LP	ES	LA PAZ	NULL	NULL	NULL
LT	GT	CHIMALTENANGO	NULL	NULL	NULL
LU	ES	LA UNION	NULL	NULL	NULL
LZ	HO	LA PAZ	NULL	NULL	NULL
MA	US	MASSACHUSETTS	NA	NULL	NULL
MB	CA	MANITOBA	NA	NULL	NULL
MC	MX	MICHOACAN DE OCAMPO	NULL	NULL	NULL
MD	US	MARYLAND	NA	NULL	NULL
ME	US	MAINE	NA	NULL	NULL
MF	MX	MORELOS	NULL	NULL	NULL
MG	NU	MANAGUA	NULL	NULL	NULL
MH	MH	UNIDENTIFIED PARISH OF MONTSERRAT	NULL	NULL	NULL
MI	US	MICHIGAN	NA	NULL	NULL
MJ	MX	MEXICO	NA	NULL	NULL
ML	ML	PROVINCE OF REPUBLIC OF MARSHALL ISLANDS	PA	NULL	NULL
MN	US	MINNESOTA	NA	NULL	NULL
MO	US	MISSOURI	NA	NULL	NULL

MP	NU	MATAGALPA	NULL	NULL	NULL
MQ	US	MIDWAY ISLANDS	NA	NULL	NULL
MR	MR	UNIDENTIFIED PROVINCE OF MARTINIQUE	NULL	NULL	NULL
MS	US	MISSISSIPPI	NA	NULL	NULL
MT	US	MONTANA	NA	NULL	NULL
MU	BN	MONO DEPARTMENT	NULL	NULL	Y
MX	MX	UNIDENTIFIED STATE OF MEXICO	NA	NULL	NULL
MY	NU	MASAYA	NULL	NULL	NULL
MZ	NU	MADRIZ	NULL	NULL	NULL
NA	MX	NAYARIT	NULL	NULL	NULL
NB	CA	NEW BRUNSWICK	NULL	NULL	NULL
NC	US	NORTH CAROLINA	NA	NULL	NULL
ND	US	NORTH DAKOTA	NA	NULL	NULL
NE	US	NEBRASKA	NA	NULL	NULL
NF	CA	NEWFOUNDLAND	NA	NULL	NULL
NH	US	NEW HAMPSHIRE	NA	NULL	NULL
NI	NU	UNIDENTIFIED DEPARTMENT OF NICARAGUA	NA	NULL	NULL
NJ	US	NEW JERSEY	NA	NULL	NULL
NL	MX	NUEVO LEON	NA	NULL	NULL
NM	US	NEW MEXICO	NA	NULL	NULL
NN	CA	NUNAVUT	NA	NULL	NULL
NO	NO	UNIDENTIFIED PROVINCE OF NORWAY	NULL	NULL	NULL
NP	NP	UNIDENTIFIED ZONE OF NEPAL	NULL	Y	NULL
NS	CA	NOVA SCOTIA	NULL	NULL	NULL
NT	NT	UNIDENTIFIED PROVINCE OF NETHERLANDS ANTILLES	NULL	NULL	NULL
NU	NU	NUEVA SEGOVIA	NA	NULL	NULL
NV	US	NEVADA	NA	NULL	NULL
NW	CA	NORTHWEST TERRITORIES	NA	NULL	NULL
NY	US	NEW YORK	NA	NULL	NULL
NZ	NZ	UNIDENTIFIED DISTRICT OF NEW ZEALAND	NULL	NULL	NULL
OC	HO	OCOTEPEQUE	NULL	NULL	NULL
OH	US	OHIO	NA	NULL	NULL
OK	US	OKLAHOMA	NA	NULL	NULL
OL	HO	OLANCHO	NULL	NULL	NULL
ON	CA	ONTARIO	NA	NULL	NULL
OR	US	OREGON	NA	NULL	NULL
OU	BN	OUEME DEPARTMENT	NULL	NULL	Y
OX	MX	OAXACA	NA	NULL	NULL
PA	US	PENNSYLVANIA	NA	NULL	NULL
PE	CA	PRINCE EDWARD ISLAND	NULL	NULL	NULL
PL	BN	PLATEAU DEPARTMENT	NULL	NULL	Y
PN	PM	UNIDENTIFIED PROVINCE OF PANAMA	NULL	NULL	NULL
PQ	CA	QUEBEC	NA	NULL	NULL
PR	US	PUERTO RICO	NA	NULL	NULL
PT	GT	PETEN	NULL	NULL	NULL
PU	MX	PUEBLA	NULL	NULL	NULL
PW	PW	PROVINCE OF REPUBLIC OF PALAU	NULL	NULL	NULL
PY	PA	UNIDENTIFIED DEPARTMENT OF PARAGUAY	NULL	NULL	NULL
QA	MX	QUERETARO DE ARTEAGA	NULL	NULL	NULL

QI	GT	QUICHE	NULL	NULL	NULL
QR	MX	QUINTANA ROO	NA	NULL	NULL
QT	GT	QUETZALTENANGO	NULL	NULL	NULL
QU	GT	CHIQUIMULA	NULL	NULL	NULL
RE	GT	RETALHULEU	NULL	NULL	NULL
RI	US	RHODE ISLAND	NA	NULL	NULL
RN	ES	MORAZAN	NULL	NULL	NULL
RO	RO	UNIDENTIFIED COUNTY OF ROMANIA	NULL	NULL	NULL
RP	RP	UNIDENTIFIED PROVINCE OF PHILIPPINE ISLANDS	NULL	Y	NULL
RS	NU	RIO SAN JUAN	NULL	NULL	NULL
RV	NU	RIVAS	NULL	NULL	NULL
RZ	NU	CARAZO	NULL	NULL	NULL
SA	SA	UNIDENTIFIED EMIRATE OF SAUDI ARABIA	NULL	Y	NULL
SB	MX	SONORA	NA	NULL	NULL
SC	US	SOUTH CAROLINA	NA	NULL	NULL
SD	US	SOUTH DAKOTA	NA	NULL	Y
SE	ES	SONSONATE	NULL	NULL	NULL
SF	SF	UNIDENTIFIED PROVINCE OF SOUTH AFRICA	NULL	NULL	Y
SG	GT	SUCHITEPEQUEZ	NULL	NULL	NULL
SH	SH	UNIDENTIFIED DEPENDENCY OF SAINT HELENA ISLANDS	NULL	NULL	NULL
SI	MX	SINALOA	NA	NULL	NULL
SJ	SJ	UNIDENTIFIED REGION of ST MAARTEN	NULL	NULL	NULL
SK	CA	SASKATCHEWAN	NA	NULL	NULL
SL	MX	SAN LUIS POTOSI	NULL	NULL	NULL
SM	ES	SAN MIGUEL	NULL	NULL	NULL
SN	SN	UNIDENTIFIED PARISH OF ST KITTS AND NEVIS	NULL	NULL	NULL
SO	SO	UNIDENTIFIED REGION OF SOMALIA	NULL	NULL	Y
SP	GT	SACATEPEQUEZ	NULL	NULL	NULL
SQ	GT	SOLOLA	NULL	NULL	NULL
SR	NS	UNIDENTIFIED DISTRICT OF SURINAM	NA	NULL	NULL
SS	ES	SAN SALVADOR	NULL	NULL	NULL
ST	ST	UNIDENTIFIED QUARTER OF ST LUCIA	NULL	NULL	NULL
SU	SU	UNIDENTIFIED REGION OF SUDAN	NULL	NULL	Y
SV	ES	SAN VICENTE	NULL	NULL	NULL
SW	SW	UNIDENTIFIED PROVINCE IN SWEDEN	NULL	NULL	NULL
SX	ES	SANTA ANA	NULL	NULL	NULL
SY	GT	SANTA ROSA	NULL	NULL	NULL
SZ	GT	SAN MARCOS	NULL	NULL	NULL
TB	MX	TABASCO	NULL	NULL	NULL
TD	TD	UNIDENTIFIED COUNTY OF TRINIDAD AND TOBAGO	NULL	NULL	NULL
TK	TK	UNIDENTIFIED PROVINCE OF TURKS and CAICOS ISLANDS	NA	NULL	NULL
TL	MX	TLAXCALA	NULL	NULL	NULL
TM	MX	TAMAULIPAS	NULL	NULL	NULL
TN	US	TENNESSEE	NA	NULL	NULL
TO	GT	TOTONICAPAN	NULL	NULL	NULL
TQ	US	TRUST TERRITORY OF THE PACIFIC ISLANDS	NA	NULL	NULL

TW	TW	UNIDENTIFIED PROVINCE OF TAIWAN	NULL	Y	NULL
TX	US	TEXAS	NA	NULL	NULL
TZ	TZ	UNIDENTIFIED REGION OF TANZANIA	NULL	NULL	Y
UG	UG	UNIDENTIFIED PROVINCE OF UGANDA	NULL	NULL	Y
UK	UK	UNIDENTIFIED COUNTY IN UNITED KINGDOM	NULL	NULL	NULL
UM	US	MINOR OUTLYING ISLANDS	NA	NULL	NULL
UN	ES	USULUTAN	NULL	NULL	NULL
UR	UR	UNIDENTIFIED REPUBLIC OF THE SOVIET UNION	NULL	Y	NULL
US	US	UNIDENTIFIED STATE OF THE UNITED STATES	NA	NULL	NULL
UT	US	UTAH	NA	NULL	NULL
UY	UY	UNIDENTIFIED DEPARTMENT OF URUGUAY	NULL	NULL	NULL
VA	US	VIRGINIA	NA	NULL	NULL
VC	VC	UNIDENTIFIED PARISH OF ST VINCENT AND GRENADINES	NULL	NULL	NULL
VE	VE	UNIDENTIFIED STATE OF VENEZUELA	NULL	NULL	NULL
VI	VI	UNIDENTIFIED PROVINCE OF BRITISH VIRGIN ISLANDS	NULL	NULL	NULL
VL	MX	VERACRUZ-LLAVE	NULL	NULL	NULL
VQ	US	US VIRGIN ISLANDS	NA	NULL	NULL
VT	US	VERMONT	NA	NULL	NULL
VX	HO	VALLE	NULL	NULL	NULL
WA	US	WASHINGTON	NA	NULL	NULL
WG	GE	UNIDENTIFIED STATE IN WEST GERMANY	NULL	NULL	NULL
WI	US	WISCONSIN	NA	NULL	NULL
WQ	US	WAKE ISLAND	NA	NULL	NULL
WV	US	WEST VIRGINIA	NA	NULL	NULL
WY	US	WYOMING	NA	NULL	NULL
YK	CA	YUKON TERRITORY	NA	NULL	NULL
YO	HO	YORO	NULL	NULL	NULL
YU	MX	YUCATAN	NA	NULL	NULL
ZA	ZA	UNIDENTIFIED PROVINCE OF ZAMBIA	NULL	NULL	Y
ZC	MX	ZACATECAS	NULL	NULL	NULL
ZO	BN	ZOU DEPARTMENT	NA	NULL	Y
ZP	GT	ZACAPA	NULL	NULL	NULL

\*Note: For a *CORS station* you have to make the STATES.CORS\_REALIZATION\_ID equal to "NA", "PA", or "MA" if you want it to appear on the NAD 83 line of datasheets (i.e. (2011))!

**V\_DATUM\_DEF table** – new column of ABBREV was added here to get this into the database and out of hard-code in the datasheet95.w program. The values in the ABBREV column were also shortened from 8 characters to 13 characters to keep the datasheet output in alignment with the new upcoming formatting changes in the near future.

V\_DATUM\_DEF table – new field of ABBREVIATION was added.

<b>DATUM</b>	<b>DEFINITION</b>	<b>ABBREVIATION</b>
00	UNDETERMINED	UNDT
29	NATIONAL GEODETIC VERTICAL DATUM OF 1929	NGVD 29
55	INTERNATIONAL GREAT LAKES DATUM OF 1955	IGLD55
85	INTERNATIONAL GREAT LAKES DATUM OF 1985	IGLD85
88	NORTH AMERICAN VERTICAL DATUM OF 1988	NAVD 88
AS	AMERICAN SAMOA VERTICAL DATUM OF 2002	ASVD02
G1	GUAM VERTICAL DATUM OF 1963	GUVD63
GU	GUAM VERTICAL DATUM OF 2004	GUVD04
LT	LOCAL MEAN SEA LEVEL	LMSL
NM	NORTHERN MARIANAS VERTICAL DATUM OF 2003	NMVD03
PR	PUERTO RICO VERTICAL DATUM OF 2002	PRVD02
VI	VIRGIN ISLANDS VERTICAL DATUM OF 2009	VIVD09

## Version 7.87.4.2 released at 10:48am on 01/25/2012

This is a patch release to fix the issue with “excess” descriptive text coming out onto CORS datasheets whenever the CORS type is a monument (i.e. cors\_type='M'). CORS monuments are also considered to be passive monuments and all passive monuments must (according to OAD) have descriptive text associated with them in the TEXT table. The problem is that CORS datasheets should display only the standard CORS paragraph (i.e. starting with “THIS MONUMENT IS ASSOCIATED WITH CORS SITE...”) and not also the descriptive text on the datasheets.

In the sample below for mark DL9239, the datasheet should print out the text beginning with “THIS MONUMENT IS ASSOCIATED WITH CORS SITE...” but not the text “CGPS(CONTINUOUS GPS) STATION... PLATE BOUNDARY OBSERVATORY CGPS SITE.” which is the descriptive text loaded in for this (passive) monument.

This is also a patch release to fix a problem introduced by the implementation of the code that was using fork() and then wait() to run a command (i.e. a system call to run the chk\_pub program within datasheet95) and then wait() for completion. waitpid() is used instead of wait() to resolve the issue of a wait() that never sees the return of its child process, the system call to chk\_pub, but rather sees the return of the other child process first, the Oracle DBAuthentication child.

```
DL9239
DL9239          STATION DESCRIPTION
DL9239
DL9239'DESCRIBED BY UNAVCO-PBO 2008
DL9239'THIS MONUMENT IS ASSOCIATED WITH CORS SITE 'P344'
DL9239'LATEST INFORMATION INCLUDING POSITIONS AND VELOCITIES
DL9239'ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE
DL9239'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.
DL9239'  FTP CORS.NGS.NOAA.GOV: CORS/COORD AND CORS/STATION_LOG
DL9239'  HTTP://WWW.NGS.NOAA.GOV/CORS.
DL9239'
DL9239'
DL9239'CGPS (CONTINUOUS GPS) STATION.  INFORMATION ABOUT THIS SITE, SUCH AS
DL9239'THE GRP, ANTENNA TYPE AND ANTENNA HEIGHT, CAN BE FOUND AT THE CSRC
DL9239'DATA PORTAL WEBSITE.
DL9239'
DL9239'THE STATION IS A PLATE BOUNDARY OBSERVATORY CGPS SITE.

*** retrieval complete.
Elapsed Time = 00:00:01
```

### **Version 7.87.4.1 released at 7:43pm on 10/05/2011**

This is a patch release to fix a problem introduced by the implementation of the DBAuthentication module. The code was using fork and then wait to run a command and wait for completion. Wait system call randomly waits for a child process to be complete. Since DBAuthentication launches a child process the code was coming out of the wait when the Oracle process exited. Waitpid should be used instead of wait. Also there was no real need to use fork/wait. A direct call to the “system” function would have sufficed.

### **Version 7.87.4 released at 12:01pm on 08/01/2011**

This release is to implement the new database authentication process for NGS Applications for datasheet95.



## Version 7.87.3 released at 3:29pm on 07/11/2011

This release implements the following changes:

**Part 1a:** Add horizontal datum abbreviations to the H\_DATUM\_DEF table and modifying the program so that the addition of any *historical* horizontal datum to the H\_DATUM\_DEF table will not require the datasheet95 program to be recompiled (unless some other field/text needs to be added/updated for some odd reason).

The abbreviations for all of the horizontal datums were added to the H\_DATUM\_DEF table to make it so that the datasheet95 program no longer needs a hardcoded value for the horizontal datum abbreviation and thus, in combination with updating the code to use this table, any future addition of a *historical* horizontal datum to the H\_DATUM\_DEF table will no longer require the datasheet95 program to have to be recompiled to accommodate it (unless additional things like new paragraphs/text or other fields need to be modified on the datasheets).

The H\_DATUM\_DEF table now appears as such:

```
1> select * from H_DATUM_DEF
2> go
```

DATUM	DEFINITION	ABBREVIATION
00	UNDETERMINED	UNDT
27	NORTH AMERICAN DATUM OF 1927 (NAD27)	NAD 27
64	INTERNATIONAL GREAT LAKES DATUM OF 1964 (IGLD64)	IGLD64
72	WORLD GEODETIC SYSTEM OF 1972 (WGS72)	WGS72
83	NORTH AMERICAN DATUM OF 1983 (NAD83)	NAD 83
84	WORLD GEODETIC SYSTEM OF 1984 (WGS84)	WGS84
93	INTNL TERRESTRIAL REFERENCE FRAME 1993 (ITRF93)	ITRF93
94	INTNL TERRESTRIAL REFERENCE FRAME 1994 (ITRF94)	ITRF94
96	INTNL TERRESTRIAL REFERENCE FRAME 1996 (ITRF96)	ITRF96
97	INTNL TERRESTRIAL REFERENCE FRAME 1997 (ITRF97)	ITRF97
AN	ANCHORAGE PT ASTRO DATUM	AKAN
AS	AMERICAN SAMOA DATUM OF 1962 (ASD62)	ASD 62
BA	BARTER ISLAND DATUM 1948	AKBA
BS	BESSEL SPHEROID	USBS
CC	CAMP COLONA 1890 DATUM	AKCC
CS	CHARLESTON AND SAVANNAH DATUM	USCH
FW	KRIPNIYUK - KWIKLOKCHUN DATUM	AKFW
FX	FLAXMAN ISLAND DATUM 1912	AKFX
GO	GOLOFNIN BAY 1899 DATUM	AKGO
GU	GUAM DATUM OF 1963	GU1963
HI	OLD HAWAIIAN DATUM	OLD HI
IA	INDEPENDENT ASTRO 1880	USIA
IL	ILIAMNA ASTRO DATUM	AKIL
JI	JOHNSTON ISLAND DATUM OF 1961	JI1961
MI	MARY IS PT SIMPSON ASTRO DATUM	AKMI
MQ	MIDWAY ASTRO DATUM OF 1961 (MAD61)	MAD61
NO	NEW ORLEANS AND MOBILE DATUM	USNO
PB	POINT BARROW DATUM 1945	AKPB
PC	PORT CLARENCE ASTRO DATUM	AKPC
PR	PUERTO RICAN DATUM	PR

PW	PRINCE WILLIAM SOUND DATUM	AKPW
SE	SOUTHEAST ALASKA DATUM	AKSE
SG	ST GEORGE 1897 DATUM	AKSG
SM	SAINTE MICHAEL ASTRO DATUM	AKSM
SP	SAINTE PAUL 1897	AKSP
UN	UNALASKA DATUM	AKUN
US	UNITED STATES STANDARD DATUM	USSD
VD	VALDEZ DATUM	AKVD
VN	VICKSBURG NATCHEZ	USVN
WE	WAKE-ENIWETOK DATUM OF 1960	WE1960
WK	WAKE ISLAND ASTRO DATUM OF 1952	WK1952
YA	YAKUTAT 1892 DATUM	AKYA
YK	YUKON DATUM	AKYK
Z0	INTNL TERRESTRIAL REFERENCE FRAME 2000 (ITRF00)	ITRF00

**Part 1b:** Extract hardcoded state categories (i.e. African States, Asian States, Caribbean States, Central American States, CONUS States, European States, Pacific Island States, South American States, US [non-territory] States) from the code and put them into the NGSIDB.STATES table. To accomplish this, several SQL scripts were written to create new columns in the STATES table as well as the routines to retrieve them from the STATES table. All routines using the former hardcoded states now use the updated modules that extract the states from the STATE table.

The following are the states considered to be African states:

```
1> select STATE from STATES where AFRICA_FLAG="Y"
2> go
STATE
-----
AF  AI  AO  AQ  BE  BG  CF  DN  EG  ET  FG  KO  LI  MU  OU  PL  SD  SF  SO
SU  TZ  UG  ZA  ZO
```

The following are the states considered to be Asian states:

```
1> select STATE from STATES where ASIA_FLAG="Y"
2> go
STATE
-----
CH  CW  DI  IZ  JA  NP  RP  SA  TW  UR
```

The following are the states considered to be Caribbean states:

```
1> select STATE from STATES where CARIBBEAN_FLAG="Y"
2> go
STATE
-----
AA AC AV BB BF BQ CJ CP CU DO DR GJ GP GY HA JM MH MR NT
PR SJ SN ST TD TK VC VI VQ
```

The following are the states considered to be Central American states:

```
1> select STATE from STATES where CENTRAL_AMERICA_FLAG="Y"
2> go
STATE
-----
AD AG AH AN AT BA BH BN BO BS BV CC CE CG CH CK CL CM CN
CR CS CV CX CY CZ DF DU EL EN EP ER ES FR GB GD GE GN GR
GT HD HL HO HU HV IB II JI JL JU LE LL LM LN LP LT LU LZ
MC MF MG MJ MP MX MY MZ NA NI NL NU OC OL OX PN PT PU QA
QI QR QT QU RE RN RS RV RZ SB SE SG SI SL SM SP SQ SS SV
SX SY SZ TB TL TM TO UN VL VX YO YU ZC ZP
```

The following are the states considered to be CONUS states:

```
1> select STATE from STATES where CONUS_FLAG="Y"
2> go
STATE
-----
AL AR AZ CA CO CT DC DE FL GA IA ID IL IN KS KY LA MA MD
ME MI MN MO MS MT NC ND NE NH NJ NM NV NY OH OK OR PA RI
SC SD TN TX UT VA VT WA WI WV WY
```

The following are the states considered to be European states:

```
1> select STATE from STATES where EUROPE_FLAG="Y"
2> go
STATE
-----
DA FI FN GL GM IC IT NO RO SW UK WG
```

The following are the states considered to be Pacific Island states:

```
1> select STATE from STATES where PACIFIC_ISLAND_FLAG="Y"
2> go
STATE
-----
CQ FM GU JQ ML MQ PW TQ UM WQ
```

The following are the states considered to be South American states:

```
1> select STATE from STATES where SOUTH_AMERICA_FLAG="Y"
2> go
STATE
-----
AJ BL BR CB CI EC PY SR UY VE
```

**Part 1c:** Extract the hard coded state codes from the routines that get all the states for specific countries (i.e. Canada, El Salvador, Honduras, Guatemala, and Mexico) and get them instead from the STATES table. To accomplish this, several SQL scripts were to extract the data from the STATES table by country and a new routine was also written to allow the retrieval of any country's states if given the COUNTRY\_FIPs code.

**The states of Canada, using the new stored procedure, are:**

```
1> RET_STATES_BY_COUNTRY "CA"
2> go
STATE
-----
AB BC CD MB NB NF NN NS NW ON PE PQ SK YK
```

**The states of El Salvador, using the new stored procedure, are:**

```
1> RET_STATES_BY_COUNTRY "ES"
2> go
STATE
-----
AH CS ES HL LL LN LP LU RN SE SM SS SV SX UN
```

**The states of Guatemala, using the new stored procedure, are:**

```
1> RET_STATES_BY_COUNTRY "GT"
2> go
STATE
-----
BV EN EP GE GT HU HV JU LT PT QI QT QU RE SG SP SQ SY SZ
TO ZP
```

**The states of Honduras, using the new stored procedure, are:**

```
1> RET_STATES_BY_COUNTRY "HO"
2> go
STATE
-----
AD BA CE CK CV CX CY ER FR GD HO IB II LM LZ OC OL VX YO
```

**The states of Mexico, using the new stored procedure, are:**

```
1> RET_STATES_BY_COUNTRY "MX"  
2> go  
STATE  
-----  
AG  BN  BS  CC  CH  CL  CM  CZ  DF  DU  GB  GR  HD  JL  MC  MF  MJ  MX  NA  
NL  OX  PU  QA  QR  SB  SI  SL  TB  TL  TM  VL  YU  ZC
```

**Part 2:** There is a bug where a handheld position should have been displayed on the NAD 83 line in the SURVEY CONTROL section of the datasheets but a scaled position was displayed instead. This situation occurred only whenever the ADJ\_DATE was NULL on both of these positions. We later found that there were six marks in the NGSIDB.POSITION table that were adjusted positions that had an ADJ\_DATE of NULL (i.e. DL3531, DL3555, DL3535, DL3559, DL3538, DL3562), as well as eight marks in the NGSIDB.POSITION table that were superseded positions that had an ADJ\_DATE of NULL (i.e. AQ1393, FB2921, DF9366, DF9367, DF9369, DF93769, DF9370, DF9371). This has been corrected.

**Version 7.87.2 released at 2:52pm on 07/11/2011**

The SPC coordinates for certain marks is not displaying the millionth digit. Example PID: AY0031. This release will fix the issue by increasing the width of the display field. The following PIDS can be used for testing: AY0031, HW1096, KR1355, and LR0232.

## **Version 7.87.1 released at 1:35pm on 06/02/2011**

This release implements the following changes:

### **Part 1: Handling Heights in the Southern Louisiana Subsidence Area in the SUPERSEDED SURVEY CONTROL Section of the Datasheets**

datasheet95 V7.87 put superseded GPSed heights in the SUPERSEDED SURVEY CONTROL section of the datasheets. While this was the desired intent, there is a single exception to the rule. The only time you wouldn't put superseded GPSed heights, or any height in the SUPERSEDED SURVEY CONTROL section is if a mark is in the Southern Louisiana subsidence area and it is NOT in project GPS2329 then no superseded heights whatsoever (i.e. 88's or best 29) are supposed to appear in the superseded section of the datasheet for that mark. They will eventually appear when "suspect heights" are requested. Example PIDs to test are: BJ1212, BJ1655, BJ1758, DH3213, AT1436, AU3545, AB4041, AT1409, AU0076, and AU0295.

**Part 2:** Fixing the intg program which is called from the datasheet95 program so that the GEOID model information appears properly on datasheets running on the x86 machines. When running on the x86 machines an error is generated when computing the GEOID HEIGHT and LAPLACE COOR if the model is GEOID09. The problem is related to big/little endian conversion of binary data in the grid files. This only impacts the x96 servers. Example PIDs to test are AH5044, BJ1227, and DJ9357.

## Version 7.87 released at 10:28am on 06/08/2011

This release implements the following changes to the version 7.86 code in the repository.

In the past it was NGS' opinion that GPS derived orthometric heights were not of a quality to be included in the superseded section of the datasheet. With the technological advancements and the implementation of height modification procedures there have been numerous requests from stakeholders to include the history GPS-derived orthometric heights.

Responding to stakeholder feedback, NGS will provide GPS derived superseded heights on the NGS Data Sheet. First, identify height mod and non-height mod GPS derived NAVD88 heights and second, provide these heights on the NGS datasheet.

The following changes were made to the data sheet layout for marks which have GPS derived heights superseded by newer heights. In the superseded section of the datasheet any NAVD88 GPS derived height are added. Besides having an ELEV\_AVAIL of 'U' (i.e. Unrestricted) or 'X' (i.e. Submitting Agency is Responsible for Leveling Height and Field Data Verification), a GPS derived height has an ELEV\_SOURCE of 'H' for HNB Elevation, an ELEV\_TECH of 'G' for GPS, and a GPS\_HT\_PRECISION of:

0 – meaning a GPS height published to meter precision

1 - or NULL - for a PAC or SAC meaning a GPS height that is published to the nearest cm \*

1 - or NULL, **not** for a PAC nor SAC meaning a GPS height should that is published to the nearest dm

2 – meaning a GPS that is published to the nearest cm

\* Caveat: FAA GPS derived heights with GPS\_HT\_PRECISION of 1 or NULL will be published to the nearest cm.

NOTE: The GPS\_HT\_PRECISION table is generally not populated with code of 1 but rather it is the default value for all orthometric heights with an ELEV\_SOURCE=H and ELEV\_TECH and no other code in the table

**Version 7.86 released at 1:31pm on 05/04/2011**

- New states were added to the STATES table.
- Some reason codes were NEVER hit and were eliminated and in other instances, there were no reason codes (such as whenever a L1 Phase Center/antenna was destroyed/replaced/superseded) to explain why a mark/site/station was unpublishable. Thus, the never-hit reason codes were deleted and reason codes for cases that were not covered but should have been were added.
- Corrected the Field Height in software request #3204. In order to correct this, PPC members had to sit down and come up with all of the combinations of ELEV\_SOURCE/ELEV\_TECH/ELEV\_AVAIL and if the combination was not allowed we had to come up with the reason (code/text) as to why it was not allowed.

An example of a mark that is a field height that should not have been publicly publishable is DK7165.

- Added code to allow for the following historical horizontal datums codes to appear properly in the superseded section of the datasheets.

DATUM	DEFINITION
AN	ANCHORAGE PT ASTRO DATUM
AS	AMERICAN SAMOA DATUM OF 1962 (ASD62)
BA	BARTER ISLAND DATUM 1948
BS	BESSEL SPHEROID
CC	CAMP COLONA 1890 DATUM
CS	CHARLESTON AND SAVANNAH DATUM
FW	KRIPNIYUK - KWIKLOKCHUN DATUM
FX	FLAXMAN ISLAND DATUM 1912
GO	GOLOFNIN BAY 1899 DATUM
GU	GUAM DATUM OF 1963
HI	OLD HAWAIIAN DATUM
IL	ILIAMNA ASTRO DATUM
JI	JOHNSTON ISLAND DATUM OF 1961
MI	MARY IS PT SIMPSON ASTRO DATUM
MQ	MIDWAY ASTRO DATUM OF 1961 (MAD61)
NO	NEW ORLEANS AND MOBILE DATUM
PB	POINT BARROW DATUM 1945
PC	PORT CLARENCE ASTRO DATUM
PR	PUERTO RICAN DATUM
PW	PRINCE WILLIAM SOUND DATUM
SE	SOUTHEAST ALASKA DATUM
SG	ST GEORGE 1897 DATUM
SM	SAINT MICHAEL ASTRO DATUM
SP	SAINT PAUL 1897
UN	UNALASKA DATUM
US	UNITED STATES STANDARD DATUM
VD	VALDEZ DATUM
WE	WAKE-ENIWETOK DATUM OF 1960
WK	WAKE ISLAND ASTRO DATUM OF 1952
YA	YAKUTAT 1892 DATUM
YK	YUKON DATUM



- Updated the reason codes (the displayed text that shows why a control point is not publishable to the public). Formerly the reason codes were:

```

-----
- This listing contains control for which complete digital -
- data sheets were not provided. The complete data sheets were -
- not provided for the reason listed below. The reason below is -
- associated with a horizontal control Nonpub code shown under -
- the heading 'H' and/or a vertical control Nonpub code shown under -
- the heading 'v' -
- -
- The format of the records are as follows: -
- Pid = Station Permanent Identifier) -
- Name = Station Designation -
- Lat = Approx. Latitude (Degrees, Minutes, truncated Seconds) -
- Lon = Approx. Longitude (Degrees, Minutes, truncated Seconds) -
- O = Horizontal Order -
- o = Vertical Order -
- H = Horizontal Nonpub Code -
- v = Vertical Nonpub Code -
- -
- H Nonpub HORIZONTAL CONTROL NONPUB REASON -
- ----- -
- X Surface Mark Reported Destroyed -
- Y Surface and underground mark reported destroyed -
- A A-Order Horizontal mark not tied to an adjusted HARN -
- C C-Nonoperational CORS Station -
- W Weakly determined position. -
- P Purpose of position is not for network control -
- D No Descriptive Text available -
- R Restricted position -
- O Outside NGS Publication Area -
- N No geodetic control at this mark -
- -
- v Nonpub VERTICAL CONTROL NONPUB REASON -
- ----- -
- X Surface Mark Reported Destroyed -
- Y Surface and underground mark reported destroyed -
- F Bench Mark not yet adjusted. -
- D No Descriptive Text available -
- Z Presumed destroyed -
- R Restricted elevation -
- O Outside NGS Publication Area -
- N No geodetic control at this mark -
- S Mark is in a subsidence area -
- -
- NOTE - Stations found in this listing may still have a valid -
- datasheet produced by use of other publishable values. -
- For example, an ADJUSTED height may be non-publishable -
- but a good GPS height might be found on the datasheet. -
- This listing does not imply that values found on the datasheet -
- are restricted. If it's on the datasheet, use it. -
- -
-----
Pid Name Lat Lon Elev O o Hv
-----
>DE6608 ST. JOHN'S CORS MON. 47 35 42.8/052 40 39.9 A O

```

- On the previous version of the datasheet95 program (i.e. V7.85), if a control point had a horizontal datum of 27, and was located in a Central American state:

STATE	STATE_NAME
AD	ATLANTIDA
AG	AGUASCALIENTES
AH	AHUACHAPAN

BA	SANTA BARBARA
BH	UNIDENTIFIED DISTRICT OF BELIZE (BRITISH HONDURAS)
BN	BAJA CALIFORNIA NORTE
BS	BAJA CALIFORNIA SUR
BV	BAJA VERAPAZ
CC	CHIHUAHUA
CE	CHOLUTECA
CH	CHIAPAS
CK	COLON
CL	COLIMA
CM	CAMPECHE
CR	UNIDENTIFIED PROVINCE OF COSTA RICA
CS	CABANAS
CU	UNIDENTIFIED PROVINCE OF CUBA
CV	CORTES
CX	COPAN
CY	COMAYAGUA
CZ	COAHUILA DE ZARAGOZA
DF	DISTRITO FEDERAL
DU	DURANGO
EN	ESCUINTLA
EP	EL PROGRESO
ER	EL PARAISO
ES	UNIDENTIFIED DEPARTMENT OF EL SALVADOR
FR	FRANCISCO MORAZAN
GB	GUANAJUATO
GD	GRACIAS A DIOS
GE	GUATEMALA
GR	GUERRERO
GT	UNIDENTIFIED DEPARTMENT OF GUATEMALA
HA	UNIDENTIFIED DEPARTMENT OF HAITI
HD	HIDALGO
HL	CHALATENANGO
HO	UNIDENTIFIED DEPARTMENT OF HONDURAS
HU	HUEHUETENANGO
HV	ALTA VERAPAZ
IB	ISLAS DE LA BAHIA
II	INTIBUCA
JL	JALISCO
JU	JUTIAPA
LL	LA LIBERTAD
LM	LEMPIRA
LN	CUSCATLAN
LP	LA PAZ
LT	CHIMALTENANGO
LU	LA UNION
LZ	LA PAZ
MC	MICHOACAN DE OCAMPO

MF	MORELOS
MJ	MEXICO
MX	UNIDENTIFIED STATE OF MEXICO
NA	NAYARIT
NI	UNIDENTIFIED DEPARTMENT OF NICARAGUA
NL	NUEVO LEON
OC	OCOTEPEQUE
OL	OLANCHO
OX	OAXACA
PN	UNIDENTIFIED PROVINCE OF PANAMA
PT	PETEN
PU	PUEBLA
QA	QUERETARO DE ARTEAGA
QI	QUICHE
QR	QUINTANA ROO
QT	QUETZALTENANGO
QU	CHIQUIMULA
RE	RETALHULEU
RN	MORAZAN
SB	SONORA
SE	SONSONATE
SG	SUCHITEPEQUEZ
SI	SINALOA
SL	SAN LUIS POTOSI
SM	SAN MIGUEL
SP	SACATEPEQUEZ
SQ	SOLOLA
SS	SAN SALVADOR
SV	SAN VICENTE
SX	SANTA ANA
SY	SANTA ROSA
SZ	SAN MARCOS
TB	TABASCO
TL	TLAXCALA
TM	TAMAULIPAS
TO	TOTONICAPAN
UN	USULUTAN
VL	VERACRUZ-LLAVE
VX	VALLE
YO	YORO
YU	YUCATAN
ZC	ZACATECAS
ZP	ZACAPA

or a Caribbean state:

STATE	STATE_NAME
AA	UNIDENTIFIED REGION OF ARUBA
AC	UNIDENTIFIED PARISH OF ANTIGUA AND BARBUDA

AV	UNIDENTIFIED PROVINCE OF ANGUILLA
BB	UNIDENTIFIED PARISH OF BARBADOS
BF	UNIDENTIFIED DISTRICT OF BAHAMA ISLANDS
CJ	UNIDENTIFIED DISTRICT OF CAYMAN ISLANDS
CP	UNIDENTIFIED REGION OF CURACAO
DO	UNIDENTIFIED PARISH OF DOMINICA
DR	UNIDENTIFIED PROVINCE OF DOMINICAN REPUBLIC
GJ	UNIDENTIFIED PARISH OF GRENADA
GP	UNIDENTIFIED PROVINCE OF GUADELOUPE
GY	UNIDENTIFIED REGION OF GUYANA
HA	UNIDENTIFIED DEPARTMENT OF HAITI
JM	UNIDENTIFIED PARISH OF JAMAICA
MH	UNIDENTIFIED PARISH OF MONTSERRAT
MR	UNIDENTIFIED PROVINCE OF MARTINIQUE
MT	MONTANA
NT	UNIDENTIFIED PROVINCE OF NETHERLANDS ANTILLES
SJ	UNIDENTIFIED REGION of ST MAARTEN
SN	UNIDENTIFIED PARISH OF ST KITTS AND NEVIS
SR	UNIDENTIFIED DISTRICT OF SURINAM
ST	UNIDENTIFIED QUARTER OF ST LUCIA
TD	UNIDENTIFIED COUNTY OF TRINIDAD AND TOBAGO
TK	UNIDENTIFIED PROVINCE OF TURKS and CAICOS ISLANDS
VC	UNIDENTIFIED PARISH OF ST VINCENT AND GRENADINES
VI	UNIDENTIFIED PROVINCE OF BRITISH VIRGIN ISLANDS

then the output datum in the superseded section was set to 72 (i.e. WORLD GEODETIC SYSTEM OF 1972 (WGS72)) without any conversion of the latitude or longitude to a real 72 position. This was correct this so that positions with a datum of 27 in these states will no longer be set to a 72 in the SUPERSEDED SURVEY CONTROL section of the datasheet.

- No scaled position will be put into the superseded section any longer. Note: The only horizontal datums that have an associated scaled position in the database are 00, 83, 27, AS, GU, HI, and PR.
- Verified that at least one of each of the CORS categories is publicly publishable on datasheets. Some PIDs tested are in the table below:

CORS_CATEGORY	DEFINITION	PID	CORS SITE
1	NATIONAL	DE9144	ZTL4
2	CIGNET	AF9520	WES2
3	CALIFORNIA	DE6612	VNDP
4	COOPERATIVE	DE7967	WACO
8	OTHER	DE6580	HARV

- Verified that only Active CORS sites are publicly publishable stations on a datasheet. Some sample PIDs tested are in the table below:

SITE_STATUS	DEFINITION	PID	CORS SITE
A	ACTIVE	DE6356	ZOA2
D	INACTIVE	AH6080	SAV2

N	NON-PUBLISHABLE	DF8268	HGAD
P	PROPOSED	N/A	N/A

- Verified that only publishable/active L1 Phase Centers are publicly publishable marks/stations/sites on a datasheet.

We have the following PUB types:

PUB	DEFINITION
N	NO DO NOT USE THIS FOR PUBLICATION
Y	YES USE THIS FOR PUBLICATION

- Corrected the issue of no datasheet information coming out (including the reason why the mark/station/site was not displayable/publishable) outside of the name of the program and the version number whenever the user typed in PIDs that were publicly unpublishable. As part of this correction, the reasons as to why a mark was publicly publishable/unpublishable horizontally, vertically and in combination were examined to find the cases that were falling through the cracks. Example (using the command line version of datasheet95):

```
datasheet95 CG1293
DATABASE = ,PROGRAM = datasheet, VERSION = 7.85

*** retrieval complete.
Elapsed Time = 00:00:00
```

You should now get:

```
datasheet95 CG1293
DATABASE = ,PROGRAM = datasheet, VERSION = 7.86

*** retrieval complete.
Elapsed Time = 00:00:00
```

```
-----
- This listing contains control for which complete digital -
- data sheets where not provided. The complete data sheets were -
- not provided for the reason listed below. The reason below is -
- associated with a horizontal control Nonpub code shown under -
- the heading 'H' and/or a vertical control Nonpub code shown under -
- the heading 'v' -
- -
- The format of the records are as follows: -
- Pid = Station Permanent Identifier) -
- Name = Station Designation -
- Lat = Approx. Latitude (Degrees, Minutes, truncated Seconds) -
- Lon = Approx. Longitude (Degrees, Minutes, truncated Seconds) -
- O = Horizontal Order -
- o = Vertical Order -
- H = Horizontal Nonpub Code -
- v = Vertical Nonpub Code -
- -
- H Nonpub HORIZONTAL CONTROL NONPUB REASON -
- -----
- A CORS site is not active -
- B Station is a RBN antenna -
- C Not a publishable datum within the state -
- D No descriptive text available -
- L CORS L1 Phase Center is not publishable -
- N No geodetic control -
- O Outside NGS publication area -
```

```

- P Purpose of position is not for network control -
- R Restricted position -
- T Station is a temporary point/bench mark -
- V Station is a VOR antenna -
- W Weakly determined position -
- X Surface mark reported destroyed -
- Y Surface and underground mark reported destroyed -
-
- v Nonpub VERTICAL CONTROL NONPUB REASON -
- ----- -
- A CORS site is not active -
- D No descriptive text available -
- F Bench mark not yet adjusted -
- N No geodetic control -
- L CORS L1 Phase Center is not publishable -
- O Outside NGS publication area -
- R Restricted elevation -
- S Mark is in a subsidence area -
- T Station is a temporary point/bench mark -
- X Surface mark reported destroyed -
- Y Surface and underground mark reported destroyed -
- Z Presumed destroyed -
-
- NOTE - Stations found in this listing may still have a valid -
- datasheet produced by use of other publishable values. -
- For example, an ADJUSTED height may be non-publishable -
- but a good GPS height might be found on the datasheet. -
- This listing does not imply that values found on the datasheet -
- are restricted. If it's on the datasheet, use it. -
-
-----
Pid Name Lat Lon Elev O o Hv
-----
>CG1293 CARSON RM 2 32 29 17. /089 15 19. DD

```

**Version 7.17 on 03/29/2005**

CHANGE #1: Changed Vertical Datum for Northern Marianas Islands from NM to NMVD03

Before and after sample section for changes #1

```

OLD...
DG3936* NM - 102.920 (meters) 337.66 (feet) ADJUSTED

NEW...
DG3936* NMVD03 - 102.920 (meters) 337.66 (feet) ADJUSTED

```

## Version 7.14 on 03/11/2005

CHANGE #1: Specific Setting text broken out from \_SETTING to \_SP

CHANGE #2: Changed Guam vertical datum from LOCAT TIDAL to GUVVD63 or GUVVD04

Before and After sample section for changes #1, #2:

OLD...

GA0132\_SETTING: 36 = BRIDGE

TW0041*	LOCAL TIDAL	-	2.170	(meters)	7.12	(feet)	ADJUSTED
TW0073*	LOCAL TIDAL	-	41.722	(meters)	136.88	(feet)	ADJ UNCH

NEW...

GA0132\_SETTING: 36 = SET IN A MASSIVE STRUCTURE

GA0132\_SP\_SET: BRIDGE

TW0041*	GUVVD04	-	2.170	(meters)	7.12	(feet)	ADJUSTED
TW0073*	GUVVD63	-	41.722	(meters)	136.88	(feet)	ADJ UNCH

## Version 6.98 on 02/18/2004

CHANGE #1: Added Combined Factors records !SPC and !UTM

CHANGE #2: Changed text 'Scale' to 'Scale Factor'

CHANGE #3: Shifted the Convergence value right two spaces.

Before and after sample section for changes #1, #2, #3:

OLD...

JV6439;		North	East	Units	Scale		
Converg.							
JV6439;SPC MD	-	162,470.999	381,407.458	MT	0.99995967	-0	08
05.9							
JV6439;SPC MD	-	533,040.27	1,251,334.30	sFT	0.99995967	-0	08
05.9							
JV6439;UTM 18	-	4,333,550.574	308,538.415	MT	1.00005139	-1	23
53.9							

NEW...

JV6439;		North	East	Units	Scale	Factor	
Converg.							
JV6439;SPC MD	-	162,470.999	381,407.458	MT	0.99995967	-0	08
05.9							
JV6439;SPC MD	-	533,040.27	1,251,334.30	sFT	0.99995967	-0	08
05.9							
JV6439;UTM 18	-	4,333,550.574	308,538.415	MT	1.00005139	-1	23
53.9							
JV6439							
JV6439!	-	Elev Factor	x	Scale Factor	=	Combined Factor	
JV6439!SPC MD	-	0.99998342	x	0.99995967	=	0.99994310	
JV6439!UTM 18	-	0.99998342	x	1.00005139	=	1.00003481	

**Version 6.85 on 09/11/2003**

CHANGE #1: Add Superseded NAVD 88 heights to the Superseded section

CHANGE #2: Include Dates on Superseded elevations

CHANGE #3: Move the date on the Superseded Ellip Ht.

CHANGE #4: Shift the Superseded Ellip Ht value left two spaces.

CHANGE #5: Now publishing hand held GPS positions when available for benchmarks.

Before and after sample section for changes #1, #2, #3, #4:

<b>OLD...</b>										
	JV6439									
	JV6439	ELLIP HT	-	105.66	(m)		(07/24/97)	GP (	)	2
1										
	JV6439	ELLIP HT	-	105.66	(m)		(11/22/95)	GP (	)	1
1										
	JV6439	ELLIP HT	-	105.59	(m)		(06/29/95)	GP (	)	2
2										
	JV6439	ELLIP HT	-	105.72	(m)		(10/26/94)	GP (	)	4
2										
	JV6439	ELLIP HT	-	105.54	(m)		(06/29/94)	GP (	)	4
1										
	JV6439	NAD 83 (1991)-	39 07	48.36845	(N)	077 12	54.11609	(W) AD (	)	B
	JV6439	ELLIP HT	-	105.54	(m)		(10/21/93)	GP (	)	2
2										
	JV6439	NAD 83 (1991)-	39 07	48.36527	(N)	077 12	54.11358	(W) AD (	)	1
	JV6439	ELLIP HT	-	105.60	(m)		(01/27/92)	GP (	)	4
1										
	JV6439	NAD 83 (1986)-	39 07	48.36542	(N)	077 12	54.12413	(W) AD (	)	1
	JV6439	NGVD 29	-	137.56	(m)		451.3	(f) LEVELING		3
<b>NEW...</b>										
	JV6439									
	JV6439	ELLIP H (07/24/97)		105.66	(m)			GP (	)	2
1										
	JV6439	ELLIP H (11/22/95)		105.66	(m)			GP (	)	1
1										
	JV6439	ELLIP H (06/29/95)		105.59	(m)			GP (	)	2
2										
	JV6439	ELLIP H (10/26/94)		105.72	(m)			GP (	)	4
2										
	JV6439	ELLIP H (06/29/94)		105.54	(m)			GP (	)	4
1										
	JV6439	NAD 83 (1991)-	39 07	48.36845	(N)	077 12	54.11609	(W) AD (	)	B
	JV6439	ELLIP H (10/21/93)		105.54	(m)			GP (	)	2
2										
	JV6439	NAD 83 (1991)-	39 07	48.36527	(N)	077 12	54.11358	(W) AD (	)	1
	JV6439	ELLIP H (01/27/92)		105.60	(m)			GP (	)	4
1										
	JV6439	NAD 83 (1986)-	39 07	48.36542	(N)	077 12	54.12413	(W) AD (	)	1
	JV6439	NAVD 88 (04/11/97)		137.355	(m)		450.64	(f) UNKNOWN		1
1										



```

JV6439  NAVD 88 (07/05/94)  137.352  (m)          450.63  (f) UNKNOWN      1
1
JV6439  NAVD 88 (06/15/91)  137.353  (m)          450.63  (f) UNKNOWN      1
1
JV6439  NGVD 29 (12/18/90)  137.56   (m)          451.3   (f) LEVELING     3

```

**Datasheet Sample showing change #5:**

```

1      National Geodetic Survey,  Retrieval Date = SEPTEMBER 12, 2003
TA0047 *****
TA0047 DESIGNATION - G 216
TA0047 PID - TA0047
TA0047 STATE/COUNTY- MN/COOK
TA0047 USGS QUAD - LONG ISLAND LAKE (1986)
TA0047
TA0047 *CURRENT SURVEY CONTROL
TA0047
TA0047* NAD 83(1986)- 48 04 54.20 (N) 090 45 48.42 (W) HD_HELD1
TA0047* NAVD 88 - 512.698 (meters) 1682.08 (feet) ADJUSTED
TA0047
TA0047 GEOID HEIGHT- -30.65 (meters) GEOID99
TA0047 DYNAMIC HT - 512.802 (meters) 1682.42 (feet) COMP
TA0047 MODELED GRAV- 980,798.7 (mgal) NAVD 88
TA0047
TA0047 VERT ORDER - SECOND CLASS 0
TA0047
TA0047.The horizontal coordinates were established by differentially corrected
TA0047.hand held GPS obs and have an estimated accuracy of +/- 3 meters.
TA0047
TA0047.The orthometric height was determined by differential leveling
TA0047.and adjusted by the National Geodetic Survey in June 1991.
TA0047
TA0047.Photographs are available for this station.
TA0047
TA0047.The geoid height was determined by GEOID99.
TA0047
TA0047.The dynamic height is computed by dividing the NAVD 88
TA0047.geopotential number by the normal gravity value computed on the
TA0047.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
TA0047.degrees latitude (g = 980.6199 gals.).
TA0047
TA0047.The modeled gravity was interpolated from observed gravity values.
TA0047
TA0047; North East Units Estimated Accuracy
TA0047;SPC MN N - 278,477.4 974,048.5 MT (+/- 3 meters HHL GPS)
TA0047
TA0047 SUPERSEDED SURVEY CONTROL
TA0047
TA0047 NGVD 29 (??/??/92) 512.518 (m) 1681.49 (f) ADJ UNCH 2 0
TA0047
TA0047.Superseded values are not recommended for survey control.
TA0047.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
TA0047.See file dsdata.txt to determine how the superseded data were derived.
TA0047
TA0047_U.S. NATIONAL GRID SPATIAL ADDRESS: 15UXP6656827803(NAD 83)
TA0047_MARKER: DB = BENCH MARK DISK
TA0047_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
TA0047_STAMPING: G 216 1935
TA0047_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO

```

TA0047+STABILITY: SURFACE MOTION

TA0047

TA0047	HISTORY	- Date	Condition	Report By
TA0047	HISTORY	- 1935	MONUMENTED	CGS
TA0047	HISTORY	- 1958	GOOD	USGS

TA0047

TA0047 STATION DESCRIPTION

TA0047

TA0047'DESCRIBED BY US GEOLOGICAL SURVEY 1958

TA0047'AT GUNFLINT TRAIL LODGE.

TA0047'AT THE JUNCTION OF THE GUNFLINT TRAIL AND THE GUNFLINT LODGE  
 TA0047'ROAD, IN T 65 N, R3W, 42 FEET NORTH AND 95 FEET EAST OF THE  
 TA0047'CENTER OF THE JUNCTION OF THE TWO ROADS, 98 FEET NORTH OF THE  
 TA0047'CENTERLINE OF THE GUNFLINT TRAIL, 84 FEET EAST OF THE CENTERLINE  
 TA0047'OF THE GUNFLINT LODGE ROAD, IN THE BRUSH, AND 8 FEET FROM THE  
 TA0047'TIMBERLINE. A STANDARD DISK, STAMPED G 216 1935 AND SET IN THE  
 TA0047'TOP OF A CONCRETE POST PROJECTING 6 INCHES ABOVE GROUND.

1 National Geodetic Survey, Retrieval Date = SEPTEMBER 12, 2003

AC3384 \*\*\*\*\*

AC3384 DESIGNATION - COL 15  
 AC3384 PID - AC3384  
 AC3384 STATE/COUNTY- FL/COLLIER  
 AC3384 USGS QUAD - MARCO ISLAND (1995)

AC3384

AC3384 \*CURRENT SURVEY CONTROL

AC3384

AC3384*	NAD 83(1986)-	25 57 14.7	(N)	081 43 29.2	(W)	HD_HELD2
AC3384*	NAVD 88	- 0.787	(meters)	2.58	(feet)	ADJUSTED

AC3384

AC3384	GEOID HEIGHT-	-23.10	(meters)			GEOID99
AC3384	DYNAMIC HT -	0.786	(meters)	2.58	(feet)	COMP
AC3384	MODELED GRAV-	979,037.7	(mgal)			NAVD 88

AC3384

AC3384 VERT ORDER - FIRST CLASS II

AC3384

AC3384.The horizontal coordinates were established by autonomous hand held GPS  
 AC3384.observations and have an estimated accuracy of +/- 10 meters.

AC3384

AC3384.The orthometric height was determined by differential leveling  
 AC3384.and adjusted by the National Geodetic Survey in January 2002.

AC3384

AC3384.The geoid height was determined by GEOID99.

AC3384

AC3384.The dynamic height is computed by dividing the NAVD 88  
 AC3384.geopotential number by the normal gravity value computed on the  
 AC3384.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45  
 AC3384.degrees latitude (g = 980.6199 gals.).

AC3384

AC3384.The modeled gravity was interpolated from observed gravity values.

AC3384

AC3384;		North	East	Units	Estimated Accuracy
AC3384;SPC FL E	-	179,729.	127,412.	MT	(+/- 10 meters HH2 GPS)

AC3384

AC3384 SUPERSEDED SURVEY CONTROL

AC3384

AC3384	NAVD 88 (06/15/91)	0.795	(m)	2.61	(f)	UNKNOWN	2 1
AC3384	NGVD 29 (09/01/92)	1.194	(m)	3.92	(f)	ADJUSTED	2 1

AC3384

AC3384.Superseded values are not recommended for survey control.  
 AC3384.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.  
 AC3384.See file dsdata.txt to determine how the superseded data were derived.

AC3384

AC3384\_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RMJ2743770800(NAD 83)

AC3384\_MARKER: DB = BENCH MARK DISK  
 AC3384\_SETTING: 31 = DROP INLET APRON  
 AC3384\_STAMPING: COL 15 1984 BSM  
 AC3384\_MARK LOGO: FLDNR  
 AC3384\_MAGNETIC: N = NO MAGNETIC MATERIAL  
 AC3384\_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY  
 AC3384\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR  
 AC3384+SATELLITE: SATELLITE OBSERVATIONS - March 18, 2002

AC3384	HISTORY	- Date	Condition	Report By
AC3384	HISTORY	- 1984	MONUMENTED	FLDNR
AC3384	HISTORY	- 1990	GOOD	USPSQD
AC3384	HISTORY	- 19900509	GOOD	FLDNR
AC3384	HISTORY	- 20010701	GOOD	LDBLS
AC3384	HISTORY	- 20020318	GOOD	MAPTEC

AC3384  
 AC3384 STATION DESCRIPTION  
 AC3384

AC3384'DESCRIBED BY FL DEPT OF NAT RES 1984  
 AC3384'IN MARCO ISLAND.  
 AC3384'BEGIN AT THE JUNCTION OF STATE ROAD 92 WITH STATE ROAD 951 (COLLIER  
 AC3384'BOULEVARD), GO 1.5 MILES NORTHERLY ON STATE ROAD 951 TO THE  
 AC3384'INTERSECTION OF BALD EAGLE DRIVE (COUNTY ROAD C 953). THE MARK BEARS  
 AC3384'26.7 FEET SOUTHEAST OF THE CENTERLINE OF STATE ROAD 951, 39 FEET  
 AC3384'SOUTHWEST OF THE CENTERLINE OF C 953, AND 4.1 FEET NORTH OF A CONCRETE  
 AC3384'POWER POLE WITH PEDESTRIAN CROSSWALK SIGNALS.  
 AC3384'THE MARK IS 1 FT BELOW ROAD.

AC3384  
 AC3384 STATION RECOVERY (1990)  
 AC3384

AC3384'RECOVERY NOTE BY US POWER SQUADRON 1990 (HEA)  
 AC3384'RECOVERED IN GOOD CONDITION.

AC3384  
 AC3384 STATION RECOVERY (1990)  
 AC3384

AC3384'RECOVERY NOTE BY FL DEPT OF NAT RES 1990 (VAC)  
 AC3384'RECOVERED AS DESCRIBED.

AC3384  
 AC3384 STATION RECOVERY (2001)  
 AC3384

AC3384'RECOVERY NOTE BY LD BRADLEY LAND SURVEYORS 2001 (JCH)  
 AC3384'THE MARK IS ABOUT 24.9 KM (15.5 MI) SOUTHEAST OF NAPLES, ON MARCO  
 AC3384'ISLAND, IN  
 AC3384'SECTION 8, TOWNSHIP 52 SOUTH, RANGE 26 EAST, COLLIER COUNTY FLORIDA.  
 AC3384'OWNERSHIP-  
 AC3384'FLORIDA DEPARTMENT OF TRANSPORTATION  
 AC3384'  
 AC3384'TO REACH THE MARK FROM THE INTERSECTION OF I-75 AND COUNTY ROAD NO.  
 AC3384'951 (I-75  
 AC3384'EXIT 15, NEAR NAPLES) GO SOUTH ON COUNTY ROAD NO. 951 11.1 KM (6.9 MI)  
 AC3384'TO THE  
 AC3384'INTERSECTION WITH U.S. NO. 41 (TAMIAMI TRAIL) PROCEED SOUTH ON STATE  
 AC3384'ROAD NO.  
 AC3384'951 11.2 KM (6.95 MI) TO THE CENTER OF THE MARCO PASS BRIDGE NO.  
 AC3384'030148 (JUDGE  
 AC3384'S.S. JOLLEY BRIDGE, OVER MARCO RIVER), CONTINUE SOUTH-SOUTHWEST ALONG  
 AC3384'STATE  
 AC3384'ROAD 951 (COLLIER BLVD) 2.0 KM (1.25 MI) TO THE INTERSECTION WITH BALD  
 AC3384'EAGLE  
 AC3384'DRIVE AND THE MARK IN THE SOUTHEAST CORNER OF THE INTERSECTION.  
 AC3384'

AC3384'THE MARK IS SET FLUSH ON A 0.46 M (1.5 FT) WIDE CONCRETE APRON ON THE  
 AC3384'SOUTHEAST SIDE OF A CONCRETE DROP INLET, ABOUT 0.30 M (1.0 FT) BELOW

AC3384'THE  
AC3384'LEVEL OF THE NORTHBOUND LANES OF STATE ROAD NO. 951 (COLLIER BLVD),  
AC3384'8.05 M  
AC3384'(26.4 FT) SOUTHEAST OF THE CENTERLINE OF THE NORTHBOUND LANES OF STATE  
AC3384'ROAD  
AC3384'951 (COLLIER BLVD.), 11.80 M (38.7 FT) SOUTHWEST OF THE CENTERLINE OF  
AC3384'BALD  
AC3384'EAGLE DRIVE, AND 1.25 M (4.1 FT) NORTH OF THE NORTH CORNER OF A 0.61  
AC3384'M (2.0  
AC3384'FT) SQUARE CONCRETE POWER POLE WITH PEDESTRIAN CROSSWALK SIGNALS.  
AC3384'  
AC3384'  
AC3384'  
AC3384'  
AC3384  
AC3384 STATION RECOVERY (2002)  
AC3384  
AC3384'RECOVERY NOTE BY MAPTECH INCORPORATED 2002 (CP)  
AC3384'RECOVERED AS DESCRIBED.  
AC3384'

\*\*\* retrieval complete.