



SURVEYOR'S REPORT

**Specific Purpose Survey of the
United States Geological Survey
Recorder Well G-3336
in
Miami-Dade County, Florida**

Prepared for:

South Florida Water Management District

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State of Florida

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Field Date: April 11, 2019
Report Date: April 29, 2019
BEC Order #: 03-86445

INSPIRED BEYOND MEASURE • SINCE 1898

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SURVEYOR'S REPORT

PURPOSE

The purpose of this survey is to set an Elevation Reference Mark (Benchmark) consisting of an aluminum disc in concrete and to establish a North American Vertical Datum of 1988 (NAVD 88) elevation on said Benchmark and on an additional Reference Point with a Brass plate, both at United States Geological Survey Well **G-3336**.

LOCATION OF PROJECT

The United States Geological Survey's Recorder Well **G-3336** is located in Section 31, Township 58 South, Range 38 East, Miami-Dade County, Florida.



General Location (Intended Display scale is "Not to Scale")

PROJECT VERTICAL DATUM

The project vertical datum is the North American Vertical Datum (NAVD) of 1988.

To convert the NAVD 88 elevation to the National Geodetic Vertical Datum of 1929 at station **G-3336 add 1.52'**. These values are based on Corpscon 6.0.1 a US. Army Corps of Engineers Engineering Research and Development Center Topographic Engineering Center Alexandria, Virginia Windows-based program to convert coordinates and elevations between datum's using vertcon05.txt and vertcon05.05 files supplied by the US. Army Corps of Engineers South Atlantic Division, Jacksonville Fl.

PROJECT HORIZONTAL DATUM

The project horizontal datum is the North American Datum 83 (NAD 83(2011)) (EPOCH:2010.0000).

LEVELING METHODS

The leveling for this project was performed in accordance with standard survey practice using conventional third order methods, techniques and equipment.

The allowable error (.05 √ miles) on this project meets or exceeds third order closures as required by SFWMD for this project per executed SOW for 4600003705-WO04 and discussions with SFWMD.

A level loop was run from the NGS Benchmark U504 2000, through the well site, and to the NGS Benchmark T504 2000. The measurements were collected using a Digital Level and were hand written in Biscayne Engineering Co, Inc. Field Book 2995 pages 37-43, dated April 11, 2019, reduced and adjusted electronically. Additional data was manually recorded in the field book.

GPS METHODS

Latitude and Longitude for Benchmark G-3336 were established by observing a 3-minute session of GPS data on April 11, 2019, using a TOPCON GPS and the Florida Permanent Reference Network (FPRN). The FPRN network consists of nearly 100 Continuously Operating Reference Stations (CORS) located throughout Florida.


EQUIPMENT USED


- TOPCON GPS unit, Serial Number 5625R066188.
- TOPCON DL-500 digital level Serial Number 512386 and a folding bar code rod.
- TOPCON Total Station GM-103, Serial Number ZQ000748.
- TOPCON Auto-level DL-500, Serial Number 512386.

SURVEYOR'S REPORT


VERTICAL CONTROL POINT

The Vertical Control point utilized and set as part of this survey is the:

NGS U504 2000 (AJ8410)						
25° 19' 15.97" (N)	80° 33' 56.72" (W)	Published	2.50 ft.	(NAVD88)	0.76 m	Published
			<p>THE MARK IS ABOUT 10.7 MI (17.2 KM) SOUTHWEST OF HOMESTEAD, 9.7 MI (15.6 KM) SOUTHWEST OF FLORIDA CITY, IN SECTION 6, TOWNSHIP 59 SOUTH, RANGE 38 EAST.</p> <p>SURVEY DISK, SET IN TOP OF CONCRETE MONUMENT, STAMPING U 504 2000</p>			

NGS BM T-504 (AJ8409)						
25° 19' 49.81" (N)	80° 33' 56.26" (W)	Published	2.97 ft.	(NAVD88)	0.91 m	Published
			<p>THE MARK IS ABOUT 10.0 MI (16.1 KM) SOUTHWEST OF HOMESTEAD, 9.0 MI (14.5 KM) SOUTHWEST OF FLORIDA CITY, IN SECTION 6, TOWNSHIP 59 SOUTH, RANGE 38 EAST.</p> <p>SURVEY DISK, SET IN TOP OF CONCRETE MONUMENT, STAMPING T 504 2000</p>			

SURVEYOR'S REPORT

BM: G-3336 (Set as part of this survey)					
25° 20' 16.07" (N)	80° 33' 56.41" (W)	3.28 ft.	(NAVD88)	1.00 m	Level run
		4.80 ft.	(NGVD29)	1.46 m	Converted
				1.52 ft. (conversion factor)	Corpscon 6.0.1
		STATION IS AN ALUMINIUM DISC IN CONCRETE SQUARE 4 X 4 MONUMENT STAMPED S.F.W.M.D. BM G-3336.			
LOCATED: INGRAHAM HWY --- 4.4 ML SOUTH OF CENTERLINE SW 232 ND AVE. --- 19' EAST OF CENTERLINE					

Field Book 2995, Pages 43

O. LUNA L. BALLESTEROS A. LEAL 4-11-19						BEZ #03-86415 S.F.W.M.D. MIAMI DAPL (24 WDW) LOCATION { ELEVATION NAVD-88 OF USGS WELL G-3336						2995-43					
STA	BS	DIST	H.I.	FS	DIT	ELEVAT	BM ELEV	DESCRIPTION									
CP-3 #TP-13	4.812 4.968	62.90 66.70	7.984 8.28				3312	MNLW BEZ 0129 G-3336 SEE PAGE 39, ELEV 3312 NAVD-88									
BM-1				5.456 5.003	4.50 38.70	2.528 3.277		SCT ALUM. DISC IN CONC SQUARE MON. STAMPED S.F.W.M.D. BM G-3336.									
SHALE	SP15	2580	8.292														
CP # 2				4.922	29.0	3.37	3.372	MNLW BEZ 0129 G-3336 SEE PAGE 38, ELEV = 3.372 NAVD-88									

**BM G-3336
ELEVATION: 3.28'
(NAVD88)**

PROJECT RESULTS

Overall Site



Looking Easterly (Oblique not to scale)

SURVEYOR'S REPORT


Tabular Form

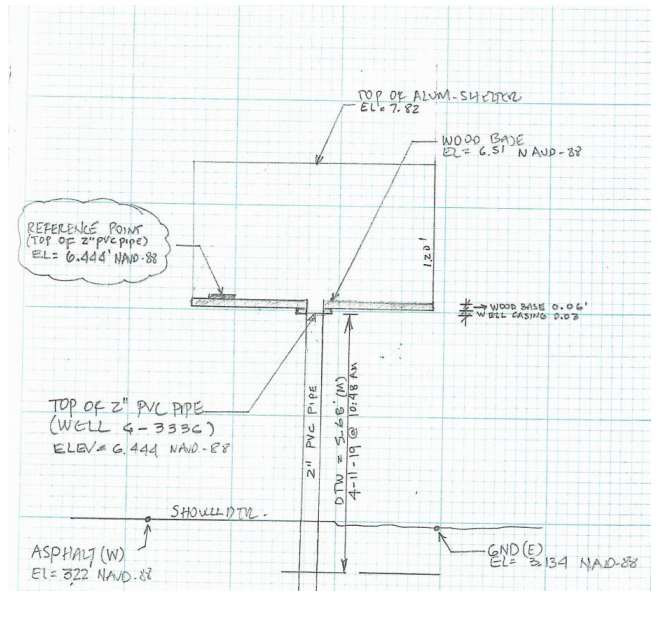
Reference and Ground Elevations: (NAVD88)			
Well	Ground Elevation	Reference Elevation	Comments
G-3336	3.13 ft.	6.44 ft.	Top of 2" PVC pipe.
Offset to NGVD29: +1.52' (See Project Vertical Datum Notes in Page: 4)			
Well diameter	Casing material	DTW	
2"	Aluminum	5.68' (04/11/19 at 10:48 AM)	

USGS Published: (Per USGS Report Site #: 252007080335701 G-3336) (NGVD29)			
Well	Ground Elevation	Reference Elevation	Comments
G-3336	-	3.32 ft.	Top of Base

Source & Site Benchmark	NAVD88	NGVD29	NGVD29 (Corpscon)
U504 (NGS)	2.50 ft. (Published)		
T-504 (NGS)	2.97 ft. (Published)		
G-3336	3.28 ft. (Measured)		4.80 ft. (Converted)
RM X	3.416 ft. (Measured)		
RM 4	3.099 ft. (Measured)		
RM 5	3.237 ft. (Measured)		
RM 6	3.222 ft. (Measured)		

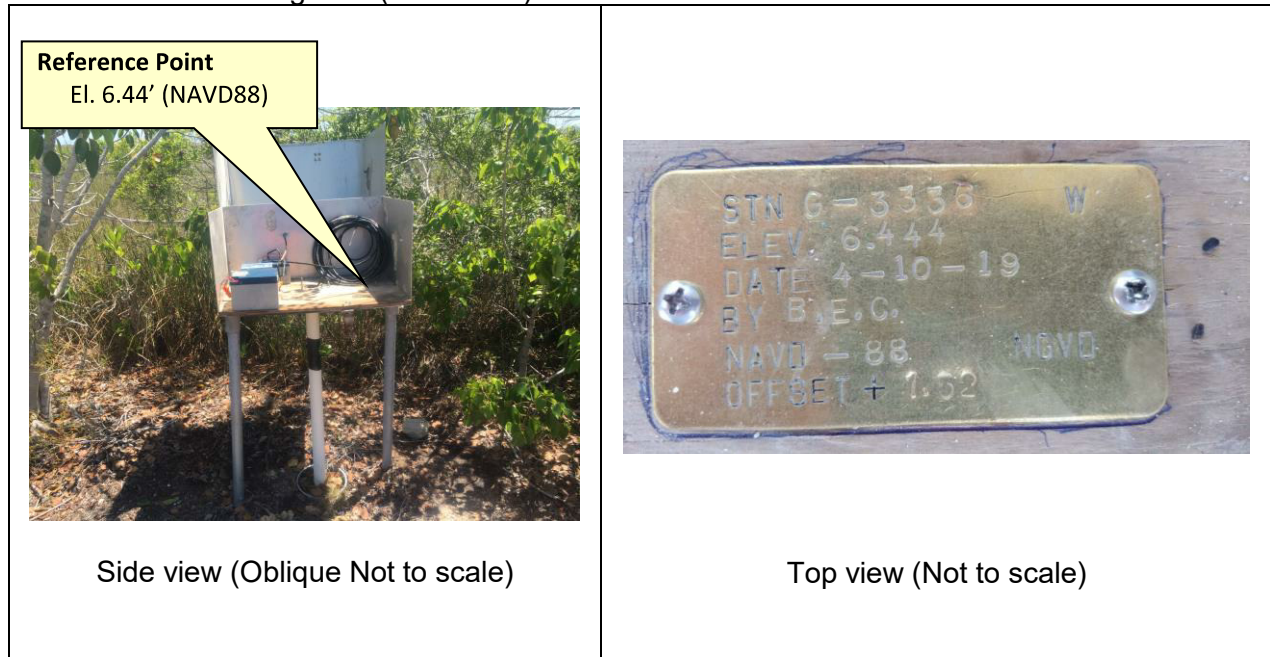
Well Photos and Diagrams





SURVEYOR'S REPORT

Well Photos and Diagrams (Continued)



Surveyor's Notes:

1. All measurements herein are in United States Survey feet and decimal thereof, unless otherwise specified.
2. Underground utilities were not located as part of this survey.
3. This survey report or copies thereof are not valid without the original signature and seal of a Florida licensed Surveyor and Mapper.
4. Additions or deletions to this survey report by other than the signing party (or parties) is prohibited without written consent of the signing party (or parties).
5. To convert from NAVD 88 to NGVD 29 add 1.52 feet. This value is based on Corpscon 6.0.1 a U.S. Army Corps of Engineers Engineering Research and Development Center Topographic Engineering Center Alexandria, Virginia Windows-based program to convert coordinates and elevations between datum's using vertcon05.txt and vertcon05.05 files supplied by the U.S. Army Corps of Engineers South Atlantic Division, Jacksonville Fl.
6. Date of last field work: April 11, 2019, BEC job No. 03-86445.
7. SFWMD Data records (on file at the District's headquarters):
 - A. Electronic Data files:
 - Miscellaneous picture files
 - B. Conventional reporting
 - Field Book: 2995 pages 37-43

SURVEYOR'S REPORT

Abbreviations:

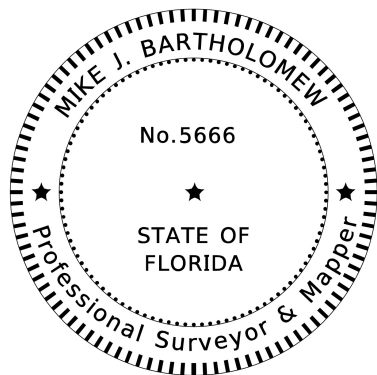
EI.	-	Elevation
DTW	-	Distance to the water table inside the well
M-DC	-	Miami-Dade County
NAVD88	-	North American Vertical Datum of 1988
NGVD29	-	National Geodetic Vertical Datum of 1929
NGS	-	National Geodetic Survey
PSM	-	Professional Surveyor & Mapper
PID	-	Permanent Identifiers
SFWMD	-	South Florida Water Management District
USGS	-	United States Geological Survey
BEC	-	Biscayne Engineering Company, Inc.

SURVEYOR'S CERTIFICATION

In my professional opinion this Specific Purpose Survey meets applicable portions of the Standards of Practice set forth by the Florida Board of Professional Surveyors and Mappers in Chapter 5J-17, Florida Administrative Code. This report is prepared for the sole and specific use of the South Florida Water Management District and is not assignable.

Last date of Survey
April 11, 2019

Mike Bartholomew, PSM, President
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SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Rev. 4/18

DESIGNATION: G-3336		PROJECT: G-3336	
ESTABLISHED BY: SOUTH FLORIDA WATER MANAGEMENT DISTRICT		SURVEYOR: Mike Bartholomew	
RECOVERED BY: BISCAYNE ENGINEERING CO.		DATE: 04/11/19	
GEOGRAPHIC POSITION			
SECTION 31	TOWNSHIP 58 SOUTH	RANGE 38 EAST	
COUNTY: MIAMI-DADE	NAME OF QUADRANGLE: ROYAL PALM RANGER STATION S.E. GEOGRAPHIC INDEX OF QUAD:		
HORIZONTAL DATUM: 1927 1983 2022 Other _____ (circle one) ZONE E or W			
VERTICAL DATUM: MSL 1929 1988 2022 Other _____ (circle one)			
VERTICAL ACCURACY: 1 2 3			
STATE PLANE COORDINATE	(N) Y= 365252.64	(E) X= 799614.03	NAVD 88 EL. 3.28' NGVD 29 EL. 4.80'
CORPSCON 6.0.1 CONVERSION FACTOR (NAVD88 TO NGVD29): (A U.S. Army Corps of Engineers Engineering Research and Development Center Topographic Engineering Center Alexandria, Virginia Windows-based program to convert coordinates and elevations between datum's using vertcon05.txt and vertcon05.05 files supplied by the U.S. Army Corps of Engineers South Atlantic Division, Jacksonville FL.) ACTUAL NGS or (ngvd29.txt file) OPUS Ortho Height			
LATITUDE: 25 ° 20' 16.07" (N)		LONGITUDE: 80° 33' 56.41" (W) (Source) GPS RTK (FPRN)	

RECOVERY DATA

Stamping: G-3336 S.F.W.M.D.

To Reach: THE MARK IS LOCATED: INGRAHAM HWY --- 4.4 ML SOUTH OF CENTERLINE, SW 232ND AVE. --- 19' EAST OF CENTERLINE

NOTABLE LAND MARKS: SOUTHERN GLADES

NGS-SOURCE BENCHMARKS: U-504, T-504

FIELD BOOK PAGE 2995-43

PICTURES

Aerial Overall Site



G-3336 Well Site
 Latitude: 25° 20' 16.10"
 Longitude: 80° 33' 56.38"

Benchmark "G-3336"
 El. 3.28' (NAVD88)

NOT TO SCALE (Google Earth product)



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Rev. 4/18

Overall Site



G-3336 Well Site
Latitude: 25° 20' 16.10"
Longitude: 80° 33' 56.38"
Reference elevation
6.44' (NAVD88)

Benchmark "G-3336"
El. 3.28' (NAVD88)

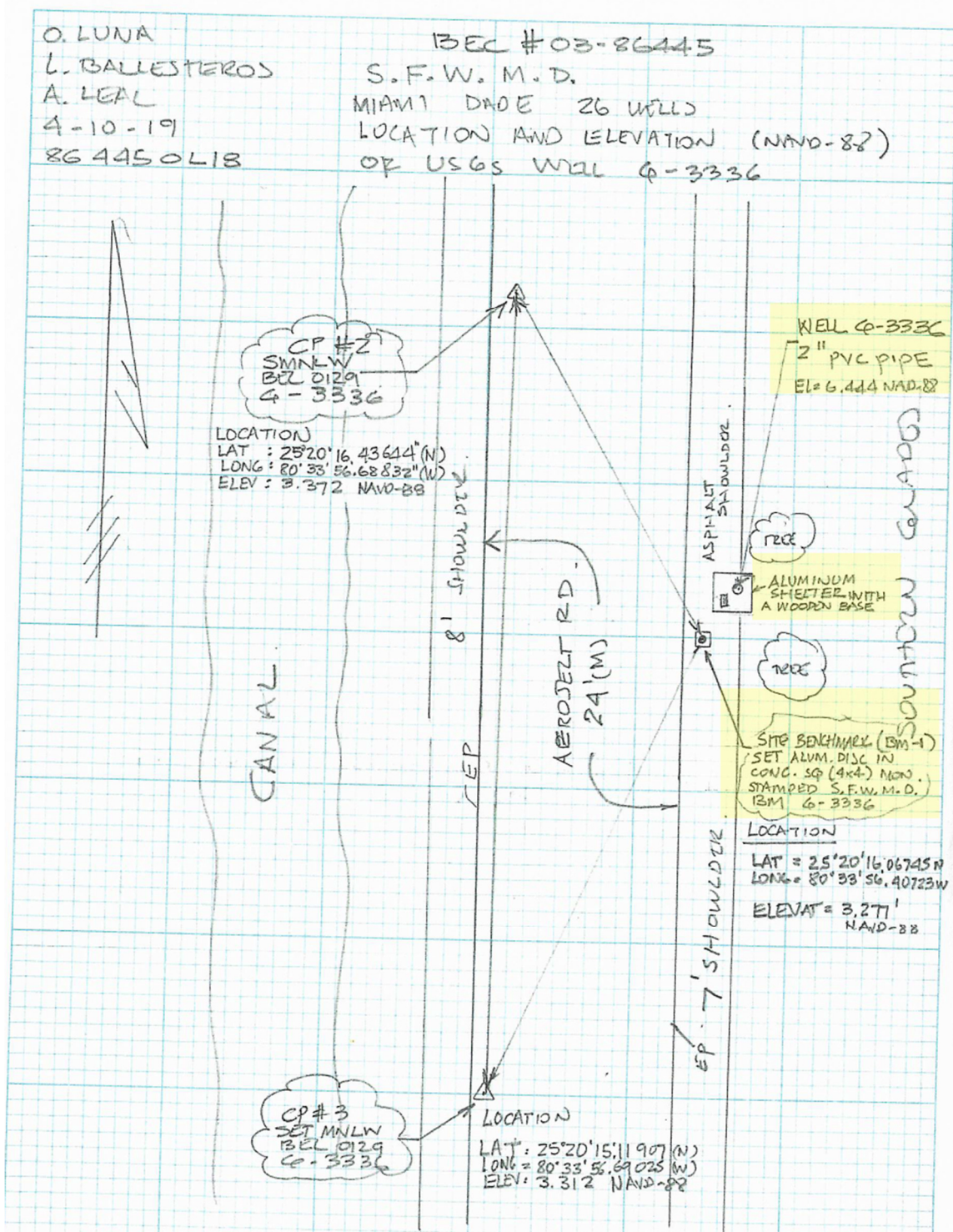
Looking Easterly (Oblique not to scale)



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Rev. 4/18

SKETCH



Office

Project

13 May 2019

INPUT

Geographic, NAD83
Vertical - NAVD88, U.S. Feet

OUTPUT

Geographic, NAD83
Vertical - NGVD29 (Vertcon94), U.S. Feet

BM G3336

1/1

Latitude: 25 20 16.07
Longitude: 80 33 56.41
Elevation/Z: 3.28

Latitude: 25 20 16.07000
Longitude: 80 33 56.41000
Elevation/Z: 4.796

Remark:

Office

Project

13 May 2019

INPUT

Geographic, NAD83
Vertical - NAVD88, U.S. Feet

OUTPUT

Geographic, NAD83
Vertical - NGVD29 (Vertcon94), U.S. Feet

WELL G3336

1/1

Latitude: 25 20 16.10
Longitude: 80 33 56.38
Elevation/Z: 6.44

Latitude: 25 20 16.10000
Longitude: 80 33 56.38000
Elevation/Z: 7.956

Remark:

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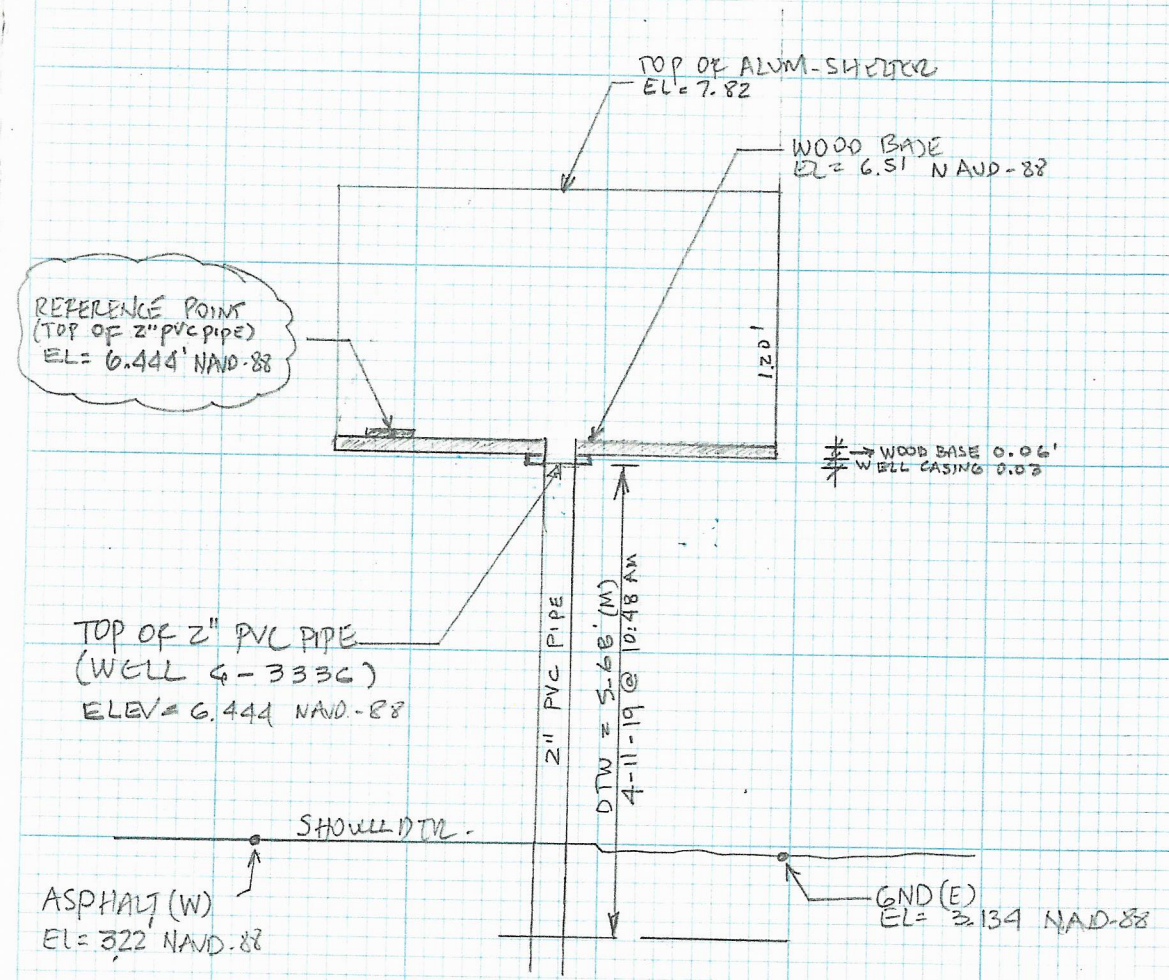
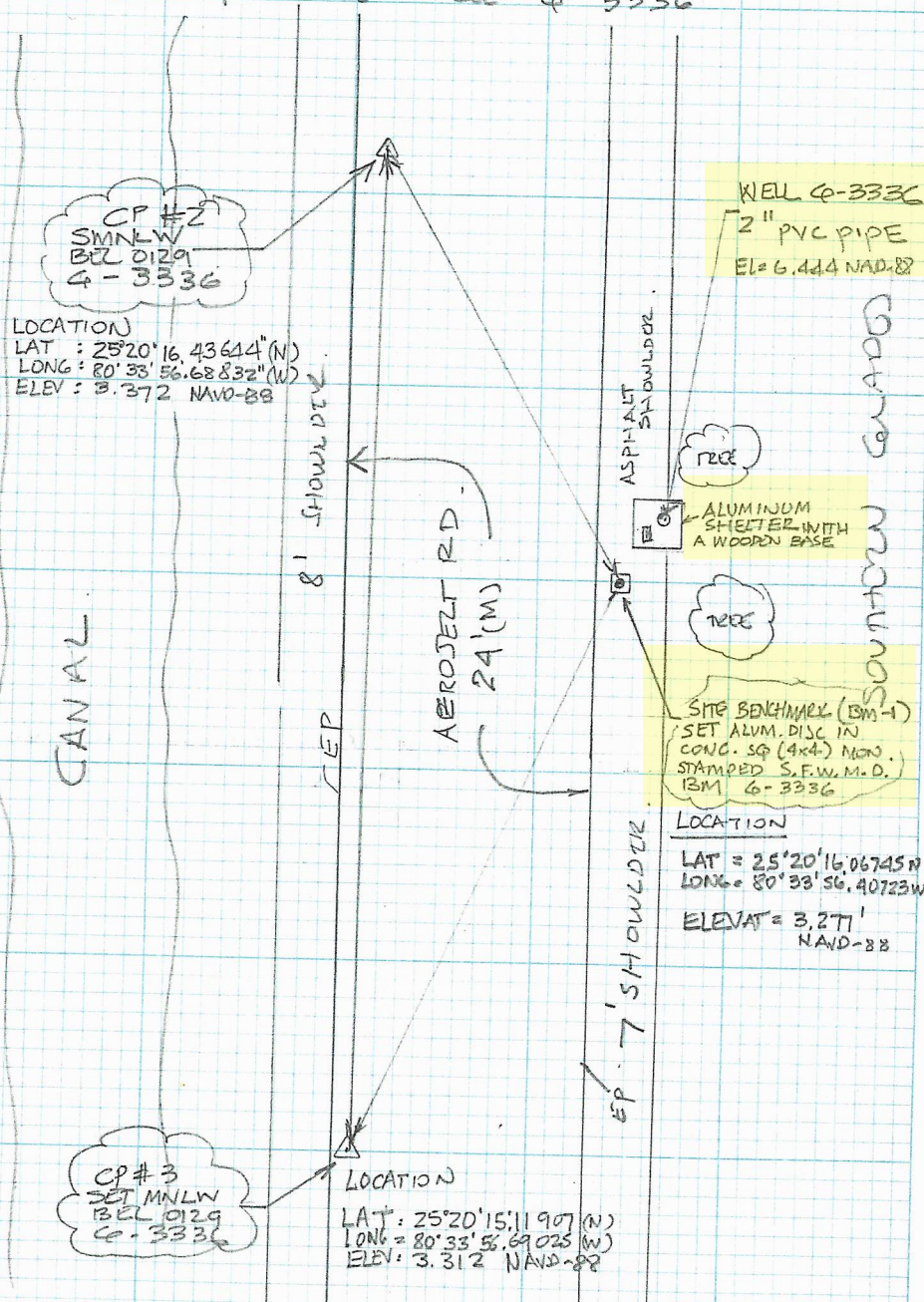
BEC #03-86445
 S.F.W.M.D.
 MIAMI DADE 26 WELLS
 LOCATION AND ELEVATION (NAVD-88)
 OF USGS WELL G-3336

2995-41

WELL G-3336
 (LOOKING NORTH)

*WELL LOCATION

LAT. → 25°20'16.09642" N
 LONG. → 80°33'56.37655" W
 ELEV = 6.444' NAVD-88 (TOP OF 2" PVC PIPE)



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BEC # 03-86445
 S. F. W. M. D.
 MIAMI DADE (26 WOLLS)
 LOCATION } ELEVATION (NAVD-88)
 OF USGS WELL Q-3336

STA	BS	DIST	HI	FS	DIST
BM U-504	5.81	234.40	8.31		
NAVD88					
TP N. 1				4.899	235.20
SHAKE	4.915	246.50	8.326		
TP N. 2				4.957	252.70
SHAKE	4.947	255.40	8.316		
TP N. 3				4.973	255.60
SHAKE	4.959	254.80	8.302		
TP N. 4				4.994	255.50
SHAKE	4.882	264.70	8.190		
TP N. 5				4.846	264.90
SHAKE	4.872	260.90	8.216		

2995-37

ELEVATION	BM ELEV	DESCRIPTION
	2.50	AEROSJET RD ± 31' WEST OF THE C/L 25' NORTH OF POWER POLE WITH A STREET LIGHT. FND BRASS DISC IN CONC MONUMENT FLUSH WITH THE GROUND. ELEV = 2.50 NAVD-88
3.411		SET CUT NL & TT, ON C OF THE AEROSJET RD ± 469.60' NORTH OF THE BM U-504
3.369		SET CUT NL & TT ± 1' EAST OF THE WEST EP OF THE AEROSJET ROAD, ± 499.2' NORTH OF THE TP 1
3.343		SET CUT NL & TT, ± 1' EAST OF THE WEST EP OF AEROSJET RD, ± 511' NORTH OF THE TP N. 2
3.308		SET CUT NL & TT, ± 1' EAST OF THE WEST EP OF AEROSJET RD, ± 511.30' NORTH OF THE TP N. 3
3.344		SET CUT NL & TT

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 S. F. W. M. D.
 MIAMI DADE (26 WELLS)
 LOCATION & ELEVATION (NAD-88)
 OF USGS WELL G-3336

STA	BS	DIST	HI	FS	DIST
			8.216		
TP No 6				4.926	260.90
SHAKE	4.911	263.40	8.201		
TP No 7				4.993	263.50
SHAKE	5.055	260.90	8.263		
TP No 8	5.055	260.90	8.263	4.990	260.10
SHAKE	4.988	261.90	8.261	4.990	260.10
TP No 9				5.011	262.30
SHAKE	4.857	265.70	8.107		
TP No 10				4.847	265.70
SHAKE	4.962	255.00	8.22		
TP No 11				4.968	255.40
SHAKE	5.058	235.40	8.312		

2995-38

ELEVATION	BM BLV.	DESCRIPTION
3.290		SET CUTNLS TT, ± 1' EAST OF THE EP OF THE AEROSJECT RD, ± 521.80' NORTH OF THE TP N. 5
3.208		SET CUTNLS TT, ± 1' EAST OF THE WEST EP OF THE AEROSJECT RD, ± 526.90' NORTH OF THE TP N. 6
3.273		PND MNL NO 10, ± 1' EAST OF THE WEST EP OF THE AEROSJECT RD, ± 521.0' NORTH OF THE TP N. 7
3.273		
3.250		SET CUTNLS TT, ± 1' EAST OF THE WEST EP OF THE AEROSJECT RD, ± 524.20' NORTH OF THE TP N. 8
3.260		SET CUTNLS TT, ± 1' EAST OF THE WEST EP OF THE AEROSJECT RD, ± 531.40', NORTH OF THE TP # 9
3.254		SET CUTNLS TT, ± 1' EAST OF THE WEST EP OF THE AEROSJECT RD, ± 510.40' NORTH OF THE TP N. 10

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 S. F. W. M. D.
 MIAMI DADE (26 WELLS)
 LOCATION AND ELEVATION (NAVD. 88)
 OF USGS WELL G-3336

STA	BS	DIST	HI	FS	DIST
CP N. 2				4.94	218.50
SHAKE	4.909	65.70	8.281		
100				1.771	39.95
101				5.059	38.70
102					
103				5.147	41.10
104				5.074	38.40
*WELL G-3336				1.837	
105				0.46	40.00
CP # 3				4.969	67.40
SHAKE	5.018	242.90	8.330		
TP N. 14				5.005	243.40
SHAKE	4.991	263.00	8.316		

2995-39

ELEVATION	BM ELEV.	DESCRIPTION
3.372		SET MNLW BEL 0129 G-3336
6.510		WOOD BASE.
3.220		ASPHALT (W)
3.206		ASPHALT (N)
3.134		GND (E)
3.207		ASPHALT (S)
6.444		WELL G-3336 (TOP OF 2" PVC PIPE) (CONVENTIONAL LOCATION)
7.821		METAL SHELTER (4)
3.312		SET MNLW BEL 0129 G-3336
3.325		SET COTNL AND TT, ± 6' WEST OF THE EAST CP OF THE AEROSJET RD, ± 486.30' SOUTH OF CP N. 3

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BEC #03-86445
S. F. W. M. D.
MIAMI DADE (26 WELLS)
LOCATION AND ELEVATION (NAVD-88)
OF USGS WELL G-3336

STA	BS	DIST	HI	FS	DIST
TP N. 15			8.316	5.169	263.80
SHAKE	5.033	261.90	8.180		
TP N. 16				4.887	262.40
SHAKE	4.931	268.80	8.224		
TP N. 17				5.008	268.90
SHAKE	4.623	254.60	7.839		
BM T-504				4.865	231.667

NAVD88

2995-40

ELEVATION	BM OR V.	DESCRIPTION
3.147		SET CUTNLS $\frac{1}{2}$ TT, $\pm 1'$ WEST OF THE EAST EP OF THE AEROSSET RD, $\pm 526.80'$ SOUTH OF THE TP 14
3.293		SET CUTNLS $\frac{1}{2}$ TT, $\pm 1'$ WEST OF THE EAST OF THE AEROSSET RD, $\pm 524.30'$ SOUTH OF THE TP # 15
3.210		SET CUTNLS $\frac{1}{2}$ TT, $\pm 1'$ WEST OF THE EAST EP OF THE AEROSSET
2.974	2.97	FIND BRASS DISC IN CONCL MONUMENT, STAMPED T504 2000, LOCATED 145.9' SOUTH-SOUTH EAST OF A POWER POLE No. 49. IH050 WITH STREET LIGHT ATTACHED, 22.0' EAST OF THE \pm C OF THE AEROSSET RD, 9.8' EAST OF OF THE EAST EDGE OF THE PAVEMENT. ELEV = 2.97 NAVD-88

ERROR = +0.004

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BEL #03-86445
 S.F.W.M.D.
 MIAMI DADE (REL WQW)
 LOCATION $\frac{1}{2}$ ELEVATION NAVD-88
 OF USGS WQL G-3336

STA	BS	DIST	H2	FS	DDT
CP-3 = TP-13	4.672 4.968	67.90 66.70	7.984 8.28		
BM-1				5.456 5.003	41.50 38.70
SHAKE	SDIS	2580	8.292		
CP # 2				4.922	2940

2095-43

ELEVAT	BM ELEV	DESCRIPTION
	3312	MNLW BEL 0129 G-3336 SEE PAGE 39, ELEV = 3312 NAVD-88
2.528 3.277		SET ALUM. DISC IN CONC. SQUARE 4x4 MON. STAMPED S.F.W.M.D. BM G-3336.
3.37	3.372	MNLW BEL 0129 G-3336 SEE PAGE 38, ELEV = 3.372 NAVD-88

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BEC #03-86445
S. F. W. M. D.
MIAMI DADE (26 WELLS)
LOCATION AND ELEVATIONS (NAND-88)
OF USGS WELL CP-3336

INST @ CP#2 (450-462)
HT = 5.16

STA	TIH	HORIZ \angle	VERT \angle	SLOPE DIST	DESC.
450 = 3	4.73	00°00'00"	90°12'57"	132.970	MNW 0129

864450L18 G-3336 SFWMD

2,365289.809,799588.125,3.214,SET MNLW BEC 0129 G-3336,

3,365156.816,799588.379,3.194,SET MNLW BEC 0129 G-3336,

11,359185.959,799604.553,2.455,BM U-504,

12,362602.379,799636.530,2.948,BM T-504,

BASE_1,424603.004,804549.394,18.135,Base Setup,

The NGS Data Sheet

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

```

PROGRAM = datasheet95, VERSION = 8.12.5.2
1      National Geodetic Survey,  Retrieval Date = MAY 13, 2019
AJ8409 *****
AJ8409 DESIGNATION - T 504
AJ8409 PID - AJ8409
AJ8409 STATE/COUNTY- FL/MIAMI-DADE
AJ8409 COUNTRY - US
AJ8409 USGS QUAD - ROYAL PALM RANGER STATION SE (1967)
AJ8409
AJ8409 *CURRENT SURVEY CONTROL
AJ8409
AJ8409* NAD 83(1986) POSITION- 25 19 48. (N) 080 33 56. (W) SCALED
AJ8409* NAVD 88 ORTHO HEIGHT - 0.906 (meters) 2.97 (feet) ADJUSTED
AJ8409
AJ8409 GEOID HEIGHT - -24.331 (meters) GEOID12B
AJ8409 DYNAMIC HEIGHT - 0.905 (meters) 2.97 (feet) COMP
AJ8409 MODELED GRAVITY - 978,981.0 (mgal) NAVD 88
AJ8409
AJ8409 VERT ORDER - FIRST CLASS II
AJ8409
AJ8409.The horizontal coordinates were scaled from a topographic map and have
AJ8409.an estimated accuracy of +/- 6 seconds.
AJ8409.
AJ8409.The orthometric height was determined by differential leveling and
AJ8409.adjusted by the NATIONAL GEODETIC SURVEY
AJ8409.in June 2002.
AJ8409
AJ8409.No vertical observational check was made to the station.
AJ8409
AJ8409.Significant digits in the geoid height do not necessarily reflect accuracy.
AJ8409.GEOID12B height accuracy estimate available here.
AJ8409
AJ8409.The dynamic height is computed by dividing the NAVD 88
AJ8409.geopotential number by the normal gravity value computed on the
AJ8409.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
AJ8409.degrees latitude (g = 980.6199 gals.).
AJ8409
AJ8409.The modeled gravity was interpolated from observed gravity values.
AJ8409
AJ8409; North East Units Estimated Accuracy
AJ8409;SPC FL E - 110,470. 243,740. MT (+/- 180 meters Scaled)
AJ8409
AJ8409_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNJ437015(NAD 83)
AJ8409
AJ8409 SUPERSEDED SURVEY CONTROL
AJ8409
AJ8409.No superseded survey control is available for this station.
AJ8409
AJ8409_MARKER: DD = SURVEY DISK
AJ8409_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
AJ8409_STAMPING: T 504 2000

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AJ8409_MARK LOGO: FLDEP

AJ8409_MAGNETIC: B = BAR MAGNET IMBEDDED IN MONUMENT

AJ8409_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO

AJ8409+STABILITY: SURFACE MOTION

AJ8409_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

AJ8409+SATELLITE: SATELLITE OBSERVATIONS - July 28, 2011

AJ8409

AJ8409	HISTORY	- Date	Condition	Report By
AJ8409	HISTORY	- 2000	MONUMENTED	FLDEP
AJ8409	HISTORY	- 20110728	GOOD	INDIV

AJ8409

AJ8409 STATION DESCRIPTION

AJ8409

AJ8409'DESCRIBED BY FL DEPT OF ENV PRO 2000 (JLM)

AJ8409'THE MARK IS ABOUT 10.0 MI (16.1 KM) SOUTHWEST OF HOMESTEAD, 9.0 MI
 AJ8409'(14.5 KM) SOUTHWEST OF FLORIDA CITY, IN SECTION 6, TOWNSHIP 59 SOUTH,
 AJ8409'RANGE 38 EAST. TO REACH THE MARK FROM THE INTERSECTION OF U.S.
 AJ8409'HIGHWAY 1 (SOUTH DIXIE HIGHWAY) AND PALM DRIVE (STATE ROAD 9336,
 AJ8409'SOUTHWEST 344TH STREET) IN FLORIDA CITY, GO WEST ON PALM DRIVE (STATE
 AJ8409'ROAD 9336, SOUTHWEST 344TH STREET) FOR 1.7 MI (2.7 KM) TO THE JUNCTION
 AJ8409'OF SOUTHWEST 192TH AVENUE (TOWER ROAD, STATE ROAD 9336) TURN LEFT ON
 AJ8409'SOUTHWEST 192TH AVENUE (TOWER ROAD, STATE ROAD 9336) AND GO SOUTH FOR
 AJ8409'2.1 MI (3.4 KM) TO THE JUNCTION OF SOUTHWEST 376TH STREET (STATE ROAD
 AJ8409'9336, INGRAHAM HIGHWAY) ON THE RIGHT, TURN RIGHT ON SOUTHWEST 376TH
 AJ8409'STREET (STATE ROAD 9336, INGRAHAM HIGHWAY) AND GO WEST FOR 4.5 MI (7.2
 AJ8409'KM) TO A PAVED ROAD ON THE LEFT (SOUTHWEST 232ND AVENUE) , TURN LEFT
 AJ8409'ON THE PAVED ROAD AND GO SOUTH FOR 1.55 TO A LOCKED GATE, CONTINUE
 AJ8409'SOUTH ON THE PAVED ROAD FOR 1.35 MI (2.17 KM) TO A LOCKED GATE,
 AJ8409'CONTINUE SOUTH ON THE PAVED ROAD FOR 2.0 MI (3.2 KM) TO THE MARK ON
 AJ8409'THE LEFT, SET IN THE TOP OF A ROUND CONCRETE MONUMENT FLUSH WITH THE
 AJ8409'GROUND AND 0.3 FT (9.1 CM) BELOW THE LEVEL OF THE PAVED ROAD. LOCATED
 AJ8409'145.8 FT (44.4 M) SOUTH-SOUTHEAST OF POWER POLE NUMBER 49IH050 WITH A
 AJ8409'STREET LIGHT ATTACHED, 22.0 FT (6.7 M) EAST OF THE APPROXIMATE
 AJ8409'CENTERLINE OF THE PAVE ROAD, 9.8 FT (3.0 M) EAST OF THE EAST EDGE OF
 AJ8409'THE PAVEMENT AND 3.2 FT (1.0 M) WEST OF A CARSONITE WITNESS POST. NOTE
 AJ8409'A BAR MAGNETIC WAS INBEDDED IN THE MONUMENT ON THE NORTH SIDE. NOTE
 AJ8409'FOR KEY CONTACT SOUTH FLORIDA WATER MANAGEMENT DISTRICT AT 2195
 AJ8409'NORTHEAST 8TH STREET HOMESTEAD, FL 33033, PHONE 305-242-5955.

AJ8409

AJ8409 STATION RECOVERY (2011)

AJ8409

AJ8409'RECOVERY NOTE BY INDIVIDUAL CONTRIBUTORS 2011 (TEW)

AJ8409'RECOVERED AS DESCRIBED

*** retrieval complete.

Elapsed Time = 00:00:04

The NGS Data Sheet

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

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1      National Geodetic Survey,  Retrieval Date = MAY 13, 2019
AJ8410 *****
AJ8410 DESIGNATION - U 504
AJ8410 PID - AJ8410
AJ8410 STATE/COUNTY- FL/MIAMI-DADE
AJ8410 COUNTRY - US
AJ8410 USGS QUAD - ROYAL PALM RANGER STATION SE (1967)
AJ8410
AJ8410 *CURRENT SURVEY CONTROL
AJ8410
AJ8410* NAD 83(1986) POSITION- 25 19 15. (N) 080 33 57. (W) SCALED
AJ8410* NAVD 88 ORTHO HEIGHT - 0.761 (meters) 2.50 (feet) ADJUSTED
AJ8410
AJ8410 GEOID HEIGHT - -24.307 (meters) GEOID12B
AJ8410 DYNAMIC HEIGHT - 0.760 (meters) 2.49 (feet) COMP
AJ8410 MODELED GRAVITY - 978,981.2 (mgal) NAVD 88
AJ8410
AJ8410 VERT ORDER - FIRST CLASS II
AJ8410
AJ8410.The horizontal coordinates were scaled from a topographic map and have
AJ8410.an estimated accuracy of +/- 6 seconds.
AJ8410.
AJ8410.The orthometric height was determined by differential leveling and
AJ8410.adjusted by the NATIONAL GEODETIC SURVEY
AJ8410.in June 2002.
AJ8410
AJ8410.No vertical observational check was made to the station.
AJ8410
AJ8410.Significant digits in the geoid height do not necessarily reflect accuracy.
AJ8410.GEOID12B height accuracy estimate available here.
AJ8410
AJ8410.The dynamic height is computed by dividing the NAVD 88
AJ8410.geopotential number by the normal gravity value computed on the
AJ8410.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
AJ8410.degrees latitude (g = 980.6199 gals.).
AJ8410
AJ8410.The modeled gravity was interpolated from observed gravity values.
AJ8410
AJ8410; North East Units Estimated Accuracy
AJ8410;SPC FL E - 109,450. 243,710. MT (+/- 180 meters Scaled)
AJ8410
AJ8410_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNJ436005(NAD 83)
AJ8410
AJ8410 SUPERSEDED SURVEY CONTROL
AJ8410
AJ8410.No superseded survey control is available for this station.
AJ8410
AJ8410_MARKER: DD = SURVEY DISK
AJ8410_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
AJ8410_STAMPING: U 504 2000

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AJ8410_MARK LOGO: FLDEP

AJ8410_MAGNETIC: B = BAR MAGNET IMBEDDED IN MONUMENT

AJ8410_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO

AJ8410+STABILITY: SURFACE MOTION

AJ8410_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

AJ8410+SATELLITE: SATELLITE OBSERVATIONS - November 01, 2014

AJ8410

AJ8410	HISTORY	- Date	Condition	Report By
AJ8410	HISTORY	- 2000	MONUMENTED	FLDEP
AJ8410	HISTORY	- 20030930	GOOD	WEIDEN
AJ8410	HISTORY	- 20071003	GOOD	DEGROV
AJ8410	HISTORY	- 20110728	GOOD	INDIV
AJ8410	HISTORY	- 20141101	GOOD	WSMI

AJ8410

AJ8410

AJ8410

STATION DESCRIPTION

AJ8410'DESCRIBED BY FL DEPT OF ENV PRO 2000 (JLM)

AJ8410'THE MARK IS ABOUT 10.7 MI (17.2 KM) SOUTHWEST OF HOMESTEAD, 9.7 MI

AJ8410'(15.6 KM) SOUTHWEST OF FLORIDA CITY, IN SECTION 6, TOWNSHIP 59 SOUTH,

AJ8410'RANGE 38 EAST. TO REACH THE MARK FROM THE INTERSECTION OF U.S.

AJ8410'HIGHWAY 1 (SOUTH DIXIE HIGHWAY) AND PALM DRIVE (STATE ROAD 9336,

AJ8410'SOUTHWEST 344TH STREET) IN FLORIDA CITY, GO WEST ON PALM DRIVE (STATE

AJ8410'ROAD 9336, SOUTHWEST 344TH STREET) FOR 1.7 MI (2.7 KM) TO THE JUNCTION

AJ8410'OF SOUTHWEST 192TH AVENUE (TOWER ROAD, STATE ROAD 9336) TURN LEFT ON

AJ8410'SOUTHWEST 192TH AVENUE (TOWER ROAD, STATE ROAD 9336) AND GO SOUTH FOR

AJ8410'2.1 MI (3.4 KM) TO THE JUNCTION OF SOUTHWEST 376TH STREET (STATE ROAD

AJ8410'9336, INGRAHAM HIGHWAY) ON THE RIGHT, TURN RIGHT ON SOUTHWEST 376TH

AJ8410'STREET (STATE ROAD 9336, INGRAHAM HIGHWAY) AND GO WEST FOR 4.5 MI (7.2

AJ8410'KM) TO A PAVED ROAD ON THE LEFT (SOUTHWEST 232ND AVENUE) , TURN LEFT

AJ8410'ON THE PAVED ROAD AND GO SOUTH FOR 1.55 TO A LOCKED GATE, CONTINUE

AJ8410'SOUTH ON THE PAVED ROAD FOR 1.35 MI (2.17 KM) TO A LOCKED GATE,

AJ8410'CONTINUE SOUTH ON THE PAVED ROAD FOR 2.6 MI (4.2 KM) TO A 90 DEGREE

AJ8410'TURN EAST AND THE MARK ON THE RIGHT, SET IN THE TOP OF A ROUND

AJ8410'CONCRETE MONUMENT FLUSH WITH THE GROUND AND 0.5 FT (15.2 CM) BELOW THE

AJ8410'LEVEL OF THE PAVED ROAD. LOCATED 31.0 FT (9.4 M) WEST OF THE

AJ8410'APPROXIMATE CENTERLINE OF THE PAVED ROAD, 25.0 FT (7.6 M) NORTH OF

AJ8410'POWER POLE WITH A STREET LIGHT AND ONE GUY WIRE ATTACHED, 19.0 FT (5.8

AJ8410'M) WEST OF THE WEST EDGE OF THE PAVEMENT AND 2.7 FT (0.8 M) EAST OF A

AJ8410'CARSONITE WITNESS POST. NOTE A BAR MAGNET WAS INBEDDED IN THE MONUMENT

AJ8410'ON THE NORTH SIDE. NOTE FOR KEY CONTACT SOUTH FLORIDA WATER MANAGEMENT

AJ8410'DISTRICT AT 2195 NORTHEAST 8TH STREET HOMESTEAD, FL 33033, PHONE

AJ8410'305-242-5955.

AJ8410

AJ8410

STATION RECOVERY (2003)

AJ8410

AJ8410'RECOVERY NOTE BY WEIDENER SURVEYING AND MAPPING 2003 (MM)

AJ8410'RECOVERED AS DESCRIBED

AJ8410

AJ8410

STATION RECOVERY (2007)

AJ8410

AJ8410'RECOVERY NOTE BY DEGROVE SURVEYORS INCORPORATED 2007

AJ8410'RECOVERED AS DESCRIBED

AJ8410

AJ8410

STATION RECOVERY (2011)

AJ8410

AJ8410'RECOVERY NOTE BY INDIVIDUAL CONTRIBUTORS 2011 (TEW)

AJ8410'RECOVERED AS DESCRIBED

AJ8410

AJ8410

STATION RECOVERY (2014)

AJ8410

AJ8410'RECOVERY NOTE BY WHIDDEN SURVEYING AND MAPPING INC 2014 (TEW)
AJ8410'RECOVERED IN GOOD CONDITION.

*** retrieval complete.
Elapsed Time = 00:00:04