SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Rev. 1/16

DB Hydro Station Names:	DB Hydro Site Name:	Agency:	Date of Field Work:
S356GW1 **S356GW2** **S356GW3** **S356GW4**	**S356GW** **S356GW** **S356GW** **S356GW**	**WMD** **WMD** **WMD** **WMD**	**02-may-16**

Party Chief: **Ebanks**	Field Book: **SCADA12**	Page **21**	Prepared by: **H. Ehmke**

SITE SPECIFIC DATA

Site Benchmark: **S334**	Benchmark Elevation (NAVD88) **12.208**	Corpscon 6.0.1 Conversion Factor (*NAVD88 to NGVD29*) **+1.558**

Reference Elevation(s) (*NAVD88*):	Existing Brass Tag Elevation (Datum):	Calibration Port Elevation(s) (*NAVD88*):
S356GW1 El. **10.53** S356GW2 El. **10.31** S356GW3 El. **10.04** S356GW4 El. **10.60**	**None**	**Not Applicable**

Ground Elevation (NAVD88): **Not taken**	Pad Elevation (NAVD88): **Not Applicable**

GEOOGRAPHIC DATA

Section **2**	Township **54** South	Range **38** East

Approximate Center of Well complex	Latitude: **25°45'41.28"**	Longitude: 80**°30'04.71"**	Source: Scaled pick point on Google Earth
	State Plane Coordinates	Northing (Y) =	Easting (X) =

Notes:

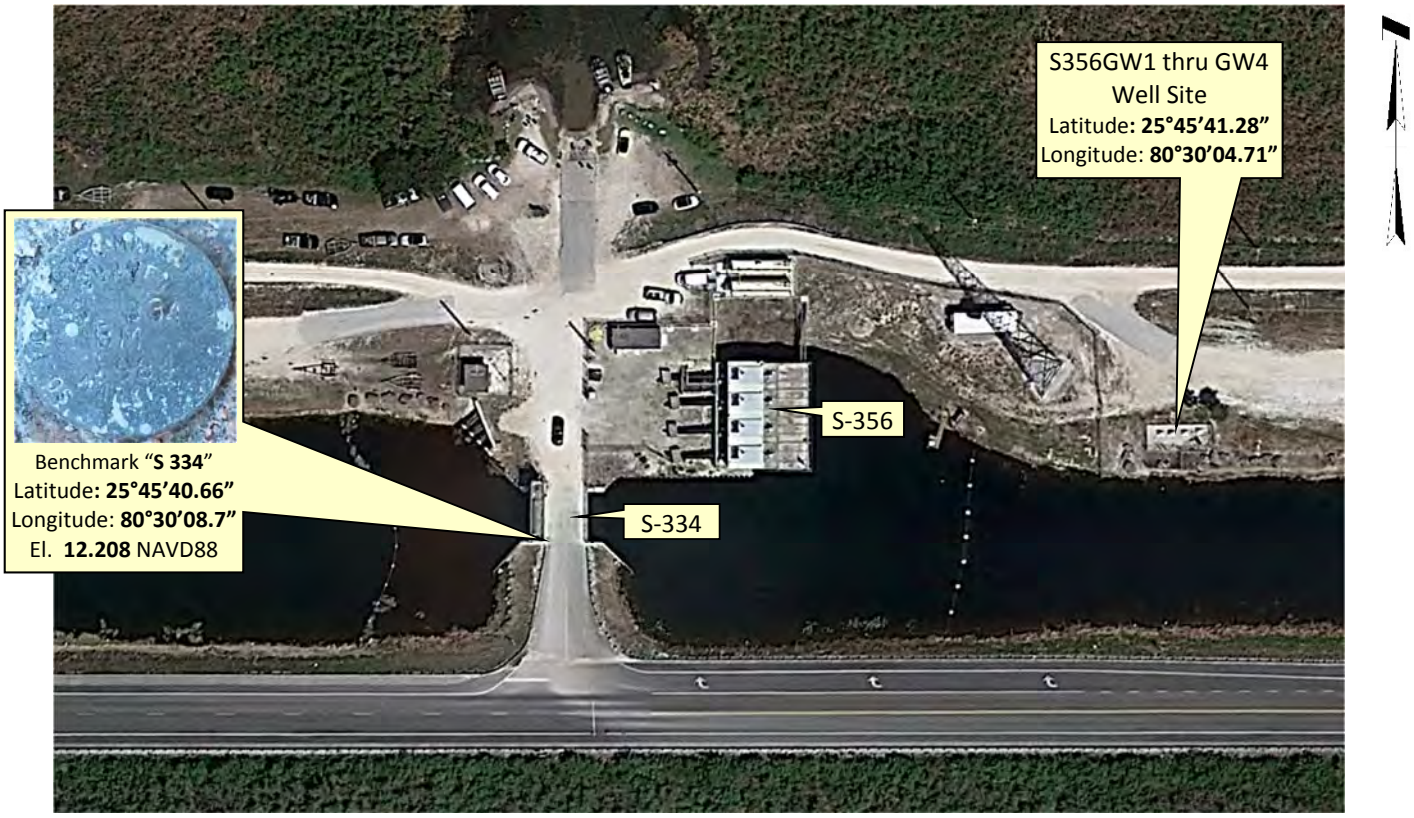
NAVD88 – North American Vertical Datum of 1988

NGVD29- National Geodetic Vertical Datum of 1929

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.

PICTURES

Aerial Overall Site



Not to scale (Google Earth product)

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Rev. 1/16

Overall

Looking Southerly Oblique (Not to scale) 26-apr-16

Looking Easterly Oblique (Not to scale) 20-jun-16

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

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S356GW1 Well Head

Looking Southerly Oblique (Not to scale) 10-nov-17

S365GW1
Reference Point
El. **10.53** NAVD88

Note:
The brass tags were re-stamped for the 10-nov-17 re-assignment of well names only.

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Rev. 1/16

S356GW2 Well Head

Looking Southerly Oblique (Not to scale) 10-nov-17

Note:
The brass tags were re-stamped for the 10-nov-17 re-assignment of well names onlv.

S356GW3 Well Head

Looking Southerly Oblique (Not to scale) 10-nov-17

S365GW3
Reference Point
El. **10.04** NAVD88

Note:
The brass tags were re-stamped for the 10-nov-17 re-assignment of well names only.

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

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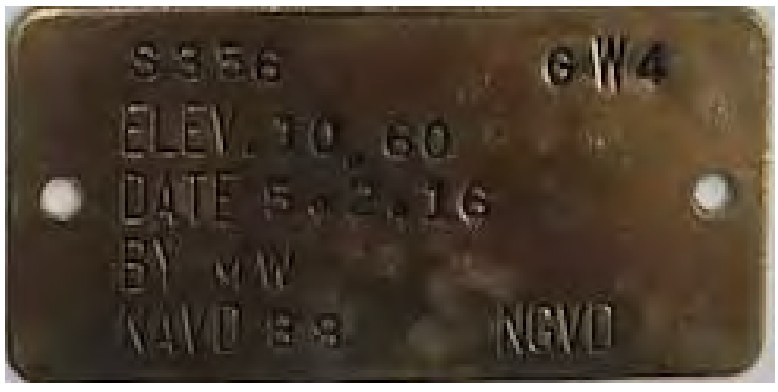
S356GW4 Well Head

Looking Southerly Oblique (Not to scale) 02nov-17

S365GW4
Reference Point
El. **10.60** NAVD88



Note:
The brass tags were re-stamped for the 10-nov-17 re-assignment of well names only.

SEC 1 TWP 54 Rge 38 Eboucks Rodriguez

Re-Survey S-356GW wells. See Scada FB 11 pg. 78

HTA	+	H.I.	−	Elev	Remarks
BM S-334	0.76	~~12.98~~ 12.968		~~12.22~~ 12.208	
S-356 GW1			2.38	10.60	West wall
S-356 GW4			2.45	10.53	EAST of WEST wall
S-356 GW3			2.67	10.31	West of EAST wall
S-356 GW2			2.94	10.04	EAST wall
BM S-334			0.76	~~12.22~~ 12.208	

10.588 W/S

10.518

10.298

10.028

SEC TWP Rge Eboucks Rodriguez

Verify STAFF Gage @ S9X-N

HTA	+	H.I.	−	Elev	Remarks
BM FCE 1566	5.10	12.26		7.16	
			6.67	5.59	5.61 Gage

From the "ngvd29.txt" file provided by NGS for the CERP Geodetic Vertical Control Project.
Line/Part: L26195 SSN+: mark floated, SSN*: mark constrained, SSN#: mark floated & constrained

Mark ID	SSN	PID	Designation	Geopotential	Elevation	Codes
804	0025	AJ8366	S 334	4.1136	4.1975	

The NGS Data Sheet

See file dsdata.txt for more information about the datasheet.

```
PROGRAM = datasheet95, VERSION = 8.8
1         National Geodetic Survey,   Retrieval Date = MARCH 15, 2016
 AJ8366 ***********************************************************************
 AJ8366  DESIGNATION -  S 334
 AJ8366  PID         -  AJ8366
 AJ8366  STATE/COUNTY-  FL/MIAMI-DADE
 AJ8366  COUNTRY     -  US
 AJ8366  USGS QUAD   -  COOPERTOWN (1973)
 AJ8366
 AJ8366                          *CURRENT SURVEY CONTROL
 AJ8366  ______________________________________________________________________
 AJ8366* NAD 83(1986) POSITION- 25 45 41.     (N) 080 30 07.     (W)    SCALED
 AJ8366* NAVD 88 ORTHO HEIGHT -     3.721 (meters)       12.21  (feet) ADJUSTED
 AJ8366  ______________________________________________________________________
 AJ8366  GEOID HEIGHT    -        -24.671 (meters)                     GEOID12B
 AJ8366  DYNAMIC HEIGHT  -          3.715 (meters)       12.19  (feet) COMP
 AJ8366  MODELED GRAVITY -    979,030.1   (mgal)                       NAVD 88
 AJ8366
 AJ8366  VERT ORDER      -  FIRST     CLASS II
 AJ8366
 AJ8366.The horizontal coordinates were scaled from a topographic map and have
 AJ8366.an estimated accuracy of +/- 6 seconds.
 AJ8366.
 AJ8366.The orthometric height was determined by differential leveling and
 AJ8366.adjusted by the NATIONAL GEODETIC SURVEY
 AJ8366.in July 2006.
 AJ8366
 AJ8366.Significant digits in the geoid height do not necessarily reflect accuracy.
 AJ8366.GEOID12B height accuracy estimate available here.
 AJ8366
 AJ8366.Photographs are available for this station.
 AJ8366
 AJ8366.The dynamic height is computed by dividing the NAVD 88
 AJ8366.geopotential number by the normal gravity value computed on the
 AJ8366.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 AJ8366.degrees latitude (g = 980.6199 gals.).
 AJ8366
 AJ8366.The modeled gravity was interpolated from observed gravity values.
 AJ8366
 AJ8366;                    North         East     Units  Estimated Accuracy
 AJ8366;SPC FL E     -   158,280.      249,960.      MT  (+/- 180 meters Scaled)
 AJ8366
 AJ8366                          SUPERSEDED SURVEY CONTROL
 AJ8366
 AJ8366  NAVD 88 (06/21/02)    3.723  (m)           12.21   (f) SUPERSEDED  1 2
 AJ8366
 AJ8366.Superseded values are not recommended for survey control.
 AJ8366
 AJ8366.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 AJ8366.See file dsdata.txt to determine how the superseded data were derived.
 AJ8366
```

AJ8366_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNJ499493(NAD 83)
AJ8366
AJ8366_MARKER: DD = SURVEY DISK
AJ8366_SETTING: 37 = SET IN A MASSIVE RETAINING WALL
AJ8366_SP_SET: STRUCTURE RETAINING WALL
AJ8366_STAMPING: BM S-334 1984
AJ8366_MARK LOGO: SFLWMD
AJ8366_MAGNETIC: N = NO MAGNETIC MATERIAL
AJ8366_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
AJ8366_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AJ8366+SATELLITE: SATELLITE OBSERVATIONS - November 15, 2015
AJ8366

AJ8366 HISTORY	- Date	Condition	Report By
AJ8366 HISTORY	- 1984	MONUMENTED	SFLWMD
AJ8366 HISTORY	- 20001202	GOOD	FLDEP
AJ8366 HISTORY	- 20050317	GOOD	FLDEP
AJ8366 HISTORY	- 20151115	GOOD	GEOCAC

AJ8366
AJ8366 STATION DESCRIPTION
AJ8366
AJ8366'DESCRIBED BY FL DEPT OF ENV PRO 2000 (JLM)
AJ8366'THE MARK IS ABOUT 11.3 MI (18.2 KM) NORTHWEST OF HIALEAH, 25.0 MI
AJ8366'(40.2 KM) NORTH-NORTHWEST OF MIAMI, 18.5 MI (29.8 KM) NORTH OF
AJ8366'HOMESTEAD, IN SECTION 2, TOWNSHIP 54 SOUTH, RANGE 38 EAST. TO REACH
AJ8366'THE MARK FROM THE JUNCTION OF STATE ROAD 997 (KROME AVE SW 177 AVE)
AJ8366'AND U.S. HIGHWAY 41 (TAMIAMI TRAIL SW 8TH ST) ABOUT 10.0 MI (16.1 KM)
AJ8366'SOUTHWEST OF HIALEAH, GO WEST ON U.S. HIGHWAY 41 (TAMIAMI TRAIL SW
AJ8366'8TH ST) FOR 1.3 MI (2.1 KM) TO THE JUNCTION OF AN ACCESS ROAD (WATER
AJ8366'CONTROL STRUCTURE S-334) ON THE RIGHT, TURN RIGHT ON THE ACCESS ROAD
AJ8366'AND GO NORTH CROSSING OVER THE BRIDGE SPANNING A CANAL FOR 0.05 MI
AJ8366'(0.08 KM) TO THE T-JUNCTION OF A LEVEE NUMBER 30, TURN LEFT ON THE
AJ8366'LOWER LEVEE ROAD AND GO WEST FOR 0.05 MI (0.08 KM) TO THE MARK ON THE
AJ8366'LEFT, SET FLUSH IN THE TOP OF THE SOUTH RETAINING WALL OF THE WATER
AJ8366'STRUCTURE. LOCATED 99.0 FT (30.2 M) NORTH OF THE CENTERLINE OF U.S.
AJ8366'HIGHWAY 41, 11.5 FT (3.5 M) WEST OF THE APPROXIMATE CENTERLINE OF THE
AJ8366'BRIDGE ROAD AND 2.0 FT (0.6 M) NORTH OF A METAL GUARDRAIL. NOTE FOR
AJ8366'KEY CONTACT SOUTH FLORIDA WATER MANAGEMENT DISTRICT AT 2195 NORTHEAST
AJ8366'8TH STREET HOMESTEAD, FL 33033, PHONE NUMBER 305-242-5955.
AJ8366
AJ8366 STATION RECOVERY (2005)
AJ8366
AJ8366'RECOVERY NOTE BY FL DEPT OF ENV PRO 2005 (JLM)
AJ8366'RECOVERED AS DESCRIBED.
AJ8366
AJ8366 STATION RECOVERY (2015)
AJ8366
AJ8366'RECOVERY NOTE BY GEOCACHING 2015 (KEN)
AJ8366'RECOVERED IN GOOD CONDITION.

*** retrieval complete.
Elapsed Time = 00:00:02

Office

Project

16 February 2018

INPUT	OUTPUT
Geographic, flhpgn - Florida HPGN	State Plane, flhpgn - Florida HPGN
Vertical - NAVD88, U.S. Feet	0901 - Florida East, U.S. Feet
	Vertical - NGVD29 (Custom), U.S. Feet

S-356GW1

1/4

Latitude:	25 45 41.2	**Northing/Y:**	519298.073
Longitude:	80 30 04.7	**Easting/X:**	820293.666
Elevation/Z:	0	**Elevation/Z:**	1.558
		Convergence:	0 13 00.29879
		Scale Factor:	0.999972067
		Combined Factor:	0.999975854

S-356GW2

2/4

Latitude:	25 45 41.2	**Northing/Y:**	519298.107
Longitude:	80 30 04.6	**Easting/X:**	820302.808
Elevation/Z:	0	**Elevation/Z:**	1.558
		Convergence:	0 13 00.34226
		Scale Factor:	0.999972070
		Combined Factor:	0.999975857

S-356GW3

3/4

Latitude:	25 45 41.3	**Northing/Y:**	519308.238
Longitude:	80 30 04.5	**Easting/X:**	820311.912
Elevation/Z:	0	**Elevation/Z:**	1.558
		Convergence:	0 13 00.38650
		Scale Factor:	0.999972073
		Combined Factor:	0.999975860

S-356GW4

4/4

Latitude:	25 45 41.3	**Northing/Y:**	519308.134
Longitude:	80 30 04.8	**Easting/X:**	820284.486
Elevation/Z:	0	**Elevation/Z:**	1.558
		Convergence:	0 13 00.25611
		Scale Factor:	0.999972063
		Combined Factor:	0.999975850

Remark:

Corpscon v6.0.1, U.S. Army Corps of Engineers

Ehmke, Howard

From: Smith, Keith R.
Sent: Wednesday, August 16, 2017 7:12 AM
To: Ehmke, Howard
Cc: Horan, Michael; Lindstrom, Linda
Subject: S-356 Wells

Howard:

We have four monitor wells at the S-356 pump station that were installed a couple of years ago. When the telemetry was installed, the well names were switched from what they were originally named. We are in the process of having the names changed back to the original names (it has been discussed and approved at change control). So, according to Garnett, we need to have new brass tags printed before we can rename the wells and switch the equipment in the field so the data comes through properly. Please let me know what I need to do to have the new brass tags made. Well info is listed below:

Current Well Name	Proposed Well Name
S356GW1	S356GW4
S356GW2	S356GW3
S356GW3	S356GW2
S356GW4	S356GW1

Note that we don't need a new survey, only the new brass tags reflecting the original wells names. Contact me with any questions. Thanks.

Keith R. Smith, P.G.
Lead Hydrogeologist
Resource Evaluation Section
South Florida Water Management District
(561) 682-6629
ksmith@sfwmd.gov

REGISTRATION WORKSHEET - S-356GW Addendum

Site Name: **S-356GW** Today's Date: **8/21/2017** Type Recorder:

Activity: **Addendum** Effective Date: Start Date of Data :

Customer: **Carlos Gomez/SCADA Eng.** Bus. Area: **SCADA** Agency: **SFWMD** Internal Order:
Fund:

Project Manager: **E. Ebanks** Bus. Area: **InfrStr.Mgt/Survey** Agency: **SFWMD** Contract #:

Project Name: Legal Mandate:

Short Common Name / Description:	
Proj. Mgr. Notes:	Measuring Point ELEV. for four (4) GW Wells.. (NAVD 88 Offset = + 1.56' to NGVD 29) Addendum Added to Re-Assign I.D. Of Wells at S-356…
Site Directions:	In Miami Dade… From Krome Ave. / Tamiami Tr. (US 41) .. Go west on US 41 for 1.3 mls to S-334… Site is located 250' +/- East of S-334 on North Bank of Canal (Near TW Well)
Site Address (if any):	

Transportation: **Std Vehicle** Lock type or combination: **Abloy S** #

Recorder Location/Purpose: Structure Type:

Array ID Configuration table attached

SURVEY INFORMATION

B.M. Elevation: **12.215ft** Date: **6/6/1984** Stamp: **BM S-334 1984**

Agency: **SFWMD** Type: **ALUM** Datum: NAVD 88

Benchmark Location/ Description	Located at the SE Abutment in line with wheel guard of Structure S-334 (On walkway).

COMMUNICATIONS INFORMATION

Communications System: Loggernet Server: Loggernet IP Address:

Tower: Communication Type: R.F. Code/Modem Address: R.F. Access Point:

Phone Number:

RTU Address: Gateways:

WELL INFORMATION

Sensor	Customer Ref	Ref Elev	Elev Date	Top of Well	Bottom of Well	Ground Elev	Benchmark Elev	Benchmark Datum	Ref Elevation Location
GW4		10.60ft	5/2/2016	10.60ft		7.0ft	12.215ft	NAVD 88	Mark Set on Edge of PVC Well .. Under Metal Cover.
GW3		10.04ft	5/2/2016	10.04ft		7.0ft	12.215ft	NAVD 88	Mark Set Edge of PVC Well Under Metal Cover
GW2		10.31ft	5/2/2016	10.31ft		6.9ft	12.215ft	NAVD 88	Mark Set on Rim of PVC Well under Metal Cover.
GW1		10.53ft	5/2/2016	10.53ft		7.2ft	12.215ft	NAVD 88	Mark Set on Rim Of PVC Well Under Metal Cover.

Sensor	GW Sensor Location Offset	Meas Pt Elevation	GW Land Elevation	Depth of Well	Type of Well	Top of Monitored Interval	Base of Monitored Interval	Parameter Transmitted
GW4								
GW3								
GW2								
GW1								

COORDINATE INFORMATION

Item/Parm	Lat	Long	X-Coord	Y-Coord	Sec	Township	Range	Quad	Basin	County	Description
GW4	25 45 41.2	80 30 04.8			1	54	38	Coopertown		Miami/Dade	
GW3	25 45 41.2	80 30 04.5			1	54	38	Coopertown		Miami/Dade	
GW2	25 45 41.2	80 30 04.6			1	54	38	Coopertown		Miami/Dade	
GW1	25 45 41.2	80 30 04.7			1	54	38	Coopertown		Miami/Dade	

sfwmd.gov

DBHYDRO | by station

STATION INFORMATION

Station	S356GW1
Site	S356GW
Type	WELL
Latitude (ddmmss.sss)	254541.282
Longitude (ddmmss.sss)	803004.779
X Coord (ft) NAD83	820288.053
Y Coord (ft) NAD83	519307.342
County	Miami-Dade
Basin	L-29 CC
Section	2
Township	54
Range	38
Map	Launch Map
Well Info	Info
Description	Well outside S356-S334 fenced area. Depth is 52.5 ft - 54.5 ft
Notes	
Nearby Stations	Nearby Stations
Attachments	Show Attachments

Query returned 1 station record(s).

Get Sample Data | Get Time Series Data

SFWMD Headquarters: 3301 Gun Club Road, West Palm Beach, Florida 33406
561-686-8800 | 1-800-432-2045 (Florida Only)

sfwmd.gov

DBHYDRO | by station

STATION INFORMATION

Station	S356GW2
Site	S356GW
Type	WELL
Latitude (ddmmss.sss)	254541.278
Longitude (ddmmss.sss)	803004.655
X Coord (ft) NAD83	820299.409
Y Coord (ft) NAD83	519307.022
County	Miami-Dade
Basin	L-29 CC
Section	2
Township	54
Range	38
Map	Launch Map
Well Info	Info
Description	Well outside S356-S334 fenced area. Depth is 46 ft - 48 ft; Biscayne
Notes	
Nearby Stations	Nearby Stations
Attachments	Show Attachments

Query returned 1 station record(s).

Get Sample Data | Get Time Series Data

SFWMD Headquarters: 3301 Gun Club Road, West Palm Beach, Florida 33406
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sfwmd.gov

DBHYDRO | by station

STATION INFORMATION

Station	S356GW3
Site	S356GW
Type	WELL
Latitude (ddmmss.sss)	254541.296
Longitude (ddmmss.sss)	803004.585
X Coord (ft) NAD83	820305.82
Y Coord (ft) NAD83	519308.803
County	Miami-Dade
Basin	L-29 CC
Section	2
Township	54
Range	38
Map	Launch Map
Well Info	Info
Description	Well outside S356-S334 fenced area. Depth is 22 ft - 24 ft
Notes	
Nearby Stations	Nearby Stations
Attachments	Show Attachments

Query returned 1 station record(s).

Get Sample Data | Get Time Series Data

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sfwmd.gov

DBHYDRO | by station

STATION INFORMATION

Station	S356GW4
Site	S356GW
Type	WELL
Latitude (ddmmss.sss)	254541.261
Longitude (ddmmss.sss)	803004.819
X Coord (ft) NAD83	820284.386
Y Coord (ft) NAD83	519305.208
County	Miami-Dade
Basin	L-29 CC
Section	2
Township	54
Range	38
Map	Launch Map
Well Info	Info
Description	Well outside S356-S334 fenced area. Depth is 10 ft - 12 ft Biscayne
Notes	
Nearby Stations	Nearby Stations
Attachments	Show Attachments

Query returned 1 station record(s).

Get Sample Data | Get Time Series Data

SFWMD Headquarters: 3301 Gun Club Road, West Palm Beach, Florida 33406
561-686-8800 | 1-800-432-2045 (Florida Only)