VERTICAL CONTROL
FOR: THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT
PLACE: WATER CONSERVATION AREA THREE (WCA3)
STATE: FLORIDA

PROJECT NAME: WATER CONSERVATION AREA THREE (WCA3)
VERTICAL CONTROL PROJECT WITH GPS

PROJECT REPORT
FEBRUARY 2004

BY: SIM SMITH
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF STATE LANDS
BUREAU OF SURVEYING AND MAPPING

INTRODUCTION

The Florida Department of Environmental Protection, Division of State Lands, Bureau of Surveying and Mapping (BSM), entered into a cooperative agreement with the South Florida Water Management District (SFWMD) to establish vertical control on ELEVEN (11) stations in the Florida Everglades using the Global Positioning System (GPS).

Submitting Agency:

Florida Department of Environmental Protection
Division of State Lands
Bureau of Surveying and Mapping
3900 Commonwealth Blvd, M.S. 105
Tallahassee, Florida 32399
Contact: Sim Smith
Email: Sim.A.Smith@dep.state.fl.us
PH: 850/245-2638

Cooperating Agency:

South Florida Water Management District
P.O. Box V
3301 Gun Club Road
West Palm Beach, Florida 33402
Contact: Howard Ehmke
Email: hehmke@sfwmd.gov
PH: 561/682-6672

SCOPE OF SURVEY:

The scope of this project is to establish vertical heights on eleven (11) water level measuring platforms in the Florida Everglades in Water Conservation Area three (WCA3) which is located in Palm Beach and Broward Counties. This information was required to be "Blue-booked" and submitted to the National Geodetic Survey (NGS) for adjustment and publication.

SPECIAL CONDITIONS:

This project was adjusted with NGS's software called "ADJUST". The procedures for using the software are outlined in a document titled **"Least Squares Adjustment Procedures for Horizontal Control Networks Established With Global Positioning Systems Using National Geodetic Survey's Software"** which was written by Sim Smith and Ronnie Taylor. See attached document. The file naming convention as outlined in this document was used for this project.

This project was in the Florida Everglades and made it very difficult to navigate to some points. As a result, receivers were placed on three stations and were left in place for two to three days. These observation file were used for several sessions. In order to do this, duplicate "*27*" records had to be made in the B-File. These stations were SSN's 0004, 0401 and 0500.

MONUMENTATION:

Each new mark is a stainless steel rod driven to refusal and encased in a PVC collar located next to a wooden platform.

PROJECT FACTS:

Horizontal Classification: First-order

Horizontal Datum: NAD 83

Vertical Datum: NAVD 88

Locality: South Fl Water Management District Water Conservation Area 3

Geoid Model: Geoid 2003

Date of Field Work: January 22 thru November 18, 2004

Sessions: Three to seven hour sessions per day

Date of Computation: February 4, 2004

Total Number of Stations: 33

New Stations - 11
Control Stations - 22

RECEIVERS (ALL ASHTECH):

Equip #			Model #
001	Ashtech Inc.	GPS RECEIVER	UZ-12 UZ11999500
002	Ashtech Inc.	GPS RECEIVER	UZ-12 UZ11999500
003	Ashtech Inc.	GPS RECEIVER	UZ-12 UZ11999501
004	Ashtech Inc.	GPS RECEIVER	UZ-12 UZ11999501
005	Ashtech Inc.	GPS RECEIVER	UZ-12 UZ11999501
006	Ashtech Inc.	GPS RECEIVER	Z-XIIP3LP03545
007	Ashtech Inc.	GPS RECEIVER	Z-XIIP3LP01999293
008	Ashtech Inc.	GPS RECEIVER	Z-XIIP3LP01999293
009	Ashtech Inc.	GPS RECEIVER	Z-XIIP3LP03535
010	Ashtech Inc.	GPS RECEIVER	Z-XIIP3LP99999
016	Ashtech Inc.	GPS RECEIVER	ZE1200321113
017	Ashtech Inc.	GPS RECEIVER	ZE1200321111

ANTENNA (ALL ASHTECH):

Equip #	Model #	Serial #
001	ASH701933C-RD	CRN120000402
002	ASH701933C-RD	CRN120000401
003	ASH701933C-RD	CRN120000402
004	ASH701933C-RD	CRN120000404
005	ASH701933C-RD	CRN120000403
006	ASH701945.02C	CR620002303
007	ASH701945.02C	CR620002310
008	ASH701945.02C	CR620002304
009	ASH701945.02C	CR620002307
010	ASH701945.02C	CR620002306
016	ASH701945.01E1	CR520031606
017	ASH701945.01E1	CR520031603

HEIGHT OF FIXED HEIGHT TRIPODS FROM TIP OF ROD TO ANTENNA REFERENCE PLANE:

(heights determined with LECIA 3003 level and bar code rods to phase center)

Equip #	Height To L1 (meters)	Brand
(For days 022, 023, 024, 025 only)		
001	2.1063	SECO 2 METER
002	2.1070	SECO 2 METER
003	2.1067	SECO 2 METER
004	2.1058	SECO 2 METER
005	2.1117	SECO 2 METER
006	2.1093	SECO 2 METER
007	2.1092	SECO 2 METER
008	2.1072	SECO 2 METER
009	2.1080	SECO 2 METER
010	2.1083	SECO 2 METER
After September 2003, use the following heights:		
001	2.1059	SECO 2 METER (with cone)
001	2.1060	SECO 2 METER (without cone)
002	2.1062	SECO 2 METER (with cone)
002	2.1063	SECO 2 METER (without cone)
003	2.1057	SECO 2 METER (without cone)
004	2.1084	SECO 2 METER (without cone)
005	2.1070	SECO 2 METER (without cone)
016	2.1075	SECO 2 METER (with cone)
016	2.1068	SECO 2 METER (without cone)
017	2.1068	SECO 2 METER (with cone)
017	2.1099	SECO 2 METER (without cone)

SOFTWARE:

The software used for processing this data was the National Geodetic Survey's "ADJUST" program and several other programs for checking the integrity of the data.

SESSIONS:

Date	Session	Occupied Points (ssn #)
01/22/03	022A	0010, 0022, 0026, 0028, 0033 4 HRS
01/23/03	023A	0001, 0004, 0006, 0007, 0008, 0009, 0010 4 HRS
01/24/03	024A	0006, 0008, 0010, 0011, 0012, 0101, 0102, 0103, 0104 5 HRS
01/25/03	025A	0006, 0011, 0012, 0101, 0102, 0103, 0104 6 HRS
09/05/03	248A	0012, 0020, 0021, 0022, 0023 3 HRS
	248B	0012, 0020, 0021, 0022, 0023 3 HRS
09/06/03	249A	0011, 0012, 0020, 0024, 0339 3 HRS
	249B	0011, 0012, 0020, 0024, 0339 3 HRS
09/07/03	250A	0006, 0011, 0024, 0339, 0340 3 HRS
	250B	0006, 0011, 0024, 0339, 0340 3 HRS
09/30/03	273A	0011, 0020, 0024, 0025, 0339, 0340 4 HRS
10/01/03	274A	0006, 0020, 0023, 0028, 0339, 0104 5 HRS
10/02/03	275A	0001, 0008, 0009, 0030, 0400 5 HRS
10/03/03	276A	0001, 0008, 0009, 0027, 0031,0400 6 HRS
10/04/03	277A	0004, 0024, 0025, 0027, 0340 6 HRS
10/05/03	278A	0004, 0006, 0010, 0028, 0340 5 HRS
10/28/03	301A	0004, 0010, 0026, 0030, 0032, 0401 5 HRS
10/29/03	302A	0004, 0010, 0026, 0030, 0032 3 HRS
	302B	0004, 0010, 0026, 0030, 0032 3 HRS
11/13/03	317A	0011, 0020, 0029, 0339 4 HRS
	317B	0011, 0020, 0029, 0339 2 HRS
11/14/03	318A	0010, 0022, 0028, 0033, 0500 6 HRS
11/15/03	319A	0010, 0022, 0028, 0033, 0500 5 HRS
11/16/03	320A	0010, 0022, 0028, 0033, 0500 5 HRS

STATIONS OCCUPIED:

SSN	PID:	STA. NAME			HORIZ ORDER	VERT ORDER
0001	(NEW)	3B-SE	25 47 01.07211N	80 30 10.48497W		
0004	(NEW)	3A-4	25 58 27.91307N	80 40 08.04062W		
0006	AH2121	I75 90 B14 RM 2	26 08 47.37845N	80 41 56.81153W	(1ST)	5.610 (1ST,II)
0007	AJ8365	M 503	25 47 30.97104N	80 29 00.76557W		3.889 (1ST,II)
0008	AC4416	GAR	25 57 31.78749N	80 32 58.23286W	(A)	5.255 (1ST,II)
0009	AC4738	J 407	25 45 41.43983N	80 30 10.91988W	(A)	1.953 (1ST,II)
0010	CW8293	TIEBACK AZ MK	25 58 57.81597N	80 50 13.36238W		4.819 (1ST,II)
0011	AD8128	FC 2079	26 20 07.92201N	80 32 13.13782W	(1ST)	4.753 (1ST,II)
0012	AJ6528	T 501	26 15 10.23553N	80 49 47.15400W		7.645 (1ST,II)
0020	AD8147	S 410 X	26 21 16.72086N	80 47 29.55230W	(A)	5.595 (1ST,II)
0021	AJ6804	T 535	26 15 20.89613N	80 57 05.29220W	(1^{ST})	5.001 (1ST,II)
0022	AJ6597	A 526	26 10 16.83313N	80 57 21.09960W	(1ST)	3.409 (1ST,II)
0023	AD7900	FLGPS 64	26 10 12.25857N	80 51 00.42355W	(A)	2.996 (1ST,II)
0024	AJ6486	Y 497	26 08 48.66257N	80 34 24.07296W	(1ST)	3.690 (1ST,II)
0025	AD8112	A 409 X	26 08 6.78715N	80 26 24.34536W	(A)	2.237 (1ST,II)
0026	AC4645	DADEPORT	25 51 40.73166N	80 53 40.80068W	(A)	2.898 (1ST,II)
0027	AJ8413	DEP 3600	26 02 11.94147N	80 26 01.84086W	(1ST)	2.856 (1ST,II)
0028	AJ6514	G 501	26 05 36.43523N	80 50 34.75348W		4.883 (1ST,II)
0029	AJ3467	L 486	26 20 55.37188N	80 32 53.72827W	(A)	4.224 (2ND,II)
0030	AC0511	N 237	25 45 43.47147N	80 41 35.16839W	(A)	3.465 (1ST,II)
0031	AC4061	SNAKE	25 57 25.34426N	80 25 49.90915W	(A)	1.490 (1ST,II)
0032	AJ7751	Y 527	25 47 19.45466N	80 51 21.07712W	(1ST)	2.658 (1ST,II)
0033	AJ6605	G 526	26 10 05.56607N	81 07 23.48274W	(A)	3.996 (1ST,II)
0034	AC4646	FLGPS GEB	25 52 32.82827N	81 13 17.99839W	(B)	1.012 (1ST,II)
0101	(NEW)	3AN1-GW-1	26 11 16.35911N	80 44 25.25411W		
0102	(NEW)	3AN1-GW-2	26 11 15.39094N	80 44 15.89492W		
0103	(NEW)	3AN1-GW-3	26 11 01.32802N	80 44 20.68031W		
0104	(NEW)	3AN1-GW-4-B	26 11 10.88478N	80 44 22.58372W		
0339	(NEW)	STR 339	26 13 01.17895N	80 41 24.20875W		
0340	(NEW)	STR 340	26 07 07.46613N	80 36 45.05610W		
0400	(NEW)	TREE-E-C	25 46 42.68937N	80 30 35.36735W		
0401	(NEW)	TREE-W-C	25 51 20.92522N	80 46 11.06908W		
0500	(NEW)	L 28 GAP A	26 07 29.79781N	80 59 01.64495W		

GPS OBSERVATION SUMMARY:

Total observing days = 19
Total observing sessions = 24
Total stations occupied = 33
New horizontal stations = 11
Published horizontal stations = 22
Published vertical stations = 15
Number of stations with one (1) occupation = 5
Number of stations with two (2) occupations = 8
Number of stations with three (3) occupations = 5
Number of stations with four (4) occupations = 3
Number of stations with five (5) occupations = 4
Number of stations with six (6) occupations = 14
Number of stations with seven (7) occupations = 2
Number of stations with eight (8) occupations = 2
Number of stations with seven (9) occupations = 0
Number of stations with eight (10) occupations = 1

FREE HORIZONTAL ADJUSTMENT: (see file "FREE.FR1", step C)

Horizontal Position Held Fixed:

Station Name - "GAR"
SSN # 0008
Lat 25-57-31.78749 N, Long 080-32-58.23286 W
Ellipsoid Height -19.380

Variance of Unit Weight 0.17
Degrees of freedom 864

FREE HORIZONTAL ADJUSTMENT AFTER SCALING WITH PROGRAM "MODGEE": (see file "FREE.FR2", step D)

Horizontal Position Held Fixed:

Station Name - "GAR"
SSN # 0008
Lat 25-57-31.78749 N, Long 080-32-58.23286 W
Ellipsoid Height -19.380

Variance of Unit Weight 1.02
Degrees of freedom 864

COMPARE POSITIONS FROM THE UNSCALED AND SCALED UNCONSTRAINED ADJUSTMENT:

See file "CLUST1" (step F)

CLUSTER PROGRAM
LAST UPDATE 06/14/90

DATA BASE FILE NAME: B.FR1

USERS FILE NAME: B.FR2

COMMON STATION FILE NAME: CLUST2

STARTING TOLERANCE: 5.000 SECONDS

CLUSTERED POINTS TOLERANCE 5.000 SECONDS

SSN	NAME	LATITUDE	LONGITUDE	ELEV	SOURCE	OT	DISTANCE
0001	3B-SE	25 47 1.07189	80 30 10.48482	2.63	USERFILE		
	3B-SE	25 47 1.07189	80 30 10.48482	2.63		1A	0.000 METERS

CLUSTERED POINTS TOLERANCE 5.000 SECONDS

SSN	NAME	LATITUDE	LONGITUDE	ELEV	SOURCE	OT	DISTANCE
0004	3A-4	25 58 27.91279	80 40 8.04051	3.98	USERFILE		
	3A-4	25 58 27.91280	80 40 8.04051	3.98		1A	0.000 METERS

CLUSTERED POINTS TOLERANCE 5.000 SECONDS

SSN	NAME	LATITUDE	LONGITUDE	ELEV	SOURCE	OT	DISTANCE
0006	I75 90 B14 RM 2	26 8 47.37806	80 41 56.81140	5.63	USERFILE		
	I75 90 B14 RM 2	26 8 47.37806	80 41 56.81140	5.63		1A	0.000 METERS

CLUSTERED POINTS TOLERANCE 5.000 SECONDS

SSN	NAME	LATITUDE	LONGITUDE	ELEV	SOURCE	OT	DISTANCE
0007	M 503	25 47 30.97083	80 29 0.76542	3.90	USERFILE		
	M 503	25 47 30.97082	80 29 0.76542	3.90		AA	0.000 METERS

CLUSTERED POINTS TOLERANCE 5.000 SECONDS

SSN	NAME	LATITUDE	LONGITUDE	ELEV	SOURCE	OT	DISTANCE
0008	GAR	25 57 31.78749	80 32 58.23286	5.26	USERFILE		
	GAR	25 57 31.78749	80 32 58.23286	5.26		1A	0.000 METERS

CLUSTERED POINTS TOLERANCE 5.000 SECONDS

SSN	NAME	LATITUDE	LONGITUDE	ELEV	SOURCE	OT	DISTANCE
0009	J 407	25 45 41.43961	80 30 10.91973	1.97	USERFILE		
	J 407	25 45 41.43961	80 30 10.91973	1.97		1A	0.000 METERS

CLUSTERED POINTS TOLERANCE 5.000 SECONDS

SSN	NAME	LATITUDE	LONGITUDE	ELEV	SOURCE	OT	DISTANCE
0010	TIEBACK AZ MK	25 58 57.81563	80 50 13.36221	4.82	USERFILE		
	TIEBACK AZ MK	25 58 57.81563	80 50 13.36220	4.82		1A	0.000

METERS

CLUSTERED POINTS TOLERANCE 5.000 SECONDS

SSN	NAME	LATITUDE	LONGITUDE	ELEV	SOURCE	OT	DISTANCE
0011	FCE 2079	26 20 7.92157	80 32 13.13791	4.75	USERFILE		
	FC 2079	26 20 7.92157	80 32 13.13791	4.75		1A	0.000

METERS

CLUSTERED POINTS TOLERANCE 5.000 SECONDS

SSN	NAME	LATITUDE	LONGITUDE	ELEV	SOURCE	OT	DISTANCE
0012	T 501	26 15 10.23516	80 49 47.15376	7.65	USERFILE		
	T 501	26 15 10.23516	80 49 47.15376	7.65		1A	0.000

METERS

CLUSTERED POINTS TOLERANCE 5.000 SECONDS

SSN	NAME	LATITUDE	LONGITUDE	ELEV	SOURCE	OT	DISTANCE
0020	S 410 X	26 21 16.72023	80 47 29.55210	5.61	USERFILE		
	S 410 X	26 21 16.72023	80 47 29.55210	5.61		1A	0.000

METERS

CLUSTERED POINTS TOLERANCE 5.000 SECONDS

SSN	NAME	LATITUDE	LONGITUDE	ELEV	SOURCE	OT	DISTANCE
0021	T 535	26 15 20.89571	80 57 5.29188	5.01	USERFILE		
	T 535	26 15 20.89571	80 57 5.29188	5.01		1A	0.000

METERS

CLUSTERED POINTS TOLERANCE 5.000 SECONDS

SSN	NAME	LATITUDE	LONGITUDE	ELEV	SOURCE	OT	DISTANCE
0022	A 526	26 10 16.83273	80 57 21.09930	3.41	USERFILE		
	A 526	26 10 16.83272	80 57 21.09930	3.40		1A	0.000

METERS

CLUSTERED POINTS TOLERANCE 5.000 SECONDS

SSN	NAME	LATITUDE	LONGITUDE	ELEV	SOURCE	OT	DISTANCE
0023	FLGPS 64	26 10 12.25833	80 51 0.42298	3.00	USERFILE		
	FLGPS 64	26 10 12.25832	80 51 0.42298	3.00		AA	0.000

METERS

CLUSTERED POINTS TOLERANCE 5.000 SECONDS

SSN	NAME	LATITUDE	LONGITUDE	ELEV	SOURCE	OT	DISTANCE
0024	Y 497	26 8 48.66214	80 34 24.07293	3.72	USERFILE		
	Y 497	26 8 48.66214	80 34 24.07293	3.72		1A	0.000

METERS

CLUSTERED POINTS TOLERANCE 5.000 SECONDS

SSN	NAME	LATITUDE	LONGITUDE	ELEV	SOURCE	OT	DISTANCE
0025	A 409 X	26 8 6.78658	80 26 24.34566	2.29	USERFILE		
	A 409 X	26 8 6.78658	80 26 24.34566	2.29		AA	0.000

METERS

CLUSTERED POINTS TOLERANCE 5.000 SECONDS

SSN	NAME	LATITUDE	LONGITUDE	ELEV	SOURCE	OT	DISTANCE
0026	DADEPORT	25 51 40.73133	80 53 40.80056	2.90	USERFILE		
	DADEPORT	25 51 40.73132	80 53 40.80056	2.90		AA	0.000

METERS

CLUSTERED POINTS TOLERANCE 5.000 SECONDS

SSN	NAME	LATITUDE	LONGITUDE	ELEV	SOURCE	OT	DISTANCE
0027	DEP 3600	26 2 11.94113	80 26 1.84088	2.90	USERFILE		
	DEP 3600	26 2 11.94113	80 26 1.84088	2.90		1A	0.000

METERS

CLUSTERED POINTS TOLERANCE 5.000 SECONDS

SSN	NAME	LATITUDE	LONGITUDE	ELEV	SOURCE	OT	DISTANCE
0028	G 501	26 5 36.43483	80 50 34.75326	4.89	USERFILE		
	G 501	26 5 36.43482	80 50 34.75326	4.89		1A	0.000

METERS

CLUSTERED POINTS TOLERANCE 5.000 SECONDS

SSN	NAME	LATITUDE	LONGITUDE	ELEV	SOURCE	OT	DISTANCE
0029	L 486	26 20 55.37142	80 32 53.72839	4.23	USERFILE		
	L 486	26 20 55.37142	80 32 53.72839	4.23		AA	0.000

METERS

CLUSTERED POINTS TOLERANCE 5.000 SECONDS

SSN	NAME	LATITUDE	LONGITUDE	ELEV	SOURCE	OT	DISTANCE
0030	N 237	25 45 43.47133	80 41 35.16832	3.46	USERFILE		
	N 237	25 45 43.47133	80 41 35.16832	3.46		1A	0.000

METERS

CLUSTERED POINTS TOLERANCE 5.000 SECONDS

SSN	NAME	LATITUDE	LONGITUDE	ELEV	SOURCE	OT	DISTANCE
0031	SNAKE	25 57 25.34409	80 25 49.90904	1.52	USERFILE		
	SNAKE	25 57 25.34409	80 25 49.90903	1.52		AA	0.000

METERS

CLUSTERED POINTS TOLERANCE 5.000 SECONDS

SSN	NAME	LATITUDE	LONGITUDE	ELEV	SOURCE	OT	DISTANCE
0032	Y 527	25 47 19.45439	80 51 21.07701	2.66	USERFILE		
	Y 527	25 47 19.45439	80 51 21.07701	2.66		1A	0.000

METERS

CLUSTERED POINTS TOLERANCE 5.000 SECONDS

SSN	NAME	LATITUDE	LONGITUDE	ELEV	SOURCE	OT	DISTANCE
0033	G 526	26 10 5.56522	81 7 23.48233	3.96	USERFILE		
	G 526	26 10 5.56521	81 7 23.48233	3.95		1A	0.000

METERS

CLUSTERED POINTS TOLERANCE 5.000 SECONDS

SSN	NAME	LATITUDE	LONGITUDE	ELEV	SOURCE	OT	DISTANCE
0034	FLGPS GEB	25 52 32.82807	81 13 17.99682	1.00	USERFILE		
	FLGPS GEB	25 52 32.82807	81 13 17.99682	1.00		BA	0.000

METERS

CLUSTERED POINTS TOLERANCE 5.000 SECONDS

SSN	NAME	LATITUDE	LONGITUDE	ELEV	SOURCE	OT	DISTANCE
0101	3AN1-GW-1	26 11 16.35873	80 44 25.25397	4.16	USERFILE		
	3AN1-GW-1	26 11 16.35873	80 44 25.25397	4.16		1A	0.000

METERS

CLUSTERED POINTS TOLERANCE 5.000 SECONDS

SSN	NAME	LATITUDE	LONGITUDE	ELEV	SOURCE	OT	DISTANCE
0102	3AN1-GW-2	26 11 15.39055	80 44 15.89478	4.18	USERFILE		
	3AN1-GW-2	26 11 15.39055	80 44 15.89478	4.18		1A	0.000

METERS

CLUSTERED POINTS TOLERANCE 5.000 SECONDS

SSN	NAME	LATITUDE	LONGITUDE	ELEV	SOURCE	OT	DISTANCE
0103	3AN1-GW-3	26 11 1.32764	80 44 20.68017	4.15	USERFILE		
	3AN1-GW-3	26 11 1.32764	80 44 20.68017	4.15		1A	0.000

METERS

CLUSTERED POINTS TOLERANCE 5.000 SECONDS

SSN	NAME	LATITUDE	LONGITUDE	ELEV	SOURCE	OT	DISTANCE
0104	3AN1-GW-4-B	26 11 10.88440	80 44 22.58358	3.48	USERFILE		
	3AN1-GW-4-B	26 11 10.88440	80 44 22.58358	3.47		1A	0.000

METERS

CLUSTERED POINTS TOLERANCE 5.000 SECONDS

SSN	NAME	LATITUDE	LONGITUDE	ELEV	SOURCE	OT	DISTANCE
0339	STR 339	26 13 1.17853	80 41 24.20865	4.22	USERFILE		
	STR 339	26 13 1.17853	80 41 24.20864	4.22		1A	0.000

METERS

CLUSTERED POINTS TOLERANCE 5.000 SECONDS

SSN	NAME	LATITUDE	LONGITUDE	ELEV	SOURCE	OT	DISTANCE
0340	STR 340	26 7 7.46570	80 36 45.05605	3.53	USERFILE		
	STR 340	26 7 7.46570	80 36 45.05604	3.53		1A	0.000

METERS

CLUSTERED POINTS TOLERANCE 5.000 SECONDS

SSN	NAME	LATITUDE	LONGITUDE	ELEV	SOURCE	OT	DISTANCE
0400	TREE-E-C	25 46 42.68916	80 30 35.36721	2.27	USERFILE		
	TREE-E-C	25 46 42.68916	80 30 35.36721	2.27		1A	0.000

METERS

CLUSTERED POINTS TOLERANCE 5.000 SECONDS

SSN	NAME	LATITUDE	LONGITUDE	ELEV	SOURCE	OT	DISTANCE
0401	TREE-W-C	25 51 20.92494	80 46 11.06899	3.13	USERFILE		
	TREE-W-C	25 51 20.92495	80 46 11.06899	3.13		1A	0.000

METERS

CLUSTERED POINTS TOLERANCE 5.000 SECONDS

SSN	NAME	LATITUDE	LONGITUDE	ELEV	SOURCE	OT	DISTANCE
0500	L 28 GAP A	26 7 29.79738	80 59 1.64465	3.51	USERFILE		
	L 28 GAP A	26 7 29.79737	80 59 1.64465	3.51		1A	0.000

METERS

SEE RESULTS OF PROGRAM “LOOP”:

See file “LOOP.OUT” (step G)

```
-- LOOP Version 4.03--January 1991 -- Date: Fri Feb 06 10:33:50 2004

Bluebook : B.FR2    G-file : GFILE.SCA

_____________________________________________________________________________
          Max      Max         Max
          Base     Loop        XYZ          Max     Base
  Order    Lines    Len. (km)   Comp. (cm)    ppm     Error (cm)
  ___________________________________________________________
     1    10       100.0         25        10.00    1.0

Observation  Session  VS      Sum dx     Sum dy      Sum dz      Sum len
_____________________________________________________________________________
0012 : 0020  2483A          2969.414    5545.251    10110.043    11907.149
0020 : 0029  3173A         26979.223    9195.764     9520.630    36200.041
0029 : 0011  3173B         28196.023    8741.071     8212.194    38043.774
0011 : 0024  2493A         26128.027    -972.094   -10538.235    59261.709
0024 : 0006  2503A         13723.560   -3037.072   -10572.827    71836.928
0006 : 0023  2743A         -1363.875   -4318.501    -8229.333    87158.962
0023 : 0012  2483A             0.028      -0.021       0.009    96552.128


Loop Closure Results
--------------------
Number of Observations:  7
Loop length:    96.6 km

                      Misclosure
Component          Length (m)   PPM
_____________________________________
dx                  0.0280      0.2900
dy                 -0.0210      -0.2175
dz                  0.0090      0.0932
de                 -0.0031      -0.0318
dn                  0.0243      0.2516
du                  0.0266      0.2753

2-D Loop Misclosure :  0.0245   Error:  0.254 ppm    or  1 : 3942692

3-D Loop Misclosure :  0.0361   Error:  0.374 ppm    or  1 : 2671715

 * - Tolerance exceeded.

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```

-- LOOP Version 4.03--January 1991 -- Date: Fri Feb 06 10:36:00 2004

Bluebook : B.FR2   G-file : GFILE.SCA

Order	Max Base Lines	Max Loop Len. (km)	Max XYZ Comp. (cm)	Max ppm	Base Error (cm)
1	10	100.0	25	10.00	1.0

Observation	Session	VS	Sum dx	Sum dy	Sum dz	Sum len
0011 : 0025	2733A		11168.343	-8073.970	-19908.050	24212.628
0025 : 0027	2773A		12582.902	-12705.771	-29715.628	35150.778
0027 : 0004	2773A		-10133.394	-19551.974	-35911.316	59671.936
0004 : 0010	223A		-26816.500	-21860.551	-35083.660	76534.337
0010 : 0006	243A		-14472.444	-11778.129	-18785.056	99330.728
0006 : 0339	2503A		-14136.529	-8229.517	-11776.363	107193.759
0339 : 0020	2493B		-25226.583	-3195.812	1897.824	125505.255
0020 : 0011	2493B		0.029	-0.021	-0.036	151004.214

Loop Closure Results

Number of Observations: 8
Loop length: 151.0 km *

Component	Misclosure Length (m)	PPM
dx	0.0290	0.1920
dy	-0.0210	-0.1391
dz	-0.0360	-0.2384
de	-0.0436	-0.2885
dn	0.0252	0.1666
du	0.0069	0.0455

2-D Loop Misclosure : 0.0503   Error: 0.333 ppm   or 1 : 3001624

3-D Loop Misclosure : 0.0508   Error: 0.336 ppm   or 1 : 2974045

* - Tolerance exceeded.

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-- LOOP Version 4.03--January 1991 -- Date: Fri Feb 06 10:38:21 2004

Bluebook : B.FR2   G-file : GFILE.SCA

Order	Max Base Lines	Max Loop Len. (km)	Max XYZ Comp. (cm)	Max ppm	Base Error (cm)
1	10	100.0	25	10.00	1.0

Observation	Session	VS	Sum dx	Sum dy	Sum dz	Sum len
0010 : 0006	223A		12344.063	10082.420	16298.604	22796.394
0006 : 0024	2503A		24748.530	12147.398	16333.196	35371.613
0024 : 0025	2733A		37984.870	13786.589	15175.593	48759.207
0025 : 0027	2773A		39399.429	9154.788	5368.015	59697.358
0027 : 0031	2763A		40369.017	5399.007	-2559.997	68523.420
0031 : 0001	2763A		34603.082	-4070.474	-19845.334	89058.754
0001 : 0008	233A		28602.941	3512.329	-2379.960	109022.218
0008 : 0004	243A		16683.115	2308.555	-827.609	121102.827
0004 : 0010	3013A		-0.001	-0.041	0.071	137965.242

Loop Closure Results

Number of Observations: 9
Loop length: 138.0 km *

Component	Misclosure Length (m)	PPM
dx	-0.0010	-0.0072
dy	-0.0410	-0.2972
dz	0.0710	0.5146
de	0.0462	0.3346
dn	-0.0075	-0.0545
du	0.0673	0.4881

2-D Loop Misclosure : 0.0468   Error: 0.339 ppm   or 1 : 2949940

3-D Loop Misclosure : 0.0820   Error: 0.594 ppm   or 1 : 1682628

* - Tolerance exceeded.

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-- LOOP Version 4.03--January 1991 -- Date: Fri Feb 06 10:40:57 2004

Bluebook : B.FR2   G-file : GFILE.SCA

Order	Max Base Lines	Max Loop Len. (km)	Max XYZ Comp. (cm)	Max ppm	Base Error (cm)
1	10	100.0	25	10.00	1.0

Observation	Session	VS	Sum dx	Sum dy	Sum dz	Sum len
0007 : 0008	223A		-7849.941	6868.293	16636.374	19635.783
0008 : 0004	243A		-19769.767	5664.519	18188.725	31716.392
0004 : 0010	2783A		-36452.885	3355.948	19016.384	48578.804
0010 : 0026	3013A		-41219.236	-3364.361	6918.082	63216.070
0026 : 0032	3023A		-36821.541	-6205.393	-319.395	72148.722
0032 : 0030	3013A		-20501.504	-4856.470	-2978.960	88738.974
0030 : 0009	2753A		-1686.063	-1766.827	-3036.055	107806.485
0009 : 0007	233A		-0.024	-0.017	0.016	111702.903

Loop Closure Results

Number of Observations: 8
Loop length: 111.7 km *

Component	Misclosure Length (m)	PPM
dx	-0.0240	-0.2149
dy	-0.0170	-0.1522
dz	0.0160	0.1432
de	0.0088	0.0791
dn	-0.0265	-0.2371
du	0.0185	0.1655

2-D Loop Misclosure : 0.0279   Error: 0.250 ppm   or 1 : 4001360

3-D Loop Misclosure : 0.0335   Error: 0.300 ppm   or 1 : 3336273

* - Tolerance exceeded.

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-- LOOP Version 4.03--January 1991 -- Date: Fri Feb 06 10:42:40 2004

Bluebook : B.FR2   G-file : GFILE.SCA

Order	Max Base Lines	Max Loop Len. (km)	Max XYZ Comp. (cm)	Max ppm	Base Error (cm)
1	10	100.0	25	10.00	1.0

Observation	Session	VS	Sum dx	Sum dy	Sum dz	Sum len
0009 : 0007	223A		1686.041	1766.807	3036.071	3896.417
0007 : 0008	233A		-6163.897	8635.109	19672.438	23532.196
0008 : 0004	243A		-18083.723	7431.335	21224.789	35612.805
0004 : 0010	3013A		-34766.839	5122.739	22052.469	52475.220
0010 : 0026	3193A		-39533.197	-1597.551	9954.166	67112.481
0026 : 0032	3023A		-35135.502	-4438.583	2716.689	76045.132
0032 : 0030	3023B		-18815.466	-3089.671	57.130	92635.382
0030 : 0009	2753A		-0.025	-0.028	0.035	111702.893

Loop Closure Results

Number of Observations: 8
Loop length: 111.7 km *

Component	Misclosure Length (m)	PPM
dx	-0.0250	-0.2238
dy	-0.0280	-0.2507
dz	0.0350	0.3133
de	0.0213	0.1908
dn	-0.0293	-0.2621
du	0.0364	0.3256

2-D Loop Misclosure : 0.0362   Error: 0.324 ppm   or 1 : 3084650

3-D Loop Misclosure : 0.0513   Error: 0.459 ppm   or 1 : 2176489

* - Tolerance exceeded.

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-- LOOP Version 4.03--January 1991 -- Date: Fri Feb 06 10:44:47 2004

Bluebook : B.FR2   G-file : GFILE.SCA

Order	Max Base Lines	Max Loop Len. (km)	Max XYZ Comp. (cm)	Max ppm	Base Error (cm)
1	10	100.0	25	10.00	1.0

Observation	Session	VS	Sum dx	Sum dy	Sum dz	Sum len
0032 : 0010	3013A		368.649	9561.352	19335.787	21573.781
0010 : 0028	2783A		-1075.720	14783.046	30357.968	33855.505
0028 : 0022	3203A		-12822.952	16752.001	38104.368	48063.987
0022 : 0033	3193A		-29323.230	13994.888	37793.432	64795.919
0033 : 0034	3203A		-36882.909	-1560.697	8679.355	98659.682
0034 : 0026	3193A		-4397.707	2841.083	7237.511	131473.443
0026 : 0032	3023B		0.010	0.076	0.023	140406.106

Loop Closure Results

Number of Observations: 7
Loop length: 140.4 km *

Component	Misclosure Length (m)	PPM
dx	0.0100	0.0712
dy	0.0760	0.5413
dz	0.0230	0.1638
de	0.0527	0.3751
dn	0.0220	0.1563
du	-0.0561	-0.3997

2-D Loop Misclosure : 0.0571   Error: 0.406 ppm   or 1 : 2460958

3-D Loop Misclosure : 0.0800   Error: 0.570 ppm   or 1 : 1754391

* - Tolerance exceeded.

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-- LOOP Version 4.03--January 1991 -- Date: Fri Feb 06 10:46:31 2004

Bluebook : B.FR2   G-file : GFILE.SCA

Order	Max Base Lines	Max Loop Len. (km)	Max XYZ Comp. (cm)	Max ppm	Base Error (cm)
1	10	100.0	25	10.00	1.0

Observation	Session	VS	Sum dx	Sum dy	Sum dz	Sum len
0500 : 0022	3183A		2402.488	2675.784	4614.344	5850.123
0022 : 0012	2483A		14214.596	8604.680	12717.204	21352.834
0012 : 0023	2483B		12850.692	4286.217	4487.860	30745.994
0023 : 0028	2743A	R	14149.720	706.923	-3132.047	39264.316
0028 : 0010	3203A		15594.088	-4514.750	-14154.224	51546.028
0010 : 0026	3193A		10827.730	-11235.040	-26252.527	66183.289
0026 : 0500	3203A		-0.012	0.082	0.000	96722.823

Loop Closure Results

Number of Observations: 7
Loop length: 96.7 km

Component	Misclosure Length (m)	PPM
dx	-0.0120	-0.1241
dy	0.0820	0.8478
dz	0.0000	0.0000
de	0.0365	0.3773
dn	0.0010	0.0103
du	-0.0744	-0.7692

2-D Loop Misclosure : 0.0365   Error: 0.377 ppm   or 1 : 2649767

3-D Loop Misclosure : 0.0829   Error: 0.857 ppm   or 1 : 1167115

 * - Tolerance exceeded.

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```

-- LOOP Version 4.03--January 1991 -- Date: Fri Feb 06 10:48:06 2004

Bluebook : B.FR2   G-file : GFILE.SCA

Order	Max Base Lines	Max Loop Len. (km)	Max XYZ Comp. (cm)	Max ppm	Base Error (cm)
1	10	100.0	25	10.00	1.0

Observation	Session	VS	Sum dx	Sum dy	Sum dz	Sum len
0033 : 0022	3183A		16500.289	2757.119	310.938	16731.943
0022 : 0023	2483A		26948.492	4367.515	184.443	27304.281
0023 : 0028	2743A	R	28247.520	788.221	-7435.464	35822.602
0028 : 0010	2783A		29691.889	-4433.473	-18457.645	48104.327
0010 : 0026	3023B		24925.516	-11153.779	-30555.941	62741.594
0026 : 0034	3193A		-7559.686	-15555.559	-29114.097	95555.356
0034 : 0033	3203A		-0.007	0.026	-0.020	129419.119

Loop Closure Results

Number of Observations: 7
Loop length: 129.4 km *

Component	Misclosure Length (m)	PPM
dx	-0.0070	-0.0541
dy	0.0260	0.2009
dz	-0.0200	-0.1545
de	-0.0061	-0.0475
dn	-0.0029	-0.0224
du	-0.0328	-0.2538

2-D Loop Misclosure : 0.0068   Error: 0.053 ppm   or 1 : 19041837

3-D Loop Misclosure : 0.0335   Error: 0.259 ppm   or 1 : 3858532

* - Tolerance exceeded.

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-- LOOP Version 4.03--January 1991 -- Date: Fri Feb 06 10:50:06 2004

Bluebook : B.FR2   G-file : GFILE.SCA

Order	Max Base Lines	Max Loop Len. (km)	Max XYZ Comp. (cm)	Max ppm	Base Error (cm)
1	10	100.0	25	10.00	1.0

Observation	Session	VS	Sum dx	Sum dy	Sum dz	Sum len
0500 : 0028	3183A		14149.727	706.836	-3132.054	14509.450
0028 : 0006	2743A		27938.139	5567.571	2144.372	30052.543
0006 : 0008	233A		44197.010	-1002.529	-16534.229	55672.989
0008 : 0004	223A		32277.191	-2206.310	-14981.873	67753.592
0004 : 0001	233A		50197.161	-8585.344	-33999.599	94651.386
0001 : 0010	233A		15594.088	-4514.890	-14154.216	134748.524
0010 : 0026	3023B		10827.715	-11235.196	-26252.512	149385.791
0026 : 0500	3193A		-0.026	-0.068	0.012	179925.324

Loop Closure Results

Number of Observations: 8
Loop length: 179.9 km *

Component	Misclosure Length (m)	PPM
dx	-0.0260	-0.1445
dy	-0.0680	-0.3779
dz	0.0120	0.0667
de	-0.0170	-0.0945
dn	-0.0363	-0.2019
du	0.0619	0.3442

2-D Loop Misclosure : 0.0401   Error: 0.223 ppm   or 1 : 4484972

3-D Loop Misclosure : 0.0738   Error: 0.410 ppm   or 1 : 2438558

* - Tolerance exceeded.

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CONSTRAINED HORIZONTAL ADJUSTMENT: (see file "FIXH.FX3, step H)

Constraints:

SSN	NAME	PID	LAT	LONG	EL HGT
0006	I75 90 B14 RM 2	AH2121	26084737843N	080415681194W	-19030E
0008	GAR	AC4416	25573178749N	080325823286W	-19380E
0009	J 407	AC4738	25454143983N	080301091988W	-22650E
0011	FCE 2079	AD8128	26200792279N	080321313756W	-20190E
0021	T 535	AJ6804	26152089660N	080570529246W	-19820E
0022	A 526	AJ6597	26101683375N	080572109925W	-21360E
0023	FLGPS 64	AD7900	26101225857N	080510042355W	-21660E
0024	Y 497	AJ6486	26084866317N	080342407338W	-21050E
0025	A 409 X	AD8112	26080678715N	080262434536W	-22660E
0026	DADEPORT	AC4645	25514073166N	080534080068W	-21390E
0027	DEP 3600	AJ8413	26021194201N	080260184043W	-21990E
0029	L 486	AJ3467	26205537188N	080325372827W	-20700E
0030	N 237	AC0511	25454347147N	080413516839W	-20840E
0031	SNAKE	AC4061	25572534426N	080254990915W	-23350E
0032	Y 527	AJ7751	25471945368N	080512107668W	-21500E
0033	G 526	AJ6605	26100556607N	081072348274W	-20720E
0034	FLGPS GEB	AC4646	25523282827N	081131799839W	-22990E

Variance of Unit Weight = 3.78
Degrees of freedom = 912

Note: If the above adjustment is run without constraining SSN 0011 (FCE 2079) the variance of unit weight is computed to be approximately 2. Once SSN 0011 is constrained the variance of unit weight is computed to be 3.78. This point has around 40 vectors tied to it. This may explain the big jump in the variance of unit weight.

UNCONTRAINED VERTICAL ADJUSTMENT: (see file "FREE.FR4", step J)

Horizontal Position Held Fixed:

Station Name - "GAR"
SSN # 0008
Lat 25-57-31.78749, Long 080-32-58.23286
Ortho Height : 5.255 (m)

Variance of Unit Weight 1.02
Degrees of freedom 864

CAMPARISON BETWEEN UNCONSTRAINED COMPUTED HEIGHTS AND PUBLISHED HEIGHTS

SSN	PID #	NAME	PUB ORTHO HGT (meters)	COMPUTED ORTHO HGT (meters)	DIFF (meters)
0006	AH2121	I75 90 B14 RM 2	5.610 (1ST,II)	5.623	-0.013
0007	AJ8365	M 503	3.889 (1ST,II)	3.900	-0.011
0008	AC4416	GAR	5.255 (1ST,II)	constrained	
0009	AC4738	J 407	1.953 (1ST,II)	1.962	-0.009
0010	CW8293	TIEBACK AZ MK	4.819 (1ST,II)	4.815	+0.004
0011	AD8128	FC 2079	4.753 (1ST,II)	4.749	+0.004
0012	AJ6528	T 501	7.645 (1ST,II)	7.648	-0.003
0020	AD8147	S 410 X	5.595 (1ST,II)	5.601	-0.006
0021	AJ6804	T 535	5.001 (1ST,II)	5.009	-0.008
0022	AJ6597	A 526	3.409 (1ST,II)	3.400	+0.009
0023	AD7900	FLGPS 64	2.996 (1ST,II)	2.996	0.000
0024	AJ6486	Y 497	3.690 (1ST,II)	3.715	-0.025
0025	**AD8112**	**A 409 X**	**2.237 (1ST,II)**	**2.282**	**-0.045**
0026	AC4645	DADEPORT	2.898 (1ST,II)	2.899	-0.001
0027	**AJ8413**	**DEP 3600**	**2.856 (1ST,II)**	**2.895**	**-0.039**
0028	AJ6514	G 501	4.883 (1ST,II)	4.884	-0.001
0029	AJ3467	L 486	4.224 (2ND,II)	4.224	0.000
0030	AC0511	N 237	3.465 (1ST,II)	3.456	+0.009
0031	AC4061	SNAKE	1.490 (1ST,II)	1.512	-0.022
0032	AJ7751	Y 527	2.658 (1ST,II)	2.658	0.000
0033	**AJ6605**	**G 526**	**3.996 (1ST,II)**	**3.950**	**+0.046**
0034	AC4646	FLGPS GEB	1.012 (1ST,II)	0.994	+0.018

NOTE: The vertical component of SSN 0025, 0027, and 0033 were allowed to float in the constrained vertical adjustment.

CONSTRAINED VERTICAL ADJUSTMENT: (see file "FIXV.FX5", step K)

Contraints:

SSN	PID	NAME	ORTHO HGT (M)		
0006	AH2121	I75 90 B14 RM 2	5.610	(1ST,II)	
0007	AJ8365	M 503	3.889	(1ST,II)	
0008	AC4416	GAR	5.255	(1ST,II)	CONSTRAINED LAT AND LONG
0009	AC4738	J 407	1.953	(1ST,II)	
0010	CW8293	TIEBACK AZ MK	4.819	(1ST,II)	
0011	AD8128	FC 2079	4.753	(1ST,II)	
0012	AJ6528	T 501	7.645	(1ST,II)	
0020	AD8147	S 410 X	5.595	(1ST,II)	
0021	AJ6804	T 535	5.001	(1ST,II)	
0022	AJ6597	A 526	3.409	(1ST,II)	
0023	AD7900	FLGPS 64	2.996	(1ST,II)	
0024	AJ6486	Y 497	3.690	(1ST,II)	
0026	AC4645	DADEPORT	2.898	(1ST,II)	
0028	AJ6514	G 501	4.883	(1ST,II)	
0029	AJ3467	L 486	4.224	(2ND,II)	
0030	AC0511	N 237	3.465	(1ST,II)	
0031	AC4061	SNAKE	1.490	(1ST,II)	
0032	AJ7751	Y 527	2.658	(1ST,II)	
0034	AC4646	FLGPS GEB	1.012	(1ST,II)	

Variance of Unit Weight 1.08
Degrees of freedom 882

MERGE HORIZONTAL AND VERTICAL BFILES

SEE: FINBFILE

STEP L

FREE HORIZONTAL ADJUSTMENT WITH ACCURACIES

SEE FILE: FREEHACC.FR6

STEP M

LENGTH RELATIVE ACCURACIES (USING A-PRIORI WEIGHTS)

SSN FROM STATION	SSN TO STATION	DISTANCE (M)	INT ACC	EXT ACC	SUR OR
(0011) FCE 2079	(0029) L 486	1843	1: 1655976	1: 79073	1
(0026) DADEPORT	(0032) Y 527	8932	1: 2990886	1: 259350	1
(0027) DEP 3600	(0031) SNAKE	8826	1: 1938652	1: 325503	1
(0022) A 526	(0023) FLGPS 64	10572	1: 2303843	1: 356381	1
(0032) Y 527	(0401) TREE-W-C	11391	1: 3153804	1: 425530	1
(0008) GAR	(0027) DEP 3600	14437	1: 2701959	1: 481158	1
(0021) T 535	(0022) A 526	9367	1: 3208386	1: 518658	1
(0023) FLGPS 64	(0028) G 501	8518	1: 2539235	1: 527586	1
(0024) Y 497	(0025) A 409 X	13387	1: 2635766	1: 531289	1
(0006) I75 90 B14 RM 2	(0340) STR 340	9189	1: 3158137	1: 553441	1
(0010) TIEBACK AZ MK	(0032) Y 527	21573	1: 6874833	1: 580829	1
(0030) N 237	(0032) Y 527	16590	1: 3067202	1: 585871	1
(0006) I75 90 B14 RM 2	(0024) Y 497	12575	1: 4142990	1: 611598	1
(0021) T 535	(0023) FLGPS 64	13885	1: 3116453	1: 696679	1
(0024) Y 497	(0027) DEP 3600	18542	1: 3457426	1: 726180	1
(0006) I75 90 B14 RM 2	(0339) STR 339	7863	1: 4556048	1: 746062	1
(0006) I75 90 B14 RM 2	(0011) FCE 2079	26477	1: 9326279	1: 747929	1
(0034) FLGPS GEB	(0500) L 28 GAP A	36457	1: 4790046	1: 781525	1
(0012) T 501	(0022) A 526	15502	1: 4310449	1: 794513	1
(0011) FCE 2079	(0339) STR 339	20155	1: 6679650	1: 797591	1
(0104) 3AN1-GW-4-B	(0339) STR 339	6003	1: 2667603	1: 800579	1
(0011) FCE 2079	(0101) 3AN1-GW-1	26082	1: 8413641	1: 804300	1
(0011) FCE 2079	(0102) 3AN1-GW-2	25900	1: 8377473	1: 804651	1
(0011) FCE 2079	(0104) 3AN1-GW-4-B	26131	1: 8454619	1: 808272	1
(0026) DADEPORT	(0034) FLGPS GEB	32813	1: 3401805	1: 808944	1
(0025) A 409 X	(0340) STR 340	17339	1: 3399900	1: 811510	1
(0011) FCE 2079	(0103) 3AN1-GW-3	26278	1: 8529299	1: 812483	1
(0022) A 526	(0034) FLGPS GEB	42190	1: 5583523	1: 814790	1
(0004) 3A-4	(0032) Y 527	27824	1: 7358040	1: 827405	1
(0027) DEP 3600	(0340) STR 340	20056	1: 3506639	1: 861476	1
(0004) 3A-4	(0340) STR 340	16955	1: 5733075	1: 868847	1
(0012) T 501	(0023) FLGPS 64	9393	1: 3622993	1: 880095	1
(0004) 3A-4	(0024) Y 497	21362	1: 6874392	1: 881086	1
(0033) G 526	(0034) FLGPS GEB	33863	1: 4520356	1: 890637	1
(0011) FCE 2079	(0024) Y 497	21217	1: 7947285	1: 934023	1
(0101) 3AN1-GW-1	(0102) 3AN1-GW-2	261	1: 1323028	1: 964520	1
(0102) 3AN1-GW-2	(0104) 3AN1-GW-4-B	231	1: 1336962	1: 970276	1
(0004) 3A-4	(0027) DEP 3600	24521	1: 4146629	1: 1001820	1
(0011) FCE 2079	(0020) S 410 X	25498	1: 5713882	1: 1006726	1
(0010) TIEBACK AZ MK	(0034) FLGPS GEB	40310	1: 4505629	1: 1010840	1
(0025) A 409 X	(0027) DEP 3600	10938	1: 2481593	1: 1031947	1
(0022) A 526	(0028) G 501	14208	1: 4397616	1: 1040788	1
(0022) A 526	(0500) L 28 GAP A	5850	1: 3068850	1: 1049382	1
(0011) FCE 2079	(0012) T 501	30640	1: 7825387	1: 1053589	1
(0024) Y 497	(0340) STR 340	5003	1: 2912330	1: 1056926	1
(0001) 3B-SE	(0027) DEP 3600	28872	1: 6048223	1: 1088261	1
(0008) GAR	(0011) FCE 2079	41753	1: 10596388	1: 1094169	1
(0028) G 501	(0034) FLGPS GEB	44935	1: 5382878	1: 1106644	1
(0027) DEP 3600	(0400) TREE-E-C	29592	1: 6163192	1: 1119094	1
(0011) FCE 2079	(0340) STR 340	25176	1: 9202198	1: 1123972	1
(0012) T 501	(0021) T 535	12162	1: 2685348	1: 1125598	1
(0023) FLGPS 64	(0339) STR 339	16821	1: 4124285	1: 1166516	1
(0009) J 407	(0027) DEP 3600	31260	1: 6554449	1: 1182109	1
(0024) Y 497	(0339) STR 339	14017	1: 4963860	1: 1197466	1
(0022) A 526	(0033) G 526	16731	1: 3436074	1: 1203935	1
(0004) 3A-4	(0008) GAR	12080	1: 2861795	1: 1218259	1
(0006) I75 90 B14 RM 2	(0028) G 501	15543	1: 4281776	1: 1224749	1
(0010) TIEBACK AZ MK	(0022) A 526	24041	1: 7852263	1: 1226115	1

(0011) FCE 2079	(0025) A 409 X	24212	1:	5435794	1:	1246526	1
(0004) 3A-4	(0011) FCE 2079	42125	1:	12478872	1:	1363449	1
(0006) I75 90 B14 RM 2	(0008) GAR	25620	1:	6412121	1:	1369505	1
(0029) L 486	(0339) STR 339	20335	1:	6646983	1:	1419024	1
(0025) A 409 X	(0339) STR 339	26579	1:	4963092	1:	1471060	1
(0010) TIEBACK AZ MK	(0500) L 28 GAP A	21538	1:	6286642	1:	1478053	1
(0020) S 410 X	(0023) FLGPS 64	21269	1:	6803473	1:	1486576	1
(0010) TIEBACK AZ MK	(0401) TREE-W-C	15593	1:	5014303	1:	1501683	1
(0028) G 501	(0104) 3AN1-GW-4-B	14588	1:	4526849	1:	1508163	1
(0101) 3AN1-GW-1	(0104) 3AN1-GW-4-B	184	1:	914012	1:	1524719	1
(0033) G 526	(0500) L 28 GAP A	14740	1:	3089278	1:	1568912	1
(0022) A 526	(0026) DADEPORT	34889	1:	10707161	1:	1603742	1
(0023) FLGPS 64	(0104) 3AN1-GW-4-B	11193	1:	2892451	1:	1616863	1
(0026) DADEPORT	(0401) TREE-W-C	12536	1:	3361722	1:	1630302	1
(0008) GAR	(0102) 3AN1-GW-2	31577	1:	7825716	1:	1653461	1
(0008) GAR	(0103) 3AN1-GW-3	31312	1:	7730257	1:	1657534	1
(0020) S 410 X	(0022) A 526	26112	1:	6907694	1:	1659965	1
(0008) GAR	(0104) 3AN1-GW-4-B	31578	1:	7810328	1:	1670810	1
(0008) GAR	(0101) 3AN1-GW-1	31757	1:	7855245	1:	1674546	1
(0010) TIEBACK AZ MK	(0340) STR 340	27054	1:	7302814	1:	1690958	1
(0020) S 410 X	(0029) L 486	24292	1:	5298420	1:	1708798	1
(0004) 3A-4	(0006) I75 90 B14 RM 2	19302	1:	7260719	1:	1720337	1
(0010) TIEBACK AZ MK	(0028) G 501	12281	1:	5142850	1:	1752869	1
(0010) TIEBACK AZ MK	(0011) FCE 2079	49273	1:	13248828	1:	1769400	1
(0028) G 501	(0500) L 28 GAP A	14509	1:	4088062	1:	1772782	1
(0102) 3AN1-GW-2	(0103) 3AN1-GW-3	452	1:	1950992	1:	1785405	1
(0026) DADEPORT	(0500) L 28 GAP A	30539	1:	8907837	1:	1803580	1
(0006) I75 90 B14 RM 2	(0102) 3AN1-GW-2	5972	1:	4483191	1:	1837110	1
(0006) I75 90 B14 RM 2	(0103) 3AN1-GW-3	5740	1:	4220216	1:	1869251	1
(0339) STR 339	(0340) STR 340	13363	1:	5385143	1:	1894536	1
(0006) I75 90 B14 RM 2	(0104) 3AN1-GW-4-B	5991	1:	4456365	1:	1942118	1
(0008) GAR	(0031) SNAKE	11917	1:	1919906	1:	1952455	1
(0004) 3A-4	(0025) A 409 X	29010	1:	5587957	1:	1962262	1
(0012) T 501	(0024) Y 497	28189	1:	7870358	1:	1962279	1
(0020) S 410 X	(0021) T 535	19363	1:	4257956	1:	2000355	1
(0008) GAR	(0012) T 501	42975	1:	9600954	1:	2033177	1
(0004) 3A-4	(0028) G 501	21852	1:	5681259	1:	2049197	1
(0006) I75 90 B14 RM 2	(0101) 3AN1-GW-1	6165	1:	4586283	1:	2059230	1
(0006) I75 90 B14 RM 2	(0010) TIEBACK AZ MK	22796	1:	8090399	1:	2126265	1
(0008) GAR	(0010) TIEBACK AZ MK	28915	1:	6182416	1:	2148810	1
(0026) DADEPORT	(0033) G 526	40979	1:	8189071	1:	2296311	1
(0010) TIEBACK AZ MK	(0033) G 526	35241	1:	6772822	1:	2325525	1
(0020) S 410 X	(0025) A 409 X	42706	1:	7495005	1:	2374021	1
(0004) 3A-4	(0103) 3AN1-GW-3	24225	1:	8698783	1:	2377695	1
(0004) 3A-4	(0102) 3AN1-GW-2	24602	1:	8864097	1:	2380339	1
(0006) I75 90 B14 RM 2	(0020) S 410 X	24841	1:	8852858	1:	2380344	1
(0004) 3A-4	(0101) 3AN1-GW-1	24705	1:	8875749	1:	2401217	1
(0004) 3A-4	(0104) 3AN1-GW-4-B	24522	1:	8819332	1:	2405767	1
(0004) 3A-4	(0401) TREE-W-C	16575	1:	5753361	1:	2412746	1
(0028) G 501	(0340) STR 340	23223	1:	5295257	1:	2468773	1
(0008) GAR	(0400) TREE-E-C	20367	1:	6292723	1:	2515528	1
(0007) M 503	(0008) GAR	19635	1:	5738871	1:	2530538	1
(0001) 3B-SE	(0008) GAR	19963	1:	6147500	1:	2537760	1
(0006) I75 90 B14 RM 2	(0012) T 501	17588	1:	6911435	1:	2613320	1
(0020) S 410 X	(0104) 3AN1-GW-4-B	19353	1:	7280752	1:	2619205	1
(0020) S 410 X	(0024) Y 497	31704	1:	8603671	1:	2671331	1
(0026) DADEPORT	(0028) G 501	26233	1:	8643627	1:	2718074	1
(0008) GAR	(0009) J 407	22350	1:	6905551	1:	2771571	1
(0010) TIEBACK AZ MK	(0103) 3AN1-GW-3	24327	1:	9269533	1:	2775634	1
(0010) TIEBACK AZ MK	(0101) 3AN1-GW-1	24701	1:	9446959	1:	2782041	1
(0010) TIEBACK AZ MK	(0104) 3AN1-GW-4-B	24576	1:	9392151	1:	2804296	1
(0010) TIEBACK AZ MK	(0102) 3AN1-GW-2	24777	1:	9450089	1:	2805784	1
(0012) T 501	(0101) 3AN1-GW-1	11473	1:	4725588	1:	2986688	1
(0103) 3AN1-GW-3	(0104) 3AN1-GW-4-B	298	1:	1412439	1:	2988222	1
(0004) 3A-4	(0012) T 501	34790	1:	10409060	1:	3001922	1
(0012) T 501	(0104) 3AN1-GW-4-B	11637	1:	4806723	1:	3072842	1
(0012) T 501	(0103) 3AN1-GW-3	11866	1:	4918477	1:	3120515	1
(0012) T 501	(0020) S 410 X	11907	1:	4735271	1:	3142599	1
(0010) TIEBACK AZ MK 0	(0030) N 237	28384	1:	6608274	1:	3197143	1
(0012) T 501	(0102) 3AN1-GW-2	11695	1:	4801179	1:	3275657	1
(0028) G 501	(0033) G 526	29220	1:	5479818	1:	3309434	1
(0010) TIEBACK AZ MK	(0012) T 501	29934	1:	10669722	1:	3319835	1
(0026) DADEPORT	(0030) N 237	23008	1:	4607444	1:	3708977	1
(0012) T 501	(0339) STR 339	14513	1:	4640882	1:	3748686	1
(0006) I75 90 B14 RM 2	(0007) M 503	44821	1:	10099344	1:	3796870	1
(0001) 3B-SE	(0006) I75 90 B14 RM 2	44745	1:	10389030	1:	3830610	1
(0006) I75 90 B14 RM 2	(0023) FLGPS 64	15322	1:	3842838	1:	3842558	1

(0001) 3B-SE	(0400) TREE-E-C	894	1:	1629077	1:	3880787	1
(0006) I75 90 B14 RM 2	(0009) J 407	46955	1:	10959162	1:	4071502	1
(0101) 3AN1-GW-1	(0103) 3AN1-GW-3	479	1:	1922886	1:	4133891	1
(0020) S 410 X	(0340) STR 340	31671	1:	9163836	1:	4390201	1
(0004) 3A-4	(0030) N 237	23649	1:	6340629	1:	4452464	1
(0004) 3A-4	(0010) TIEBACK AZ MK	16862	1:	5059005	1:	4606954	1
(0028) G 501	(0339) STR 339	20521	1:	5711488	1:	4753295	1
(0030) N 237	(0400) TREE-E-C	18474	1:	3198289	1:	5120663	1
(0009) J 407	(0030) N 237	19067	1:	3277180	1:	5334578	1
(0010) TIEBACK AZ MK	(0026) DADEPORT	14637	1:	5739640	1:	5418537	1
(0008) GAR	(0030) N 237	26120	1:	5581672	1:	5672363	1
(0001) 3B-SE	(0030) N 237	19226	1:	3341362	1:	5679565	1
(0001) 3B-SE	(0010) TIEBACK AZ MK	40097	1:	8083859	1:	6574605	1
(0007) M 503	(0010) TIEBACK AZ MK	41251	1:	8122207	1:	6697785	1
(0020) S 410 X	(0028) G 501	29390	1:	8873095	1:	6935394	1
(0009) J 407	(0010) TIEBACK AZ MK	41488	1:	8438230	1:	7011185	1
(0030) N 237	(0401) TREE-W-C	12919	1:	3032408	1:	8102043	1
(0031) SNAKE	(0400) TREE-E-C	21314	1:	4325825	1:	10694889	1
(0001) 3B-SE	(0004) 3A-4	26897	1:	6233675	1:	10869781	1
(0004) 3A-4	(0007) M 503	27454	1:	6117833	1:	10887836	1
(0001) 3B-SE	(0031) SNAKE	20535	1:	4197601	1:	11647153	1
(0009) J 40	(0031) SNAKE	22848	1:	4699580	1:	11654328	1
(0001) 3B-SE	(0009) J 407	2450	1:	3676714	1:	12295856	1
(0004) 3A-4	(0009) J 407	28857	1:	6780427	1:	12506828	1
(0007) M 503	(0009) J 407	3896	1:	4078563	1:	12677145	1
(0001) 3B-SE	(0007) M 503	2149	1:	2059147	1:	17309141	1
(0004) 3A-4	(0026) DADEPORT	25857	1:	7230506	1:	19511196	1
(0009) J 407	(0400) TREE-E-C	2004	1:	2652653	1:	20041770	1

DISTRIBUTION OF ELLIPSOID HEIGHT ACCURACIES

STEP N

GPS NUMBER
1

Distribution of Ellipsoid Height Accuracies

OC	Number of Accuracies
11	4
12	2
21	32
22	66
31	51
32	9
41	0
42	0
51	0
52	0
low	0

DESCRIPTIONS

The description file includes station descriptions that were not used in this project. Some of these stations were not suitable for GPS and others were not recovered. Recovery descriptions are included for all of these marks. We were instructed by Ronnie Taylor to include all of the descriptions.

DATA CD

CD DIRECTORY:

ADJUSTMENT_PORCEDURES

These are the steps were followed for the adjustment

ADJUSTMENT _FILES

Steps A thru O files. All input and output files for each processing step

DESCRIPTIONS:

Descriptions for this project. File name" "kiss_gps.dsc"

NGS_FILES:

ASCII files:

- Beginning B-file
- Beginning G-File
- Adjusted Position File
- Final B_file

PROJECT REPORT:

Word document of Project Report

RAW RECEIVER DATA:

Ashtech data files

SUBMITTAL FILES

The following file are stored on the CD labeled "South Florida Water Management District, water Conservation Area 3". The naming convention are described on page 23 of the document labeled "Using National Geodetic Survey's Least squares Adjustment Procedures for Horizontal Control Network Established With Global Positioning Systems Using National Geodetic Survey's Software.

*********	Raw Ashtech Files
DES.DSC	NGS binary files for descriptions
GFILEIN.FR1	Beginning Gfile
GFILE.SCA	Scaled Gfile
BFILEIN.FR1	Beginning Bfile
ADJOS	Final adjusted position file
FINBFILE	Final Bfile from program ELEVUP
REPORT.DOC	Project report in a WORD document format

PAPER COPIES OF THE FOLLOWING FILES ARE ENCLOSED:

SHORT1	Output from program OBSCHK (checks input file)
SHORT2	Output from program NEWCHKOBS (checks input file)
FREE.FR1	Listing from free adjustment with ellipsoidal height
FREE.FR2	Listing from a free adjustment with ellipsoidal height after scaling.
CLUST1	Comparison of positions in files "FREE.FR1" and "FREE.FR2"
LOOPOUT	Output file from program "LOOP"
FIXH.FX3	Listing from the constrained horizontal adjustment
FREE.FR4	Listing from the free vertical adjustment
FIXV.FX5	Listing from the constrained vertical adjustment

FINBFILE	Output file from ELEVUP
FREEHACC.FR6	Output from the free horizontal adjustment with accuracies
ELLACC.OUT	Output from program ELLAC with vertical accuracies
SHORT3	Output file from program “OBSCHK” – checks final B&G file
SHORT 4	Output from program “NEWCHKOB” – checks the final Bfile
DES.DSC	Station descriptions
REPORT	Project Report

Windows Abstra Version 1.2 -- Oct. 2001 Wed Mar 26 18:05:30 2003

-*- FIELD ABSTRACT -*-

920122-920122 HGZ L0 6.0 MM ORDER 2 CLASS 1 PAGE 1

3B-SE

STARTING ELEVATION BASED ON PRELIMINARY NAVD 88 GPS HEIGHTS.

FROM / TO		START	F/B	DIST TOTAL (KM)	ELEV DIFF (MT)		-(F+B) TOTAL (MM)	MEAN DIFF FLD ELEV (MT)	I C
0001	3B-SE SS ROD							2.61400	
0001	3B-SE SS ROD	1221430	F	0.01	0.05060		0.00	0.05060	1
1002	3B-SE FDEP	1221625	B	0.01	-0.05060				1
				0.01			0.00	2.66460	
1002	3B-SE FDEP	1221630	F	0.00	-1.51080		0.00	-1.51080	1
1008	3B-SE SOFT BOTTO								
		SL 1		0.01			0.00	1.15380	
1002	3B-SE FDEP	1221454	F	0.01	0.92710		0.20	0.92720	1
1003	3B-SE SURVEY MAR	1221619	B	0.01	-0.92730				1
		SL 1		0.01			0.20	3.59180	
1003	3B-SE SURVEY MAR	1221508	F	0.01	-1.25070		0.20	-1.25060	1
1004	3B-SE BOLT ON ST	1221613	B	0.01	1.25050				1
		SL 1		0.02			0.40	2.34120	
1004	3B-SE BOLT ON ST	1221515	F	0.01	1.14290		0.00	1.14290	1
1005	3B-SE 13 FT ON S	1221518	B	0.01	-1.14290				1
		SL 2		0.03			0.40	3.48410	
1004	3B-SE BOLT ON ST	1221531	F	0.01	1.41610	R	-0.40	1.40440	1
1006	3B-SE WOOD AT 13	1221555	B	0.01	-1.40420				1
		1221602	F	0.01	1.40460				1
		SL 1		0.03			-0.00	3.74560	
1006	3B-SE WOOD AT 13	1221539	F	0.01	0.07820		0.70	0.07855	1
1007	3B-SE POINTER	1221548	B	0.01	-0.07890				1
		SL 1		0.04			0.70	3.82415	
1002	3B-SE FDEP	1221637	F	0.00	-1.55990		0.00	-1.55990	1
1009	3B-SE HARD BOTTO								
				0.01			0.00	1.10470♀	

ELEVATION REJECTION AND ERROR CODES

C - section elevation difference was rejected for cause
ie. *43* record rejection code set to "F"
R - section elevation difference was rejected by Halperin rejection algorithm
@ - section elevation difference does not include refraction correction
* - section elevation difference does not include rod correction

♀

INSTRUMENT CODE	INSTRUMENT	RODS
1	235 - 351607	315 - 514301 315 - 514302

♀

LEVEL LINE SECTION RUNNING TREE

```
0001
1002 (1008
      1003
      1004 (1005)
     (1006
      1007)
1009♀
```

FROM TO N. LATITUDE W. LONGITUDE FIELD DISTANCE VS. COMPUTED

	0001	254700	0803011	0.00	0.00
0001	1002	254700	0803011	0.01	0.00
1002	1008	254700	0803011	0.00	0.00
1002	1003	254700	0803011	0.01	0.00
1003	1004	254700	0803011	0.01	0.00
1004	1005	254700	0803011	0.01	0.00
1004	1006	254700	0803011	0.01	0.00
1006	1007	254700	0803011	0.01	0.00
1002	1009	254700	0803011	0.00	0.00♀

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SECTION
FROM TO E R R O R M E S S A G E S

9004 *** This mark was not included in the abstract
because it is not connected to the line.
9005 *** This mark was not included in the abstract
because it is not connected to the line.

```
=== PROJECT HEADER RECORD
=======================================================
            FILE             SOURCE
     SUB-  FORMAT  CREATION PROGRAM/ SUBMIT JOB  ACCESSION PART
MIN/MAX LAT
TYPE TYPE VERSION    DATE   VERSION  AGENCY CODE   CODE    CODE
MIN/MAX LON
-------------------------------------------------------------------------
-------
 D    N   02.01.02 20031027 WDESC    FLDEP   TF  GPS0
N254543       /
                             06.00.18                              N265855
                                                                   W0800000
/
                                                                   W0805034

  TITLE:

COMMENT:


=== DESCRIPTION
=================================================================

=== DESCRIPTION HEADER RECORD
================================================
KEYED-IN ORDER:0005         SSN:0001  CONDITION:S
PID:
   DESIGNATION:3B-SE
         ALIAS:
      QUADNAME:COPPERTOWN
       COUNTRY:US         STATE:FL       COUNTY:DADE
025
-------------------------------------------------------------------------
-------
 MONUMENT:F           SETTING:49     SPECIFIC:
MAGNETISM:M         STABILITY:B     SATELLITE:Y          APPLICATIONS:
      FPR:P 56   IN  ROD/PIPE:4    FT  SLEEVE:
 STAMPING:3B-SE 2002
 ESTAB BY:FLDEP                                          SETTING
DATE:20021221
     LOGO:
REPORT BY:                                             REPORT DATE:
TRANSPORT:B         PACK TIME:  :                              COP:RH

=== POSITION RECORDS
============================================================
                                        POSITION POSITION  POSITION
ADJUSTMENT
DATUM EPOCH LATITUDE    LONGITUDE        SOURCE    ORDER   TECHNIQUE
DATE
-------------------------------------------------------------------------
-------
 27         N254700       W0803011          S                 5
```

=== DESCRIPTIVE TEXT RECORD
==========
Text Status:
THE MARK IS ABOUT 19 MI WESTERLY OF DOWNTOWN MIAMI AND 5 MI NE OF COPPERTOWN, ESTIMATED IN
SECTION 35, TOWNSHIP 53 SOUTH, RANGE 38 EAST.

TO REACH THE MARK FROM THE INTERSECTION OF HOMESTEAD EXTENSION FLORIDA TURNPIKE (STATE ROAD
821) AND TAMIAMI TRAIL (US 41) AT SWEETWATER, GO WEST ON TAMIAMI TRAIL FOR 6.0 MI TO THE
INTERSECTION KROME AVENUE (STATE ROAD 997) CONTINUE EAST ON TAMIAMI TRAIL FOR 1.3 MI TO THE
JUNCTION OF A PAVED ROAD LEADING NORTH TO A BRIDGE OVER THE CANAL THAT PARALLEL TAMIAMI TRAIL
AND TO PUMPING STRUCTURE S344, TURN RIGHT ON PAVED ROAD AND GO NORTH FOR 0.05 MI TO THE
JUNCTION WITH A ROADWAY THAT RUNS ATOP OF A LEVEE, CONTINUE NORTH ACROSS THE TOP OF THE
LEVEE TO A AIRBOAT RAMP LOCATED ON THE NORTH SIDE OF THE LEVEE, BY AIRBOAT GO NORTH FOR 1.5 MI
TO A PLATFORM FOR A WATER LEVEL STATION ON THE RIGHT (EAST) AND THE MARK, A STAINLESS STEEL ROD
DRIVEN INTO THE GROUND AT A DEPTH OF 3 FT, A 4-INCH DIAMETER PVC PROTECT PIPE WAS PLACED AROUND
THE STAINLESS STEEL ROD AND DRIVEN INTO THE HARBOR BOTTOM, A FEMALE THREADED COUPLING WITH A
MALE THREADED PLUG WAS ATTACHED TO THE TOP OF THE 4-INCH DIAMETER PVC PIPE, THE PVC PIPE
PROJECTS 4.9 FT ABOVE THE HARBOR BOTTOM, THE DATUM POINT IS RECESSED 0.2 FT BELOW THE TOP OF
THE PVC PIPE, NO CONCRETE WAS POURED AROUND THE PVC PIPE, ROCKS WERE POURED INSIDE OF THE PVC
PIPE TO STABILIZE THE STAINLESS STEEL ROD, A 1-INCH BY 2 3/4-INCH RACETRACK SHAPE ALUMINUM TAG WAS
ATTACHED WITH RIVETS TO THE TOP SIDE OF THE PVC PIPE AND THE DESIGNATION WAS STAMPED ONTO THE
TAG.

THE MARK IS LOCATED IN THE CENTER OF THE 5 FT SQUARE PLATFORM FOR THE WATER LEVEL STATION, A
HOLE WAS CUT IN THE WOOD DECKING FOR ACCESS, THE TOP OF THE PVC PIPE IS ABOUT LEVEL WITH THE TOP
OF THE PLATFORM.

LOCATED 3.8 FT SOUTHEAST OF THE NORTHWEST CORNER OF THE PLATFORM, 2.2 FT WEST OF THE WEST
SIDE OF THE 12 INCH DIAMETER STEEL STILLING WELL AND 3.2 FT NORTHEAST OF A WITNESS POST.

NOTE A MAGNET WAS PLACED INSIDE THE 4-INCH DIAMETER PVC.

NOTE THE WATER LEVEL STATION IS OPERATED BY SOUTH FLORIDA WATER MANAGEMENT DISTRICT.

Windows Abstra Version 1.2 -- Oct. 2001 Fri Mar 28 15:28:46 2003

-*- FIELD ABSTRACT -*-

920124-920124 HGZ L0 6.0 MM ORDER 2 CLASS 1 PAGE 1

3A-4

STARTING ELEVATIONS BASED ON PRELIMINARY NAVD 88 GPS HEIGHTS.

FROM / TO	START	F/B	DIST TOTAL (KM)	ELEV DIFF (MT)	-(F+B) TOTAL (MM)	MEAN DIFF FLD ELEV (MT)	I C	
0004 SA-4						3.98200		3.97 Adjusted
0004 SA-4	1241414	F	0.00	0.04880	0.15	0.04948	1	(Subtract 0.012m
4001 SA-4 FDEP	1241655	B	0.00	-0.04900			1	from all shots)
	1241657	F	0.00	0.05000			1	
	1241702	B	0.00	-0.05010			1	
			0.00		0.15	4.03148		
4001 SA-4 FDEP	1241418	F	0.04	-1.11790	0.00	-1.11790	1	
4002 FCE 2252 RM 1	1241521	B	0.04	1.11790			1	
			0.05		0.15	2.91358		2.90158
4002 FCE 2252 RM 1	1241425	F	0.06	0.00570	0.40	0.00590	1	
4003 FCE 2252	1241510	B	0.06	-0.00610			1	
	SL 1		0.11		0.55	2.91948		2.90748
4003 FCE 2252	1241437	F	0.00	0.51650	0.00	0.51650	1	
4005 SA-4 13 FT ON ST	1241439	B	0.00	-0.51650			1	
	SL 2		0.11		0.55	3.43598		
4003 FCE 2252	1241429	B	0.01	-0.18870	-0.50	0.18895	1	
4004 USCE 64	1241446	F	0.01	0.18920			1	
	SL 1		0.11		0.05	3.10843		3.09643
4002 FCE 2252 RM 1	1241422	F	0.06	0.19510	0.10	0.19515	1	
4004 USCE 64	1241515	B	0.06	-0.19520				(3.09643 +3.09673)/2 = 3.09658
			0.11		0.25	3.10873		3.09673
4004 USCE 64	1241457	F	0.01	-1.36530	0.00	-1.36530	1	
4007 SA-4 HARD BOTTOM								
	SL 1		0.12		0.25	1.74343		1.73143
4004 USCE 64	1241452	F	0.01	-0.85630	0.00	-0.85630	1	
4006 SA-4 SOFT BOTTOM								
	SL 1		0.12		0.25	2.25243		2.24043
4004 USCE 64	1241500	F	0.01	-0.54020	0.00	-0.54020	1	
4008 SA-4 WATER LEVEL								
			0.12		0.25	2.56853♀		2.55653

ELEVATION REJECTION AND ERROR CODES

C - section elevation difference was rejected for cause
ie. *43* record rejection code set to "F"
R - section elevation difference was rejected by Halperin rejection algorithm
@ - section elevation difference does not include refraction correction
* - section elevation difference does not include rod correction

♀

INSTRUMENT CODE	INSTRUMENT	RODS
1	235 - 351607	315 - 514301 315 - 514302

♀

LEVEL LINE SECTION RUNNING TREE

0004
4001
4002 (4003 (4005)
(4004)

4004 (4007
4006)
4008♀

FROM	TO	N. LATITUDE	W. LONGITUDE	FIELD DISTANCE	VS. COMPUTED
	0004	255827	0804009	0.00	0.00
0004	4001	255827	0804009	0.00	0.00
4001	4002	255827	0804009	0.04	0.00
4002	4003	255827	0804009	0.06	0.00
4003	4005	255827	0804009	0.00	0.00
4003	4004	255827	0804009	0.01	0.00
4002	4004	255827	0804009	0.06	0.00
4004	4007	255827	0804009	0.01	0.00
4004	4006	255827	0804009	0.01	0.00
4004	4008	255827	0804009	0.01	0.00♀

Windows Abstra Version 1.2 -- Oct. 2001 -- Fri Mar 28 15:28:45 2003

SECTION FROM	TO	E R R O R M E S S A G E S
	9003	*** This mark was not included in the abstract because it is not connected to the line.
	9005	*** This mark was not included in the abstract because it is not connected to the line.

Project: GPS Vertical survey in WCA 3

Site: 3A-4

Starting elevation based on preliminary NAVD 88 GPS heights

Date: January 2003

Site ID No.	Designation	Short description	Elevation Meters NAVD 88	VERTCON -0.455 Meters NGVD 29
0004	SA-4	Stainless steel rod benchmark is located in a platform about 325 ft SE of gage 3A-4 site (with tower).	3.982	4.437
4001	SA-4 FDEP	1-5/8 stainless steel washer shape FDEP marker set with a wood screw in the top of platform.	4.031	4.486
4002	FCE 2252 RM 1	U.S. Army C. of E. survey marker	2.914	3.369
4003	FEC 2252	U.S. Army C. of E. survey marker	2.919	3.374
4005	3A-4 13 FT ON STAFF	The 13.00 foot mark on the staff was leveled to. Staff is located at gage 3A-4 site (with tower).	3.436	3.891
4004	USCE 64	U.S. Army C. of E. survey marker	3.109	3.564
4007	3A-4 HARD BOTTOM	The hard bottom is the elevation where we were able to push the level rod down to with firm pressure.	1.743	2.198
4006	3A-4 SOFT BOTTOM	The soft bottom is the elevation of the top of the peat.	2.252	2.707
4008	3AN1-GW-4B WATER LEVEL	Elevation of the water on January 24, 2003.	2.569	3.024

=== DESCRIPTION
==========

=== DESCRIPTION HEADER RECORD
==========
KEYED-IN ORDER:0004 SSN:0004 CONDITION:S
PID:
DESIGNATION:3A-4
ALIAS:
QUADNAME:CUSTARD APPLE HAMMOCK
COUNTRY:US STATE:FL COUNTY:BROWARD
011

MONUMENT:F SETTING:49 SPECIFIC:
MAGNETISM:M STABILITY:B SATELLITE:Y APPLICATIONS:
FPR:P 86 IN ROD/PIPE:12 FT SLEEVE:
STAMPING:3A-4 2003
ESTAB BY:FLDEP SETTING
DATE:20030107
LOGO:
REPORT BY: REPORT DATE:
TRANSPORT:B PACK TIME: : COP:RH

=== POSITION RECORDS
==========
POSITION POSITION POSITION
ADJUSTMENT
DATUM EPOCH LATITUDE LONGITUDE SOURCE ORDER TECHNIQUE
DATE

---
27 N255827 W0804009 S 5

=== DESCRIPTIVE TEXT RECORD
==========
Text Status:
THE MARK IS ABOUT 19 MI WESTERLY OF DOWNTOWN MIAMI AND 5 MI NE OF
COPPERTOWN, ESTIMATED IN
SECTION 35, TOWNSHIP 53 SOUTH, RANGE 38 EAST.

TO REACH THE MARK FROM THE INTERSECTION OF HOMESTEAD EXTENSION FLORIDA
TURNPIKE (STATE ROAD
821) AND TAMIAMI TRAIL (US 41) AT SWEETWATER, GO WEST ON TAMIAMI TRAIL
FOR 6.0 MI TO THE
INTERSECTION KROME AVENUE (STATE ROAD 997) CONTINUE EAST ON TAMIAMI TRAIL
FOR 1.3 MI TO THE
JUNCTION OF A PAVED ROAD LEADING NORTH TO A BRIDGE OVER THE CANAL THAT
PARALLEL TAMIAMI TRAIL
AND TO PUMPING STRUCTURE S344, TURN RIGHT ON PAVED ROAD AND GO NORTH FOR
0.05 MI TO THE
JUNCTION WITH A ROADWAY THAT RUNS ATOP OF A LEVEE, CONTINUE NORTH ACROSS
THE TOP OF THE

LEVEE TO A AIRBOAT RAMP LOCATED ON THE NORTH SIDE OF THE LEVEE, BY AIRBOAT GO NORTH FOR 1.5 MI
TO A PLATFORM FOR A WATER LEVEL STATION ON THE RIGHT (EAST) AND THE MARK, A STAINLESS STEEL ROD
DRIVEN INTO THE GROUND AT A DEPTH OF 3 FT, A 4-INCH DIAMETER PVC PROTECT PIPE WAS PLACED AROUND
THE STAINLESS STEEL ROD AND DRIVEN INTO THE HARBOR BOTTOM, A FEMALE THREADED COUPLING WITH A
MALE THREADED PLUG WAS ATTACHED TO THE TOP OF THE 4-INCH DIAMETER PVC PIPE, THE PVC PIPE
PROJECTS 4.9 FT ABOVE THE HARBOR BOTTOM, THE DATUM POINT IS RECESSED 0.2 FT BELOW THE TOP OF
THE PVC PIPE, NO CONCRETE WAS POURED AROUND THE PVC PIPE, ROCKS WERE POURED INSIDE OF THE PVC
PIPE TO STABILIZE THE STAINLESS STEEL ROD, A 1-INCH BY 2 3/4-INCH RACETRACK SHAPE ALUMINUM TAG WAS
ATTACHED WITH RIVETS TO THE TOP SIDE OF THE PVC PIPE AND THE DESIGNATION WAS STAMPED ONTO THE
TAG.

THE MARK IS LOCATED IN THE CENTER OF THE 5 FT SQUARE PLATFORM FOR THE WATER LEVEL STATION, A
HOLE WAS CUT IN THE WOOD DECKING FOR ACCESS, THE TOP OF THE PVC PIPE IS ABOUT LEVEL WITH THE TOP
OF THE PLATFORM.

LOCATED 3.8 FT SOUTHEAST OF THE NORTHWEST CORNER OF THE PLATFORM, 2.2 FT WEST OF THE WEST
SIDE OF THE 12 INCH DIAMETER STEEL STILLING WELL AND 3.2 FT NORTHEAST OF A WITNESS POST.

NOTE A MAGNET WAS PLACED INSIDE THE 4-INCH DIAMETER PVC.

NOTE THE WATER LEVEL STATION IS OPERATED BY SOUTH FLORIDA WATER MANAGEMENT DISTRICT.

Windows Abstra Version 1.2 -- Oct. 2001 Wed Mar 26 17:10:37 2003

-*- FIELD ABSTRACT -*-

920125-920125 HGZ L0 6.0 MM ORDER 2 CLASS 1 PAGE 1

3AN1-GW1

STARTING ELEVATION BASED ON PRELIMINARY NAVD 88 GPS HEIGHTS.

FROM / TO	START	F/B	DIST TOTAL (KM)	ELEV DIFF (MT)	-(F+B) TOTAL (MM)	MEAN DIFF FLD ELEV (MT)	I C
0101 3AN1-GW-1						4.15500	
0101 3AN1-GW-1	1251151	F	0.01	0.06220	0.40	0.06240	1
6001 3AN1-GW-1 FDEP	1251251	B	0.01	-0.06260			1
			0.01		0.40	4.21740	
6001 3AN1-GW-1 FDEP	1251202	F	0.00	-2.18080	0.00	-2.18080	1
6004 3AN1-GW-1 ROCK H							
	SL 1		0.01		0.40	2.03660	
6001 3AN1-GW-1 FDEP	1251200	F	0.00	-1.67205	0.00	-1.67205	1
6003 3AN1-GW-1 HARD B							
	SL 1		0.01		0.40	2.54535	
6001 3AN1-GW-1 FDEP	1251155	F	0.00	-1.54460	0.00	-1.54460	1
6002 3AN1-GW-1 SOFT B							
	SL 1		0.01		0.40	2.67280	
6001 3AN1-GW-1 FDEP	1251245	F	0.00	0.85860	0.00	0.85860	1
6008 3AN1-GW-1 15 FT	1251249	B	0.00	-0.85860			1
	SL 1		0.01		0.40	5.07600	
6001 3AN1-GW-1 FDEP	1251239	F	0.01	0.46480	-0.20	0.46470	1
6007 3AN1-GW-1 LAG	1251244	B	0.01	-0.46460			1
	SL 1		0.01		0.20	4.68210	
6001 3AN1-GW-1 FDEP	1251212	F	0.01	0.64620	0.30	0.64635	1
6006 3AN1-GW-1 3-4 IN	1251216	B	0.01	-0.64650			1
	SL 1		0.01		0.70	4.86375	
6001 3AN1-GW-1 FDEP	1251205	F	0.01	0.64920	0.10	0.64925	1
6005 3AN1-GW-1 2 INCH	1251218	B	0.01	-0.64930			1
	SL 1		0.01		0.50	4.86665	
6001 3AN1-GW-1 FDEP	1251229	F	0.01	1.02660	0.00	1.02660	1
6009 3AN1-GW-1 PLYWOO	1251235	B	0.01	-1.02660			1
			0.01		0.40	5.24400♀	

ELEVATION REJECTION AND ERROR CODES

C - section elevation difference was rejected for cause
ie. *43* record rejection code set to "F"
R - section elevation difference was rejected by Halperin rejection algorithm
@ - section elevation difference does not include refraction correction
* - section elevation difference does not include rod correction

♀

INSTRUMENT CODE	INSTRUMENT	RODS
1	235 - 351607	315 - 514301 315 - 514302

♀

LEVEL LINE SECTION RUNNING TREE

```
0101
6001 (6004
      6003
      6002
      6008
      6007
```

6006
6005)
6009♀

FROM	TO	N. LATITUDE	W. LONGITUDE	FIELD DISTANCE VS. COMPUTED	
	0101	261115	0804426	0.00	0.00
0101	6001	261115	0804426	0.01	0.00
6001	6004	261115	0804426	0.00	0.00
6001	6003	261115	0804426	0.00	0.00
6001	6002	261115	0804426	0.00	0.00
6001	6008	261115	0804426	0.00	0.00
6001	6007	261115	0804426	0.01	0.00
6001	6006	261115	0804426	0.01	0.00
6001	6005	261115	0804426	0.01	0.00
6001	6009	261115	0804426	0.01	0.00♀

Windows Abstra Version 1.2 -- Oct. 2001 -- Wed Mar 26 17:10:37 2003

SECTION
FROM TO E R R O R M E S S A G E S

9001 *** This mark was not included in the abstract
because it is not connected to the line.
9008 *** This mark was not included in the abstract
because it is not connected to the line.

Project: GPS Vertical survey in WCA 3					
Site: 3AN1-GW-1		**Starting elevation based on preliminary NAVD 88 GPS heights**		VERTCON	VERTCON
Date: January 2003			Elevation	-0.442	-0.442
Site ID No.	Designation	Short description	Meters NAVD 88	Meters NGVD 29	Feet NGVD 29
0101	3AN1-GW-1	Stainless steel rod benchmark was set in a hole that was cut in the center of a 5 ft by 5 ft platform.	4.155	4.597	15.082
6001	3AN1-GW-1 FDEP	1-5/8 stainless steel washer shape FDEP marker set with a wood screw in the top of the SW corner.	4.217	4.659	15.287
6004	3AN1-GW-1 ROCK HARD BOTTOM	The rock hard bottom is the top of the rock below the peat.	2.037	2.479	8.132
6003	3AN1-GW-1 HARD BOTTOM	The hard bottom is the elevation where we were able to push the level rod down to with firm pressure.	2.545	2.987	9.801
6002	3AN1-GW-1 SOFT BOTTOM	The soft bottom is the elevation of the top of the peat.	2.673	3.115	10.219
6008	3AN1-GW-1 15 FT ON STAFF	The 15.00 foot mark on the staff was leveled to.	5.076	5.518	18.104
6007	3AN1-GW-1 LAG ON STAFF	Elevation of a lag bolt that was located on the staff board.	4.682	5.124	16.811
6006	3AN1-GW-1 3/4 INCH PVC PIPE	Elevation of the top of a 3/4 inch PVC pipe that was located at the site.	4.864	5.306	17.407
6005	3AN1-GW-1 2 INCH PVC PIPE	Elevation of the top of a 2 inch PVC pipe that was located at the site.	4.867	5.309	17.417
6009	3AN1-GW-1 PLYWOOD	Elevation of the top of the plywood floor for the water level gage protection box.	5.244	5.686	18.655

Source and VERTCON Conversion: Randy Herrell (DEP) 4/7/03
Krupa - Meter to Feet Conversion 4/7/03 1 Meter = 3.28084 Feet

=== DESCRIPTION
==========

=== DESCRIPTION HEADER RECORD
==========
KEYED-IN ORDER:0006 SSN:0101 CONDITION:S
PID:
DESIGNATION:3AN1-GW-1
ALIAS:
QUADNAME:EAST OF LONE PALM HEAD
COUNTRY:US STATE:FL COUNTY:BROWARD
011

MONUMENT:F SETTING:49 SPECIFIC:
MAGNETISM:M STABILITY:B SATELLITE:Y APPLICATIONS:
FPR:P 60 IN ROD/PIPE:9.3 FT SLEEVE:
STAMPING:3AN1-GW-1 2003
ESTAB BY:FLDEP SETTING
DATE:20030108
LOGO:
REPORT BY: REPORT DATE:
TRANSPORT:B PACK TIME: : COP:RH

=== POSITION RECORDS
==========
POSITION POSITION POSITION
ADJUSTMENT
DATUM EPOCH LATITUDE LONGITUDE SOURCE ORDER TECHNIQUE
DATE

---
27 N261115 W0804426 S G

=== DESCRIPTIVE TEXT RECORD
==========
Text Status:

NOTE THE WATER LEVEL STATION IS OPERATED BY SOUTH FLORIDA WATER
MANAGEMENT DISTRICT.

Windows Abstra Version 1.2 -- Oct. 2001 Wed Mar 26 17:18:03 2003

-*- FIELD ABSTRACT -*-

920125-920125 HGZ L0 6.0 MM ORDER 2 CLASS 1 PAGE 1

3AN1-GW2

STARTING ELEVATION BASED ON PRELIMINARY NAVD 88 GPS HEIGHTS.

FROM TO		START	F/B	DIST TOTAL (KM)	ELEV DIFF (MT)	-(F+B) TOTAL (MM)	MEAN DIFF FLD ELEV (MT)	I C
0102	3AN1-GW-2						4.17900	
0102	3AN1-GW-2	1251053	F	0.01	0.05570	0.00	0.05570	1
5001	3AN1-GW-2 FDEP	1251132	B	0.01	-0.05570			1
				0.01		0.00	4.23470	
5001	3AN1-GW-2 FDEP	1251056	F	0.01	-1.34620	0.00	-1.34620	1
5002	3AN1-GW-2 WATER							
		SL 1		0.01		0.00	2.88850	
5001	3AN1-GW-2 FDEP	1251113	F	0.01	-1.93990	0.00	-1.93990	1
5005	3AN1-GW-2 ROCK H							
		SL 1		0.01		0.00	2.29480	
5001	3AN1-GW-2 FDEP	1251110	F	0.01	-1.79150	0.00	-1.79150	1
5004	3AN1-GW-2 HARD B							
		SL 1		0.01		0.00	2.44320	
5001	3AN1-GW-2 FDEP	1251106	F	0.01	-1.61380	0.00	-1.61380	1
5003	3AN1-GW-2 SOFT B							
		SL 1		0.01		0.00	2.62090	
5001	3AN1-GW-2 FDEP	1251116	F	0.01	0.89840	-0.10	0.89835	1
5006	3AN1-GW-2 2 INCH	1251129	B	0.01	-0.89830			1
		SL 1		0.01		-0.10	5.13305	
5001	3AN1-GW-2 FDEP	1251121	F	0.01	0.89540	-0.40	0.89520	1
5007	3AN1-GW-2 3-4 IN	1251126	B	0.01	-0.89500			1
				0.01		-0.40	5.12990♀	

ELEVATION REJECTION AND ERROR CODES

C - section elevation difference was rejected for cause
ie. *43* record rejection code set to "F"
R - section elevation difference was rejected by Halperin rejection algorithm
@ - section elevation difference does not include refraction correction
* - section elevation difference does not include rod correction

♀

INSTRUMENT CODE	INSTRUMENT	RODS
1	235 - 351607	315 - 514301 315 - 514302

♀

LEVEL LINE SECTION RUNNING TREE

0102
5001 (5002
5005
5004
5003
5006)
5007♀

FROM	TO	N. LATITUDE	W. LONGITUDE	FIELD DISTANCE	VS. COMPUTED
	0102	261114	0804416	0.00	0.00
0102	5001	261114	0804416	0.01	0.00
5001	5002	261114	0804416	0.01	0.00
5001	5005	261114	0804416	0.01	0.00
5001	5004	261114	0804416	0.01	0.00

5001	5003	261114	0804416	0.01	0.00
5001	5006	261114	0804416	0.01	0.00
5001	5007	261114	0804416	0.01	0.00♀

Windows Abstra Version 1.2 -- Oct. 2001 -- Wed Mar 26 17:18:03 2003

SECTION FROM	TO	E R R O R M E S S A G E S

Project: GPS Vertical survey in WCA 3					
Site: 3AN1-GW-2		**Starting elevation based on preliminary NAVD 88 GPS heights**		VERTCON	VERTCON
Date: January 2003			Elevation	-0.442	-0.442
Site ID No.	Designation	Short description	Meters NAVD 88	Meters NGVD 29	Feet NGVD 29
0102	3AN1-GW-2	Stainless steel rod benchmark was set in a hole that was cut in the center of a 5 ft by 5 ft platform.	4.179	4.621	15.161
5001	3AN1-GW-2 FDEP	1-5/8 stainless steel washer shape FDEP marker set with a wood screw in the top of the SE corner.	4.235	4.677	15.344
5002	3AN1-GW-2 WATER LEVEL	Elevation of the water on January 25, 2003.	2.889	3.331	10.927
5005	3AN1-GW-2 ROCK HARD BOTTOM	The rock hard bottom is the top of the rock below the peat.	2.295	2.737	8.979
5004	3AN1-GW-2 HARD BOTTOM	The hard bottom is the elevation where we were able to push the level rod down to with firm pressure.	2.443	2.885	9.466
5003	3AN1-GW-2 SOFT BOTTOM	The soft bottom is the elevation of the top of the peat.	2.621	3.063	10.049
5006	3AN1-GW-2 2 INCH PVC PIPE	Elevation of the top of a 2 inch PVC pipe that was located at the site.	5.133	5.575	18.291
5007	3AN1-GW-2 3/4 INCH PVC PIPE	Elevation of the top of a 3/4 inch PVC pipe that was located at the site.	5.130	5.572	18.281

Source and VERTCON Conversion: Randy Herrell (DEP) 4/7/03

Krupa - Meter to Feet Conversion 4/7/03 1 Meter = 3.28084 Feet

=== DESCRIPTION
==========

=== DESCRIPTION HEADER RECORD
==========
KEYED-IN ORDER:0007 SSN:0102 CONDITION:S
PID:
DESIGNATION:3AN1-GW-2
ALIAS:
QUADNAME:EAST OF LONE PALM HEAD
COUNTRY:US STATE:FL COUNTY:BROWARD
011

MONUMENT:F SETTING:49 SPECIFIC:
MAGNETISM:M STABILITY:B SATELLITE:Y APPLICATIONS:
FPR:P 72 IN ROD/PIPE:10.8 FT SLEEVE:
STAMPING:3AN1-GW-2 2003
ESTAB BY:FLDEP SETTING
DATE:20030108
LOGO:
REPORT BY: REPORT DATE:
TRANSPORT:B PACK TIME: : COP:RH

=== POSITION RECORDS
==========

DATUM	EPOCH	LATITUDE	LONGITUDE	POSITION SOURCE	POSITION ORDER	POSITION TECHNIQUE	ADJUSTMENT DATE
27		N261114	W0804416	S		G	

=== DESCRIPTIVE TEXT RECORD
==========
Text Status:

NOTE THE WATER LEVEL STATION IS OPERATED BY SOUTH FLORIDA WATER MANAGEMENT DISTRICT.

-*- FIELD ABSTRACT -*-

920124-920124 HGZ L0 6.0 MM ORDER 2 CLASS 1 PAGE 1
3AN1-GW3
STARTING ELEVATION BASED ON PRELIMINARY NAVD 88 GPS HEIGHTS.

FROM	TO	START	F/B	DIST TOTAL (KM)	ELEV DIFF (MT)	-(F+B) TOTAL (MM)	MEAN DIFF FLD ELEV (MT)	I C
0103 3AN1-GW-3							4.14700	
0103 3AN1-GW-3		1241028	F	0.01	0.05550	-0.10	0.05545	1
3001 3AN1-GW-3 FDEP		1241138	B	0.01	-0.05540			1
				0.01		-0.10	4.20245	
3001 3AN1-GW-3 FDEP		1241035	F	0.01	0.91430	-0.20	0.91420	1
3002 3AN1-GW-3 PLYWOO		1241108	B	0.01	-0.91410			1
		SL 1		0.01		-0.30	5.11665	
3001 3AN1-GW-3 FDEP		1241044	F	0.01	0.92510	0.40	0.92530	1
3004 3AN1-GW-3 3-4 IN		1241058	B	0.01	-0.92550			1
		SL 1		0.01		0.30	5.12775	
3001 3AN1-GW-3 FDEP		1241038	F	0.01	0.92890	-0.10	0.92885	1
3003 3AN1-GW-3 2 INCH		1241102	B	0.01	-0.92880			1
		SL 1		0.01		-0.20	5.13130	
3001 3AN1-GW-3 FDEP		1241125	F	0.01	-2.18340	0.00	-2.18340	1
3007 3AN1-GW-3 ROCK H								
		SL 1		0.02		-0.10	2.01905	
3001 3AN1-GW-3 FDEP		1241122	F	0.01	-1.48840	0.00	-1.48840	1
3006 3AN1-GW-3 HARD B								
		SL 1		0.02		-0.10	2.71405	
3001 3AN1-GW-3 FDEP		1241119	F	0.01	-1.44170	0.00	-1.44170	1
3005 3AN1-GW-3 SOFT B								
		SL 1		0.02		-0.10	2.76075	
3001 3AN1-GW-3 FDEP		1241135	F	0.01	-1.33000	0.00	-1.33000	1
3008 3AN1-GW-3 WATER								
				0.02		-0.10	2.87245♀	

ELEVATION REJECTION AND ERROR CODES

C - section elevation difference was rejected for cause
ie. *43* record rejection code set to "F"
R - section elevation difference was rejected by Halperin rejection algorithm
@ - section elevation difference does not include refraction correction
* - section elevation difference does not include rod correction

♀

INSTRUMENT CODE	INSTRUMENT	RODS
1	235 - 351607	315 - 514301 315 - 514302

♀

LEVEL LINE SECTION RUNNING TREE

```
0103
3001 (3002
      3004
      3003
      3007
      3006
      3005)
3008♀
```

FROM TO N. LATITUDE W. LONGITUDE FIELD DISTANCE VS. COMPUTED

	0103	261100	0804421	0.00	0.00
0103	3001	261111	0804421	0.01	0.34
3001	3002	261100	0804421	0.01	0.34
3001	3004	261100	0804421	0.01	0.34
3001	3003	261100	0804421	0.01	0.34
3001	3007	261100	0804421	0.01	0.34
3001	3006	261100	0804421	0.01	0.34
3001	3005	261100	0804421	0.01	0.34
3001	3008	261100	0804421	0.01	0.34♀

Windows Abstra Version 1.2 -- Oct. 2001 -- Wed Mar 26 17:26:29 2003

SECTION
FROM TO E R R O R M E S S A G E S

Project: GPS Vertical survey in WCA 3					
Site: 3AN1-GW-3		**Starting elevation based on preliminary NAVD 88 GPS heights**		VERTCON	VERTCON
Date: January 2003			Elevation	-0.442	-0.442
Site ID No.	Designation	Short description	Meters NAVD 88	Meters NGVD 29	Feet NGVD 29
0103	3AN1-GW-3	Stainless steel rod benchmark was set in a hole that was cut in the center of a 5 ft by 5 ft platform.	4.147	4.589	15.056
3001	3AN1-GW-3 FDEP	1-5/8 stainless steel washer shape FDEP marker set with a wood screw in the top of the SW corner.	4.202	4.644	15.238
3002	3AN1-GW-3 PLYWOOD	Elevation of the top of the plywood floor for the water level gage protection box.	5.117	5.559	18.237
3004	3AN1-GW-3 3/4 INCH PVC PIPE	Elevation of the top of a 3/4 inch PVC pipe that was located at the site.	5.128	5.570	18.273
3003	3AN1-GW-3 2 INCH PVC PIPE	Elevation of the top of a 2 inch PVC pipe that was located at the site.	5.131	5.573	18.285
3007	3AN1-GW-3 ROCK HARD BOTTOM	The rock hard bottom is the top of the rock below the peat.	2.019	2.461	8.074
3006	3AN1-GW-3 HARD BOTTOM	The hard bottom is the elevation where we were able to push the level rod down to with firm pressure	2.714	3.156	10.354
3005	3AN1-GW-3 SOFT BOTTOM	The soft bottom is the elevation of the top of the peat.	2.761	3.203	10.508
3008	3AN1-GW-3 WATER LEVEL	Elevation of the water on January 25, 2003.	2.872	3.314	10.874

Source and VERTCON Conversion: Randy Herrell (DEP) 4/7/03
Krupa - Meter to Feet Conversion 4/7/03 1 Meter = 3.28084 Feet

=== DESCRIPTION
==========

=== DESCRIPTION HEADER RECORD
==========
KEYED-IN ORDER:0001 SSN:0103 CONDITION:S
PID:
DESIGNATION:3AN1-GW-3
ALIAS:
QUADNAME:EAST OF LONE PALM HEAD
COUNTRY:US STATE:FL COUNTY:BROWARD
011

MONUMENT:F SETTING:49 SPECIFIC:
MAGNETISM:M STABILITY:B SATELLITE:Y APPLICATIONS:
FPR:P 58 IN ROD/PIPE:9.8 FT SLEEVE:
STAMPING:3AN1-GW-3 2003
ESTAB BY:FLDEP SETTING
DATE:20030108
LOGO:
REPORT BY: REPORT DATE:
TRANSPORT:B PACK TIME: : COP:RH

=== POSITION RECORDS
==========

DATUM	EPOCH	LATITUDE	LONGITUDE	POSITION SOURCE	POSITION ORDER	POSITION TECHNIQUE	ADJUSTMENT DATE
27		N261100	W0804421	S		G	

=== DESCRIPTIVE TEXT RECORD
==========
Text Status:

NOTE THE WATER LEVEL STATION IS OPERATED BY SOUTH FLORIDA WATER MANAGEMENT DISTRICT.

-*- FIELD ABSTRACT -*-

920125-920125 HGZ L0 6.0 MM ORDER 2 CLASS 1 PAGE 1
3AN1-GW4-B
STARTING ELEVATIONS BASED ON PRELIMINARY NAVD 88 GPS HEIGHTS.

FROM / TO	START	F/B	DIST TOTAL (KM)	ELEV DIFF (MT)	-(F+B) TOTAL (MM)	MEAN DIFF FLD ELEV (MT)	I C
0104 3AN1-GW-4B						3.47300	
0104 3AN1-GW-4B	1251404	F	0.01	0.10300	-0.20	0.10290	1
4001 3AN1-GW-4B FDEP	1251440	B	0.01	-0.10280			1
			0.01		-0.20	3.57590	
4001 3AN1-GW-4B FDEP	1251449	F	0.00	-0.88770	0.00	-0.88770	1
4007 3AN1-GW-4B HARD							
	SL 1		0.01		-0.20	2.68820	
4001 3AN1-GW-4B FDEP	1251446	F	0.00	-0.78330	0.00	-0.78330	1
4006 3AN1-GW-4B SOFT							
	SL 1		0.01		-0.20	2.79260	
4001 3AN1-GW-4B FDEP	1251442	F	0.00	-0.68360	0.00	-0.68360	1
4005 3AN1-GW-4B WATER							
	SL 1		0.01		-0.20	2.89230	
4001 3AN1-GW-4B FDEP	1251414	F	0.02	-0.18980	-0.60	-0.19010	1
4002 3AN1-GW-4A	1251431	B	0.02	0.19040			1
	SL 1		0.03		-0.80	3.38580	
4002 3AN1-GW-4A	1251422	F	0.00	0.22360	0.35	0.22378	1
4003 3AN1-GW-4A FDEP	1251429	B	0.00	-0.22395			1
	SL 1		0.03		-0.45	3.60958	
4003 3AN1-GW-4A FDEP	1251424	F	0.01	0.88995	-0.35	0.88978	1
4004 3AN1-GW-4A 1 INC	1251427	B	0.01	-0.88960			1
	SL 1		0.04		-0.80	4.49936	
4001 3AN1-GW-4B FDEP	1251451	F	0.00	-1.36680	0.00	-1.36680	1
4008 3AN1-GW-4B ROCK							
			0.01		-0.20	2.20910♀	

ELEVATION REJECTION AND ERROR CODES

C - section elevation difference was rejected for cause
ie. *43* record rejection code set to "F"
R - section elevation difference was rejected by Halperin rejection algorithm
@ - section elevation difference does not include refraction correction
* - section elevation difference does not include rod correction

♀

INSTRUMENT CODE	INSTRUMENT	RODS
1	235 - 351607	315 - 514301 315 - 514302

♀

LEVEL LINE SECTION RUNNING TREE

```
0104
4001 (4007
      4006
      4005
      4002
      4003
      4004)
4008♀
```

FROM TO N. LATITUDE W. LONGITUDE FIELD DISTANCE VS. COMPUTED

	0104	261110	0804423	0.00	0.00
0104	4001	261110	0804423	0.01	0.00
4001	4007	261110	0804423	0.00	0.00
4001	4006	261110	0804423	0.00	0.00
4001	4005	261110	0804423	0.00	0.00
4001	4002	261110	0804423	0.02	0.00
4002	4003	261110	0804423	0.00	0.00
4003	4004	261110	0804423	0.01	0.00
4001	4008	261110	0804423	0.00	0.00♀

Windows Abstra Version 1.2 -- Oct. 2001 -- Wed Mar 26 17:34:46 2003

SECTION
FROM TO E R R O R M E S S A G E S

Project: GPS Vertical survey in WCA 3					
Site: 3AN1-GW-4B	**Starting elevation based on preliminary NAVD 88 GPS heights**			VERTCON	VERTCON
Date: January 2003			Elevation	-0.442	-0.442
Site ID No.	Designation	Short description	Meters NAVD 88	Meters NGVD 29	Feet NGVD 29
0104	3AN1-GW-4B	Stainless steel rod benchmark is located on the south side of a 5 ft by 5 ft wood platform (outside of island)	3.473	3.915	12.844
4001	3AN1-GW-4B FDEP	1-5/8 stainless steel washer shape FDEP marker set with a wood screw in the top of the SW corner.	3.576	4.018	13.182
4007	3AN1-GW-4B HARD BOTTOM	The hard bottom is the elevation where we were able to push the level rod down to with firm pressure.	2.688	3.130	10.270
4006	3AN1-GW-4B SOFT BOTTOM	The soft bottom is the elevation of the top of the peat.	2.793	3.235	10.612
4005	3AN1-GW-4B WATER LEVEL	Elevation of the water on January 25, 2003.	2.892	3.334	10.939
4002	3AN1-GW-4A	Stainless steel rod benchmark is located on the west side of a 5 ft by 5 ft wood platform (inside of island)	3.386	3.828	12.558
4003	3AN1-GW-4A FDEP	1-5/8 stainless steel washer shape FDEP marker set with a wood screw in the top of the SW corner.	3.610	4.052	13.293
4004	3AN1-GW-4A 1 INCH PVC PIPE	Elevation of the top of a 1 inch PVC pipe that was located at the site.	4.499	4.941	16.212
4008	3AN1-GW-4B ROCK HARD BOTTOM	The rock hard bottom is the top of the rock below the peat.	2.2091	2.651	8.698

Note: **4B** indicates locations at the western most platform, which is located outside of the tree line. This is the platform that airboats docks at.

4A indicates locations at the eastern most platforms, which is located inside the tree line and about 70 feet ENE of the outside platfrom. This is the platform that the gage is located at.

The GPS unit was set up over the stainless steel rod at **4B** and vertical levels were ran between **4B** and **4A**.

Source and VERTCON Conversion: Randy Herrell (DEP) 4/7/03
Krupa - Meter to Feet Conversion 4/7/03 1 Meter = 3.28084 Feet

```
=== DESCRIPTION
================================================================

=== DESCRIPTION HEADER RECORD
================================================
KEYED-IN ORDER:0002         SSN:0104  CONDITION:S
PID:
   DESIGNATION:3AN1-GW-4B
         ALIAS:
      QUADNAME:EAST OF LONE PALM HEAD
       COUNTRY:US          STATE:FL       COUNTY:BROWARD
011
--------------------------------------------------------------------------
-------
 MONUMENT:F           SETTING:49     SPECIFIC:
MAGNETISM:M         STABILITY:B     SATELLITE:Y          APPLICATIONS:
      FPR:P 27   IN  ROD/PIPE:5.0  FT  SLEEVE:
 STAMPING:3AN1-GW-4B 2003
 ESTAB BY:FLDEP                                          SETTING
DATE:20030108
     LOGO:
REPORT BY:                                             REPORT DATE:
TRANSPORT:B         PACK TIME:  :                              COP:RH

=== POSITION RECORDS
============================================================
                                        POSITION POSITION  POSITION
ADJUSTMENT
DATUM EPOCH LATITUDE    LONGITUDE        SOURCE    ORDER   TECHNIQUE
DATE
--------------------------------------------------------------------------
-------
 27         N261110       W0804423          S                 G


=== DESCRIPTIVE TEXT RECORD
================================================
Text Status:


NOTE THE WATER LEVEL STATION IS OPERATED BY SOUTH FLORIDA WATER
MANAGEMENT DISTRICT.
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```
=== DESCRIPTION
================================================================

=== DESCRIPTION HEADER RECORD
================================================
KEYED-IN ORDER:0003         SSN:4002  CONDITION:S
PID:
   DESIGNATION:3AN1-GW-4A
         ALIAS:
      QUADNAME:EAST OF LONE PALM HEAD
       COUNTRY:US          STATE:FL       COUNTY:BROWARD
011
--------------------------------------------------------------------------
-------
 MONUMENT:F           SETTING:49     SPECIFIC:
MAGNETISM:M          STABILITY:B     SATELLITE:Y          APPLICATIONS:
      FPR:P 8    IN  ROD/PIPE:5.2  FT  SLEEVE:
 STAMPING:3AN1-GW-4A 2003
 ESTAB BY:FLDEP                                           SETTING
DATE:20030108
     LOGO:
REPORT BY:                                             REPORT DATE:
TRANSPORT:B          PACK TIME:  :                             COP:RH

=== POSITION RECORDS
============================================================
                                        POSITION POSITION  POSITION
ADJUSTMENT
DATUM EPOCH LATITUDE    LONGITUDE        SOURCE    ORDER   TECHNIQUE
DATE
--------------------------------------------------------------------------
-------
 27         N261110       W0804423          S                 G


=== DESCRIPTIVE TEXT RECORD
================================================
Text Status:


NOTE THE WATER LEVEL STATION IS OPERATED BY SOUTH FLORIDA WATER
MANAGEMENT DISTRICT.
```

```
=== DESCRIPTION
================================================================

=== DESCRIPTION HEADER RECORD
================================================
KEYED-IN ORDER:0018         SSN:0400  CONDITION:G
PID:
   DESIGNATION:TREE ISLAND EAST
         ALIAS:
      QUADNAME:
       COUNTRY:US         STATE:FL       COUNTY:BROWARD
011
--------------------------------------------------------------------------
-------
 MONUMENT:00          SETTING:       SPECIFIC:
MAGNETISM:N         STABILITY:      SATELLITE:           APPLICATIONS:
      FPR:           ROD/PIPE:         SLEEVE:
 STAMPING:
 ESTAB BY:FLDEP                                          SETTING
DATE:00000000
     LOGO:
REPORT BY:FLDEP                                          REPORT
DATE:20030930
TRANSPORT:P         PACK TIME:00:00                              COP:RRH

=== POSITION RECORDS
============================================================
                                        POSITION POSITION  POSITION
ADJUSTMENT
DATUM EPOCH LATITUDE    LONGITUDE        SOURCE    ORDER   TECHNIQUE
DATE
--------------------------------------------------------------------------
-------
 27         N260000       W0800000          S                 5


=== DESCRIPTIVE TEXT RECORD
====================================================
Text Status:
-------------------------------------------SEE RANDY HARRELL FOR DESC.--
----------------------------
```

EAST TREE ISLAND (3BS-1)

	East Tree Island Location Points	NORTH "Y" NAD "83" State Plane FL East Zone 901	EAST "X" NAD "83" State Plane FL East Zone 901	VERTICAL "Z" NAVD "88" GPS Orthometric Height	FDEP GPS Survey Point Number	NORTH "Y" NAD "83" Latitude	EAST "X" NAD "83" Longitude
	CONTROL POINT FOR THIS SURVEY						
	stamping	In Meters	In Meters	In Meters			
DG5020	**TREE_E_C** (S.S. ROD BENCH MARK)	160171.30731	249164.45127	2.229		25d 46' 42.68840"	080d 30' 35.36598"
	ADDITIONAL SURVEY MARKS						
	TREE_E_N (CONCRETE BENCH MARK)	160222.6000	249158.6372	2.672	549		
	TREE_E_S (S.S. ROD BENCH MARK)	160119.8913	249071.6307	2.303	547		

NOTE:2nd Order Class II levels were used to connect TREE_E_C with TREE_E_N and TREE_E_S

EAST TREE ISLAND

3BS1-GW1 (NW WELL)

East Tree Island Location Point	NORTH "Y" NAD "83" State Plane FL East Zone 901	EAST "X" NAD "83" State Plane FL East Zone 901	VERTICAL "Z" NAVD "88" GPS Orthometric Height		FDEP GPS Survey Point Number
	In Meters	In Meters	In Meters		
S.S. ROD	160375.8472	249000.7513	2.11	(2 min)	545
S.S. ROD	160375.9299	249000.7155	2.05	(20 sec)	474
S.S. ROD	160375.8495	249000.4969	2.05	(20 sec)	483
			6.21		
Average GPS Height of S.S. Rod Located in 4" PVC Pipe			**2.07**	Ground Elevation of	
NORTH SIDE	160378.2136	249001.7757	1.15	Soft Bottom	479
NORTH SIDE	160378.2013	249001.8303	1.01	Hard Bottom	480
EAST SIDE	160374.1737	249003.0212	1.16	Soft Bottom	481
EAST SIDE	160374.1653	249003.0737	0.87	Hard Bottom	482
SOUTH SIDE	160373.3045	248999.1623	1.15	Soft Bottom	475
SOUTH SIDE	160373.2939	248999.1117	1.13	Hard Bottom	476
WEST SIDE	160378.1043	248997.2302	1.16	Soft Bottom	477
WEST SIDE	160378.1481	248997.2760	0.85	Hard Bottom	478

EAST TREE ISLAND

3BS1-GW2 (NE WELL)

East Tree Island Location Point	NORTH "Y" NAD "83" State Plane FL East Zone 901	EAST "X" NAD "83" State Plane FL East Zone 901	VERTICAL "Z" NAVD "88" GPS Orthometric Height		FDEP GPS Survey Point Number	
	In Meters	In Meters	In Meters			
S.S. ROD	160398.6935	249436.8157	1.98	(2 min)	546	
S.S. ROD	160398.7357	249436.7077	1.93	(20 sec)	451	
S.S. ROD	160398.8066	249436.6850	1.92	(20 sec)	460	
			5.83			
Average GPS Height of S.S. Rod Located in 4" PVC Pipe			**1.94**	Ground Elevation of		
NORTH SIDE	160402.1591	249436.4431	1.19	Soft Bottom	458	
NORTH SIDE	160402.0933	249436.4858	1.04	Hard Bottom	459	
EAST SIDE	160398.3258	249439.5119	1.16	Soft Bottom	452	
EAST SIDE	160398.3089	249439.5486	0.91	Hard Bottom	453	
SOUTH SIDE	160395.2709	249436.4522	1.12	Soft Bottom	454	floating
SOUTH SIDE	160395.1262	249436.3606	0.85	Hard Bottom	455	
WEST SIDE	160398.6811	249433.7993	1.16	Soft Bottom	456	
WEST SIDE	160398.8103	249433.8574	0.92	Hard Bottom	457	

EAST TREE ISLAND

EAST TREE ISLAND

Soft Bottom

East Tree Island Location Point Number	NORTH "Y" NAD "83" State Plane FL East Zone 901 Projected In Meters	NORTH "Y" NAD "83" State Plane FL East Zone 901 True Ground In Meters	Difference Between Projected and True Ground Coordinates In Meters	EAST "X" NAD "83" State Plane FL East Zone 901 Projected In Meters	EAST "X" NAD "83" State Plane FL East Zone 901 True Ground In Meters	Difference Between Projected and True Ground Coordinates In Meters	VERTICAL "Z" NAVD "88" GPS Orthometric Height In Meters	East Tree Island Location Point Number	FDEP GPS Survey Point Number
EAST_ISL1	160550	160550.0370	-0.0370	248900	248900.4195	-0.4195	1.20	EAST_ISL1	484
EAST_ISL2	160550	160549.5853	0.4147	248950	248949.7033	0.2967	1.18	EAST_ISL2	486
EAST_ISL3	160550	160550.7365	-0.7365	249000	249000.8142	-0.8142	1.18	EAST_ISL3	488
EAST_ISL4	160550	160550.3650	-0.3650	249050	249050.6090	-0.6090	1.08	EAST_ISL4	490
EAST_ISL5	160550	160550.8591	-0.8591	249100	249099.6452	0.3548	1.11	EAST_ISL5	492
EAST_ISL6	160550	160550.2766	-0.2766	249150	249149.9436	0.0564	1.17	EAST_ISL6	494
EAST_ISL7	160550	160549.7715	0.2285	249200	249200.3351	-0.3351	1.15	EAST_ISL7	496
EAST_ISL8	160550	160550.1952	-0.1952	249250	249250.1173	-0.1173	1.15	EAST_ISL8	498
EAST_ISL9	160550	160550.5049	-0.5049	249300	249299.7632	0.2368	1.17	EAST_ISL9	500
EAST_ISL10	160550	160549.9364	0.0636	249350	249351.1005	-1.1005	1.10	EAST_ISL10	502
EAST_ISL11	160550	160550.1845	-0.1845	249400	249400.8189	-0.8189	1.17	EAST_ISL11	504
EAST_ISL12	160500	160500.5532	-0.5532	248900	248900.2645	-0.2645	1.24	EAST_ISL12	515
EAST_ISL13	160500	160500.1883	-0.1883	248950	248949.9494	0.0506	1.22	EAST_ISL13	"C" 32
EAST_ISL14	160500	160500.2008	-0.2008	249000	249000.4028	-0.4028	1.29	EAST_ISL14	542
EAST_ISL15	160500	160499.9142	0.0858	249050	249050.6974	-0.6974	1.28	EAST_ISL15	540
EAST_ISL16	160500	160499.7590	0.2410	249100	249099.3254	0.6746	1.28	EAST_ISL16	538
EAST_ISL17	160500	160500.1046	-0.1046	249150	249150.0313	-0.0313	1.19	EAST_ISL17	"C" 40
EAST_ISL18	160500	160499.6139	0.3861	249200	249199.3726	0.6274	1.30	EAST_ISL18	"C" 42
EAST_ISL19	160500	160499.9902	0.0098	249250	249249.5345	0.4655	1.19	EAST_ISL19	513
EAST_ISL20	160500	160499.6142	0.3858	249300	249299.4585	0.5415	1.26	EAST_ISL20	510
EAST_ISL21	160500	160499.4732	0.5268	249350	249349.5221	0.4779	1.14	EAST_ISL21	508
EAST_ISL22	160500	160500.5181	-0.5181	249400	249399.4663	0.5337	1.17	EAST_ISL22	506
EAST_ISL23	160450	160449.5200	0.4800	248900	248899.7588	0.2412	1.22	EAST_ISL23	65
EAST_ISL24	160450	160449.8444	0.1556	248950	248950.1923	-0.1923	1.21	EAST_ISL24	68
EAST_ISL25	160450	160450.5420	-0.5420	249000	249000.4575	-0.4575	1.15	EAST_ISL25	70
EAST_ISL26	160450	160449.0926	0.9074	249050	249049.9619	0.0381	1.24	EAST_ISL26	72
EAST_ISL27	160450	160449.1780	0.8220	249100	249100.5223	-0.5223	1.24	EAST_ISL27	74
EAST_ISL28	160450	160450.5056	-0.5056	249150	249150.4690	-0.4690	1.29	EAST_ISL28	76
EAST_ISL29	160450	160450.6128	-0.6128	249200	249199.4540	0.5460	1.28	EAST_ISL29	78
EAST_ISL30	160450	160450.1264	-0.1264	249250	249250.4462	-0.4462	1.26	EAST_ISL30	80
EAST_ISL31	160450	160449.8372	0.1628	249300	249300.3221	-0.3221	1.17	EAST_ISL31	82
EAST_ISL32	160450	160450.6820	-0.6820	249350	249350.6789	-0.6789	1.15	EAST_ISL32	84
EAST_ISL33	160450	160449.8867	0.1133	249400	249399.4625	0.5375	1.16	EAST_ISL33	86
EAST_ISL34	160400	160399.9375	0.0625	248900	248899.5897	0.4103	1.25	EAST_ISL34	101
EAST_ISL35	160400	160399.2498	0.7502	248950	248949.5157	0.4843	1.22	EAST_ISL35	103
EAST_ISL36	160400	160400.0165	-0.0165	249000	249000.4720	-0.4720	1.12	EAST_ISL36	105
EAST_ISL37	160400	160400.7120	-0.7120	249050	249050.1000	-0.1000	1.25	EAST_ISL37	108
EAST_ISL38	160400	160400.4156	-0.4156	249100	249099.5054	0.4946	1.27	EAST_ISL38	110
EAST_ISL39	160400	160399.5726	0.4274	249150	249150.3198	-0.3198	1.34	EAST_ISL39	112
EAST_ISL40	160400	160400.8252	-0.8252	249200	249200.5520	-0.5520	1.15	EAST_ISL40	114
EAST_ISL41	160400	160399.7261	0.2739	249250	249249.1354	0.8646	1.22	EAST_ISL41	116
EAST_ISL42	160400	160400.0511	-0.0511	249300	249300.1185	-0.1185	1.23	EAST_ISL42	118
EAST_ISL43	160400	160399.7975	0.2025	249350	249350.1391	-0.1391	1.19	EAST_ISL43	120
EAST_ISL44	160400	160400.7478	-0.7478	249400	249400.2412	-0.2412	1.12	EAST_ISL44	122
EAST_ISL45	160350	160350.4149	-0.4149	248900	248900.1830	-0.1830	1.16	EAST_ISL45	126
EAST_ISL46	160350	160349.9537	0.0463	248950	248950.9379	-0.9379	1.13	EAST_ISL46	128
EAST_ISL47	160350	160349.2308	0.7692	249000	248999.7104	0.2896	1.20	EAST_ISL47	130
EAST_ISL48	160350	160349.1324	0.8676	249050	249050.3386	-0.3386	1.26	EAST_ISL48	134
EAST_ISL49	160350	160349.9279	0.0721	249100	249100.4878	-0.4878	1.14	EAST_ISL49	136
EAST_ISL50	160350	160349.5734	0.4266	249150	249149.8447	0.1553	1.30	EAST_ISL50	138
EAST_ISL51	160350	160349.8072	0.1928	249200	249200.2419	-0.2419	1.21	EAST_ISL51	141
EAST_ISL52	160350	160349.9594	0.0406	249250	249250.0140	-0.0140	1.23	EAST_ISL52	143
EAST_ISL53	160350	160349.8265	0.1735	249300	249299.7033	0.2967	1.27	EAST_ISL53	145
EAST_ISL54	160350	160350.3565	-0.3564	249350	249349.8972	0.1028	1.20	EAST_ISL54	147
EAST_ISL55	160350	160349.9740	0.0260	249400	249399.3388	0.6612	1.13	EAST_ISL55	149
EAST_ISL56	160300	160300.3529	-0.3529	248900	248899.9341	0.0659	1.16	EAST_ISL56	151
EAST_ISL57	160300	160300.2065	-0.2065	248950	248950.3425	-0.3425	1.15	EAST_ISL57	153
EAST_ISL58	160300	160299.9588	0.0412	249000	248999.8910	0.1090	1.28	EAST_ISL58	155
EAST_ISL59	160300	160299.8505	0.1495	249050	249049.7791	0.2209	1.27	EAST_ISL59	157
EAST_ISL60	160300	160300.3290	-0.3290	249100	249100.6744	-0.6744	1.20	EAST_ISL60	159
EAST_ISL61	160300	160300.3993	-0.3992	249150	249149.7151	0.2849	1.36	EAST_ISL61	162
EAST_ISL62	160300	160299.8327	0.1673	249200	249199.9667	0.0333	1.95	EAST_ISL62	165
EAST_ISL63	160300	160299.7005	0.2995	249250	249250.2972	-0.2972	1.27	EAST_ISL63	167
EAST_ISL64	160300	160299.5023	0.4977	249300	249300.6440	-0.6440	1.22	EAST_ISL64	169
EAST_ISL65	160300	160299.5041	0.4959	249350	249350.0119	-0.0119	1.24	EAST_ISL65	171
EAST_ISL66	160300	160300.0613	-0.0613	249400	249399.5827	0.4173	1.32	EAST_ISL66	173
EAST_ISL67	160250	160249.5068	0.4932	248900	248900.3027	-0.3027	1.13	EAST_ISL67	175
EAST_ISL68	160250	160249.7333	0.2667	248950	248950.1641	-0.1641	1.19	EAST_ISL68	177
EAST_ISL69	160250	160249.4487	0.5513	249000	249000.1398	-0.1398	1.30	EAST_ISL69	179
EAST_ISL70	160250	160249.9727	0.0273	249050	249049.4240	0.5760	1.26	EAST_ISL70	181
EAST_ISL71	160250	160249.6162	0.3838	249100	249100.3942	-0.3942	1.34	EAST_ISL71	183
EAST_ISL72	160250	160249.5331	0.4669	249150	249149.1285	0.8715	1.45	EAST_ISL72	"FLOAT" 186
EAST_ISL73	160250	160249.7975	0.2026	249200	249200.4062	-0.4062	1.44	EAST_ISL73	188
EAST_ISL74	160250	160249.9187	0.0813	249250	249250.4297	-0.4297	1.33	EAST_ISL74	190
EAST_ISL75	160250	160249.3581	0.6419	249300	249300.0394	-0.0394	1.28	EAST_ISL75	192
EAST_ISL76	160250	160249.9143	0.0857	249350	249350.0768	-0.0768	1.22	EAST_ISL76	194
EAST_ISL77	160250	160250.5957	-0.5957	249400	249400.0038	-0.0038	1.19	EAST_ISL77	196
EAST_ISL78	160200	160199.7681	0.2319	248900	248900.1460	-0.1460	1.15	EAST_ISL78	216
EAST_ISL79	160200	160199.8780	0.1221	248950	248950.5606	-0.5606	1.22	EAST_ISL79	218
EAST_ISL80	160200	160200.0161	-0.0161	249000	249000.4805	-0.4805	1.29	EAST_ISL80	220
EAST_ISL81	160200	160199.7109	0.2892	249050	249049.8904	0.1096	1.29	EAST_ISL81	222
EAST_ISL82	160200	160200.4715	-0.4715	249100	249099.7262	0.2738	1.46	EAST_ISL82	247
EAST_ISL83	160200	160201.8979	-1.8978	249150	249149.2062	0.7938	2.39	EAST_ISL83	249
EAST_ISL84	160200	160200.2380	-0.2380	249200	249199.5135	0.4865	1.53	EAST_ISL84	251
EAST_ISL85	160200	160199.8843	0.1157	249250	249250.0795	-0.0795	1.40	EAST_ISL85	253
EAST_ISL86	160200	160200.0297	-0.0296	249300	249299.7831	0.2169	1.35	EAST_ISL86	229
EAST_ISL87	160200	160199.7467	0.2533	249350	249349.5763	0.4237	1.25	EAST_ISL87	226
EAST_ISL88	160200	160200.2693	-0.2693	249400	249400.1606	-0.1606	1.15	EAST_ISL88	224
EAST_ISL89	160150	160150.0383	-0.0383	248900	248899.7999	0.2001	1.14	EAST_ISL89	269
EAST_ISL90	160150	160150.0347	-0.0347	248950	248949.9721	0.0279	1.20	EAST_ISL90	267
EAST_ISL91	160150	160150.0521	-0.0521	249000	248999.8715	0.1285	1.33	EAST_ISL91	265
EAST_ISL92	160150	160150.0893	-0.0893	249050	249049.5964	0.4036	1.40	EAST_ISL92	263

EAST TREE ISLAND

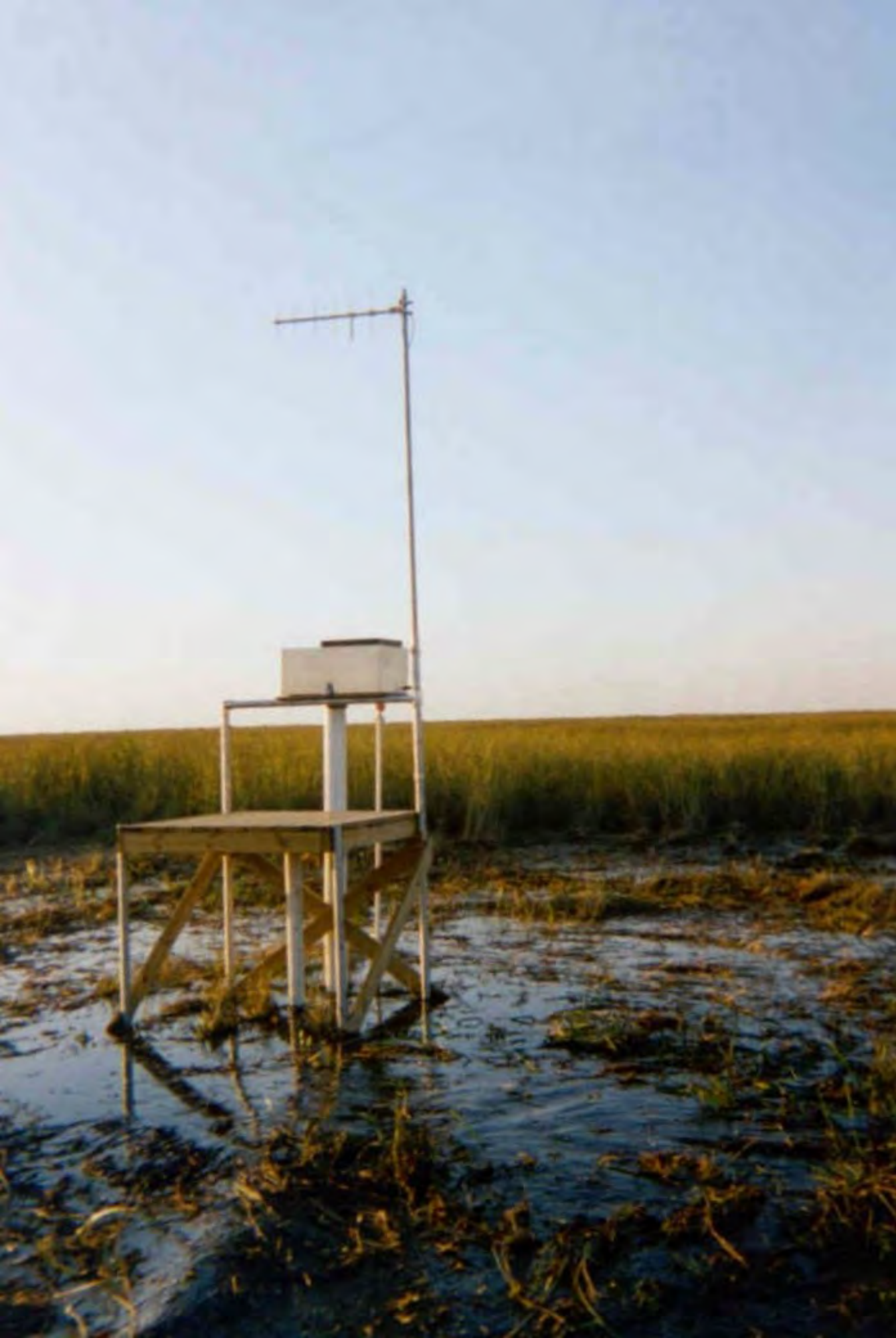
Hard Bottom

East Tree Island Location Point Number	NORTH "Y" NAD "83" State Plane FL East Zone 901 Projected In Meters	NORTH "Y" NAD "83" State Plane FL East Zone 901 True Ground In Meters	Difference Between Projected and True Ground Coordinates In Meters	EAST "X" NAD "83" State Plane FL East Zone 901 Projected In Meters	EAST "X" NAD "83" State Plane FL East Zone 901 True Ground In Meters	Difference Between Projected and True Ground Coordinates In Meters	VERTICAL "Z" NAVD "88" GPS Orthometric Height In Meters	East Tree Island Location Point Number	FDEP GPS Survey Point Number
EAST_ISL1	160550	160550.0787	-0.0787	248900	248900.3016	-0.3016	1.01	EAST_ISL1	485
EAST_ISL2	160550	160549.6160	0.3840	248950	248949.7574	0.2426	0.90	EAST_ISL2	487
EAST_ISL3	160550	160550.8108	-0.8108	249000	249000.8338	-0.8338	0.92	EAST_ISL3	489
EAST_ISL4	160550	160550.2929	-0.2929	249050	249050.5887	-0.5887	0.86	EAST_ISL4	491
EAST_ISL5	160550	160550.8364	-0.8364	249100	249099.6196	0.3804	0.86	EAST_ISL5	493
EAST_ISL6	160550	160550.2830	-0.2830	249150	249149.9415	0.0585	0.87	EAST_ISL6	495
EAST_ISL7	160550	160549.7519	0.2481	249200	249200.3288	-0.3288	0.97	EAST_ISL7	497
EAST_ISL8	160550	160550.1643	-0.1643	249250	249250.0769	-0.0769	0.85	EAST_ISL8	499
EAST_ISL9	160550	160550.3797	-0.3797	249300	249299.7819	0.2181	0.96	EAST_ISL9	501
EAST_ISL10	160550	160549.9945	0.0055	249350	249351.1592	-1.1592	0.75	EAST_ISL10	503
EAST_ISL11	160550	160550.1993	-0.1993	249400	249400.7909	-0.7909	0.97	EAST_ISL11	505
EAST_ISL12	160500	160500.7529	-0.7529	248900	248900.1751	-0.1751	0.95	EAST_ISL12	517
EAST_ISL13	160500	160500.1182	-0.1182	248950	248949.9332	0.0668	1.03	EAST_ISL13	"C" 33
EAST_ISL14	160500	160500.2835	-0.2835	249000	249000.4296	-0.4296	1.16	EAST_ISL14	543
EAST_ISL15	160500	160499.8540	0.1460	249050	249050.7725	-0.7725	1.02	EAST_ISL15	541
EAST_ISL16	160500	160499.8685	0.1315	249100	249099.3146	0.6854	1.03	EAST_ISL16	539
EAST_ISL17	160500	160500.1404	-0.1404	249150	249150.0524	-0.0524	0.88	EAST_ISL17	"C" 41
EAST_ISL18	160500	160499.6645	0.3355	249200	249199.2165	0.7835	1.17	EAST_ISL18	"C" 43
EAST_ISL19	160500	160499.9950	0.0050	249250	249249.5074	0.4926	0.99	EAST_ISL19	514
EAST_ISL20	160500	160499.6732	0.3268	249300	249299.4634	0.5366	1.03	EAST_ISL20	511
EAST_ISL21	160500	160499.4369	0.5631	249350	249349.5264	0.4736	0.90	EAST_ISL21	509
EAST_ISL22	160500	160500.5245	-0.5245	249400	249399.3906	0.6094	0.95	EAST_ISL22	507
EAST_ISL23	160450	160449.5760	0.4240	248900	248899.6818	0.3182	0.98	EAST_ISL23	66
EAST_ISL24	160450	160449.8626	0.1374	248950	248950.1227	-0.1227	0.98	EAST_ISL24	69
EAST_ISL25	160450	160450.4817	-0.4817	249000	249000.4584	-0.4584	0.83	EAST_ISL25	71
EAST_ISL26	160450	160449.0986	0.9014	249050	249049.8906	0.1094	0.97	EAST_ISL26	73
EAST_ISL27	160450	160449.2336	0.7664	249100	249100.4709	-0.4709	1.04	EAST_ISL27	75
EAST_ISL28	160450	160450.5685	-0.5685	249150	249150.3533	-0.3533	1.02	EAST_ISL28	77
EAST_ISL29	160450	160450.5990	-0.5990	249200	249199.3847	0.6153	0.97	EAST_ISL29	79
EAST_ISL30	160450	160450.1644	-0.1644	249250	249250.2937	-0.2937	1.05	EAST_ISL30	81
EAST_ISL31	160450	160450.0482	-0.0482	249300	249300.3581	-0.3581	0.96	EAST_ISL31	83
EAST_ISL32	160450	160450.7786	-0.7786	249350	249350.5544	-0.5544	0.89	EAST_ISL32	85
EAST_ISL33	160450	160449.9590	0.0410	249400	249399.5387	0.4613	0.97	EAST_ISL33	87
EAST_ISL34	160400	160399.8345	0.1655	248900	248899.5697	0.4303	0.93	EAST_ISL34	102
EAST_ISL35	160400	160399.4020	0.5980	248950	248949.4475	0.5525	0.89	EAST_ISL35	104
EAST_ISL36	160400	160399.9229	0.0771	249000	249000.4810	-0.4810	0.80	EAST_ISL36	106
EAST_ISL37	160400	160400.7101	-0.7101	249050	249050.0316	-0.0316	0.90	EAST_ISL37	109
EAST_ISL38	160400	160400.4431	-0.4431	249100	249099.5042	0.4958	0.90	EAST_ISL38	111
EAST_ISL39	160400	160399.6377	0.3623	249150	249150.2823	-0.2823	0.93	EAST_ISL39	113
EAST_ISL40	160400	160400.8626	-0.8626	249200	249200.5857	-0.5857	0.81	EAST_ISL40	115
EAST_ISL41	160400	160399.7488	0.2512	249250	249249.1960	0.8040	0.97	EAST_ISL41	117
EAST_ISL42	160400	160400.1247	-0.1247	249300	249300.1289	-0.1289	0.95	EAST_ISL42	119
EAST_ISL43	160400	160399.7491	0.2509	249350	249350.0621	-0.0621	0.87	EAST_ISL43	121
EAST_ISL44	160400	160400.8549	-0.8549	249400	249400.2291	-0.2291	0.74	EAST_ISL44	123
EAST_ISL45	160350	160350.3637	-0.3637	248900	248900.1542	-0.1542	0.82	EAST_ISL45	127
EAST_ISL46	160350	160349.8680	0.1320	248950	248950.0370	-0.0370	0.81	EAST_ISL46	132
EAST_ISL47	160350	160349.2865	0.7135	249000	248999.8194	0.1806	0.90	EAST_ISL47	131
EAST_ISL48	160350	160349.1447	0.8553	249050	249050.3450	-0.3450	0.96	EAST_ISL48	135
EAST_ISL49	160350	160349.8970	0.1030	249100	249100.4531	-0.4531	0.88	EAST_ISL49	137
EAST_ISL50	160350	160349.5436	0.4564	249150	249149.8261	0.1739	0.99	EAST_ISL50	140
EAST_ISL51	160350	160349.8194	0.1806	249200	249200.2801	-0.2801	1.02	EAST_ISL51	142
EAST_ISL52	160350	160349.9672	0.0328	249250	249250.0140	-0.0140	1.11	EAST_ISL52	144
EAST_ISL53	160350	160349.9456	0.0544	249300	249299.7373	0.2627	1.02	EAST_ISL53	146
EAST_ISL54	160350	160350.3738	-0.3738	249350	249349.8804	0.1196	1.00	EAST_ISL54	148
EAST_ISL55	160350	160350.0034	-0.0034	249400	249399.3655	0.6345	0.93	EAST_ISL55	150
EAST_ISL56	160300	160300.3327	-0.3327	248900	248899.9622	0.0378	0.88	EAST_ISL56	152
EAST_ISL57	160300	160300.2164	-0.2164	248950	248950.4013	-0.4013	0.97	EAST_ISL57	154
EAST_ISL58	160300	160299.9233	0.0767	249000	248999.9078	0.0922	1.07	EAST_ISL58	156
EAST_ISL59	160300	160299.8329	0.1671	249050	249049.7655	0.2345	1.04	EAST_ISL59	158
EAST_ISL60	160300	160300.2993	-0.2993	249100	249100.5349	-0.5349	0.87	EAST_ISL60	160
EAST_ISL61	160300	160300.3749	-0.3749	249150	249149.7783	0.2217	1.28	EAST_ISL61	164
EAST_ISL62	160300	160299.9482	0.0518	249200	249200.1088	-0.1088	1.54	EAST_ISL62	166
EAST_ISL63	160300	160299.6943	0.3057	249250	249250.2456	-0.2456	0.97	EAST_ISL63	168
EAST_ISL64	160300	160299.4898	0.5102	249300	249300.5975	-0.5975	0.97	EAST_ISL64	170
EAST_ISL65	160300	160299.5757	0.4243	249350	249350.0051	-0.0051	1.01	EAST_ISL65	172
EAST_ISL66	160300	160300.1051	-0.1051	249400	249399.5992	0.4008	0.98	EAST_ISL66	174
EAST_ISL67	160250	160249.4295	0.5705	248900	248900.3238	-0.3238	0.83	EAST_ISL67	176
EAST_ISL68	160250	160249.7194	0.2806	248950	248950.0371	-0.0371	0.96	EAST_ISL68	178
EAST_ISL69	160250	160249.5498	0.4502	249000	249000.1602	-0.1602	1.26	EAST_ISL69	180
EAST_ISL70	160250	160250.0330	-0.0330	249050	249049.4567	0.5433	1.03	EAST_ISL70	182
EAST_ISL71	160250	160249.6124	0.3876	249100	249100.4072	-0.4072	1.23	EAST_ISL71	184
EAST_ISL72	160250	160249.5722	0.4278	249150	249149.1283	0.8717	1.30	EAST_ISL72	"FLOAT" 187
EAST_ISL73	160250	160249.8322	0.1678	249200	249200.3831	-0.3831	1.17	EAST_ISL73	189
EAST_ISL74	160250	160249.7863	0.2137	249250	249250.4203	-0.4203	1.02	EAST_ISL74	191
EAST_ISL75	160250	160249.4490	0.5510	249300	249300.0772	-0.0772	1.20	EAST_ISL75	193
EAST_ISL76	160250	160249.7921	0.2079	249350	249350.1105	-0.1105	1.00	EAST_ISL76	195
EAST_ISL77	160250	160250.6465	-0.6465	249400	249399.9634	0.0366	0.91	EAST_ISL77	197
EAST_ISL78	160200	160199.7816	0.2184	248900	248900.1707	-0.1707	0.87	EAST_ISL78	217
EAST_ISL79	160200	160199.8842	0.1158	248950	248950.5925	-0.5925	0.90	EAST_ISL79	219
EAST_ISL80	160200	160200.0191	-0.0191	249000	249000.4535	-0.4535	1.03	EAST_ISL80	221
EAST_ISL81	160200	160199.5798	0.4202	249050	249049.8937	0.1063	0.88	EAST_ISL81	223
EAST_ISL82	160200	160200.3174	-0.3174	249100	249099.8009	0.1991	1.26	EAST_ISL82	248
EAST_ISL83	160200	160201.7923	-1.7923	249150	249149.2333	0.7667	1.24	EAST_ISL83	250
EAST_ISL84	160200	160200.2140	-0.2140	249200	249199.3945	0.6055	1.39	EAST_ISL84	252
EAST_ISL85	160200	160199.6989	0.3011	249250	249249.7545	0.2455	1.04	EAST_ISL85	254
EAST_ISL86	160200	160200.1181	-0.1181	249300	249299.7651	0.2349	1.18	EAST_ISL86	230
EAST_ISL87	160200	160199.7502	0.2498	249350	249349.5575	0.4425	1.06	EAST_ISL87	227
EAST_ISL88	160200	160200.2774	-0.2774	249400	249400.1594	-0.1594	0.81	EAST_ISL88	225
EAST_ISL89	160150	160150.0669	-0.0669	248900	248899.8534	0.1466	0.93	EAST_ISL89	270
EAST_ISL90	160150	160150.0924	-0.0924	248950	248950.0225	-0.0225	0.93	EAST_ISL90	268
EAST_ISL91	160150	160150.1897	-0.1897	249000	248999.9426	0.0574	1.08	EAST_ISL91	266
EAST_ISL92	160150	160150.0910	-0.0910	249050	249049.5544	0.4456	1.14	EAST_ISL92	264

3BS1-GW3 (SOUTH WELL)

East Tree Island Location Point	NORTH "Y" NAD "83" State Plane FL East Zone 901 In Meters	EAST "X" NAD "83" State Plane FL East Zone 901 In Meters	VERTICAL "Z" NAVD "88" GPS Orthometric Height In Meters		FDEP GPS Survey Point Number
S.S. ROD	159688.1771	249192.3245	2.19	(2 min)	536
S.S. ROD	159688.2152	249192.1353	2.12	(20 sec)	463
S.S. ROD	159688.1964	249192.1888	2.14	(20 sec)	473
			6.45		
Average GPS Height of S.S. Rod Located in 4" PVC Pipe			**2.15**	Ground Elevation of	
NORTH SIDE	159690.7569	249192.4932	1.26	Soft Bottom	469
NORTH SIDE	159690.7594	249192.5098	1.10	Hard Bottom	470
EAST SIDE	159687.6122	249196.0094	1.31	Soft Bottom	466
EAST SIDE	159687.5331	249195.9929	1.04	Hard Bottom	468
SOUTH SIDE	159684.3146	249191.4810	1.28	Soft Bottom	464
SOUTH SIDE	159684.3504	249191.4675	1.02	Hard Bottom	465
WEST SIDE	159688.4965	249188.6956	1.35	Soft Bottom	471
WEST SIDE	159688.5752	249188.7003	1.12	Hard Bottom	472

EAST_ISL93	160150	160150.1269	-0.1269	249100	249099.1818	0.8182	1.41	EAST_ISL93	261	EAST_ISL93	160150	160150.0951	-0.0951	249100	249099.1614	0.8386	1.21	EAST_ISL93	262
EAST_ISL94	160150	160150.2137	-0.2137	249150	249149.8740	0.1260	1.68	EAST_ISL94	259	EAST_ISL94	160150	160150.1548	-0.1548	249150	249149.8347	0.1653	1.67	EAST_ISL94	260
EAST_ISL95	160150	160149.6925	0.3075	249200	249200.0249	-0.0249	1.48	EAST_ISL95	257	EAST_ISL95	160150	160149.4533	0.5467	249200	249200.1023	-0.1023	1.44	EAST_ISL95	258
EAST_ISL96	160150	160150.0825	-0.0825	249250	249249.8643	0.1357	1.43	EAST_ISL96	255	EAST_ISL96	160150	160150.0038	-0.0038	249250	249249.7641	0.2359	1.27	EAST_ISL96	256
EAST_ISL97	160150	160150.8385	-0.8385	249300	249298.5920	1.4080	1.30	EAST_ISL97	231	EAST_ISL97	160150	160150.8485	-0.8485	249300	249298.5842	1.4158	1.14	EAST_ISL97	232
EAST_ISL98	160150	160149.8456	0.1544	249350	249350.4144	-0.4144	1.29	EAST_ISL98	233	EAST_ISL98	160150	160149.8344	0.1656	249350	249350.5544	-0.5544	1.03	EAST_ISL98	234
EAST_ISL99	160150	160150.5930	-0.5930	249400	249399.9090	0.0910	1.34	EAST_ISL99	235	EAST_ISL99	160150	160150.6077	-0.6077	249400	249399.9903	0.0097	1.16	EAST_ISL99	236
EAST_ISL100	160100	160100.3741	-0.3740	248900	248899.8585	0.1415	1.34	EAST_ISL100	277	EAST_ISL100	160100	160100.3829	-0.3829	248900	248899.8413	0.1587	1.00	EAST_ISL100	278
EAST_ISL101	160100	160099.6406	0.3594	248950	248949.8289	0.1711	1.17	EAST_ISL101	280	EAST_ISL101	160100	160099.7461	0.2539	248950	248949.6820	0.3180	0.88	EAST_ISL101	281
EAST_ISL102	160100	160100.1553	-0.1553	249000	249000.3181	-0.3181	1.01	EAST_ISL102	282	EAST_ISL102	160100	160100.5367	-0.5367	249000	249000.6821	-0.6821	1.10	EAST_ISL102	283
EAST_ISL103	160100	160100.1816	-0.1816	249050	249050.1178	-0.1178	1.39	EAST_ISL103	284	EAST_ISL103	160100	160100.1171	-0.1171	249050	249050.1695	-0.1695	1.11	EAST_ISL103	285
EAST_ISL104	160100	160100.4939	-0.4939	249100	249099.5798	0.4202	1.45	EAST_ISL104	378	EAST_ISL104	160100	160100.5571	-0.5571	249100	249099.5907	0.4093	1.34	EAST_ISL104	379
EAST_ISL105	160100	160100.4389	-0.4389	249150	249149.7443	0.2557	1.55	EAST_ISL105	380	EAST_ISL105	160100	160100.4030	-0.4030	249150	249149.7612	0.2388	1.22	EAST_ISL105	381
EAST_ISL106	160100	160100.2273	-0.2273	249200	249199.2887	0.7113	1.38	EAST_ISL106	382	EAST_ISL106	160100	160100.1771	-0.1771	249200	249199.3641	0.6359	1.36	EAST_ISL106	383
EAST_ISL107	160100	160100.5167	-0.5167	249250	249250.4089	-0.4089	1.48	EAST_ISL107	384	EAST_ISL107	160100	160100.2509	-0.2509	249250	249250.3105	-0.3105	1.34	EAST_ISL107	385
EAST_ISL108	160100	160099.9723	0.0277	249300	249299.9000	0.1000	1.34	EAST_ISL108	386	EAST_ISL108	160100	160099.9788	0.0212	249300	249299.7877	0.2123	1.28	EAST_ISL108	387
EAST_ISL109	160100	160100.0508	-0.0508	249350	249349.8565	0.1435	1.27	EAST_ISL109	239	EAST_ISL109	160100	160100.0137	-0.0137	249350	249349.9190	0.0810	1.07	EAST_ISL109	240
EAST_ISL110	160100	160100.3293	-0.3293	249400	249399.7333	0.2667	1.24	EAST_ISL110	237	EAST_ISL110	160100	160100.1880	-0.1880	249400	249399.8299	0.1701	0.98	EAST_ISL110	238
EAST_ISL111	160050	160049.9651	0.0349	248900	248900.0434	-0.0434	1.30	EAST_ISL111	286	EAST_ISL111	160050	160049.7858	0.2142	248900	248899.9832	0.0168	1.07	EAST_ISL111	287
EAST_ISL112	160050	160049.9420	0.0580	248950	248949.6313	0.3687	1.31	EAST_ISL112	288	EAST_ISL112	160050	160049.8630	0.1370	248950	248949.6283	0.3717	1.07	EAST_ISL112	289
EAST_ISL113	160050	160049.4185	0.5815	249000	248999.9980	0.0020	1.89	EAST_ISL113	290	EAST_ISL113	160050	160049.6052	0.3948	249000	249000.1837	-0.1837	1.17	EAST_ISL113	291
EAST_ISL114	160050	160050.0163	-0.0163	249050	249050.2517	-0.2517	1.37	EAST_ISL114	292	EAST_ISL114	160050	160050.1353	-0.1353	249050	249050.2673	-0.2673	1.08	EAST_ISL114	293
EAST_ISL115	160050	160050.3051	-0.3051	249100	249100.3456	-0.3456	1.50	EAST_ISL115	394	EAST_ISL115	160050	160050.1986	-0.1986	249100	249100.2350	-0.2350	1.32	EAST_ISL115	395
EAST_ISL116	160050	160050.5499	-0.5499	249150	249150.5603	-0.5603	1.42	EAST_ISL116	392	EAST_ISL116	160050	160050.5744	-0.5744	249150	249150.6824	-0.6824	1.17	EAST_ISL116	393
EAST_ISL117	160050	160050.3929	-0.3929	249200	249200.2982	-0.2982	1.34	EAST_ISL117	390	EAST_ISL117	160050	160050.3301	-0.3301	249200	249200.1876	-0.1876	1.28	EAST_ISL117	391
EAST_ISL118	160050	160049.5719	0.4281	249250	249250.3749	-0.3749	1.38	EAST_ISL118	388	EAST_ISL118	160050	160049.5713	0.4287	249250	249250.3178	-0.3178	1.31	EAST_ISL118	389
EAST_ISL119	160050	160049.7207	0.2793	249300	249300.5546	-0.5546	1.25	EAST_ISL119	342	EAST_ISL119	160050	160049.6221	0.3779	249300	249300.6500	-0.6500	1.02	EAST_ISL119	343
EAST_ISL120	160050	160050.3511	-0.3511	249350	249350.1145	-0.1145	1.25	EAST_ISL120	340	EAST_ISL120	160050	160050.3428	-0.3428	249350	249350.0630	-0.0630	0.97	EAST_ISL120	341
EAST_ISL121	160050	160049.4689	0.5311	249400	249399.7506	0.2494	1.26	EAST_ISL121	338	EAST_ISL121	160050	160049.4484	0.5516	249400	249399.8005	0.1995	0.95	EAST_ISL121	339
EAST_ISL122	160000	160000.3516	-0.3516	248900	248899.7701	0.2299	1.23	EAST_ISL122	295	EAST_ISL122	160000	160000.2464	-0.2464	248900	248899.7065	0.2935	0.97	EAST_ISL122	296
EAST_ISL123	160000	160000.3752	-0.3752	248950	248950.2412	-0.2412	1.08	EAST_ISL123	297	EAST_ISL123	160000	160000.5686	-0.5686	248950	248950.3285	-0.3285	1.32	EAST_ISL123	298
EAST_ISL124	160000	160000.1907	-0.1907	249000	248999.8811	0.1189	1.36	EAST_ISL124	299	EAST_ISL124	160000	160000.0894	-0.0894	249000	248999.9377	0.0623	1.06	EAST_ISL124	300
EAST_ISL125	160000	160000.1814	-0.1814	249050	249049.8312	0.1688	1.32	EAST_ISL125	301	EAST_ISL125	160000	160000.1927	-0.1927	249050	249049.7710	0.2290	1.11	EAST_ISL125	302
EAST_ISL126	160000	160000.2202	-0.2202	249100	249099.7669	0.2331	1.51	EAST_ISL126	397	EAST_ISL126	160000	160000.3180	-0.3180	249100	249099.6750	0.3250	1.43	EAST_ISL126	398
EAST_ISL127	160000	160000.1773	-0.1773	249150	249150.1431	-0.1431	1.41	EAST_ISL127	399	EAST_ISL127	160000	160000.2388	-0.2388	249150	249150.1230	-0.1230	1.22	EAST_ISL127	400
EAST_ISL128	160000	160000.2081	-0.2081	249200	249199.6371	0.3629	1.22	EAST_ISL128	401	EAST_ISL128	160000	160000.3042	-0.3042	249200	249199.5794	0.4206	0.96	EAST_ISL128	402
EAST_ISL129	160000	159999.7704	0.2296	249250	249250.7898	-0.7898	1.39	EAST_ISL129	403	EAST_ISL129	160000	159999.7148	0.2852	249250	249250.7772	-0.7772	1.19	EAST_ISL129	404
EAST_ISL130	160000	159999.9258	0.0742	249300	249300.1796	-0.1796	1.34	EAST_ISL130	348	EAST_ISL130	160000	159999.8593	0.1407	249300	249300.0752	-0.0752	1.11	EAST_ISL130	349
EAST_ISL131	160000	160000.6686	-0.6686	249350	249350.1306	-0.1306	1.35	EAST_ISL131	346	EAST_ISL131	160000	160000.6214	-0.6214	249350	249350.0852	-0.0852	1.02	EAST_ISL131	347
EAST_ISL132	160000	159999.9728	0.0272	249400	249400.9075	-0.9075	1.16	EAST_ISL132	344	EAST_ISL132	160000	160000.0814	-0.0814	249400	249401.1019	-1.1019	0.90	EAST_ISL132	345
EAST_ISL133	159950	159949.6188	0.3813	248900	248900.1194	-0.1194	1.31	EAST_ISL133	303	EAST_ISL133	159950	159949.5559	0.4441	248900	248900.2637	-0.2637	1.04	EAST_ISL133	305
EAST_ISL134	159950	159950.3577	-0.3577	248950	248950.6395	-0.6395	1.40	EAST_ISL134	306	EAST_ISL134	159950	159950.1179	-0.1179	248950	248950.7371	-0.7371	1.16	EAST_ISL134	307
EAST_ISL135	159950	159949.5721	0.4279	249000	248999.8130	0.1870	1.30	EAST_ISL135	308	EAST_ISL135	159950	159949.4891	0.5109	249000	248999.8187	0.1813	1.00	EAST_ISL135	309
EAST_ISL136	159950	159950.7989	-0.7989	249050	249049.5778	0.4222	1.46	EAST_ISL136	414	EAST_ISL136	159950	159950.8365	-0.8365	249050	249049.6645	0.3355	1.38	EAST_ISL136	415
EAST_ISL137	159950	159950.1866	-0.1866	249100	249100.9090	-0.9090	1.38	EAST_ISL137	411	EAST_ISL137	159950	159950.1655	-0.1655	249100	249100.8822	-0.8822	1.28	EAST_ISL137	412
EAST_ISL138	159950	159950.2508	-0.2508	249150	249150.3613	-0.3613	1.31	EAST_ISL138	409	EAST_ISL138	159950	159950.3926	-0.3926	249150	249150.3868	-0.3868	1.06	EAST_ISL138	410
EAST_ISL139	159950	159948.9933	1.0067	249200	249199.8945	0.1055	1.45	EAST_ISL139	407	EAST_ISL139	159950	159949.1215	0.8785	249200	249199.8480	0.1520	1.17	EAST_ISL139	408
EAST_ISL140	159950	159950.4975	-0.4975	249250	249249.3321	0.6679	1.30	EAST_ISL140	405	EAST_ISL140	159950	159950.4617	-0.4617	249250	249249.3052	0.6948	1.09	EAST_ISL140	406
EAST_ISL141	159950	159949.7566	0.2434	249300	249300.4342	-0.4342	1.21	EAST_ISL141	354	EAST_ISL141	159950	159949.7942	0.2058	249300	249300.5154	-0.5154	0.89	EAST_ISL141	355
EAST_ISL142	159950	159949.4787	0.5213	249350	249349.7003	0.2997	1.25	EAST_ISL142	352	EAST_ISL142	159950	159949.5668	0.4332	249350	249349.6900	0.3100	1.12	EAST_ISL142	353
EAST_ISL143	159950	159950.3159	-0.3159	249400	249399.4377	0.5623	1.20	EAST_ISL143	350	EAST_ISL143	159950	159950.2563	-0.2563	249400	249399.3342	0.6658	0.91	EAST_ISL143	351
EAST_ISL144	159900	159900.5046	-0.5046	248900	248900.3837	-0.3837	1.32	EAST_ISL144	310	EAST_ISL144	159900	159900.4380	-0.4380	248900	248900.4772	-0.4772	1.09	EAST_ISL144	311
EAST_ISL145	159900	159899.9168	0.0832	248950	248949.9084	0.0916	1.37	EAST_ISL145	312	EAST_ISL145	159900	159899.9200	0.0800	248950	248949.9351	0.0649	1.09	EAST_ISL145	313
EAST_ISL146	159900	159900.1193	-0.1193	249000	249000.1813	-0.1813	1.32	EAST_ISL146	314	EAST_ISL146	159900	159900.0712	-0.0712	249000	249000.1562	-0.1562	1.10	EAST_ISL146	315
EAST_ISL147	159900	159899.8069	0.1931	249050	249049.8659	0.1341	1.32	EAST_ISL147	316	EAST_ISL147	159900	159899.8555	0.1445	249050	249049.8615	0.1385	0.99	EAST_ISL147	317
EAST_ISL148	159900	159899.9049	0.0951	249100	249100.3929	-0.3929	1.48	EAST_ISL148	318	EAST_ISL148	159900	159900.0910	-0.0910	249100	249100.5380	-0.5380	1.04	EAST_ISL148	319
EAST_ISL149	159900	159900.0447	-0.0447	249150	249150.0992	-0.0992	1.42	EAST_ISL149	320	EAST_ISL149	159900	159899.8696	0.1304	249150	249150.0514	-0.0514	1.24	EAST_ISL149	321
EAST_ISL150	159900	159900.4550	-0.4550	249200	249200.2953	-0.2953	1.26	EAST_ISL150	416	EAST_ISL150	159900	159900.5541	-0.5541	249200	249200.2551	-0.2551	0.89	EAST_ISL150	417
EAST_ISL151	159900	159900.5905	-0.5905	249250	249250.3273	-0.3273	1.32	EAST_ISL151	418	EAST_ISL151	159900	159900.6163	-0.6163	249250	249250.3783	-0.3783	1.27	EAST_ISL151	419
EAST_ISL152	159900	159900.3000	-0.3000	249300	249299.4054	0.5946	1.23	EAST_ISL152	362	EAST_ISL152	159900	159900.3070	-0.3070	249300	249299.5465	0.4535	0.99	EAST_ISL152	363
EAST_ISL153	159900	159900.1249	-0.1249	249350	249349.6158	0.3842	1.23	EAST_ISL153	358	EAST_ISL153	159900	159900.1107	-0.1107	249350	249349.6407	0.3593	1.01	EAST_ISL153	359
EAST_ISL154	159900	159900.3083	-0.3083	249400	249400.2667	-0.2667	1.27	EAST_ISL154	356	EAST_ISL154	159900	159900.2636	-0.2636	249400	249400.4621	-0.4621	0.92	EAST_ISL154	357
EAST_ISL155	159850	159850.1801	-0.1801	248900	248899.6906	0.3094	1.34	EAST_ISL155	322	EAST_ISL155	159850	159850.1043	-0.1043	248900	248899.6349	0.3651	1.04	EAST_ISL155	323
EAST_ISL156	159850	159849.9192	0.0808	248950	248950.0803	-0.0803	1.39	EAST_ISL156	326	EAST_ISL156	159850	159849.9224	0.0776	248950	248950.1031	-0.1031	1.07	EAST_ISL156	327
EAST_ISL157	159850	159849.9790	0.0210	249000	249000.2676	-0.2676	1.35	EAST_ISL157	328	EAST_ISL157	159850	159849.9306	0.0694	249000	249000.1776	-0.1776	1.31	EAST_ISL157	329
EAST_ISL158	159850	159849.9382	0.0618	249050	249050.0291	-0.0291	1.36	EAST_ISL158	330	EAST_ISL158	159850	159849.9403	0.0597	249050	249050.0115	-0.0115	1.12	EAST_ISL158	331
EAST_ISL159	159850	159849.1899	0.8101	249100	249099.6519	0.3481	1.26	EAST_ISL159	426	EAST_ISL159	159850	159849.2451	0.7549	249100	249099.6166	0.3834	1.01	EAST_ISL159	427
EAST_ISL160	159850	159850.6104	-0.6104	249150	249149.6268	0.3732	1.35	EAST_ISL160	424	EAST_ISL160	159850	159850.7355	-0.7355	249150	249149.6754	0.3246	1.18	EAST_ISL160	425
EAST_ISL161	159850	159850.4061	-0.4061	249200	249199.3730	0.6270	1.46	EAST_ISL161	422	EAST_ISL161	159850	159850.3294	-0.3294	249200	249199.3778	0.6222	1.18	EAST_ISL161	423
EAST_ISL162	159850	159849.8127	0.1873	249250	249249.7726	0.2274	1.42	EAST_ISL162	420	EAST_ISL162	159850	159849.7781	0.2219	249250	249249.7592	0.2408	1.12	EAST_ISL162	421
EAST_ISL163	159850	159849.4768	0.5232	249300	249300.7956	-0.7956	1.26	EAST_ISL163	368	EAST_ISL163	159850	159849.5992	0.4008	249300	249300.7153	-0.7153	0.98	EAST_ISL163	369
EAST_ISL164	159850	159849.4528	0.5472	249350	249349.9764	0.0236	1.23	EAST_ISL164	366	EAST_ISL164	159850	159849.4824	0.5176	249350	249350.0818	-0.0818	0.93	EAST_ISL164	367
EAST_ISL165	159850	159850.9654	-0.9654	249400	249400.6095	-0.6095	1.18	EAST_ISL165	364	EAST_ISL165	159850	159850.8670	-0.8670	249400	249400.5965	-0.5965	0.99	EAST_ISL165	365
EAST_ISL166	159800	159800.0795	-0.0795	248900	248900.1290	-0.1290	1.28	EAST_ISL166	332	EAST_ISL166	159800	159800.1942	-0.1942	248900	248900.0368	-0.0368	0.97	EAST_ISL166	333
EAST_ISL167	159800	159800.0759	-0.0759	248950	248950.7069	-0.7069	1.39	EAST_ISL167	334	EAST_ISL167	159800	159800.0632	-0.0632	248950	248950.7101	-0.7101	1.11	EAST_ISL167	335
EAST_ISL168	159800	159800.2228	-0.2228	249000	249000.5860	-0.5860	1.19	EAST_ISL168	336	EAST_ISL168	159800	159800.1982	-0.1982	249000	249000.6564	-0.6564	1.17	EAST_ISL168	337
EAST_ISL169	159800	159799.6968	0.3032	249050	249049.6823	0.3177	1.30	EAST_ISL169	428	EAST_ISL169	159800	159799.6215	0.3785	249050	249049.6270	0.3730	1.01	EAST_ISL169	429
EAST_ISL170	159800	159799.7113	0.2887	249100	249099.8682	0.1318	1.37	EAST_ISL170	430	EAST_ISL170	159800	159800.0292	-0.0292	249100	249099.6359	0.3641	1.32	EAST_ISL170	431
EAST_ISL171	159800	159800.5434	-0.5434	249150	249150.5426	-0.5426	1.34	EAST_ISL171	432	EAST_ISL171	159800	159800.4723	-0.4723	249150	249150.6150	-0.6150	1.21	EAST_ISL171	433
EAST_ISL172	159800	159799.6467	0.3533	249200	249199.6249	0.3751	1.28	EAST_ISL172	434	EAST_ISL172	159800	159799.5858	0.4142	249200	249199.5715	0.4285	1.04	EAST_ISL172	435
EAST_ISL173	159800	159800.7898	-0.7898	249250	249249.6453	0.3547	1.37	EAST_ISL173	436	EAST_ISL173	159800	159800.6210	-0.6210	249250	249249.7676	0.2324	1.11	EAST_ISL173	437
EAST_ISL174	159800	159799.4227	0.5773	249300	249300.4936	-0.4936	1.23	EAST_ISL174	438	EAST_ISL174	159800	159799.5055	0.4945	249300	249300.5963	-0.5963	0.98	EAST_ISL174	439
EAST_ISL175	159800	159800.5117	-0.5117	249350	249349.8467	0.1533	1.19	EAST_ISL175	440	EAST_ISL175	159800	159800.4225	-0.4225	249350	249349.8429	0.1571	0.90	EAST_ISL175	441
EAST_ISL176	159800	159799.6598	0.3402	249400	249399.6984	0.3016	1.28	EAST_ISL176	370	EAST_ISL176	159800	159799.3086	0.6914	249400	249399.9413	0.0587	1.18	EAST_ISL176	371



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=== DESCRIPTION
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=== DESCRIPTION HEADER RECORD
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KEYED-IN ORDER:0019         SSN:0401  CONDITION:G
PID:
   DESIGNATION:TREE ISLAND WEST
         ALIAS:
      QUADNAME:
       COUNTRY:US         STATE:FL       COUNTY:BROWARD
011
------------------------------------------------------------------------
-------
 MONUMENT:00          SETTING:       SPECIFIC:
MAGNETISM:N         STABILITY:      SATELLITE:           APPLICATIONS:
      FPR:           ROD/PIPE:         SLEEVE:
 STAMPING:
 ESTAB BY:FLDEP                                          SETTING
DATE:00000000
     LOGO:
REPORT BY:FLDEP                                          REPORT
DATE:20030930
TRANSPORT:P         PACK TIME:00:00                              COP:RH

=== POSITION RECORDS
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                                        POSITION POSITION  POSITION
ADJUSTMENT
DATUM EPOCH LATITUDE    LONGITUDE        SOURCE    ORDER   TECHNIQUE
DATE
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-------
 27         N260000       W0800000          S                 5


=== DESCRIPTIVE TEXT RECORD
================================================
Text Status:
-------------------------SEE RANDY HARRELL FOR DESC.--------------------
---------------
```

EAST TREE ISLAND

Bench Mark	GPS Elevation Static-survey		Vertical Elevation		GPS Elevation Real-time-survey		Vertical Elevation Check-levels		GPS Elevation Static-survey		Vertical Elevation Check-levels of water elevation		Notes
			Mar-2000		Apr-2000		Sep-2000		Sep-2000		Sep-2000 base on original elevations		
	NAVD 88 Meters	NAVD 88 Feet	NAVD 88 Meters	NAVD 88 Feet	NAVD 88 Meters	NAVD 88 Feet	NAVD 88 Meters	NAVD 88 Feet	NAVD 88 Meters	NAVD 88 Feet	NAVD 88 Meters	NAVD 88 Feet	
TREE_E_C	2.229	7.31									1.53	5.01	water level near TREE_E_C
TREE_E_N WELL 4			2.672 .	8.77	2.69	8.83	2.668	8.75			1.52	4.98	water level at TREE_E_N
TREE_E_S			2.303	7.56	2.37	7.78							
3BS1-GW1 WELL 1 (NW WELL)					2.07	6.79			2.04	6.70	1.50	4.92	water level near 3BS1-GW1
3BS1-GW2 WELL 2 (NE WELL)					1.94	6.36			1.91	6.27	1.49	4.90	water level near 3BS1-GW2
3BS1-GW3 WELL 3 (SO. WELL)					2.15	7.05			2.11	6.91	1.53	5.01	water level near 3BS1-GW3

WEST TREE ISLAND

Bench Mark	GPS Elevation Static-survey		Vertical Elevation		GPS Elevation Real-time-survey		Vertical Elevation Check-levels		GPS Elevation Static-survey		Vertical Elevation Check-levels of water elevation base on original elevations		Notes
			Mar-2000		Apr-2000		Sep-2000		Sep-2000		Sep-2000		
	NAVD 88 Meters	NAVD 88 Feet	NAVD 88 Meters	NAVD 88 Feet	NAVD 88 Meters	NAVD 88 Feet	NAVD 88 Meters	NAVD 88 Feet	NAVD 88 Meters	NAVD 88 Feet	NAVD 88 Meters	NAVD 88 Feet	
TREE_W_C	3.096	10.16									2.45	8.05	water level near TREE_W_C
TREE_W_N WELL 4			3.254	10.68	3.28	10.76	3.252	10.67			2.44	8.02	water level at north dock
TREE_W_S			3.013	9.89	2.99	9.81							
3AS1-GW1 WELL 1 (NW WELL)					2.95	9.68			2.93	9.61	2.47	8.11	water level near 3AS1-GW1
3AS1-GW2 WELL 2 (NE WELL)					2.72	8.92			2.71	8.90	2.45	8.03	water level near 3AS1-GW2
3AS1-GW3 WELL 3 (SO. WELL)					3.12	10.24	3.117	10.23	3.11	10.22	2.46	8.05	water level near 3AS1-GW3
SQUARE OUTLINE ON PLYWOOD							4.338	14.23					

WEST TREE ISLAND

West Tree Island Location Points	NORTH "Y" NAD "83" State Plane FL East Zone 901	NORTH "Y" NAD "83" State Plane FL East Zone 901	EAST "X" NAD "83" State Plane FL East Zone 901	EAST "X" NAD "83" State Plane FL East Zone 901	VERTICAL "Z" NAVD "88" GPS Orthometric Height	VERTICAL "Z" NAVD "88" GPS Orthometric Height	FDEP GPS Survey Point Number
CONTROL POINT FOR THIS SURVEY							
stamping	In Meters	In Feet	In Meters	In Feet	In Meters	In Feet	
TREE_W_C (S.S. ROD BENCH MARK)	168661.8784	553351.507	223079.7516	731887.478	3.096	10.16	
ADDITIONAL SURVEY MARKS				TREE_W_C with TREE_W_N and TREE_W_S			
	In Meters	In Feet	In Meters	In Feet	In Meters	In Feet	
TREE_W_N (S.S. ROD BENCH MARK)	168746.6203	553629.531	223096.7062	731943.103	3.254	10.68	48
	In Meters	In Feet	In Meters	In Feet	In Meters	In Feet	
TREE_W_S (S.S. ROD BENCH MARK)	168410.1340	552525.576	223088.8935	731917.471	3.013	9.89	124

NOTE:2nd Order Class II levels were used to connect additional survey marks

WEST TREE ISLAND

3AS1-GW1 (NW WELL)

West Tree Island Location Point	NORTH "Y" NAD "83" State Plane FL East Zone 901	NORTH "Y" NAD "83" State Plane FL East Zone 901	EAST "X" NAD "83" State Plane FL East Zone 901	EAST "X" NAD "83" State Plane FL East Zone 901	VERTICAL "Z" NAVD "88" GPS Orthometric Height	VERTICAL "Z" NAVD "88" GPS Orthometric Height	FDEP GPS Survey Point Number
	In Meters	In Feet	In Meters	In Feet	In Meters	In Feet	
S.S. ROD	168828.2358	553897.298	222914.5692	731345.542	2.94	9.6	49
S.S. ROD	168828.1837	553897.127	222914.6099	731345.675	2.95	9.7	50
S.S. ROD	168828.2104	553897.215	222914.5872	731345.601	2.94	9.6	100
S.S. ROD	168828.1330	553896.961	222914.5737	731345.556	2.95	9.7	112
	675312.7629	2215588.601	890658.3400	2925382.374			
S.S. ROD	168828.1907	553897.150	222914.585	731345.594			
Average GPS Height of S.S. Rod Located in 4" PVC Pipe					11.78 2.95	38.6 9.7	

WEST TREE ISLAND

3AS1-GW1 (NW WELL)

	Bottom Heights of	NORTH "Y" NAD "83" State Plane FL East Zone 901	NORTH "Y" NAD "83" State Plane FL East Zone 901	EAST "X" NAD "83" State Plane FL East Zone 901	EAST "X" NAD "83" State Plane FL East Zone 901	**Soft Bottom** VERTICAL "Z" NAVD "88" GPS Orthometric Height	**Soft Bottom** VERTICAL "Z" NAVD "88" GPS Orthometric Height	FDEP GPS Survey Point Number	**Hard Bottom** VERTICAL "Z" NAVD "88" GPS Orthometric Height	**Hard Bottom** VERTICAL "Z" NAVD "88" GPS Orthometric Height	FDEP GPS Survey Point Number
		In Meters	In Feet	In Meters	In Feet	In Meters	In Feet		In Meters	In Feet	
(1 min)											
(1 min)	NORTH SIDE	168830.7	553905	222914.4	731345	1.98	6.5	110	1.64	5.4	111
(1 min)											
(1 min)	EAST SIDE	168828.0	553896	222917.3	731355	1.97	6.5	108	1.66	5.4	109
	SOUTH SIDE	168825.5	553888	222914.5	731345	1.93	6.3	106	1.63	5.3	107
	WEST SIDE	168827.9	553896	222911.4	731335	1.92	6.3	101	1.57	5.2	102

WEST TREE ISLAND

3AS1-GW2 (NE WELL)

West Tree Island Location Point	NORTH "Y" NAD "83" State Plane FL East Zone 901	NORTH "Y" NAD "83" State Plane FL East Zone 901	EAST "X" NAD "83" State Plane FL East Zone 901	EAST "X" NAD "83" State Plane FL East Zone 901	VERTICAL "Z" NAVD "88" GPS Orthometric Height	VERTICAL "Z" NAVD "88" GPS Orthometric Height	FDEP GPS Survey Point Number
	In Meters	In Feet	In Meters	In Feet	In Meters	In Feet	
S.S. ROD	168802.6040	553813.204	223268.3720	732506.310	2.72	8.9	45
S.S. ROD	168802.6007	553813.193	223268.4413	732506.537	2.71	8.9	46
S.S. ROD	168802.6170	553813.247	223268.3989	732506.398	2.72	8.9	88
S.S. ROD	168802.6012	553813.195	223268.4600	732506.598	2.71	8.9	99
	675210.4229	2215252.840	893073.6722	2930025.843			
S.S. ROD	168802.6057	553813.210	223268.418	732506.461			
					10.86	35.6	
Average GPS Height of S.S. Rod Located in 4" PVC Pipe					2.72	8.9	

WEST TREE ISLAND

3AS1-GW2 (NE WELL)

	Bottom Heights of	NORTH "Y" NAD "83" State Plane FL East Zone 901	NORTH "Y" NAD "83" State Plane FL East Zone 901	EAST "X" NAD "83" State Plane FL East Zone 901	EAST "X" NAD "83" State Plane FL East Zone 901	**Soft Bottom** VERTICAL "Z" NAVD "88" GPS Orthometric Height	**Soft Bottom** VERTICAL "Z" NAVD "88" GPS Orthometric Height	FDEP GPS Survey Point Number	**Hard Bottom** VERTICAL "Z" NAVD "88" GPS Orthometric Height	**Hard Bottom** VERTICAL "Z" NAVD "88" GPS Orthometric Height	FDEP GPS Survey Point Number
		In Meters	In Feet	In Meters	In Feet	In Meters	In Feet		In Meters	In Feet	
(1 min)											
(1 min)	NORTH SIDE	168805.0	553821	223268.3	732506	2.00	6.6	94	1.75	5.7	95
(1 min)											
(1 min)	EAST SIDE	168802.3	553812	223271.5	732517	1.90	6.2	90	1.69	5.5	91
	SOUTH SIDE	168800.1	553805	223268.9	732508	1.92	6.3	92	1.58	5.2	93
	WEST SIDE	168802.0	553811	223266.0	732498	1.95	6.4	96	1.73	5.7	97

WEST TREE ISLAND

3AS1-GW3 (SOUTH WELL)

West Tree Island Location Point	NORTH "Y" NAD "83" State Plane FL East Zone 901	NORTH "Y" NAD "83" State Plane FL East Zone 901	EAST "X" NAD "83" State Plane FL East Zone 901	EAST "X" NAD "83" State Plane FL East Zone 901	VERTICAL "Z" NAVD "88" GPS Orthometric Height	VERTICAL "Z" NAVD "88" GPS Orthometric Height	FDEP GPS Survey Point Number
	In Meters	In Feet	In Meters	In Feet	In Meters	In Feet	
S.S. ROD	168376.5021	552415.235	223142.6519	732093.843	3.13	10.3	51
S.S. ROD	168376.5049	552415.244	223142.6882	732093.962	3.12	10.2	52
S.S. ROD	168376.4649	552415.113	223142.6672	732093.893	3.11	10.2	113
S.S. ROD	168376.4892	552415.193	223142.6528	732093.846	3.12	10.2	122
	673505.9612	2209660.785	892570.6600	2928375.544			
S.S. ROD	168376.4903	552415.196	223142.665	732093.886			
					12.48	40.9	
Average GPS Height of S.S. Rod Located in 4" PVC Pipe					3.12	10.2	

WEST TREE ISLAND

3AS1-GW3 (SOUTH WELL)

	Bottom Heights of	NORTH "Y" NAD "83" State Plane FL East Zone 901	NORTH "Y" NAD "83" State Plane FL East Zone 901	EAST "X" NAD "83" State Plane FL East Zone 901	EAST "X" NAD "83" State Plane FL East Zone 901	**Soft Bottom** VERTICAL "Z" NAVD "88" GPS Orthometric Height	**Soft Bottom** VERTICAL "Z" NAVD "88" GPS Orthometric Height	FDEP GPS Survey Point Number	**Hard Bottom** VERTICAL "Z" NAVD "88" GPS Orthometric Height	**Hard Bottom** VERTICAL "Z" NAVD "88" GPS Orthometric Height	FDEP GPS Survey Point Number
		In Meters	In Feet	In Meters	In Feet	In Meters	In Feet		In Meters	In Feet	
(1 min)											
(1 min)	NORTH SIDE	168379.6	552425	223143.3	732096	1.92	6.3	118	1.60	5.2	119
(1 min)											
(1 min)	EAST SIDE	168376.4	552415	223146.3	732106	1.94	6.4	"C"	1.73	5.7	121
	SOUTH SIDE	168373.1	552404	223142.5	732093	1.95	6.4	114	1.68	5.5	115
	WEST SIDE	168376.2	552414	223139.0	732082	1.98	6.5	116	1.64	5.4	117


12" FORM
TUBE

The NGS Data Sheet

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

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DATABASE = Sybase ,PROGRAM = datasheet, VERSION = 7.49
1        National Geodetic Survey,   Retrieval Date = SEPTEMBER 10, 2007
 DG5022 ***********************************************************************
 DG5022  HT_MOD      -  This is a Height Modernization Survey Station.
 DG5022  DESIGNATION -  3B SE
 DG5022  PID         -  DG5022
 DG5022  STATE/COUNTY-  FL/MIAMI-DADE
 DG5022  USGS QUAD   -  COOPERTOWN (1973)
 DG5022
 DG5022                          *CURRENT SURVEY CONTROL
 DG5022  ______________________________________________________________________
 DG5022* NAD 83(1999)-  25 47 01.07211(N)    080 30 10.48497(W)     ADJUSTED
 DG5022* NAVD 88     -         2.61   (meters)       8.6    (feet)  GPS OBS
 DG5022  ______________________________________________________________________
 DG5022  X           -     948,202.522 (meters)                     COMP
 DG5022  Y           -  -5,668,004.774 (meters)                     COMP
 DG5022  Z           -   2,757,487.852 (meters)                     COMP
 DG5022  LAPLACE CORR-          -1.95  (seconds)                    DEFLEC99
 DG5022  ELLIP HEIGHT-         -22.000 (meters)          (04/07/04) GPS OBS
 DG5022  GEOID HEIGHT-         -24.61  (meters)                     GEOID03
 DG5022
 DG5022  HORZ ORDER  -  FIRST
 DG5022  ELLP ORDER  -  SECOND    CLASS II
 DG5022
 DG5022.The horizontal coordinates were established by GPS observations
 DG5022.and adjusted by the FL DEPT OF ENV PRO in April 2004.
 DG5022
 DG5022.The orthometric height was determined by GPS observations and a
 DG5022.high-resolution geoid model using precise GPS observation and
 DG5022.processing techniques.
 DG5022
 DG5022.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 DG5022
 DG5022.The Laplace correction was computed from DEFLEC99 derived deflections.
 DG5022
 DG5022.The ellipsoidal height was determined by GPS observations
 DG5022.and is referenced to NAD 83.
 DG5022
 DG5022.The geoid height was determined by GEOID03.
 DG5022
 DG5022;                    North         East     Units Scale Factor Converg.
 DG5022;SPC FL E     -   160,739.616   249,855.537   MT  0.99997186   +0 12 58.4
 DG5022;SPC FL E     -   527,359.89    819,734.37    sFT  0.99997186   +0 12 58.4
 DG5022;UTM  17      - 2,851,816.754   549,838.526   MT  0.99963067   +0 12 58.4
 DG5022
 DG5022!             -  Elev Factor  x  Scale Factor =   Combined Factor
 DG5022!SPC FL E     -   1.00000346  x   0.99997186  =   0.99997532
 DG5022!UTM  17      -   1.00000346  x   0.99963067  =   0.99963413
 DG5022
 DG5022                           SUPERSEDED SURVEY CONTROL
 DG5022
 DG5022.No superseded survey control is available for this station.
 DG5022
 DG5022_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNJ4983951817(NAD 83)
 DG5022_MARKER: F = FLANGE-ENCASED ROD
 DG5022_SETTING: 15 = METAL ROD DRIVEN INTO GROUND. SEE TEXT FOR ADDITIONAL
 DG5022+WITH SETTING: INFORMATION.
 DG5022_STAMPING: 3B-SE 2002
 DG5022_MARK LOGO: FLDEP
 DG5022_PROJECTION: PROJECTING 142 CENTIMETERS
 DG5022_MAGNETIC: M = MARKER EQUIPPED WITH BAR MAGNET
 DG5022_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
 DG5022_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
 DG5022+SATELLITE: SATELLITE OBSERVATIONS - December 21, 2002
 DG5022_ROD/PIPE-DEPTH:  2.3 meters
 DG5022
 DG5022  HISTORY     - Date     Condition        Report By
 DG5022  HISTORY     - 20021221 MONUMENTED       FLDEP
 DG5022
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DG5022 STATION DESCRIPTION
DG5022
DG5022'DESCRIBED BY FL DEPT OF ENV PRO 2002 (RWH)
DG5022'THE MARK IS ABOUT 19.5 MI WEST OF MIAMI, 3.6 MI NORTHEAST OF
DG5022'COPPERTOWN, IN SECTION 35, TOWNSHIP 53 SOUTH, RANGE 38 EAST.
DG5022'
DG5022'TO REACH THE MARK FROM THE INTERSECTION OF HOMESTEAD EXTENSION FLORIDA
DG5022'TURNPIKE (STATE ROAD 821) AND TAMIAMI TRAIL (U.S. HIGHWAY 41) IN
DG5022'SWEETWATER, GO WEST ON TAMIAMI TRAIL FOR 6.0 MI TO THE INTERSECTION OF
DG5022'KROME AVENUE (STATE ROAD 997), CONTINUE WEST ON TAMIAMI TRAIL FOR 1.3
DG5022'MI TO THE JUNCTION OF A PAVED ROAD LEADING NORTH TO A BRIDGE OVER THE
DG5022'CANAL THAT PARALLELS TAMIAMI TRAIL AND GOES TO PUMPING STRUCTURE S344,
DG5022'TURN RIGHT ON THE PAVED ROAD AND GO NORTH FOR 0.05 MI TO THE JUNCTION
DG5022'OF A ROADWAY THAT RUNS ON TOP OF THE LEVEE, CONTINUE NORTH ACROSS THE
DG5022'TOP OF THE LEVEE TO AN AIRBOAT RAMP ON THE NORTH SIDE OF THE LEVEE,
DG5022'NOW BY AIRBOAT GO NORTH FOR 1.5 MI TO A PLATFORM FOR A WATER LEVEL
DG5022'STATION ON THE RIGHT (EAST) AND THE MARK, A STAINLESS STEEL ROD DRIVEN
DG5022'INTO THE GROUND AT A DEPTH OF 7.7 FT ENCASED IN A 4-INCH DIAMETER PVC
DG5022'PIPE DRIVEN INTO THE HARBOR BOTTOM AND LEVEL WITH THE PLATFORM, A
DG5022'FEMALE THREADED COUPLING WITH A MALE THREADED PLUG WAS ATTACHED TO THE
DG5022'TOP OF THE 4-INCH DIAMETER PVC PIPE, THE PVC PIPE PROJECTS 4.9 FT
DG5022'ABOVE THE HARBOR BOTTOM, THE DATUM POINT IS RECESSED 0.2 FT BELOW THE
DG5022'TOP OF THE PVC PIPE, NO CONCRETE WAS POURED AROUND THE PVC PIPE, ROCKS
DG5022'WERE POURED INSIDE OF THE PVC PIPE TO STABILIZE THE STAINLESS STEEL
DG5022'ROD, A 1-INCH BY 3-INCH ALUMINUM TAG WAS ATTACHED WITH RIVETS TO THE
DG5022'TOP OF THE PVC PIPE AND THE DESIGNATION WAS STAMPED INTO THE TAG.
DG5022'
DG5022'THE MARK IS LOCATED IN THE CENTER OF THE 5.0 FT SQUARE PLATFORM FOR
DG5022'THE WATER LEVEL STATION, 3.8 FT SOUTHEAST OF THE NORTHWEST CORNER OF
DG5022'THE PLATFORM, 2.2 FT WEST OF THE WEST SIDE OF THE 12-INCH DIAMETER
DG5022'STEEL STILLING WELL AND 3.2 FT NORTHEAST OF A WITNESS POST.
DG5022'
DG5022'NOTE ACCESS TO THE DATUM POINT IS HAD THROUGH A HOLE IN THE WOODEN
DG5022'DECK.
DG5022'
DG5022'NOTE A MAGNET WAS PLACED INSIDE THE 4-INCH DIAMETER PVC PIPE.
DG5022'
DG5022'NOTE THE WATER LEVEL STATION IS OPERATED BY SOUTH FLORIDA WATER
DG5022'MANAGEMENT DISTRICT.

*** retrieval complete.
Elapsed Time = 00:00:01

The NGS Data Sheet

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

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PROGRAM = datasheet95, VERSION = 8.7
1        National Geodetic Survey,   Retrieval Date = JULY 24, 2015
 DG5023 ***********************************************************************
 DG5023  HT_MOD      -  This is a Height Modernization Survey Station.
 DG5023  DESIGNATION -  3A 4
 DG5023  PID         -  DG5023
 DG5023  STATE/COUNTY-  FL/BROWARD
 DG5023  COUNTRY     -  US
 DG5023  USGS QUAD   -  CUSTARD APPLE HAMMOC (1973)
 DG5023
 DG5023                        *CURRENT SURVEY CONTROL
 DG5023  ______________________________________________________________________
 DG5023* NAD 83(2011) POSITION- 25 58 27.91301(N) 080 40 08.03990(W)   ADJUSTED
 DG5023* NAD 83(2011) ELLIP HT-   -20.590 (meters)        (06/27/12)   ADJUSTED
 DG5023* NAD 83(2011) EPOCH    -  2010.00
 DG5023* NAVD 88 ORTHO HEIGHT -     3.97  (meters)       13.0   (feet) GPS OBS
 DG5023  ______________________________________________________________________
 DG5023  NAVD 88 orthometric height was determined with geoid model    GEOID03
 DG5023  GEOID HEIGHT    -        -24.51  (meters)                     GEOID03
 DG5023  GEOID HEIGHT    -        -24.53  (meters)                     GEOID12B
 DG5023  NAD 83(2011) X  -    930,282.570 (meters)                     COMP
 DG5023  NAD 83(2011) Y  - -5,661,625.688 (meters)                     COMP
 DG5023  NAD 83(2011) Z  -  2,776,505.540 (meters)                     COMP
 DG5023  LAPLACE CORR    -         -0.75  (seconds)                    DEFLEC12B
 DG5023
 DG5023  Network accuracy estimates per FGDC Geospatial Positioning Accuracy
 DG5023  Standards:
 DG5023         FGDC (95% conf, cm)     Standard deviation (cm)     CorrNE
 DG5023            Horiz  Ellip           SD_N   SD_E   SD_h      (unitless)
 DG5023  ------------------------------------------------------------------
 DG5023  NETWORK    0.84   0.86           0.29   0.38   0.44     -0.07621118
 DG5023  ------------------------------------------------------------------
 DG5023  Click here for local accuracies and other accuracy information.
 DG5023
 DG5023
 DG5023.The horizontal coordinates were established by GPS observations
 DG5023.and adjusted by the National Geodetic Survey in June 2012.
 DG5023
 DG5023.NAD 83(2011) refers to NAD 83 coordinates where the reference
 DG5023.frame has been affixed to the stable North American tectonic plate. See
 DG5023.NA2011 for more information.
 DG5023
 DG5023.The horizontal coordinates are valid at the epoch date displayed above
 DG5023.which is a decimal equivalence of Year/Month/Day.
 DG5023
 DG5023.The orthometric height was determined by GPS observations and a
 DG5023.high-resolution geoid model using precise GPS observation and
 DG5023.processing techniques.
 DG5023
 DG5023.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 DG5023
 DG5023.The Laplace correction was computed from DEFLEC12B derived deflections.
 DG5023
 DG5023.The ellipsoidal height was determined by GPS observations
 DG5023.and is referenced to NAD 83.
 DG5023
 DG5023. The following values were computed from the NAD 83(2011) position.
```

```
DG5023
DG5023;                    North         East     Units Scale Factor Converg.
DG5023;SPC FL E     -   181,823.049   233,154.318   MT  0.99995474   +0 08 42.0
DG5023;SPC FL E     -   596,531.12    764,940.46    sFT  0.99995474   +0 08 42.0
DG5023;UTM  17      - 2,872,892.993   533,143.006   MT  0.99961356   +0 08 42.0
DG5023
DG5023!             -  Elev Factor  x  Scale Factor =   Combined Factor
DG5023!SPC FL E     -   1.00000323  x   0.99995474  =   0.99995797
DG5023!UTM  17      -   1.00000323  x   0.99961356  =   0.99961679
DG5023
DG5023                          SUPERSEDED SURVEY CONTROL
DG5023
DG5023  NAD 83(2007)-  25 58 27.91316(N)    080 40 08.04055(W) AD(2002.00) 0
DG5023  ELLIP H (02/10/07)  -20.567  (m)                       GP(2002.00)
DG5023  NAD 83(1999)-  25 58 27.91309(N)    080 40 08.04065(W) AD(       ) 1
DG5023  ELLIP H (04/07/04)  -20.560  (m)                       GP(       ) 2 2
DG5023
DG5023.Superseded values are not recommended for survey control.
DG5023
DG5023.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
DG5023.See file dsdata.txt to determine how the superseded data were derived.
DG5023
DG5023_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNJ3314372892(NAD 83)
DG5023
DG5023_MARKER: F = FLANGE-ENCASED ROD
DG5023_SETTING: 15 = METAL ROD DRIVEN INTO GROUND. SEE TEXT FOR ADDITIONAL
DG5023+WITH SETTING: INFORMATION.
DG5023_STAMPING: 3A-4 2003
DG5023_MARK LOGO: FLDEP
DG5023_PROJECTION: PROJECTING 226 CENTIMETERS
DG5023_MAGNETIC: M = MARKER EQUIPPED WITH BAR MAGNET
DG5023_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
DG5023_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
DG5023+SATELLITE: SATELLITE OBSERVATIONS - January 07, 2003
DG5023_ROD/PIPE-DEPTH:  2.8 meters
DG5023
DG5023  HISTORY     - Date     Condition        Report By
DG5023  HISTORY     - 20030107 MONUMENTED       FLDEP
DG5023
DG5023                          STATION DESCRIPTION
DG5023
DG5023'DESCRIBED BY FL DEPT OF ENV PRO 2003 (RWH)
DG5023'THE MARK IS ABOUT 66.0 MI EAST OF NAPLES, 32.0 MI WEST OF HALLANDALE,
DG5023'18.5 MI SOUTHWEST OF ANDYTOWN, ESTIMATED SECTION 20, TOWNSHIP 51
DG5023'SOUTH, RANGE 37 EAST.
DG5023'
DG5023'TO REACH THE MARK FROM THE INTERSECTION OF INTERSTATE 75 (EVERGLADES
DG5023'ALLEY) AND U.S. HIGHWAY 27 IN ANDYTOWN, GO WEST ON INTERSTATE 75 FOR
DG5023'12.2 MI TO A REST-AREA AND BOAT RAMP ON THE SOUTH SIDE OF THE
DG5023'INTERSTATE, NOW BY AIRBOAT GO ALONG VARIOUS AIRBOAT TRAILS FOR ABOUT
DG5023'11.9 MI SOUTH-SOUTHWEST (189 DEGREES) FROM THE BOAT RAMP IN A STRAIGHT
DG5023'LINE, THE MARK IS IN AN 8.0 FT BY 10.0 FT WOODEN PLATFORM THAT IS
DG5023'BUILT ABOVE THE WATER, THE PLATFORM IS A SUPPORT FOR VARIOUS WATER AND
DG5023'ATMOSPHERIC INSTRUMENTS, THE PLATFORM IS LOCATED ABOUT 350.0 FT
DG5023'SOUTH-SOUTHEAST OF A METAL PLATFORM WITH A RADIO TRANSMITTER TOWER
DG5023'ATTACHED, A STAINLESS STEEL ROD DRIVEN TO REFUSAL AT A DEPTH OF 9.2
DG5023'FT, ENCASED IN A 4-INCH DIAMETER PVC PIPE DRIVEN INTO THE HARBOR
DG5023'BOTTOM AND LEVEL WITH THE PLATFORM, A FEMALE THREADED COUPLING WITH A
DG5023'MALE THREADED PLUG WAS ATTACHED TO THE TOP OF THE 4-INCH DIAMETER PVC
DG5023'PIPE, THE PVC PIPE PROJECTS 7.4 FT ABOVE THE HARBOR BOTTOM, THE DATUM
DG5023'POINT IS RECESSED 0.2 FT BELOW THE TOP OF THE PVC PIPE, NO CONCRETE
DG5023'WAS POURED AROUND THE PVC PIPE, ROCKS WERE POURED INSIDE OF THE PVC
DG5023'PIPE TO STABILIZE THE STAINLESS STEEL ROD, A 1-INCH BY 3-INCH ALUMINUM
DG5023'TAG WAS ATTACHED WITH RIVETS TO THE TOP OF THE PVC PIPE AND THE
DG5023'DESIGNATION WAS STAMPED INTO THE TAG.
DG5023'
```

DG5023'LOCATED 8.2 FT WEST-NORTHWEST OF THE EAST CORNER OF THE PLATFORM, 5.2
DG5023'FT SOUTHEAST OF THE WEST CORNER OF THE PLATFORM, 4.9 FT SOUTHEAST OF A
DG5023'FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, SURVEYING AND MAPPING
DG5023'STAINLESS STEEL ONE AND FIVE-EIGHTH INCH DIAMETER MARKER SET IN THE
DG5023'WEST SIDE OF THE PLATFORM, 2.1 FT EAST-NORTHEAST OF THE SOUTHWEST SIDE
DG5023'OF THE PLATFORM AND 5.3 FT SOUTHEAST OF A WITNESS POST.
DG5023'
DG5023'NOTE ACCESS TO THE DATUM POINT IS HAD THROUGH A HOLE IN THE WOODEN
DG5023'PLATFORM.
DG5023'
DG5023'NOTE A MAGNET WAS PLACED INSIDE THE 4-INCH DIAMETER PVC.
DG5023'
DG5023'NOTE THE WATER LEVEL STATION IS OPERATED BY SOUTH FLORIDA WATER
DG5023'MANAGEMENT DISTRICT.
DG5023'
DG5023'NOTE USING A GPS RECEIVER AND THE COORDINATES OF THE MARK IS THE BEST
DG5023'METHOD OF FINDING THE MARK.

*** retrieval complete.
Elapsed Time = 00:00:06

The NGS Data Sheet

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

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DATABASE = Sybase ,PROGRAM = datasheet, VERSION = 7.11
1        National Geodetic Survey,   Retrieval Date = JANUARY 21, 2005
 DG5024 ***********************************************************************
 DG5024  DESIGNATION -  3AN1 GW 1
 DG5024  PID         -  DG5024
 DG5024  STATE/COUNTY-  FL/BROWARD
 DG5024  USGS QUAD   -  EAST OF LONE PALM (1973)
 DG5024
 DG5024                          *CURRENT SURVEY CONTROL
 DG5024  ______________________________________________________________________
 DG5024* NAD 83(1999)-  26 11 16.35918(N)    080 44 25.25444(W)     ADJUSTED
 DG5024* NAVD 88     -         4.15   (meters)      13.6    (feet)  GPS OBS
 DG5024  ______________________________________________________________________
 DG5024  X           -     921,548.779 (meters)                     COMP
 DG5024  Y           -  -5,652,519.900 (meters)                     COMP
 DG5024  Z           -   2,797,746.153 (meters)                     COMP
 DG5024  LAPLACE CORR-           -0.29  (seconds)                   DEFLEC99
 DG5024  ELLIP HEIGHT-          -20.53  (meters)          (04/07/04) GPS OBS
 DG5024  GEOID HEIGHT-          -24.68  (meters)                     GEOID03
 DG5024
 DG5024  HORZ ORDER  -  FIRST
 DG5024  ELLP ORDER  -  SECOND    CLASS II
 DG5024
 DG5024.The horizontal coordinates were established by GPS observations
 DG5024.and adjusted by the FL DEPT OF ENV PRO in April 2004.
 DG5024
 DG5024.The orthometric height was determined by GPS observations and a
 DG5024.high-resolution geoid model using precise GPS observation and
 DG5024.processing techniques.
 DG5024
 DG5024.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 DG5024
 DG5024.The Laplace correction was computed from DEFLEC99 derived deflections.
 DG5024
 DG5024.The ellipsoidal height was determined by GPS observations
 DG5024.and is referenced to NAD 83.
 DG5024
 DG5024.The geoid height was determined by GEOID03.
 DG5024
 DG5024;                    North         East     Units Scale Factor Converg.
 DG5024;SPC FL E     -   205,454.422   225,952.757   MT  0.99994949   +0 06 52.5
 DG5024;UTM  17      - 2,896,516.304   525,943.902   MT  0.99960831   +0 06 52.5
 DG5024
 DG5024!             -  Elev Factor  x  Scale Factor =   Combined Factor
 DG5024!SPC FL E     -   1.00000323  x   0.99994949  =   0.99995272
 DG5024!UTM  17      -   1.00000323  x   0.99960831  =   0.99961153
 DG5024
 DG5024:                 Primary Azimuth Mark                    Grid Az
 DG5024:SPC FL E     -   3AN1 GW 3                                164 32 00.0
 DG5024:UTM  17      -   3AN1 GW 3                                164 32 00.0
 DG5024
 DG5024|----------------------------------------------------------------------|
 DG5024|  PID    Reference Object                  Distance      Geod. Az   |
 DG5024|                                                          dddmmss.s  |
 DG5024|  DG5025 3AN1 GW 2                       261.571 METERS 09632      |
 DG5024|  DG5026 3AN1 GW 3                       479.702 METERS 1643852.5  |
 DG5024|----------------------------------------------------------------------|
 DG5024
 DG5024                          SUPERSEDED SURVEY CONTROL
 DG5024
 DG5024.No superseded survey control is available for this station.
 DG5024
 DG5024_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNJ2594496516(NAD 83)
 DG5024_MARKER: F = FLANGE-ENCASED ROD
 DG5024_SETTING: 15 = METAL ROD DRIVEN INTO GROUND. SEE TEXT FOR ADDITIONAL
 DG5024+WITH SETTING: INFORMATION.
 DG5024_STAMPING: 3AN1-GW-1 2003
 DG5024_MARK LOGO: FLDEP
 DG5024_PROJECTION: PROJECTING 140 CENTIMETERS
```

DG5024_MAGNETIC: M = MARKER EQUIPPED WITH BAR MAGNET
DG5024_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
DG5024_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
DG5024+SATELLITE: SATELLITE OBSERVATIONS - January 08, 2003
DG5024_ROD/PIPE-DEPTH: 2.8 meters
DG5024
DG5024 HISTORY   - Date   Condition   Report By
DG5024 HISTORY   - 20030108 MONUMENTED   FLDEP
DG5024
DG5024   STATION DESCRIPTION
DG5024
DG5024'DESCRIBED BY FL DEPT OF ENV PRO 2003 (RWH)
DG5024'THE MARK IS ABOUT 35.0 MI SOUTH-SOUTHWEST OF BELLE GLADE, 18.8 MI
DG5024'WEST-NORTHWEST OF ANDYTOWN, 4.8 MI NORTHWEST OF THE BOAT RAMP IN A
DG5024'STRAIGHT LINE, ESTIMATED SECTION 28, TOWNSHIP 49 SOUTH, RANGE 36 EAST.
DG5024'TO REACH THE MARK FROM THE INTERSECTION OF INTERSTATE 75 (EVERGLADES
DG5024'ALLEY) AND U.S. HIGHWAY 27 IN ANDYTOWN, GO WEST ON INTERSTATE 75 FOR
DG5024'14.6 MI TO A BOAT RAMP ON THE NORTH SIDE OF THE INTERSTATE, NOW BY
DG5024'AIRBOAT GO NORTHWESTERLY FOR 4.9 MI ALONG VARIOUS AIRBOAT TRAILS TO A
DG5024'TREE ISLAND AND THE MARK, THE MARK IS NORTHWEST OF THE NORTHWEST END
DG5024'OF THE TREE ISLAND IN A 5.0 FT SQUARE WOODEN PLATFORM THAT IS BUILT
DG5024'ABOVE THE WATER, THE PLATFORM IS A SUPPORT FOR VARIOUS WATER AND
DG5024'ATMOSPHERIC INSTRUMENTS, A STAINLESS STEEL ROD DRIVEN TO REFUSAL AT A
DG5024'DEPTH OF 9.3 FT, ENCASED IN A 4-INCH DIAMETER PVC PIPE WAS DRIVEN INTO
DG5024'THE HARBOR BOTTOM AND LEVEL WITH THE PLATFORM, A FEMALE THREADED
DG5024'COUPLING WITH A MALE THREADED PLUG WAS ATTACHED TO THE TOP OF THE
DG5024'4-INCH DIAMETER PVC PIPE, THE PVC PIPE PROJECTS 4.3 FT ABOVE THE
DG5024'HARBOR BOTTOM, THE DATUM POINT IS RECESSED 0.2 FT BELOW THE TOP OF THE
DG5024'PVC PIPE, NO CONCRETE WAS POURED AROUND THE PVC PIPE, ROCKS WERE
DG5024'POURED INSIDE OF THE PVC PIPE TO STABILIZE THE STAINLESS STEEL ROD, A
DG5024'1-INCH BY 3-INCH ALUMINUM TAG WAS ATTACHED WITH RIVETS TO THE TOP OF
DG5024'THE PVC PIPE AND THE DESIGNATION WAS STAMPED INTO THE TAG.
DG5024'
DG5024'LOCATED 3.6 FT SOUTH OF A PVC PIPE, 3.3 FT NORTHWEST OF THE SOUTHEAST
DG5024'CORNER OF THE PLATFORM, 3.2 FT NORTHEAST OF A FLORIDA DEPARTMENT OF
DG5024'ENVIRONMENTAL PROTECTION, SURVEYING AND MAPPING STAINLESS STEEL ONE
DG5024'AND FIVE-EIGHTH INCH DIAMETER MARKER SET IN THE SOUTHWEST CORNER OF
DG5024'THE PLATFORM, 2.1 FT EAST-NORTHEAST OF THE SOUTHWEST SIDE OF THE
DG5024'PLATFORM AND 3.1 FT NORTHEAST OF A WITNESS POST.
DG5024'
DG5024'NOTE ACCESS TO THE DATUM POINT IS HAD THROUGH A HOLE IN THE PLATFORM.
DG5024'
DG5024'NOTE A MAGNET WAS PLACED INSIDE THE 4-INCH DIAMETER PVC.
DG5024'
DG5024'NOTE THE WATER LEVEL STATION IS OPERATED BY SOUTH FLORIDA WATER
DG5024'MANAGEMENT DISTRICT.
DG5024'
DG5024'NOTE USING A GPS RECEIVER AND THE COORDINATES OF THE MARK IS THE BEST
DG5024'METHOD OF FINDING THE MARK.

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

The NGS Data Sheet

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

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DATABASE = Sybase ,PROGRAM = datasheet, VERSION = 7.11
1        National Geodetic Survey,   Retrieval Date = JANUARY 21, 2005
 DG5025 ***********************************************************************
 DG5025  DESIGNATION -  3AN1 GW 2
 DG5025  PID         -  DG5025
 DG5025  STATE/COUNTY-  FL/BROWARD
 DG5025  USGS QUAD   -  EAST OF LONE PALM (1973)
 DG5025
 DG5025                          *CURRENT SURVEY CONTROL
 DG5025  ______________________________________________________________________
 DG5025* NAD 83(1999)-  26 11 15.39101(N)    080 44 15.89525(W)     ADJUSTED
 DG5025* NAVD 88     -         4.17   (meters)      13.7    (feet)  GPS OBS
 DG5025  ______________________________________________________________________
 DG5025  X           -     921,807.378 (meters)                      COMP
 DG5025  Y           -  -5,652,491.075 (meters)                      COMP
 DG5025  Z           -   2,797,719.425 (meters)                      COMP
 DG5025  LAPLACE CORR-           -0.30  (seconds)                     DEFLEC99
 DG5025  ELLIP HEIGHT-          -20.51  (meters)          (04/07/04) GPS OBS
 DG5025  GEOID HEIGHT-          -24.68  (meters)                      GEOID03
 DG5025
 DG5025  HORZ ORDER  -  FIRST
 DG5025  ELLP ORDER  -  SECOND    CLASS II
 DG5025
 DG5025.The horizontal coordinates were established by GPS observations
 DG5025.and adjusted by the FL DEPT OF ENV PRO in April 2004.
 DG5025
 DG5025.The orthometric height was determined by GPS observations and a
 DG5025.high-resolution geoid model using precise GPS observation and
 DG5025.processing techniques.
 DG5025
 DG5025.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 DG5025
 DG5025.The Laplace correction was computed from DEFLEC99 derived deflections.
 DG5025
 DG5025.The ellipsoidal height was determined by GPS observations
 DG5025.and is referenced to NAD 83.
 DG5025
 DG5025.The geoid height was determined by GEOID03.
 DG5025
 DG5025;                    North         East     Units Scale Factor Converg.
 DG5025;SPC FL E     -   205,425.150   226,212.672   MT  0.99994966   +0 06 56.6
 DG5025;UTM  17      - 2,896,487.042   526,203.728   MT  0.99960848   +0 06 56.6
 DG5025
 DG5025!             -  Elev Factor  x  Scale Factor =   Combined Factor
 DG5025!SPC FL E     -   1.00000322  x   0.99994966  =   0.99995288
 DG5025!UTM  17      -   1.00000322  x   0.99960848  =   0.99961170
 DG5025
 DG5025:                 Primary Azimuth Mark                    Grid Az
 DG5025:SPC FL E     -   3AN1 GW 3                                196 57 07.1
 DG5025:UTM  17      -   3AN1 GW 3                                196 57 07.1
 DG5025
 DG5025|----------------------------------------------------------------------|
 DG5025|  PID    Reference Object                  Distance      Geod. Az   |
 DG5025|                                                          dddmmss.s  |
 DG5025|  DG5026 3AN1 GW 3                       452.728 METERS 1970403.7  |
 DG5025|----------------------------------------------------------------------|
 DG5025
 DG5025                          SUPERSEDED SURVEY CONTROL
 DG5025
 DG5025.No superseded survey control is available for this station.
 DG5025
 DG5025_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNJ2620496487(NAD 83)
 DG5025_MARKER: F = FLANGE-ENCASED ROD
 DG5025_SETTING: 15 = METAL ROD DRIVEN INTO GROUND. SEE TEXT FOR ADDITIONAL
 DG5025+WITH SETTING: INFORMATION.
 DG5025_STAMPING: 3AN1-GW-2 2003
 DG5025_MARK LOGO: FLDEP
 DG5025_PROJECTION: PROJECTING 142 CENTIMETERS
 DG5025_MAGNETIC: M = MARKER EQUIPPED WITH BAR MAGNET
```

DG5025_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
DG5025_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
DG5025+SATELLITE: SATELLITE OBSERVATIONS - January 08, 2003
DG5025_ROD/PIPE-DEPTH: 2.6 meters
DG5025
DG5025 HISTORY   - Date   Condition   Report By
DG5025 HISTORY   - 20030108 MONUMENTED   FLDEP
DG5025
DG5025   STATION DESCRIPTION
DG5025
DG5025'DESCRIBED BY FL DEPT OF ENV PRO 2003 (RWH)
DG5025'THE MARK IS ABOUT 35.0 MI SOUTH-SOUTHWEST OF BELLE GLADE, 18.7 MI
DG5025'WEST-NORTHWEST OF ANDYTOWN, 4.7 MI NORTHWEST OF THE BOAT RAMP IN A
DG5025'STRAIGHT LINE, ESTIMATED IN SECTION 29, TOWNSHIP 53 SOUTH, RANGE 36
DG5025'EAST.
DG5025'
DG5025'TO REACH THE MARK FROM THE INTERSECTION OF INTERSTATE 75 (EVERGLADES
DG5025'ALLEY) AND U.S. HIGHWAY 27 IN ANDYTOWN, GO WEST ON INTERSTATE 75 FOR
DG5025'14.6 MI TO A BOAT RAMP ON THE NORTH SIDE OF THE INTERSTATE, NOW BY
DG5025'AIRBOAT GO NORTHWESTERLY FOR 4.75 MI ALONG VARIOUS AIRBOAT TRAILS TO A
DG5025'TREE ISLAND AND THE MARK, THE MARK IS NORTHEAST OF THE NORTHEAST END
DG5025'OF THE TREE ISLAND, IN A 5.0 FT SQUARE WOODEN PLATFORM THAT IS BUILT
DG5025'ABOVE THE WATER, THE PLATFORM IS A SUPPORT FOR VARIOUS WATER AND
DG5025'ATMOSPHERIC INSTRUMENTS, A STAINLESS STEEL ROD DRIVEN TO REFUSAL AT
DG5025'DEPTH OF 8.5 FT, ENCASED IN A 4-INCH DIAMETER PVC PIPE DRIVEN INTO THE
DG5025'HARBOR BOTTOM AND LEVEL WITH THE PLATFORM, A FEMALE THREADED COUPLING
DG5025'WITH A MALE THREADED PLUG WAS ATTACHED TO THE TOP OF THE 4-INCH
DG5025'DIAMETER PVC PIPE, THE PVC PIPE PROJECTS 4.7 FT ABOVE THE HARBOR
DG5025'BOTTOM, THE DATUM POINT IS RECESSED 0.2 FT BELOW THE TOP OF THE PVC
DG5025'PIPE, NO CONCRETE WAS POURED AROUND THE PVC PIPE, ROCKS WERE POURED
DG5025'INSIDE OF THE PVC PIPE TO STABILIZE THE STAINLESS STEEL ROD, A 1-INCH
DG5025'BY 3-INCH ALUMINUM TAG WAS ATTACHED WITH RIVETS TO THE TOP OF THE PVC
DG5025'PIPE AND THE DESIGNATION WAS STAMPED INTO THE TAG.
DG5025'
DG5025'LOCATED 5.1 FT SOUTHWEST OF A WATER LEVEL STAFF, 3.8 FT SOUTHEAST OF
DG5025'THE NORTHWEST CORNER OF THE PLATFORM, 3.7 FT NORTHEAST OF THE
DG5025'NORTHEAST CORNER OF THE PLATFORM, 3.3 FT NORTHEAST OF A FLORIDA
DG5025'DEPARTMENT OF ENVIRONMENTAL PROTECTION, SURVEYING AND MAPPING
DG5025'STAINLESS STEEL ONE AND FIVE-EIGHTH INCH DIAMETER MARKER SET IN THE
DG5025'SOUTHWEST CORNER OF THE PLATFORM, 2.1 FT EAST-NORTHEAST OF THE
DG5025'SOUTHWEST SIDE OF THE PLATFORM AND 3.2 FT NORTHEAST OF A WITNESS POST.
DG5025'NOTE ACCESS TO THE DATUM POINT IS HAD THROUGH A HOLE IN THE PLATFORM.
DG5025'
DG5025'NOTE A MAGNET WAS PLACED INSIDE THE 4-INCH DIAMETER PVC.
DG5025'
DG5025'NOTE THE WATER LEVEL STATION IS OPERATED BY SOUTH FLORIDA WATER
DG5025'MANAGEMENT DISTRICT.
DG5025'
DG5025'NOTE USING A GPS RECEIVER AND THE COORDINATES OF THE MARK IS THE BEST
DG5025'METHOD OF FINDING THE MARK.

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

The NGS Data Sheet

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

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DATABASE = Sybase ,PROGRAM = datasheet, VERSION = 7.11
1        National Geodetic Survey,   Retrieval Date = JANUARY 21, 2005
 DG5026 ***********************************************************************
 DG5026  DESIGNATION -  3AN1 GW 3
 DG5026  PID         -  DG5026
 DG5026  STATE/COUNTY-  FL/BROWARD
 DG5026  USGS QUAD   -  EAST OF LONE PALM (1973)
 DG5026
 DG5026                          *CURRENT SURVEY CONTROL
 DG5026  ______________________________________________________________________
 DG5026* NAD 83(1999)-  26 11 01.32809(N)    080 44 20.68064(W)     ADJUSTED
 DG5026* NAVD 88     -         4.13   (meters)      13.5    (feet)  GPS OBS
 DG5026  ______________________________________________________________________
 DG5026  X           -     921,706.969 (meters)                     COMP
 DG5026  Y           -  -5,652,700.925 (meters)                     COMP
 DG5026  Z           -   2,797,331.041 (meters)                     COMP
 DG5026  LAPLACE CORR-           -0.30  (seconds)                    DEFLEC99
 DG5026  ELLIP HEIGHT-          -20.54  (meters)          (04/07/04) GPS OBS
 DG5026  GEOID HEIGHT-          -24.67  (meters)                     GEOID03
 DG5026
 DG5026  HORZ ORDER  -  FIRST
 DG5026  ELLP ORDER  -  SECOND    CLASS II
 DG5026
 DG5026.The horizontal coordinates were established by GPS observations
 DG5026.and adjusted by the FL DEPT OF ENV PRO in April 2004.
 DG5026
 DG5026.The orthometric height was determined by GPS observations and a
 DG5026.high-resolution geoid model using precise GPS observation and
 DG5026.processing techniques.
 DG5026
 DG5026.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 DG5026
 DG5026.The Laplace correction was computed from DEFLEC99 derived deflections.
 DG5026
 DG5026.The ellipsoidal height was determined by GPS observations
 DG5026.and is referenced to NAD 83.
 DG5026
 DG5026.The geoid height was determined by GEOID03.
 DG5026
 DG5026;                    North         East     Units Scale Factor Converg.
 DG5026;SPC FL E     -   204,992.116   226,080.677   MT  0.99994957   +0 06 54.5
 DG5026;UTM  17      - 2,896,054.155   526,071.778   MT  0.99960839   +0 06 54.5
 DG5026
 DG5026!             -  Elev Factor  x  Scale Factor =   Combined Factor
 DG5026!SPC FL E     -   1.00000323  x   0.99994957  =   0.99995280
 DG5026!UTM  17      -   1.00000323  x   0.99960839  =   0.99961162
 DG5026
 DG5026:                 Primary Azimuth Mark                    Grid Az
 DG5026:SPC FL E     -   3AN1 GW 2                                016 57 07.1
 DG5026:UTM  17      -   3AN1 GW 2                                016 57 07.1
 DG5026
 DG5026|----------------------------------------------------------------------|
 DG5026|  PID    Reference Object                  Distance      Geod. Az   |
 DG5026|                                                          dddmmss.s  |
 DG5026|  DG5025 3AN1 GW 2                       452.728 METERS 0170401.6  |
 DG5026|  DG5024 3AN1 GW 1                       479.702 METERS 3443854.5  |
 DG5026|  DG5027 3AN1 GW 4B                      298.822 METERS 34949      |
 DG5026|----------------------------------------------------------------------|
 DG5026
 DG5026                          SUPERSEDED SURVEY CONTROL
 DG5026
 DG5026.No superseded survey control is available for this station.
 DG5026
 DG5026_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNJ2607296054(NAD 83)
 DG5026_MARKER: F = FLANGE-ENCASED ROD
 DG5026_SETTING: 15 = METAL ROD DRIVEN INTO GROUND. SEE TEXT FOR ADDITIONAL
 DG5026+WITH SETTING: INFORMATION.
 DG5026_STAMPING: 3AN1-GW-3 2003
 DG5026_MARK LOGO: FLDEP
```

DG5026_PROJECTION: PROJECTING 132 CENTIMETERS
DG5026_MAGNETIC: M = MARKER EQUIPPED WITH BAR MAGNET
DG5026_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
DG5026_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
DG5026+SATELLITE: SATELLITE OBSERVATIONS - January 08, 2003
DG5026_ROD/PIPE-DEPTH: 3.0 meters
DG5026
DG5026 HISTORY   - Date   Condition   Report By
DG5026 HISTORY   - 20030108 MONUMENTED   FLDEP
DG5026
DG5026   STATION DESCRIPTION
DG5026
DG5026'DESCRIBED BY FL DEPT OF ENV PRO 2003 (RWH)
DG5026'THE MARK IS ABOUT 35.0 MI SOUTH-SOUTHWEST OF BELLE GLADE, 18.7 MI
DG5026'WEST-NORTHWEST OF ANDYTOWN, 4.6 MI NORTHWEST OF THE BOAT RAMP IN A
DG5026'STRAIGHT LINE, ESTIMATED IN SECTION 29, TOWNSHIP 53 SOUTH, RANGE 36
DG5026'EAST.
DG5026'
DG5026'TO REACH THE MARK FROM THE INTERSECTION OF INTERSTATE 75 (EVERGLADES
DG5026'ALLEY) AND U.S. HIGHWAY 27 IN ANDYTOWN, GO WEST ON INTERSTATE 75 FOR
DG5026'14.6 MI TO A BOAT RAMP ON THE NORTH SIDE OF THE INTERSTATE, NOW BY
DG5026'AIRBOAT GO NORTHWESTERLY ALONG VARIOUS AIRBOAT TRAILS FOR 4.7 MI TO A
DG5026'TREE ISLAND AND THE MARK, THE MARK IS SOUTHWEST OF THE SOUTHWEST END
DG5026'OF THE TREE ISLAND IN A 5.0 FT SQUARE WOODEN PLATFORM THAT IS BUILT
DG5026'ABOVE THE WATER, THE PLATFORM IS A SUPPORT FOR VARIOUS WATER AND
DG5026'ATMOSPHERIC INSTRUMENTS, A STAINLESS STEEL ROD DRIVEN TO REFUSAL AT
DG5026'DEPTH OF 9.8 FT, ENCASED IN A 4-INCH DIAMETER PVC PIPE WAS DRIVEN INTO
DG5026'THE HARBOR BOTTOM AND LEVEL WITH THE PLATFORM, A FEMALE THREADED
DG5026'COUPLING WITH A MALE THREADED PLUG WAS ATTACHED TO THE TOP OF THE
DG5026'4-INCH DIAMETER PVC PIPE, THE PVC PIPE PROJECTS 4.3 FT ABOVE THE
DG5026'HARBOR BOTTOM, THE DATUM POINT IS RECESSED 0.2 FT BELOW THE TOP OF THE
DG5026'PVC PIPE, NO CONCRETE WAS POURED AROUND THE PVC PIPE, ROCKS WERE
DG5026'POURED INSIDE OF THE PVC PIPE TO STABILIZE THE STAINLESS STEEL ROD, A
DG5026'1-INCH BY 3-INCH ALUMINUM TAG WAS ATTACHED WITH RIVETS TO THE TOP OF
DG5026'THE PVC PIPE AND THE DESIGNATION WAS STAMPED INTO THE TAG.
DG5026'
DG5026'LOCATED 3.4 FT SOUTH OF THE CENTER OF A 12-INCH DIAMETER STILL WELL,
DG5026'3.3 FT NORTHWEST OF THE SOUTHEAST CORNER OF THE PLATFORM, 2.9 FT
DG5026'NORTHEAST OF A FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION,
DG5026'SURVEYING AND MAPPING STAINLESS STEEL ONE AND FIVE-EIGHTH INCH
DG5026'DIAMETER MARKER SET IN THE SOUTHWEST CORNER OF THE PLATFORM AND 2.8 FT
DG5026'NORTHEAST OF A WITNESS POST.
DG5026'
DG5026'NOTE ACCESS TO THE DATUM POINT IS HAD THROUGH A HOLE IN THE PLATFORM.
DG5026'
DG5026'NOTE A MAGNET WAS PLACED INSIDE THE 4-INCH DIAMETER PVC.
DG5026'
DG5026'NOTE THE WATER LEVEL STATION IS OPERATED BY SOUTH FLORIDA WATER
DG5026'MANAGEMENT DISTRICT.
DG5026'
DG5026'NOTE USING A GPS RECEIVER AND THE COORDINATES OF THE MARK IS THE BEST
DG5026'METHOD OF FINDING THE MARK.

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

The NGS Data Sheet

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

```
DATABASE = Sybase ,PROGRAM = datasheet, VERSION = 7.11
1        National Geodetic Survey,   Retrieval Date = JANUARY 21, 2005
 DG5027 ***********************************************************************
 DG5027  DESIGNATION -  3AN1 GW 4B
 DG5027  PID         -  DG5027
 DG5027  STATE/COUNTY-  FL/BROWARD
 DG5027  USGS QUAD   -  EAST OF LONE PALM (1973)
 DG5027
 DG5027                          *CURRENT SURVEY CONTROL
 DG5027  ______________________________________________________________________
 DG5027* NAD 83(1999)-  26 11 10.88485(N)    080 44 22.58405(W)     ADJUSTED
 DG5027* NAVD 88     -         3.46   (meters)      11.4    (feet)  GPS OBS
 DG5027  ______________________________________________________________________
 DG5027  X           -     921,633.824 (meters)                     COMP
 DG5027  Y           -  -5,652,580.745 (meters)                     COMP
 DG5027  Z           -   2,797,594.672 (meters)                     COMP
 DG5027  LAPLACE CORR-           -0.29  (seconds)                   DEFLEC99
 DG5027  ELLIP HEIGHT-          -21.21  (meters)          (04/07/04) GPS OBS
 DG5027  GEOID HEIGHT-          -24.67  (meters)                     GEOID03
 DG5027
 DG5027  HORZ ORDER  -  FIRST
 DG5027  ELLP ORDER  -  SECOND    CLASS II
 DG5027
 DG5027.The horizontal coordinates were established by GPS observations
 DG5027.and adjusted by the FL DEPT OF ENV PRO in April 2004.
 DG5027
 DG5027.The orthometric height was determined by GPS observations and a
 DG5027.high-resolution geoid model using precise GPS observation and
 DG5027.processing techniques.
 DG5027
 DG5027.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 DG5027
 DG5027.The Laplace correction was computed from DEFLEC99 derived deflections.
 DG5027
 DG5027.The ellipsoidal height was determined by GPS observations
 DG5027.and is referenced to NAD 83.
 DG5027
 DG5027.The geoid height was determined by GEOID03.
 DG5027
 DG5027;                     North         East     Units Scale Factor Converg.
 DG5027;SPC FL E     -   205,286.106   226,027.238   MT  0.99994954   +0 06 53.7
 DG5027;UTM  17      - 2,896,348.044   526,018.357   MT  0.99960836   +0 06 53.7
 DG5027
 DG5027!             -  Elev Factor  x  Scale Factor =   Combined Factor
 DG5027!SPC FL E     -   1.00000333  x   0.99994954  =   0.99995287
 DG5027!UTM  17      -   1.00000333  x   0.99960836  =   0.99961169
 DG5027
 DG5027|----------------------------------------------------------------------|
 DG5027| PID    Reference Object                    Distance      Geod. Az   |
 DG5027|                                                          dddmmss.s  |
 DG5027| DG5025 3AN1 GW 2                         231.786 METERS 05315      |
 DG5027| DG5026 3AN1 GW 3                         298.822 METERS 16949      |
 DG5027| DG5024 3AN1 GW 1                         184.068 METERS 33615      |
 DG5027|----------------------------------------------------------------------|
 DG5027
 DG5027                          SUPERSEDED SURVEY CONTROL
 DG5027
 DG5027.No superseded survey control is available for this station.
 DG5027
 DG5027_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNJ2601896348(NAD 83)
 DG5027_MARKER: F = FLANGE-ENCASED ROD
 DG5027_SETTING: 15 = METAL ROD DRIVEN INTO GROUND. SEE TEXT FOR ADDITIONAL
 DG5027+WITH SETTING: INFORMATION.
 DG5027_STAMPING: 3AN1-GW-4B 2003
 DG5027_MARK LOGO: FLDEP
 DG5027_PROJECTION: PROJECTING 46 CENTIMETERS
 DG5027_MAGNETIC: M = MARKER EQUIPPED WITH BAR MAGNET
 DG5027_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
 DG5027_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
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DG5027+SATELLITE: SATELLITE OBSERVATIONS - January 08, 2003
DG5027_ROD/PIPE-DEPTH:  2.0 meters
DG5027
DG5027  HISTORY     - Date     Condition        Report By
DG5027  HISTORY     - 20030108 MONUMENTED       FLDEP
DG5027
DG5027                          STATION DESCRIPTION
DG5027
DG5027'DESCRIBED BY FL DEPT OF ENV PRO 2003 (RWH)
DG5027'THE MARK IS ABOUT 35.0 MI SOUTH-SOUTHWEST OF BELLE GLADE, 18.7 MI
DG5027'WEST-NORTHWEST OF ANDYTOWN, 4.7 MI NORTHWEST OF THE BOAT RAMP IN A
DG5027'STRAIGHT LINE, ESTIMATED IN SECTION 29, TOWNSHIP 53 SOUTH, RANGE 36
DG5027'EAST.
DG5027'
DG5027'TO REACH THE MARK FROM THE INTERSECTION OF INTERSTATE 75 (EVERGLADES
DG5027'ALLEY) AND U.S. HIGHWAY 27 IN ANDYTOWN, GO WEST ON INTERSTATE 75 FOR
DG5027'14.6 MI TO A BOAT RAMP ON THE NORTH SIDE OF THE INTERSTATE, NOW BY
DG5027'AIRBOAT GO NORTHWESTERLY ALONG VARIOUS AIRBOAT TRAILS FOR 4.8 MI TO A
DG5027'TREE ISLAND AND THE MARK, THE MARK IS SOUTHWEST OF THE TREE ISLAND IN
DG5027'A 5.0 FT SQUARE WOODEN PLATFORM THAT IS BUILT ABOVE THE WATER, THIS IS
DG5027'THE FIRST OF TWO PLATFORMS CONNECTED BY A WALKWAY, THE FIRST PLATFORM
DG5027'IS USED FOR DOCKING AN AIRBOAT AND IS CONNECTED TO THE SECOND PLATFORM
DG5027'BY A 2.0 FT WIDE BY 70.0 FT LONG WALKWAY, THE SECOND PLATFORM IS AT
DG5027'THE EXTERIOR OF THE TREE ISLAND AND IS USED TO SUPPORT VARIOUS WATER
DG5027'AND ATMOSPHERIC INSTRUMENTS, THE MARK IN NEAR THE SOUTHEAST SIDE OF
DG5027'THE FIRST PLATFORM, A STAINLESS STEEL ROD DRIVEN TO REFUSAL AT DEPTH
DG5027'OF 6.5 FT, ENCASED IN A 4-INCH DIAMETER PVC PIPE DRIVEN INTO THE
DG5027'HARBOR BOTTOM AND LEVEL WITH THE PLATFORM, A FEMALE THREADED COUPLING
DG5027'WITH A MALE THREADED PLUG WAS ATTACHED TO THE TOP OF THE 4-INCH
DG5027'DIAMETER PVC PIPE, THE PVC PIPE PROJECTS 1.5 FT ABOVE THE HARBOR
DG5027'BOTTOM, THE DATUM POINT IS RECESSED 0.8 FT BELOW THE TOP OF THE PVC
DG5027'PIPE, NO CONCRETE WAS POURED AROUND THE PVC PIPE, ROCKS WERE POURED
DG5027'INSIDE OF THE PVC PIPE TO STABILIZE THE STAINLESS STEEL ROD, A 1-INCH
DG5027'BY 3-INCH ALUMINUM TAG WAS ATTACHED WITH RIVETS TO THE TOP OF THE PVC
DG5027'PIPE AND THE DESIGNATION WAS STAMPED INTO THE TAG.
DG5027'
DG5027'LOCATED 67.2 FT WEST-SOUTHWEST OF SURVEY MARK 3AN1-GW-4A, 2.6 FT WEST
DG5027'OF THE SOUTHEAST CORNER OF THE PLATFORM, 2.6 FT EAST OF THE SOUTHWEST
DG5027'CORNER OF THE PLATFORM, 2.0 FT NORTHEAST OF A FLORIDA DEPARTMENT OF
DG5027'ENVIRONMENTAL PROTECTION, SURVEYING AND MAPPING STAINLESS STEEL ONE
DG5027'AND FIVE-EIGHTH INCH DIAMETER MARKER SET IN THE SOUTHWEST CORNER OF
DG5027'THE PLATFORM, 2.1 FT EAST-NORTHEAST OF THE SOUTHWEST SIDE OF THE
DG5027'PLATFORM AND 0.5 FT WEST OF A WITNESS POST.
DG5027'
DG5027'NOTE A MAGNET WAS PLACED INSIDE THE 4-INCH DIAMETER PVC.
DG5027'
DG5027'NOTE THE WATER LEVEL STATION IS OPERATED BY SOUTH FLORIDA WATER
DG5027'MANAGEMENT DISTRICT.
DG5027'
DG5027'NOTE USING A GPS RECEIVER AND THE COORDINATES OF THE MARK IS THE BEST
DG5027'METHOD OF FINDING THE MARK.

*** retrieval complete.
Elapsed Time = 00:00:01
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The NGS Data Sheet

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

```
DATABASE = Sybase ,PROGRAM = datasheet, VERSION = 7.16
1        National Geodetic Survey,   Retrieval Date = MARCH 30, 2005
 DG5019 ***********************************************************************
 DG5019  HT_MOD      -  This is a Height Modernization Survey Station.
 DG5019  DESIGNATION -  STR 339
 DG5019  PID         -  DG5019
 DG5019  STATE/COUNTY-  FL/BROWARD
 DG5019  USGS QUAD   -  EAST OF LONE PALM (1973)
 DG5019
 DG5019                         *CURRENT SURVEY CONTROL
 DG5019  ______________________________________________________________________
 DG5019* NAD 83(1999)-  26 13 01.17920(N)    080 41 24.20899(W)     ADJUSTED
 DG5019* NAVD 88     -         4.20   (meters)      13.8    (feet)  GPS OBS
 DG5019  ______________________________________________________________________
 DG5019  X           -     926,279.401 (meters)                     COMP
 DG5019  Y           -  -5,650,303.253 (meters)                     COMP
 DG5019  Z           -   2,800,640.521 (meters)                     COMP
 DG5019  LAPLACE CORR-          -0.46  (seconds)                    DEFLEC99
 DG5019  ELLIP HEIGHT-         -20.53  (meters)          (04/07/04) GPS OBS
 DG5019  GEOID HEIGHT-         -24.72  (meters)                     GEOID03
 DG5019
 DG5019  HORZ ORDER  -  FIRST
 DG5019  ELLP ORDER  -  SECOND    CLASS II
 DG5019
 DG5019.The horizontal coordinates were established by GPS observations
 DG5019.and adjusted by the FL DEPT OF ENV PRO in April 2004.
 DG5019
 DG5019.The orthometric height was determined by GPS observations and a
 DG5019.high-resolution geoid model using precise GPS observation and
 DG5019.processing techniques.
 DG5019
 DG5019.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 DG5019
 DG5019.The Laplace correction was computed from DEFLEC99 derived deflections.
 DG5019
 DG5019.The ellipsoidal height was determined by GPS observations
 DG5019.and is referenced to NAD 83.
 DG5019
 DG5019.The geoid height was determined by GEOID03.
 DG5019
 DG5019;                     North         East     Units Scale Factor Converg.
 DG5019;SPC FL_E     -   208,691.156   230,971.720   MT  0.99995302   +0 08 12.9
 DG5019;UTM  17      - 2,899,751.933   530,961.152   MT  0.99961184   +0 08 12.9
 DG5019
 DG5019!             -  Elev Factor  x  Scale Factor =   Combined Factor
 DG5019!SPC FL_E     -   1.00000323  x   0.99995302  =   0.99995625
 DG5019!UTM  17      -   1.00000323  x   0.99961184  =   0.99961506
 DG5019
 DG5019                          SUPERSEDED SURVEY CONTROL
 DG5019
 DG5019.No superseded survey control is available for this station.
 DG5019
 DG5019_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNJ3096199752(NAD 83)
 DG5019_MARKER: F = FLANGE-ENCASED ROD
 DG5019_SETTING: 49 = STAINLESS STEEL ROD W/O SLEEVE (10 FT.+)
 DG5019_STAMPING: STR 339 2003
 DG5019_MARK LOGO: NGS
 DG5019_PROJECTION: FLUSH
 DG5019_MAGNETIC: N = NO MAGNETIC MATERIAL
 DG5019_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
 DG5019_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
 DG5019+SATELLITE: SATELLITE OBSERVATIONS - September 15, 2003
 DG5019_ROD/PIPE-DEPTH:  3.7 meters
 DG5019
 DG5019  HISTORY     - Date     Condition        Report By
 DG5019  HISTORY     - 20030915 MONUMENTED       FLDEP
 DG5019
 DG5019                          STATION DESCRIPTION
 DG5019
```

DG5019'DESCRIBED BY FL DEPT OF ENV PRO 2003 (RWH)
DG5019'THE MARK IS ABOUT 32.0 MI SOUTH OF BELLE GLADE, 16.0 MI WEST-NORTHWEST
DG5019'OF ANDYTOWN, ESTIMATED SECTION 20, TOWNSHIP 53 SOUTH, RANGE 36 EAST.
DG5019'
DG5019'TO REACH THE MARK FROM THE INTERSECTION OF INTERSTATE 75 (EVERGLADES
DG5019'ALLEY) AND U.S. HIGHWAY 27 IN ANDYTOWN, GO WEST ON INTERSTATE 75 FOR
DG5019'14.6 MI TO A BOAT RAMP ON THE SOUTH SIDE OF INTERSTATE 75 AND A LARGE
DG5019'REST AREA - RECREATION AREA, THE BOAT RAMP IS NEAR THE SOUTHEAST
DG5019'CORNER OF THE INTERSTATE 75 BRIDGE OVER THE MIAMI CANAL, NOW BY BOAT
DG5019'GO NORTH AND NORTHWEST ALONG THE MIAMI CANAL FOR 6.2 MI TO WATER
DG5019'STRUCTURE NUMBER S399 AND A CABLE THAT BARRICADES FURTHER BOAT TRAVEL
DG5019'ANDTHE MARK A STAINLESS STEEL ROD DRIVEN TO REFUSAL AT A DEPTH OF
DG5019'12.0 FT INTO THE ROCK BOTTOM WITH A NGS LOGO CAP FLUSH WITH THE
DG5019'GROUND, THE DATUM POINT IS RECESSED 0.1 FT BELOW THE LEVEL OF THE NGS
DG5019'LOGO CAP.
DG5019'
DG5019'LOCATED 6.0 FT NORTHEAST OF THE NORTHEAST CONCRETE SUPPORT POLE FOR A
DG5019'CABLE THAT CROSSES THE CANAL, 6.0 FT SOUTHEAST OF THE SOUTHEAST CORNER
DG5019'OF WATER STRUCTURE NUMBER S399, 6.0 FT NORTHEAST OF A WITNESS POST
DG5019'THAT IS NEXT TO THE CABLE CONCRETE SUPPORT.
DG5019'
DG5019'NOTE ACCESS TO THE DATUM POINT IS HAD THROUGH A 5-INCH NGS LOGO CAP.
DG5019'
DG5019'NOTE USING A GPS RECEIVER AND THE COORDINATES OF THE MARK IS THE BEST.
DG5019'

*** retrieval complete.
Elapsed Time = 00:00:01

The NGS Data Sheet

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

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DATABASE = Sybase ,PROGRAM = datasheet, VERSION = 7.16
1        National Geodetic Survey,   Retrieval Date = MARCH 30, 2005
 DG5017 ***********************************************************************
 DG5017  HT_MOD      -  This is a Height Modernization Survey Station.
 DG5017  DESIGNATION -  STR 340
 DG5017  PID         -  DG5017
 DG5017  STATE/COUNTY-  FL/BROWARD
 DG5017  USGS QUAD   -  GATOR LAKE (1973)
 DG5017
 DG5017                          *CURRENT SURVEY CONTROL
 DG5017  ______________________________________________________________________
 DG5017* NAD 83(1999)-  26 07 07.46659(N)    080 36 45.05643(W)     ADJUSTED
 DG5017* NAVD 88     -         3.51   (meters)      11.5    (feet)  GPS OBS
 DG5017  ______________________________________________________________________
 DG5017  X           -     934,708.424 (meters)                     COMP
 DG5017  Y           -  -5,653,780.159 (meters)                     COMP
 DG5017  Z           -   2,790,870.412 (meters)                     COMP
 DG5017  LAPLACE CORR-          -0.94  (seconds)                    DEFLEC99
 DG5017  ELLIP HEIGHT-         -21.18  (meters)          (04/07/04) GPS OBS
 DG5017  GEOID HEIGHT-         -24.68  (meters)                     GEOID03
 DG5017
 DG5017  HORZ ORDER  -  FIRST
 DG5017  ELLP ORDER  -  SECOND    CLASS II
 DG5017
 DG5017.The horizontal coordinates were established by GPS observations
 DG5017.and adjusted by the FL DEPT OF ENV PRO in April 2004.
 DG5017
 DG5017.The orthometric height was determined by GPS observations and a
 DG5017.high-resolution geoid model using precise GPS observation and
 DG5017.processing techniques.
 DG5017
 DG5017.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 DG5017
 DG5017.The Laplace correction was computed from DEFLEC99 derived deflections.
 DG5017
 DG5017.The ellipsoidal height was determined by GPS observations
 DG5017.and is referenced to NAD 83.
 DG5017
 DG5017.The geoid height was determined by GEOID03.
 DG5017
 DG5017;                     North         East     Units Scale Factor Converg.
 DG5017;SPC FL E     -   197,826.916   238,752.864   MT  0.99995971   +0 10 14.1
 DG5017;UTM  17      - 2,888,891.400   538,739.642   MT  0.99961853   +0 10 14.1
 DG5017
 DG5017!             -  Elev Factor  x  Scale Factor =   Combined Factor
 DG5017!SPC FL E     -   1.00000333  x   0.99995971  =   0.99996304
 DG5017!UTM  17      -   1.00000333  x   0.99961853  =   0.99962186
 DG5017
 DG5017                          SUPERSEDED SURVEY CONTROL
 DG5017
 DG5017.No superseded survey control is available for this station.
 DG5017
 DG5017_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNJ3874088891(NAD 83)
 DG5017_MARKER: F = FLANGE-ENCASED ROD
 DG5017_SETTING: 15 = METAL ROD DRIVEN INTO GROUND. SEE TEXT FOR ADDITIONAL
 DG5017+WITH SETTING: INFORMATION.
 DG5017_STAMPING: STR 340 2003
 DG5017_MARK LOGO: NGS
 DG5017_PROJECTION: FLUSH
 DG5017_MAGNETIC: N = NO MAGNETIC MATERIAL
 DG5017_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
 DG5017_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
 DG5017+SATELLITE: SATELLITE OBSERVATIONS - September 15, 2003
 DG5017_ROD/PIPE-DEPTH:  0.6 meters
 DG5017
 DG5017  HISTORY     - Date     Condition        Report By
 DG5017  HISTORY     - 20030915 MONUMENTED       FLDEP
 DG5017
 DG5017                          STATION DESCRIPTION
```

DG5017
DG5017'DESCRIBED BY FL DEPT OF ENV PRO 2003 (RWH)
DG5017'THE MARK IS ABOUT 40.0 MI SOUTH OF BELLE GLADE, 10.8 MI WEST-SOUTHWEST
DG5017'OF ANDYTOWN, ESTIMATED SECTION 35, TOWNSHIP 54 SOUTH, RANGE 36 EAST.
DG5017'
DG5017'TO REACH THE MARK FROM THE INTERSECTION OF INTERSTATE 75 (EVERGLADES
DG5017'ALLEY) AND U.S. HIGHWAY 27 IN ANDYTOWN, GO WEST ON INTERSTATE 75 FOR
DG5017'14.6 MI TO A BOAT RAMP ON THE SOUTH SIDE OF THE INTERSTATE 75 AND AT A
DG5017'LARGE REST AREA - RECREATION AREA, THE BOAT RAMP IS NEAR THE SOUTHEAST
DG5017'CORNER OF THE INTERSTATE 75 BRIDGE OVER THE MIAMI CANAL, NOW BY BOAT
DG5017'GO SOUTHEAST ALONG THE MIAMI CANAL FOR 2.3 MI TO WATER STRUCTURE S340
DG5017'AND A CABLE THAT BARRICADES FURTHER BOAT TRAVEL AND THE MARK, A
DG5017'STAINLESS STEEL ROD DRIVEN TO REFUSAL AT A DEPTH OF 2.0 FT WITH A NGS
DG5017'LOGO CAP FLUSH WITH THE GROUND, (THE ROD WAS CEMENTED TO THE ROCK
DG5017'BOTTOM) THE DATUM POINT IS RECESSED 0.1 FT BELOW THE LEVEL OF THE NGS
DG5017'LOGO CAP.
DG5017'
DG5017'THE MARK IS 6.0 FT NORTHEAST OF THE NORTHEAST CONCRETE SUPPORT POLE
DG5017'FOR A CABLE THAT CROSSES THE CANAL, 6.0 FT NORTHWEST OF THE NORTHWEST
DG5017'CORNER OF WATER STRUCTURE NUMBER S340, 6.0 FT NORTHEAST OF A WITNESS
DG5017'POST THAT IS NEXT TO THE CABLE CONCRETE SUPPORT.
DG5017'
DG5017'NOTE ACCESS TO THE DATUM POINT IS HAD THROUGH A 5-INCH NGS LOGO CAP.
DG5017'
DG5017'NOTE USING A GPS RECEIVER AND THE COORDINATES OF THE MARK IS THE BEST.
DG5017'

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

The NGS Data Sheet

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

```
PROGRAM = datasheet95, VERSION = 8.7
1        National Geodetic Survey,   Retrieval Date = JULY 24, 2015
 DG5020 ***********************************************************************
 DG5020  HT_MOD      -  This is a Height Modernization Survey Station.
 DG5020  DESIGNATION -  TREE E C
 DG5020  PID         -  DG5020
 DG5020  STATE/COUNTY-  FL/MIAMI-DADE
 DG5020  COUNTRY     -  US
 DG5020  USGS QUAD   -  COOPERTOWN (1973)
 DG5020
 DG5020                        *CURRENT SURVEY CONTROL
 DG5020  ______________________________________________________________________
 DG5020* NAD 83(2011) POSITION- 25 46 42.68937(N) 080 30 35.36661(W)   ADJUSTED
 DG5020* NAD 83(2011) ELLIP HT-   -22.404 (meters)        (06/27/12)   ADJUSTED
 DG5020* NAD 83(2011) EPOCH   -  2010.00
 DG5020* NAVD 88 ORTHO HEIGHT -     2.26  (meters)        7.4   (feet) GPS OBS
 DG5020  ______________________________________________________________________
 DG5020  NAVD 88 orthometric height was determined with geoid model    GEOID03
 DG5020  GEOID HEIGHT    -        -24.60  (meters)                     GEOID03
 DG5020  GEOID HEIGHT    -        -24.66  (meters)                     GEOID12B
 DG5020  NAD 83(2011) X  -    947,559.293 (meters)                     COMP
 DG5020  NAD 83(2011) Y  - -5,668,361.430 (meters)                     COMP
 DG5020  NAD 83(2011) Z  -  2,756,978.286 (meters)                     COMP
 DG5020  LAPLACE CORR    -         -1.90  (seconds)                    DEFLEC12B
 DG5020
 DG5020  Network accuracy estimates per FGDC Geospatial Positioning Accuracy
 DG5020  Standards:
 DG5020         FGDC (95% conf, cm)     Standard deviation (cm)     CorrNE
 DG5020            Horiz  Ellip           SD_N   SD_E   SD_h      (unitless)
 DG5020  ------------------------------------------------------------------
 DG5020  NETWORK    0.49   0.80           0.19   0.21   0.41     -0.06874223
 DG5020  ------------------------------------------------------------------
 DG5020  Click here for local accuracies and other accuracy information.
 DG5020
 DG5020
 DG5020.The horizontal coordinates were established by GPS observations
 DG5020.and adjusted by the National Geodetic Survey in June 2012.
 DG5020
 DG5020.NAD 83(2011) refers to NAD 83 coordinates where the reference
 DG5020.frame has been affixed to the stable North American tectonic plate. See
 DG5020.NA2011 for more information.
 DG5020
 DG5020.The horizontal coordinates are valid at the epoch date displayed above
 DG5020.which is a decimal equivalence of Year/Month/Day.
 DG5020
 DG5020.The orthometric height was determined by GPS observations and a
 DG5020.high-resolution geoid model using precise GPS observation and
 DG5020.processing techniques.
 DG5020
 DG5020.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 DG5020
 DG5020.The Laplace correction was computed from DEFLEC12B derived deflections.
 DG5020
 DG5020.The ellipsoidal height was determined by GPS observations
 DG5020.and is referenced to NAD 83.
 DG5020
 DG5020. The following values were computed from the NAD 83(2011) position.
```

```
DG5020
DG5020;                    North         East     Units Scale Factor Converg.
DG5020;SPC FL E     -   160,171.337   249,164.434   MT  0.99997101   +0 12 47.4
DG5020;SPC FL E     -   525,495.46    817,466.98    sFT  0.99997101   +0 12 47.4
DG5020;UTM  17      - 2,851,248.669   549,147.659   MT  0.99962983   +0 12 47.4
DG5020
DG5020!             -  Elev Factor  x  Scale Factor =   Combined Factor
DG5020!SPC FL E     -   1.00000352  x   0.99997101  =   0.99997453
DG5020!UTM  17      -   1.00000352  x   0.99962983  =   0.99963335
DG5020
DG5020                          SUPERSEDED SURVEY CONTROL
DG5020
DG5020  NAD 83(2007)-  25 46 42.68971(N)    080 30 35.36759(W) AD(2002.00) 0
DG5020  ELLIP H (02/10/07)  -22.365  (m)                       GP(2002.00)
DG5020  NAD 83(1999)-  25 46 42.68938(N)    080 30 35.36736(W) AD(       ) 1
DG5020  ELLIP H (04/07/04)  -22.336  (m)                       GP(       ) 2 2
DG5020
DG5020.Superseded values are not recommended for survey control.
DG5020
DG5020.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
DG5020.See file dsdata.txt to determine how the superseded data were derived.
DG5020
DG5020_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNJ4914751248(NAD 83)
DG5020
DG5020_MARKER: F = FLANGE-ENCASED ROD
DG5020_SETTING: 15 = METAL ROD DRIVEN INTO GROUND. SEE TEXT FOR ADDITIONAL
DG5020+WITH SETTING: INFORMATION.
DG5020_STAMPING: TREE E C
DG5020_MARK LOGO: NGS
DG5020_PROJECTION: PROJECTING 91 CENTIMETERS
DG5020_MAGNETIC: N = NO MAGNETIC MATERIAL
DG5020_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
DG5020_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
DG5020+SATELLITE: SATELLITE OBSERVATIONS - September 30, 2003
DG5020_ROD/PIPE-DEPTH:  2.1 meters
DG5020
DG5020  HISTORY     - Date     Condition        Report By
DG5020  HISTORY     - 20000715 MONUMENTED       FLDEP
DG5020  HISTORY     - 20030930 GOOD             FLDEP
DG5020
DG5020                          STATION DESCRIPTION
DG5020
DG5020'DESCRIBED BY FL DEPT OF ENV PRO 2003 (RRH)
DG5020'THE MARK IS ABOUT 20.0 MI WEST OF MIAMI, 3.1 MI EAST-NORTHEAST OF
DG5020'COPPERTOWN, 1.3 MI NORTH-NORTHWEST OF THE BOAT RAMP IN A STRAIGHT
DG5020'LINE, IN SECTION 35, TOWNSHIP 53 SOUTH, RANGE 38 EAST.
DG5020'
DG5020'TO REACH THE MARK FROM THE INTERSECTION OF HOMESTEAD EXTENSION FLORIDA
DG5020'TURNPIKE (STATE ROAD 821) AND TAMIAMI TRAIL (U.S. HIGHWAY 41) IN
DG5020'SWEETWATER, GO WEST ON TAMIAMI TRAIL FOR 6.0 MI TO THE INTERSECTION OF
DG5020'KROME AVENUE (STATE ROAD 997) CONTINUE WEST ON TAMIAMI TRAIL FOR 1.3
DG5020'MI TO THE JUNCTION OF A PAVED ROAD LEADING NORTH TO A BRIDGE OVER THE
DG5020'CANAL THAT PARALLELS TAMIAMI TRAIL AND GOES TO PUMPING STRUCTURE S344,
DG5020'TURN RIGHT ON THE PAVED ROAD AND GO NORTH FOR 0.05 MI TO THE JUNCTION
DG5020'OF A ROADWAY THAT RUNS ON TOP OF THE LEVEE, CONTINUE NORTH ACROSS THE
DG5020'TOP OF THE LEVEE TO AN AIRBOAT RAMP ON THE NORTH SIDE OF THE LEVEE,
DG5020'NOW BY AIRBOAT GO NORTHWESTERLY FOR 1.3 MI ALONG VARIOUS AIRBOAT
DG5020'TRAILS TO THE MARK, THE MARK IS IN THE INTERIOR AND NEAR THE CENTER OF
DG5020'A TREE ISLAND THAT IS APPROXIMATELY 0.4 MI NORTH TO SOUTH AND 0.1 MI
DG5020'EAST TO WEST, THE MARK IS AT THE EAST END OF A NARROW WOODEN DOCK THAT
DG5020'LEADS FROM THE OPEN WATER TO THE INTERIOR OF THE TREE ISLAND, THE EAST
DG5020'END OF THE DOCK SUPPORTS VARIOUS WATER AND SAMPLING INSTRUMENTS, THE
DG5020'MARK WAS SET NORTH AND EAST OF A TEE IN THE DOCK, A STAINLESS STEEL
DG5020'ROD DRIVEN TO REFUSAL AT A DEPTH OF 7.0 FT WITH A NGS LOGO CAP
DG5020'PROJECTING 3.0 FT ABOVE THE LEVEL OF THE GROUND, THE DATUM POINT IS
DG5020'RECESSED 0.5 FT BELOW THE LEVEL OF THE NGS LOGO CAP, NO CONCRETE WAS
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DG5020'POURED AROUND THE PVC PIPE, ROCKS WERE POURED INSIDE OF THE PVC PIPE
DG5020'TO STABILIZE THE STAINLESS STEEL ROD.
DG5020'
DG5020'LOCATED 2.5 FT NORTH OF THE DOCK AND 2.0 FT EAST OF A WITNESS POST.
DG5020'
DG5020'NOTE ACCESS TO THE DATUM POINT IS HAD THROUGH A 5-INCH NGS LOGO CAP.
DG5020'
DG5020'NOTE THE WATER AND SAMPLING INSTRUMENTS ARE OPERATED BY SOUTH FLORIDA
DG5020'WATER MANAGEMENT DISTRICT.
DG5020'
DG5020'NOTE THE MARK WAS SET IN ABOUT 1.0 FT OF WATER.
DG5020'
DG5020'NOTE USING A GPS RECEIVER AND THE COORDINATES OF THE MARK IS THE BEST
DG5020'METHOD OF FINDING THE MARK.

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

The NGS Data Sheet

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

```
PROGRAM = datasheet95, VERSION = 8.7
1        National Geodetic Survey,   Retrieval Date = JULY 24, 2015
 DG5021 ***********************************************************************
 DG5021  HT_MOD      -  This is a Height Modernization Survey Station.
 DG5021  DESIGNATION -  TREE W C
 DG5021  PID         -  DG5021
 DG5021  STATE/COUNTY-  FL/MIAMI-DADE
 DG5021  COUNTRY     -  US
 DG5021  USGS QUAD   -  FORTYMILE BEND (1995)
 DG5021
 DG5021                        *CURRENT SURVEY CONTROL
 DG5021  ______________________________________________________________________
 DG5021* NAD 83(2011) POSITION- 25 51 20.92515(N) 080 46 11.06841(W)   ADJUSTED
 DG5021* NAD 83(2011) ELLIP HT-   -21.242 (meters)        (06/27/12)   ADJUSTED
 DG5021* NAD 83(2011) EPOCH   -  2010.00
 DG5021* NAVD 88 ORTHO HEIGHT -     3.13  (meters)       10.3   (feet) GPS OBS
 DG5021  ______________________________________________________________________
 DG5021  NAVD 88 orthometric height was determined with geoid model    GEOID03
 DG5021  GEOID HEIGHT    -        -24.31  (meters)                     GEOID03
 DG5021  GEOID HEIGHT    -        -24.37  (meters)                     GEOID12B
 DG5021  NAD 83(2011) X  -    921,237.662 (meters)                     COMP
 DG5021  NAD 83(2011) Y  - -5,668,922.032 (meters)                     COMP
 DG5021  NAD 83(2011) Z  -  2,764,686.478 (meters)                     COMP
 DG5021  LAPLACE CORR    -         -0.73  (seconds)                    DEFLEC12B
 DG5021
 DG5021  Network accuracy estimates per FGDC Geospatial Positioning Accuracy
 DG5021  Standards:
 DG5021         FGDC (95% conf, cm)     Standard deviation (cm)     CorrNE
 DG5021            Horiz  Ellip           SD_N   SD_E   SD_h      (unitless)
 DG5021  ------------------------------------------------------------------
 DG5021  NETWORK    0.95   0.94           0.34   0.43   0.48     -0.06256444
 DG5021  ------------------------------------------------------------------
 DG5021  Click here for local accuracies and other accuracy information.
 DG5021
 DG5021
 DG5021.The horizontal coordinates were established by GPS observations
 DG5021.and adjusted by the National Geodetic Survey in June 2012.
 DG5021
 DG5021.NAD 83(2011) refers to NAD 83 coordinates where the reference
 DG5021.frame has been affixed to the stable North American tectonic plate. See
 DG5021.NA2011 for more information.
 DG5021
 DG5021.The horizontal coordinates are valid at the epoch date displayed above
 DG5021.which is a decimal equivalence of Year/Month/Day.
 DG5021
 DG5021.The orthometric height was determined by GPS observations and a
 DG5021.high-resolution geoid model using precise GPS observation and
 DG5021.processing techniques.
 DG5021
 DG5021.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 DG5021
 DG5021.The Laplace correction was computed from DEFLEC12B derived deflections.
 DG5021
 DG5021.The ellipsoidal height was determined by GPS observations
 DG5021.and is referenced to NAD 83.
 DG5021
 DG5021. The following values were computed from the NAD 83(2011) position.
```

```
DG5021
DG5021;                    North         East     Units Scale Factor Converg.
DG5021;SPC FL E     -   168,661.932   223,079.733   MT  0.99994775   +0 06 01.5
DG5021;SPC FL E     -   553,351.69    731,887.42   sFT  0.99994775   +0 06 01.5
DG5021;UTM  17      - 2,859,736.366   523,071.858   MT  0.99960657   +0 06 01.5
DG5021
DG5021!             -  Elev Factor  x  Scale Factor =   Combined Factor
DG5021!SPC FL E     -   1.00000334  x   0.99994775  =   0.99995109
DG5021!UTM  17      -   1.00000334  x   0.99960657  =   0.99960991
DG5021
DG5021                          SUPERSEDED SURVEY CONTROL
DG5021
DG5021  NAD 83(2007)-  25 51 20.92530(N)    080 46 11.06908(W) AD(2002.00) 0
DG5021  ELLIP H (02/10/07)  -21.217  (m)                       GP(2002.00)
DG5021  NAD 83(1999)-  25 51 20.92504(N)    080 46 11.06902(W) AD(       ) 1
DG5021  ELLIP H (04/07/04)  -21.214  (m)                       GP(       ) 2 2
DG5021
DG5021.Superseded values are not recommended for survey control.
DG5021
DG5021.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
DG5021.See file dsdata.txt to determine how the superseded data were derived.
DG5021
DG5021_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNJ2307159736(NAD 83)
DG5021
DG5021_MARKER: F = FLANGE-ENCASED ROD
DG5021_SETTING: 15 = METAL ROD DRIVEN INTO GROUND. SEE TEXT FOR ADDITIONAL
DG5021+WITH SETTING: INFORMATION.
DG5021_STAMPING: TREE W C
DG5021_MARK LOGO: NGS
DG5021_PROJECTION: PROJECTING 91 CENTIMETERS
DG5021_MAGNETIC: N = NO MAGNETIC MATERIAL
DG5021_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
DG5021_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
DG5021+SATELLITE: SATELLITE OBSERVATIONS - September 30, 2003
DG5021_ROD/PIPE-DEPTH:  2.4 meters
DG5021
DG5021  HISTORY     - Date     Condition        Report By
DG5021  HISTORY     - 20000715 MONUMENTED       FLDEP
DG5021  HISTORY     - 20030930 GOOD             FLDEP
DG5021
DG5021                          STATION DESCRIPTION
DG5021
DG5021'DESCRIBED BY FL DEPT OF ENV PRO 2003 (RRH)
DG5021'THE MARK IS ABOUT 36.0 MI WEST-NORTHWEST OF MIAMI, 7.8 MI EAST OF THE
DG5021'CENTER OF THE EAST-WEST RUNWAY AT DADE-COLLIER TRANSITION AND TRAINING
DG5021'AIRPORT, 7.4 MI NORTH-NORTHEAST OF FORTYMILE BEND AT U.S. HIGHWAY 41,
DG5021'7.0 MI NORTH-NORTHWEST OF THE BOAT RAMP IN A STRAIGHT LINE, ESTIMATED
DG5021'SECTION 29, TOWNSHIP 53 SOUTH, RANGE 36 EAST.
DG5021'
DG5021'TO REACH THE MARK FROM THE INTERSECTION OF HOMESTEAD EXTENSION FLORIDA
DG5021'TURNPIKE (STATE ROAD 821) AND TAMIAMI TRAIL (U.S. HIGHWAY 41) AT
DG5021'SWEETWATER, GO WEST ON TAMIAMI TRAIL FOR 6.0 MI TO THE INTERSECTION OF
DG5021'KROME AVENUE (STATE ROAD 997), CONTINUE WEST ON TAMIAMI TRAIL FOR 15.3
DG5021'MI TO A BRIDGE AND A WATER CONTROL STRUCTURE, CONTINUE WEST ON TAMIAMI
DG5021'TRAIL FOR 0.1 TO A BOAT RAMP ON THE NORTH SIDE OF THE ROAD, NOW BY
DG5021'AIRBOAT GO NORTHWESTERLY ALONG VARIOUS AIRBOAT TRAILS FOR 4.7 MI TO
DG5021'THE MARK, IN THE INTERIOR AND NEAR THE CENTER OF A TREE ISLAND THAT IS
DG5021'APPROXIMATELY 0.6 MI NORTH TO SOUTH AND 0.1 MI EAST TO WEST, THE MARK
DG5021'IS AT THE EAST END OF A NARROW WOODEN DOCK THAT LEADS FROM THE OPEN
DG5021'WATER ON THE WEST SIDE OF THE TREE ISLAND TO THE INTERIOR OF THE TREE
DG5021'ISLAND, THE EAST END OF THE DOCK SUPPORTS VARIOUS WATER AND SAMPLING
DG5021'INSTRUMENTS, THE MARK IS SET NORTH AND EAST OF A TEE IN THE DOCK, A
DG5021'STAINLESS STEEL ROD DRIVEN TO REFUSAL AT A DEPTH OF 8.0 FT WITH A NGS
DG5021'LOGO CAP PROJECTING 3.0 FT ABOVE THE LEVEL OF THE GROUND, THE DATUM
DG5021'POINT IS RECESSED 0.5 FT BELOW THE LEVEL OF THE NGS LOGO CAP, NO
DG5021'CONCRETE WAS POURED AROUND THE PVC PIPE, ROCKS WERE POURED INSIDE OF
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DG5021'THE PVC PIPE TO STABILIZE THE STAINLESS STEEL ROD.
DG5021'
DG5021'LOCATED 2.0 FT NORTH OF THE DOCK AND 2.0 FT EAST OF A WITNESS POST.
DG5021'
DG5021'NOTE ACCESS TO THE DATUM POINT IS HAD THROUGH A 5-INCH NGS LOGO CAP.
DG5021'
DG5021'NOTE THE WATER LEVELING AND SAMPLING INSTRUMENTS ARE OPERATED BY SOUTH
DG5021'FLORIDA WATER MANAGEMENT DISTRICT.
DG5021'
DG5021'NOTE THE MARK WAS SET IN ABOUT 1.0 FT OF WATER.
DG5021'
DG5021'NOTE USING A GPS RECEIVER AND THE COORDINATES OF THE MARK IS THE BEST
DG5021'METHOD OF FINDING THE MARK.

*** retrieval complete.
Elapsed Time = 00:00:02
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The NGS Data Sheet

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

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DATABASE =  ,PROGRAM = datasheet, VERSION = 7.67
1        National Geodetic Survey,   Retrieval Date = JULY 22, 2009
 DG5018 ***********************************************************************
 DG5018  HT_MOD      -  This is a Height Modernization Survey Station.
 DG5018  DESIGNATION -  L 28 GAP A
 DG5018  PID         -  DG5018
 DG5018  STATE/COUNTY-  FL/COLLIER
 DG5018  USGS QUAD   -  WEST OF HORSESHOE (1974)
 DG5018
 DG5018                          *CURRENT SURVEY CONTROL
 DG5018  ______________________________________________________________________
 DG5018* NAD 83(2007)-  26 07 29.79788(N)    080 59 01.64483(W)     ADJUSTED
 DG5018* NAVD 88     -         3.51   (meters)      11.5    (feet)  GPS OBS
 DG5018  ______________________________________________________________________
 DG5018  EPOCH DATE  -        2002.00
 DG5018  X           -     898,005.349 (meters)                     COMP
 DG5018  Y           -  -5,659,419.449 (meters)                     COMP
 DG5018  Z           -   2,791,487.458 (meters)                     COMP
 DG5018  LAPLACE CORR-           0.25  (seconds)                    DEFLEC99
 DG5018  ELLIP HEIGHT-         -21.183 (meters)          (02/10/07) ADJUSTED
 DG5018  GEOID HEIGHT-         -24.70  (meters)                     GEOID03
 DG5018
 DG5018  ------- Accuracy Estimates (at 95% Confidence Level in cm) --------
 DG5018  Type    PID    Designation                       North   East  Ellip
 DG5018  ----------------------------------------------------------------------
 DG5018  NETWORK DG5018 L 28 GAP A                          0.65   0.88   1.02
 DG5018  ----------------------------------------------------------------------
 DG5018
 DG5018.The horizontal coordinates were established by GPS observations
 DG5018.and adjusted by the National Geodetic Survey in February 2007.
 DG5018
 DG5018.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
 DG5018.See National Readjustment for more information.
 DG5018.The horizontal coordinates are valid at the epoch date displayed above.
 DG5018.The epoch date for horizontal control is a decimal equivalence
 DG5018.of Year/Month/Day.
 DG5018
 DG5018.The orthometric height was determined by GPS observations and a
 DG5018.high-resolution geoid model.
 DG5018.The orthometric height was determined by GPS observations and a
 DG5018.high-resolution geoid model using precise GPS observation and
 DG5018.processing techniques.
 DG5018
 DG5018.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 DG5018
 DG5018.The Laplace correction was computed from DEFLEC99 derived deflections.
 DG5018
 DG5018.The ellipsoidal height was determined by GPS observations
 DG5018.and is referenced to NAD 83.
 DG5018
 DG5018.The geoid height was determined by GEOID03.
 DG5018
 DG5018;                    North         East     Units Scale Factor Converg.
 DG5018;SPC FL E     -   198,456.532   201,621.069   MT  0.99994121   +0 00 25.7
 DG5018;SPC FL E     -   651,102.81    661,485.12    sFT  0.99994121   +0 00 25.7
 DG5018;UTM  17      - 2,889,520.801   501,620.516   MT  0.99960003   +0 00 25.7
 DG5018
 DG5018!             -  Elev Factor  x  Scale Factor =   Combined Factor
 DG5018!SPC FL E     -   1.00000333  x   0.99994121  =   0.99994454
 DG5018!UTM  17      -   1.00000333  x   0.99960003  =   0.99960336
 DG5018
 DG5018                          SUPERSEDED SURVEY CONTROL
 DG5018
 DG5018  NAD 83(1999)-  26 07 29.79826(N)    080 59 01.64472(W) AD(        ) 1
 DG5018  ELLIP H (04/07/04)  -21.194  (m)                        GP(        ) 2 2
 DG5018
 DG5018.Superseded values are not recommended for survey control.
 DG5018.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 DG5018.See file dsdata.txt to determine how the superseded data were derived.
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DG5018
DG5018_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNJ0162189521(NAD 83)
DG5018_MARKER: F = FLANGE-ENCASED ROD
DG5018_SETTING: 15 = METAL ROD DRIVEN INTO GROUND. SEE TEXT FOR ADDITIONAL
DG5018+WITH SETTING: INFORMATION.
DG5018_STAMPING: L 28 GAP A 2003
DG5018_MARK LOGO: NGS
DG5018_PROJECTION: PROJECTING 20 CENTIMETERS
DG5018_MAGNETIC: M = MARKER EQUIPPED WITH BAR MAGNET
DG5018_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
DG5018_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
DG5018+SATELLITE: SATELLITE OBSERVATIONS - September 05, 2003
DG5018_ROD/PIPE-DEPTH: 0.5 meters
DG5018
DG5018 HISTORY   - Date   Condition   Report By
DG5018 HISTORY   - 20030915 MONUMENTED   FLDEP
DG5018 HISTORY   - 20030905 GOOD   FLDEP
DG5018
DG5018   STATION DESCRIPTION
DG5018
DG5018'DESCRIBED BY FL DEPT OF ENV PRO 2003 (RWH)
DG5018'THE MARK IS ABOUT 53.0 MI WEST OF HALLANDALE, 50.0 MI EAST OF NAPLES,
DG5018'6.3 MI SOUTHEAST OF THE REST AREA, 3.0 MI SOUTH OF INTERSTATE 75, IN
DG5018'SECTION 12, TOWNSHIP 50 SOUTH, RANGE 33 EAST.
DG5018'
DG5018'TO REACH THE MARK FROM THE INTERSECTION OF INTERSTATE 75 (EVERGLADES
DG5018'ALLEY) AND U.S. HIGHWAY 27 IN ANDYTOWN, GO WEST ON INTERSTATE 75 FOR
DG5018'ABOUT 40.0 MI TO A REST AREA LOCATED ON THE SOUTH SIDE OF INTERSTATE
DG5018'75. THE REST AREA CAN ALSO BE REACH FROM THE INTERSECTION OF
DG5018'INTERSTATE 75 AND STATE ROAD 29 IN MILES CITY, GO EAST ON INTERSTATE
DG5018'75 FOR ABOUT 17.0 MI TO THE REST AREA, PASSING THROUGH THE REST AREA
DG5018'CONTINUE EAST FOR 0.15 MI TO THE EXIT FROM THE REST AREA AND A DIRT
DG5018'TRAIL ON THE RIGHT, NOW BY ATVS TURN RIGHT ON THE DIRT TRAIL AND
DG5018'PASSING THROUGH A CHAIN LINK FENCE GATE (THIS IS AN ENTRANCE TO THE
DG5018'FLORIDA NATIONAL SCENIC TRAIL) GO SOUTHEAST FOR ABOUT 8.5 MI ON THE
DG5018'TRAIL AND VARIOUS OTHER TRAILS TO THE MARK, AN ALUMINUM ROD DRIVEN TO
DG5018'REFUSAL TO A DEPTH OF 1.5 FT WITH A NGS LOGO CAP PROJECTING 0.8 FT
DG5018'ABOVE THE GROUND, THE DATUM POINT IS RECESSED 0.1 FT BELOW THE NGS
DG5018'LOGO CAP, A 12-INCH DIAMETER FORM WAS PLACED AROUND THE 5-INCH
DG5018'DIAMETER PVC AND CONCRETE WAS POURED AROUND THE PVC AND INSIDE OF THE
DG5018'PVC PIPE ABOUT 0.1 FT BELOW THE DATUM POINT.
DG5018'
DG5018'LOCATED 158.8 FT EAST OF SURVEY MARK L 28 GAP B, 284.6 FT EAST OF
DG5018'SURVEY MARK L 28 GAP C AND 3.0 FT SOUTHEAST OF A WITNESS POST.
DG5018'
DG5018'NOTE THE ROD WAS DRIVEN INTO THE ROCK BOTTOM.
DG5018'
DG5018'NOTE USING A GPS RECEIVER AND THE COORDINATES OF THE MARK IS THE BEST
DG5018'AND MAYBE THE ONLY METHOD OF FINDING THE MARK.

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