Orig.: 02-28-08
Rev.: 08-10-08

Wantman Group, Inc.
Engineering ❖ Planning ❖ Surveying ❖ Environmental

Surveyor's Report

Vertical Control Survey at
Wells LKBB-1A and LKBB-2A Project
Highlands County

Prepared for:

South Florida Water Management District

Wantman Group, Inc.
Project Number 302336.30
Report Date: March 10, 2008
Submittal: Revision-01

Table of Contents

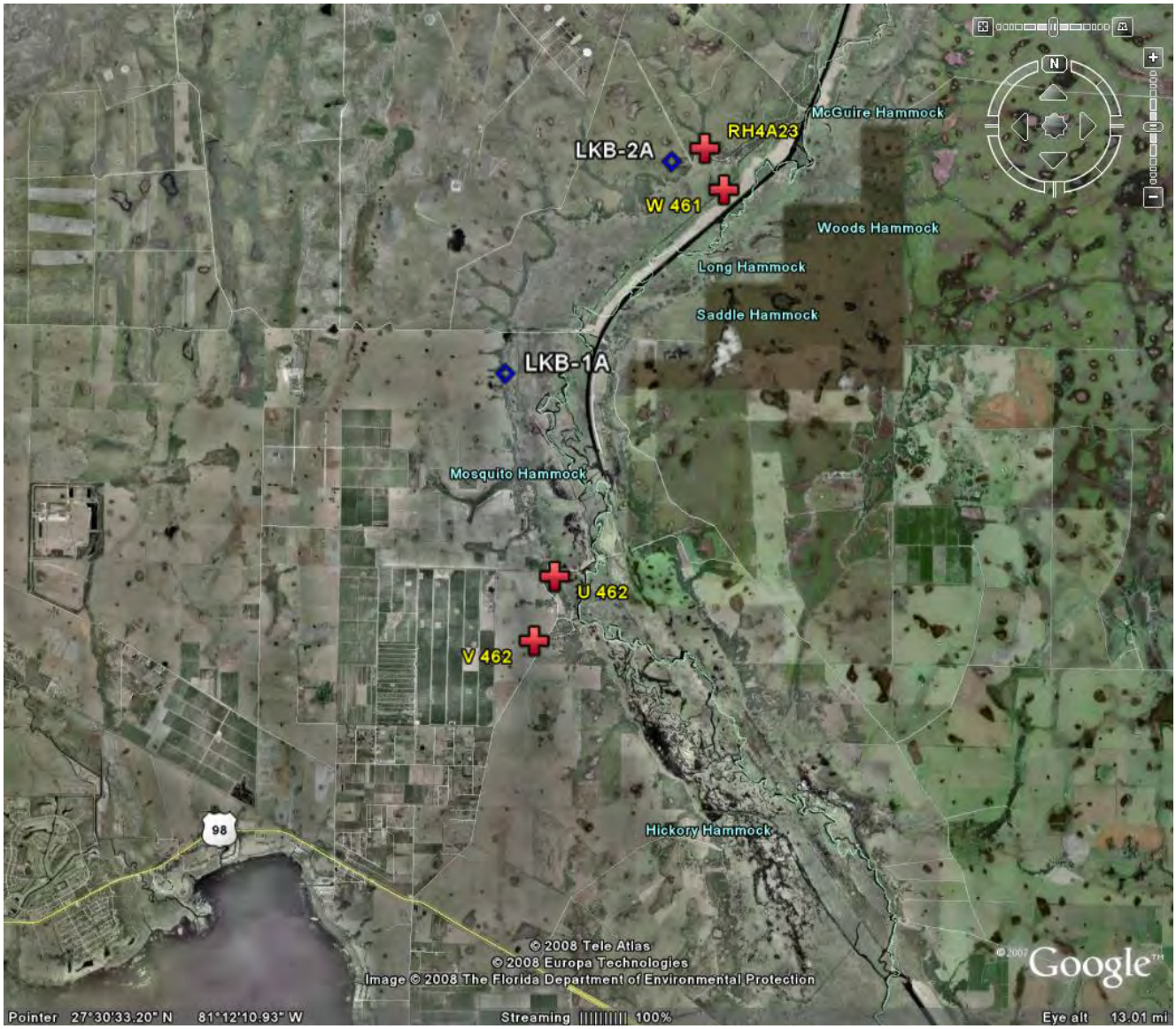
OVERVIEW OF THE PROJECT

OBJECTIVES

The objectives of this survey were to set benchmarks at each well site, provide an elevation on each well, and tag each well with a brass tag. The survey will establish National Geodetic Survey third order elevations referring to both the North American Vertical Datum of 1988 (NAVD 88) and the National Geodetic Vertical Datum of 1929 (NGVD 29) at each of the set monuments along with any additional control points used to complete the stated objective.

LOCATION OF PROJECT

The location of the project is in Highlands County, Florida. The project is located at two sites. The project wells and sites are west of the C-38 Canal in Highlands County. The first site is next to and south of the Avon Park Bombing Range and called well "LKB-1A". This well is found at Township 34 South, Range 31 East, and Section 10. The second site is located in the Avon Park Bombing Range and called well "LKB-2A". This well is found at Township 33 South, Range 31 East, and Section 25.



ITEMS DELIVERED TO SOUTH FLORIDA WATER MANAGEMENT
The following items were delivered to South Florida Water Management District with this report. Neither the report nor the items listed below are complete without the other.

A CD containing the following:

- The Survey Report in Microsoft Word format.
- Digital photos of the control points.
- An electronic copy of the field notes (PDF format).
- CORPSMET file for each site.
- Microsoft Power point file of the photos for each site.
- CD-ROM containing electronic copy of photos, CORPSMET 95 file, final report.
- Completed District benchmark description sheet for all set marks.

VERTICAL DATUM FOR THE PROJECT
The vertical datum for this project is the North American Vertical Datum of 1988 (NAVD88). The converted National Geodetic Vertical Datum of 1929 (NGVD29) elevations was established by using South Florida Water Management District's Survey Monument Benchmark "RH4A23". The said point has a published conversion of 1.145 feet. This conversion agrees with VERTCON conversion program as well. The linear unit for all elevations is the U.S. Survey Foot, unless otherwise noted.

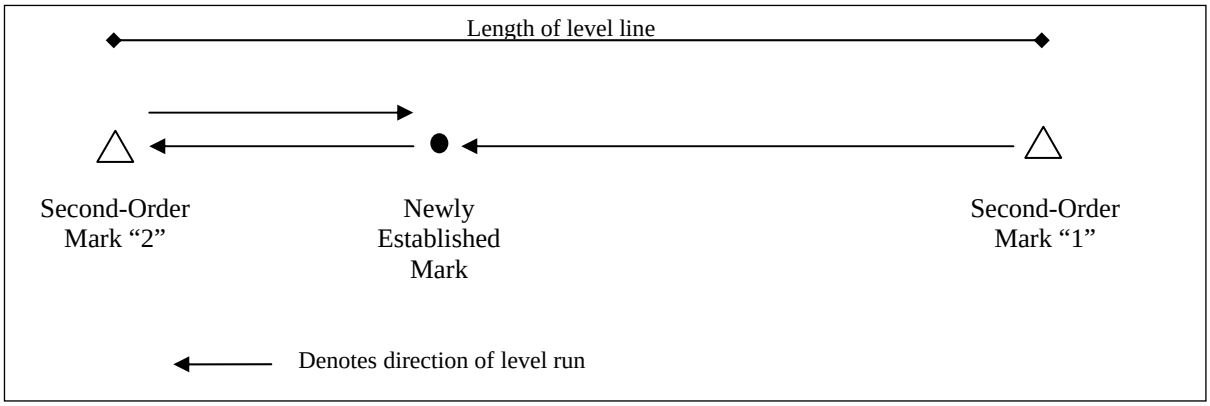
PROJECT PROCEDURES

CONTROL POINT RECOVERY
We accessed information from both National Geodetic Survey and South Florida Water Management District's Survey Monument Benchmarks to create a control database. This database included a "to reach description" for the Benchmarks and state plane coordinates for a portion of the benchmarks. A thorough search for each benchmark was made in the area as defined by the provided state plane coordinates in conjunction with the "to reach descriptions". The majority of control points have been lost to re-construction Kissimmee River Spoil Pile area. We recovered six (6) control points. We utilized four (4) survey control points for establishing vertical positions.

LEVEL RUNS
The leveling for this project is in accordance with the "Standards and Specifications for Geodetic Control Networks" for third order vertical control as established by the Federal Geodetic Control Committee.

Each level line runs through two existing Second Order vertical marks. Each level run commenced at a published National Geodetic Survey Benchmark and the elevation was confirmed by running to a second published National Geodetic Survey Benchmark or South Florida Water Management District Benchmark at least a half-mile from the starting benchmark. Each loop ran through the newly established mark near the structure and closed on the second National Geodetic Survey Benchmark. The run then looped back from the second National Geodetic Survey Benchmark Second Order mark to the newly established mark (see Figure 1, page 5).

Figure 1 Typical Level Run Pattern



The Federal Geodetic Control Subcommittee allowable error for a third order level run is 0.03 feet multiplied by the square root of the distance in miles. All of the level runs in this project are within the allowable tolerances.

Approximately 10.8 miles of leveling was done for this project in four separate closed level runs as described above. All of the supporting field notes and adjustments are included in the backup materials delivered to South Florida Water Management District.

EQUIPMENT USED

All leveling for this project was performed with a Topcon DL-102C Electronic Digital Level and Topcon three meter fiberglass sectional invar rods. Technical specifications for the reference equipment can be found the http:/www.topcon.com

HORIZONTAL POSITIONING

The positions for the found monuments are as published by National Geodetic Survey, South Florida Water Management District, or if there is no published horizontal position a position was established by Wide Area Augmentation System (WAAS) positioning. The position refers to the North American Datum of 1983 (NAD83).

GPS EQUIPMENT USED

All positioning during this project were performed with Garmin GPSMAP 76, handheld unit. This equipment was used with WAAS software and NAD 83 datum. Technical specifications for the reference equipment can be found at http://www.garmin.com

Page left intentional blank, See attached excel spreadsheets.

Benchmark Sheet

Date: 02/26/2008

Survey Attribute	Name	Project	County	Section	Township	Range	Established by	Quadrangle	Surveyor	Date of Survey	FieldBook	Page	NAD 1927 X-Easting	NAD 1927 Y-Easting	NAD 1983 X-Easting	NAD 1983 Y-Northing	NAD 1983Latitude	NAD 1983 Longitude	Control Accuracy Horizontal NAD83	Control Accuracy Vertical NAVD88	CP Type (H, V or H/V)	NGVD 1929 Elev.	NAVD 1988 Elev.	Description (incl How to reach)	Stamping	Status
ATLAS Field Name	*Designation*	*Project*	*County*	*Sec*	*Twp*	*Rge*	*Monument_By*	*Quad*	*Party_Chief*	*I_Year*	*Field_Book*	*Page*	*X_Coordinate*	*Y_Coordinate*	*X_COORD2*	*YCOORD2*	*Latitude*	*Longitude*	*Ord86*	*V_Order_Mag2*	*Type*	*Elev*	*Elev2*	*Desc_New*	*M_Type_Stamping*	*Mon)Status*
	LKBB1A	VC Survey at Wells LKB-1A & LKB-2A	HIGHLANDS	10	34 S	31 E	WGI	FORT KISSIMMEE	B. AVRAMIDAS	2008	201	52-72					27°32'07.7"	-81°13'14.6"	**SUB-METER**	**2ND**	**V**	48.763	47.618	From the post office in Lorida, go southeast on U.S. Highway 98 for 1.05 miles to the junction of Bluff Hammock Road on the left, turn left on Bluff Hammock Road and go northeast for 4.15 miles to the end of the paved road and a y-junction, bear left on the sand road (Bluff Hammock Road) and go north for 0.75 miles to a y-junction, bear right on sand road (Bluff Hammock Road) past ranch sign and go north for 0.81 miles to a y-junction and gate, bear right on dirt trail through gate and go north 0.54 through woods, turn left going west for 0.16 miles to the edge of the tree line, turn right going north along the tree line for 1.42 miles and marker is 360' ft. east of trail road in a clearing past a 4' ft. barbed wire fence. Marker is an aluminum disk, stamped "South Florida Water Management District Survey Marker LKBB1A 2008".	SOUTH FLORIDA WATER MANEGEMENT DISTRICT SURVEY MARKER LKBB2A	GOOD CONDITION
	LKBB2A	VC Survey at Wells LKB-1A & LKB-2A	HIGHLANDS	25	33 S	31 E	WGI	FORT KISSIMMEE	B. AVRAMIDAS	2008	201	52-72					27°34'28.9"	-81°11'09.0"	**SUB-METER**	**2ND**	**V**	54.212	53.067	From the intersection of State Road 64 and State Road 27 in Avon Park, go east and northeast on S.R. 64 for 11.3 miles to the entrance of the Avon Park Air Force Bombing Range/ Correctional Facility, Continue east through guard shack on Avon Park Air Force Bombing Range Roads for 5.3 miles to a junction of a road on the left, turn left, on road Kissimmee South, and go east for 4.8 miles to gate at Charlie Range (Call Range Control for clearance) continue southeast for 2.8 miles to the shower-restroom installations, then travel southwest along Marsh Trail for 1.75 miles to a sugar sand road on the right, turn right, on sugar sand road go west for 0.05 miles to a trail road to the right, turn right going southwest for 0.2 miles to Well Station LKB-2A and marker. Marker is 10' east of trail road and 11' north of Well Station LKB-2A, set flush with the ground. Marker is an aluminum disk, stamped "South Florida Water Management District Survey Marker LKBB2A 2008".	SOUTH FLORIDA WATER MANEGEMENT DISTRICT SURVEY MARKER LKBB2A	GOOD CONDITION

Page left intentional blank, See attached excel spreadsheets.

LKB Project

Date: 02-28-08

Site Designation		Location				Details				Survey Information		
Name	Type	NAD 1983 X-Easting	NAD 1983 Y-Northing	NAD 1983Latitude	NAD 1983 Longitude	Description	Site Benchmark	NGVD 1929 Elev.	NAVD 1988 Elev.	NGS Source Benchmark	NGVD 1929 Elev.	NAVD 1988 Elev.
LKB1-A	MONITORING WELL	584639	1163880.000	27 32 07.6	**81 13 14.6**	On edge of floodplain	LKB1-A Designation for Contractor	54.212	53.067	U 462	48.1	46.96
LKB2-A	MONITORING WELL	595948	1178151.000	27 34 29.1	**81 11 09.2**	Avon Park BR (on trail off of run-in line)	LKB2-A Designation for Contractor	48.763	47.618	W 461	51.894	50.7

SFWMD Offset	NGS Offset	HW Reference Location	HW Ref. Elev. NGVD 29	HW Ref. Elev. NAVD 88	TW Reference Location	TW Ref. Elev. NGVD 29	TW Ref. Elev. NAVD 88	Set Brass Tag HW Y/N	Set Brass Tag TW Y/N	Surveyed By	Date of Survey	Surveyor's Comments	Monitoring Well Name/Description & Reference Location	MW Ref. Elev. (ft) NGVD 29	MW Ref. Elev. (ft) NAVD 88
										Wantman Group	2/28/2008	Ground water level measurement mark is a black arrow loacted on the inside of 6" PVC pipe & mark north side on the top of 4" PVC pipe.	LKB-1A/ MW within a 6" PVC pipe at the center of a 4'x4' concrete pad, surrounded by 4 bollards	44.701	45.846
										Wantman Group	2/28/2008	Ground water level measurement mark is a black arrow & mark loacted on the east side on the top of 6" PVC pipe.	LKB-2A/MW within a 6" metal pipe at the center of the a metal box on a 3' raised wood platform over a 4'x4' concrete pad, inside 8' chainlinked fence	50.483	49.338

SURVEYOR'S CERTIFICATION

In my professional opinion, this report of survey meets applicable portions of the Minimum Technical Standards set forth by the Florida Board of Professional Surveyors and Mappers in Chapter 61-G17, Florida Administrative Code. This report is prepared for the sole and specific use of the South Florida Water Management District and is not assignable.

Wantman Group, Inc.
Authorization No. LB 7055

February 28, 2008
Date of Survey

_____
Derek G. Zeman PSM
Professional Surveyor and Mapper
State of Florida Certification No. 5655

LKB Project

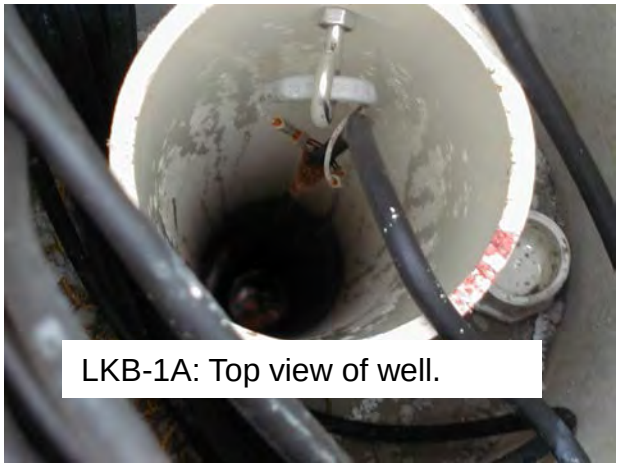
Date: 02-28-08

Site Designation		Location				Details				Survey Information		
Name	Type	NAD 1983 X-Easting	NAD 1983 Y-Northing	NAD 1983Latitude	NAD 1983 Longitude	Description	Site Benchmark	NGVD 1929 Elev.	NAVD 1988 Elev.	NGS Source Benchmark	NGVD 1929 Elev.	NAVD 1988 Elev.
LKB1-A	MONITORING WELL	584639	1163880.000	27 32 07.6	**81 13 14.6**	On edge of floodplain	LKB1-A Designation for Contractor	54.212	53.067	U 462	48.1	46.96
LKB2-A	MONITORING WELL	595948	1178151.000	27 34 29.1	**81 11 09.2**	Avon Park BR (on trail off of run-in line)	LKB2-A Designation for Contractor	48.763	47.618	W 461	51.894	50.7

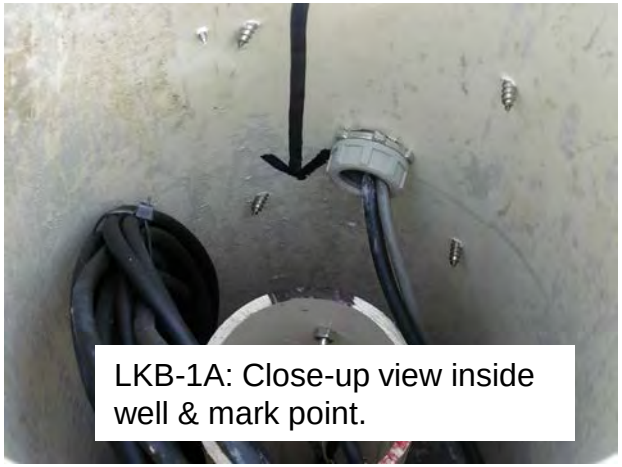
SFWMD Offset	NGS Offset	HW Reference Location	HW Ref. Elev. NGVD 29	HW Ref. Elev. NAVD 88	TW Reference Location	TW Ref. Elev. NGVD 29	TW Ref. Elev. NAVD 88	Set Brass Tag HW Y/N	Set Brass Tag TW Y/N	Surveyed By	Date of Survey	Surveyor's Comments	Monitoring Well Name/Description & Reference Location	MW Ref. Elev. (ft) NGVD 29	MW Ref. Elev. (ft) NAVD 88
										Wantman Group	2/28/2008	Ground water level measurement mark is a black arrow loacted on the inside of 6" PVC pipe & mark north side on the top of 4" PVC pipe.	LKB-1A/ MW within a 6" PVC pipe at the center of a 4'x4' concrete pad, surrounded by 4 bollards	44.701	45.846
										Wantman Group	2/28/2008	Ground water level measurement mark is a black arrow & mark loacted on the east side on the top of 6" PVC pipe.	LKB-2A/MW within a 6" metal pipe at the center of the a metal box on a 3' raised wood platform over a 4'x4' concrete pad, inside 8' chainlinked fence	50.483	49.338

SITE: LKB-1A (BM LKBB1A)

LKB-1A: Side view of well.



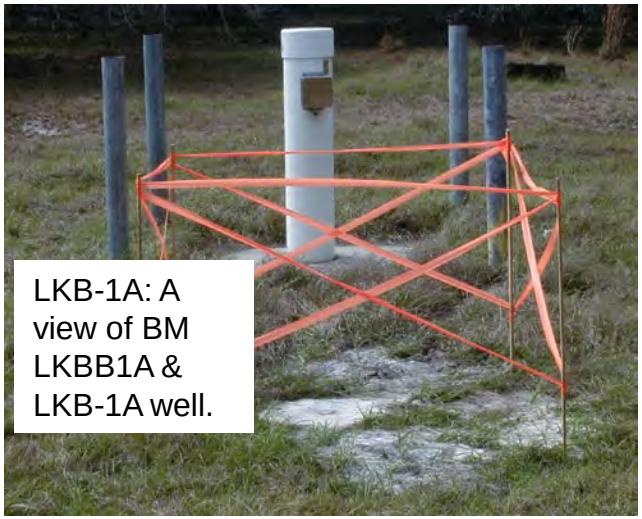
LKB-1A: Top view of well.



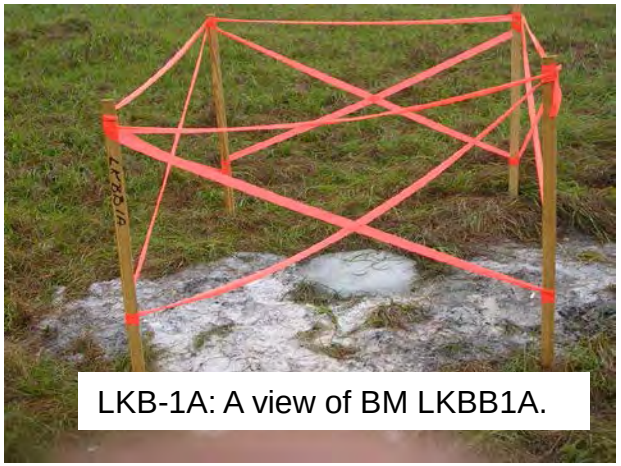
LKB-1A: Close-up view inside well & mark point.

LKB-1A: Side shot with brass tag.

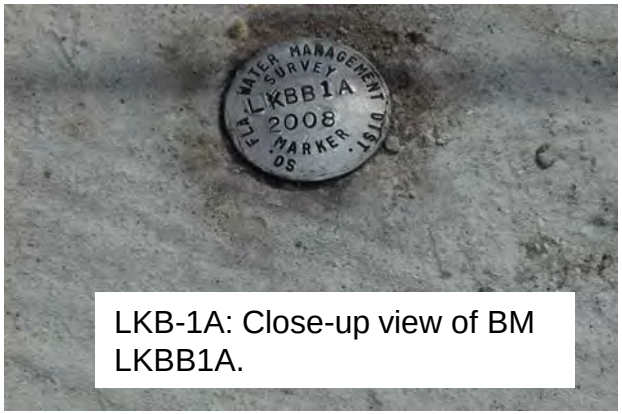
SITE: LKB-1A (BM LKBB1A)



LKB-1A: A view of BM LKBB1A & LKB-1A well.



LKB-1A: A view of BM LKBB1A.

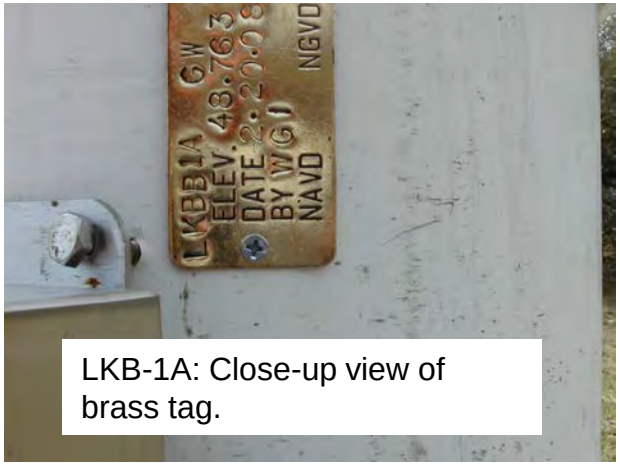


LKB-1A: Close-up view of BM LKBB1A.

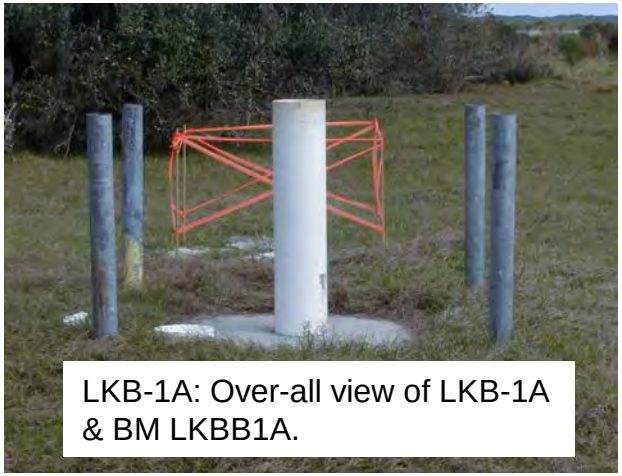
LKB-1A: A view of BM LKBB1A.

SITE: LKB-1A (BM LKBB1A)

LKB-1A: Close-up view of BM LKBB1A.



LKB-1A: Close-up view of brass tag.



LKB-1A: Over-all view of LKB-1A & BM LKBB1A.

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Rev. 4/01

COUNTY Highlands	**PROJECT Vertical Control at Wells LKB-1A & LKB-2A**	**DESIGNATION LKBB1A 2008**
SECTION 10	**TOWNSHIP 34 SOUTH**	**RANGE 31 EAST**
GEOGRAPHIC INDEX OF QUAD SW		
Established by Wantman Group, Inc. _____ **Recovered by**	**NAME OF QUADRANGLE Fort Kissimmee**	
SURVEYOR Zeman, PSM #5655 DATE 02/08	**FIELD BOOK 201 PAGE 52-72**	
HORIZONTAL DATUM: 1927 (1983) Other_____ (circle one) ZONE (E) or **W**		
STATE PLANE COORDINATES	**E 584638.6371 ft**	**N 1163890.2179 ft**
LATITUDE: 27°32'07.7"	**LONGITUDE: -81°13'14.6"**	
VERTICAL DATUM: MSL **1929 (1988) Other** _____ (circle one)		**44.701' EL. ft**
VERTICAL DATUM: MSL **(1929) 1988 Other** _____ (circle one)		**45.846' EL. ft**
CONTROL ACCURACY: HORIZONTAL 1 2 3 (SUB-METER) (circle one) **VERTICAL 1 2 (3)**		

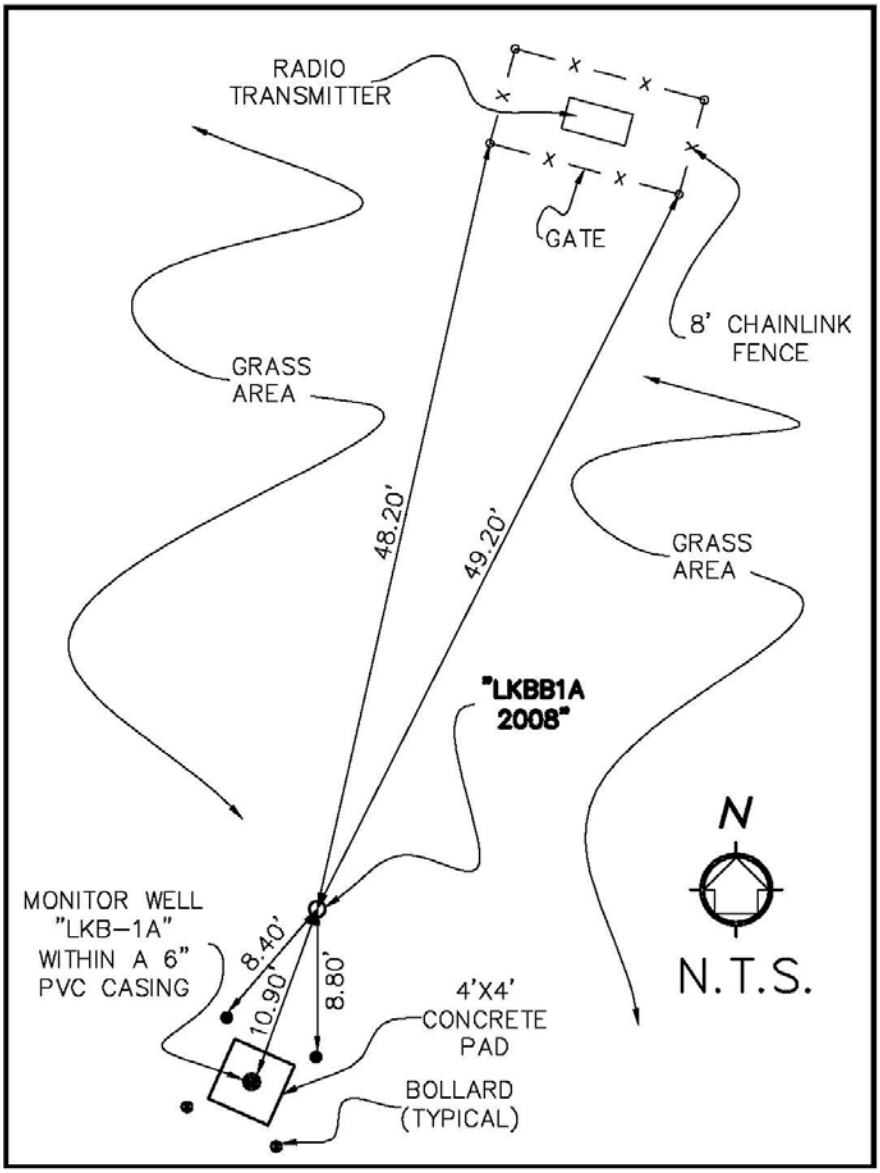
DESCRIPTION

To Reach: From the post office in Lorida, go southeast on U.S. Highway 98 for 1.05 miles to the junction of Bluff Hammock Road on the left, turn left on Bluff Hammock Road and go northeast for 4.15 miles to the end of the paved road and a y-junction, bear left on the sand road (Bluff Hammock Road) and go north for 0.75 miles to a y-junction, bear right on sand road (Bluff Hammock Road) past ranch sign and go north for 0.81 miles to a y-junction and gate, bear right on dirt trail through gate and go north 0.2 miles to single metal gate (locked gate S Key required) pass through gate continue north 0.1 miles woods road, turn left (fallowing road) going west for 0.4 miles to the edge of the tree line, turn right (passing though slough) going north along the upland trail for 1.0 miles to a east west fence line (section line) to a single metal gate (at the tree line and marsh to the east) pass through the gate continue north 0.45 miles on trail and marker, marker is 360' ft. east of trail road in a clear past a 4' ft. barbered wire fence. Marker is an aluminum disk, stamped "South Florida Water Management District Survey Marker LKBB1A 2008".

Benchmarks Used: National Geodetic Survey points "U 462" & "V 462" - Recovered by B. Avramidas, Good Condition.

Notable Land marks:

SKETCH:



PHOTOS:

```
Identification_Information:
        Citation:
                Citation_Information:
                        Originator: Derek G. Zeman,  PSM
                        Originator: Gareth J. Santos
                        Originator: Wantman Group, Inc
                        Publication_Date: Unpublished material
                        Publication_Time: Unknown
                        Title: S.F.W.M.D. LKBB1
                        Edition: 1
                        Series_Information:
                        Publication_Information:
                                Publication_Place: Not Published
                                Publisher: Unknown
                        Online_Linkage: www.wantmangroup.com
                        Larger_Work_Citation:
                                Citation_Information:
                                        Series_Information:
                                        Publication_Information:
        Description:
                Abstract:
                        South Florida Water Manegement District, Kissimmee River
                        Well, LKKBB1
                Purpose:
                        To establish a benchmark with NAVD 88 and NGVD 29
                        elevation near well site LKB-1A, and elevation of a
                        reference mark (mark point) on well
        Time_Period_of_Content:
                Time_Period_Information:
                        Single_Date/Time:
                                Calendar_Date: 20080228
                                Time_of_Day: 08000000
                        Range_of_Dates/Times:
                        Multiple_Dates/Times:
                Currentness_Reference: See date & time of field work
        Status:
                Progress: Complete
                Maintenance_and_Update_Frequency: Unknown
        Spatial_Domain:
                Bounding_Coordinates:
        Keywords:
                Theme:
                        Theme_Keyword_Thesaurus: LKBB1A
                        Theme_Keyword: Record Survey
                        Theme_Keyword: Well Site LKB-1A
                Place:
                        Place_Keyword_Thesaurus: LKBB1A
                        Place_Keyword: S.F.W.M.D. Well LKB-1A
                        Place_Keyword: Sec. 10, Twp. 33 S., Rge 31 E.
                        Place_Keyword: Highlands County
                        Place_Keyword: Florida
                        Place_Keyword_Thesaurus: Geographic Names Information System
                        Place_Keyword: Florida
                        Place_Keyword: Highlands County
                        Place_Keyword: LKB-1A
                Stratum:
                Temporal:
        Access_Constraints: None
        Use_Constraints: None
        Point_of_Contact:
                Contact_Information:
                        Contact_Person_Primary:
                                Contact_Person: Howard Ehmke, P.S.M.
                                Contact_Organization: South Florida Water Management District
                        Contact_Organization_Primary:
                        Contact_Position: Lead Project Manager
                        Contact_Address:
                                Address_Type: mailing and physical address
                                Address: 8894 Belevedere Road
                                City: West Palm Beach
                                State_or_Province: Florida
                                Postal_Code: 33411
```

```
                        Country: USA
                    Contact_Voice_Telephone: 561-242-5520
                    Contact_Electronic_Mail_Address: hemke@sfwmd.gov
                    Hours_of_Service: 8:00 am to 5: pm EST
        Security_Information:
        Cross_Reference:
                Citation_Information:
                    Series_Information:
                    Publication_Information:
Data_Quality_Information:
        Attribute_Accuracy:
                Attribute_Accuracy_Report:
                    This survey was prepared using GPS & Leveling
                    Instruments.
                    Horizontal locations of the well and benchmark were
                    established using a Garmin GPSMAP 76 (sub-meter),
                    handheld reciever unit.
                    Vertical data was collected using a Topcon DL-102C
                    Electronic Digital Level and Topcon three meter fiberglass
                    sectional invar rods.
                    Coordinates are based on the Florida State Plane
                    Coordinate system, East Zone, NAD 83/90.
                    Elevations are based on NAVD 88 and NGVD 29.
        Logical_Consistency_Report:
                Horizontal data was established using sub-meter GPS
                equipment.
                Vertical Data was established using NGS control points "U
                462" PID (AH8813) & "V 462" PID (AH8814)
        Completeness_Report:
                MP -- Existing reference mark (Mark Point) is a black
                marked square located at the perimeter of circular opening
                in 6" PCV casing at the center of a 4' concrete pad.
                47.618' (ft) NAVD 88 based on published NGS values.
                48.783' (ft) NGVD 29 based on published S.F.W.M.D.
                values.

-------------------------------------------------------------------------------
                Site Benchmark "LKBB1A"
                From the post office in Lorida, go southeast
                on U.S. Highway 98 for 1.05 miles to the junction of Bluff
                Hammock Road on the left, turn left on Bluff Hammock
                Road and go northeast for 4.15 miles to the end of the
                paved road and a y-junction, bear left on the sand road
                (Bluff Hammock Road) and go north for 0.75 miles to a
                y-junction, bear right on sand road (Bluff Hammock Road)
                past ranch sign and go north for 0.81 miles to a y-junction
                and gate, bear right on dirt trail through gate and go north
                0.54 through woods, turn left going west for 0.16 miles to
                the edge of the tree line, turn right going north along the
                tree line for 1.42 miles and marker is 360' ft. east of trail
                road in a clearing past a 4' ft. barbed wire fence.  Marker is
                an aluminum disk, stamped "South Florida Water
                Management District Survey Marker LKBB1A 2008".

-------------------------------------------------------------------------------
                Latitude:     27º32'07.7"
                Longitude:   -81º13'14.6"

-------------------------------------------------------------------------------
                Newly leveled elevations.
                44.701' (ft) NAVD 88 based on published NGS values.
                45.846' (ft) NGVD 29 based on published S.F.W.M.D.
                values.

-------------------------------------------------------------------------------
                United States Department of the Interior Geologic
                Survey Quadrangle map -- Fort Kissimmee
        Positional_Accuracy:
                Horizontal_Positional_Accuracy:
                    Horizontal_Positional_Accuracy_Report:
                        The horizontal positions of the well and benchmark were
                        established using a Garmin GPSMAP 76 GPS receiver with
```

integrated differentially corrected GPS (DGPS), Positions were established by Wide Area Augmentation System (WAAS) positioning. The position refers to the North American Datum of 1983 (NAD83).
Quantitative_Horizontal_Positional_Accuracy_Assessment:
Horizontal_Positional_Accuracy_Value: +/- 3 feet
Horizontal_Positional_Accuracy_Explanation: The intended accuracy is +/- 3 feet
Vertical_Positional_Accuracy:
Vertical_Positional_Accuracy_Report:
A level line was run originating on benchmark "V 462" running through "LKBB1A" and terminating on benchmark "U 462". The vertical positional accuracy for this level run is in accordance with Florida Minimum Technical Standards (Chapter 61G17-6). The level run was adjusted with "Survey Link with Geodetic and Digital Level Modules 7.5.5". Please refer to "Survey Link with Geodetic and Digital Level Modules 7.5.5" output file (33630F.txt) for statistical summary.

The NAVD 88 elevations were established using the published NGS Data sheet NAVD 88 values for the above referenced benchmarks.

The NGVD 1929 elevations were established using the published S.F.W.M.D. NGVD 1929 values for the above referenced benchmarks.

The "NGVD 1929 (VERTCON transformation)" elevations are based upon values derived from NGS VERTCON program (version 2.10), utilizing "vertcone.94" datum transformation grid.
Quantitative_Vertical_Positional_Accuracy_Assessment:
Vertical_Positional_Accuracy_Value: Third order
Vertical_Positional_Accuracy_Explanation: 0.03 x square root of the benchrun distance in miles
Lineage:
Source_Information:
Source_Citation:
Citation_Information:
Series_Information:
Publication_Information:
Larger_Work_Citation:
Citation_Information:
Series_Information:
Publication_Information:
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Range_of_Dates/Times:
Multiple_Dates/Times:
Process_Step:
Process_Description:
The horizonatal work was performed with Garmin GPSMAP 76, handheld unit. This equipment was used with Wide Area Augmentation System (WAAS) software and North American Datum of 1983 (NAD 83)datum. The positions for the found monuments are as published by National Geodetic Survey, South Florida Water Management District, or if there is no published horizontal position a position was established by WAAS positioning. The position refers to the NAD83 datum.
Each level line runs through two existing Second Order vertical marks. Each level run commenced at a published National Geodetic Survey Benchmark and the elevation was confirmed by running to a second published National Geodetic Survey Benchmark at least a half-mile from the starting benchmark. Each loop ran through the newly established mark near the structure and closed on the

second National Geodetic Survey Benchmark. The run
then looped back from the second National Geodetic
Survey Benchmark Second Order mark to the newly
established mark. The leveling for this project is in
accordance with the "Standards and Specifications for
Geodetic Control Networks" for third order vertical control
as established by the Federal Geodetic Control Committee.
The Federal Geodetic Control Subcommittee allowable
error for a third order level run is 0.03 feet multiplied by the
square root of the distance in miles. All of the level runs in
this project are within the allowable tolerances.
Process_Date: 20080220
Process_Time: 08000000
Process_Contact:
Contact_Information:
Contact_Person_Primary:
Contact_Organization_Primary:
Contact_Address:
Spatial_Data_Organization_Information:
Spatial_Reference_Information:
Horizontal_Coordinate_System_Definition:
Geographic:
Planar:
Map_Projection:
Albers_Conical_Equal_Area:
Azimuthal_Equidistant:
Equidistant_Conic:
Equirectangular:
General_Vertical_Near-sided_Perspective:
Gnomonic:
Lambert_Azimuthal_Equal_Area:
Lambert_Conformal_Conic:
Mercator:
Modified_Stereographic_for_Alaska:
Miller_Cylindrical:
Oblique_Mercator:
Oblique_Line_Point:
Orthographic:
Polar_Stereographic:
Polyconic:
Robinson:
Sinusoidal:
van_der_Grinten:
Space_Oblique_Mercator_(Landsat):
Stereographic:
Transverse_Mercator:
van_der_Grinten:
Grid_Coordinate_System:
Universal_Transverse_Mercator:
Transverse_Mercator:
Universal_Polar_Stereographic:
Polar_Stereographic:
State_Plane_Coordinate_System:
Lambert_Conformal_Conic:
Transverse_Mercator:
Oblique_Mercator:
Oblique_Line_Point:
Polyconic:
ARC_Coordinate_System:
Equirectangular:
Azimuthal_Equidistant:
Local_Planar:
Planar_Coordinate_Information:
Coordinate_Representation:
Distance_and_Bearing_Representation:
Local:
Geodetic_Model:
Horizontal_Datum_Name: North American Datum of 1983
Ellipsoid_Name: Geodetic Reference System 80
Vertical_Coordinate_System_Definition:
Altitude_System_Definition:
Depth_System_Definition:

```
Entity_and_Attribute_Information:
        Detailed_Description:
                Entity_Type:
                Attribute:
                        Attribute_Domain_Values:
                        Attribute_Value_Accuracy_Information:
        Overview_Description:
Distribution_Information:
        Distributor:
                Contact_Information:
                        Contact_Person_Primary:
                        Contact_Organization_Primary:
                        Contact_Address:
        Standard_Order_Process:
                Digital_Form:
                        Digital_Transfer_Information:
                        Digital_Transfer_Option:
                                Online_Option:
                                        Computer_Contact_Information:
                                                Network_Address:
                                                Dialup_Instructions:
                                OffLine_Option:
                                        Recording_Capacity:
        Available_Time_Period:
                Time_Period_Information:
                        Single_Date/Time:
                        Range_of_Dates/Times:
                        Multiple_Dates/Times:
Metadata_Reference_Information:
        Metadata_Contact:
                Contact_Information:
                        Contact_Person_Primary:
                        Contact_Organization_Primary:
                        Contact_Address:
                                Address_Type: mailing and physical address
        Metadata_Standard_Name: FGDC Content Standards for Digital Geospatial Metadata
        Metadata_Standard_Version: June 08,1994
        Metadata_Security_Information:
```

SITE: LKB-2A (BM LKBB2A)

LKB-2A: Close-up view with well tag, mark point, equipment.

LKB-2A: Top view of well.

LKB-2A: Close-up view with well tag & mark point.

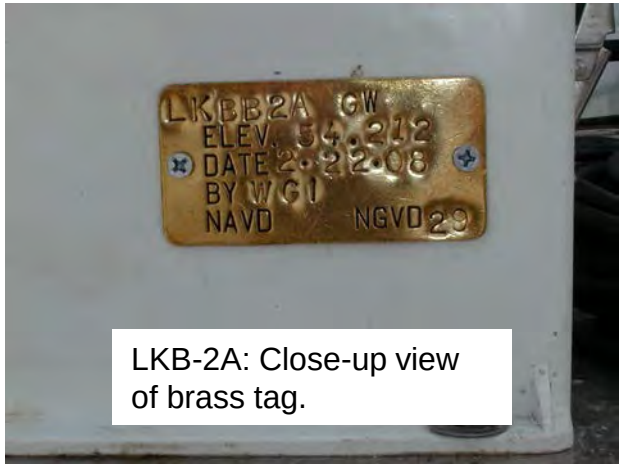
LKB-2A: Side shot with equipment.

SITE: LKB-2A (BM LKBB2A)

LKB-2A: A view of BM LKBB2A.

LKB-2A: A view of BM LKBB2A & LKB-2A well.

LKB-2A: Close-up view of BM LKBB2A.



LKB-2A: Close-up view of brass tag.

SITE: LKB-2A (BM LKBB2A)

LKB-2A: Side shot with equipment.

LKB-2A: Over-all view of site.

LKB-2A: Over-all view of site.

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Rev. 4/01

COUNTY Highlands	**PROJECT Vertical Control at Wells LKB-1A & LKB-2A**	**DESIGNATION LKBB2A 2008**
SECTION 25	**TOWNSHIP 33 SOUTH**	**RANGE 31 EAST**
GEOGRAPHIC INDEX OF QUAD NE		
Established by Wantman Group, Inc. _____ **Recovered by**	**NAME OF QUADRANGLE Fort Kissimmee**	
SURVEYOR Zeman, PSM #5655 DATE 02/08	**FIELD BOOK 201 PAGE 52-72**	
HORIZONTAL DATUM: 1927 (1983) Other_____ (circle one) ZONE (E) or **W**		
STATE PLANE COORDINATES	**E 595966.2736 ft**	**N 1178130.3812 ft**
LATITUDE: 27°34'28.9"	**LONGITUDE: -81°11'09.0"**	
VERTICAL DATUM: MSL **1929 (1988) Other** _____ (circle one)		**49.338' EL. ft**
VERTICAL DATUM: MSL **(1929) 1988 Other** _____ (circle one)		**50.483' EL. ft**
CONTROL ACCURACY: HORIZONTAL 1 2 3 (SUB-METER) (circle one) **VERTICAL 1 2 (3)**		

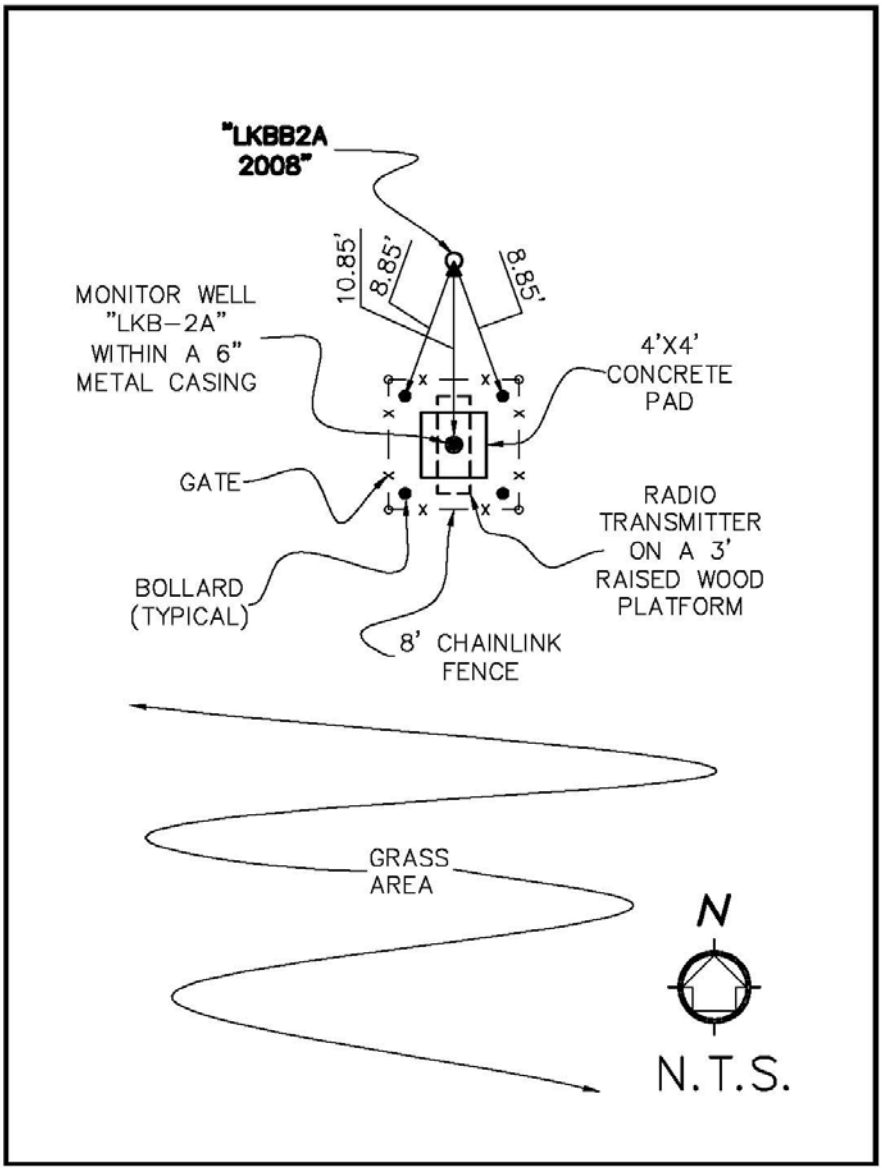
DESCRIPTION

To Reach: From the intersection of State Road 64 and State Road 27 in Avon Park, go east and northeast on S.R. 64 for 11.3 miles to the entrance of the Avon Park Air Force Bombing Range/ Correctional Facility, Continue east through guard shack on Avon Park Air Force Bombing Range Roads for 5.3 miles to a junction of a road on the left, turn left, on road Kissimmee South, and go east for 4.8 miles to gate at Charlie Range (Call Range Control for clearance) continue southeast for 2.8 miles to the shower-restroom installations, then travel southwest along Marsh Trail for 1.75 miles to a sugar sand road on the right, turn right, on sugar sand road go west for 0.05 miles to a trail road to the right, turn right going southwest for 0.2 miles to Well Station LKB-2A and marker. Marker is 21' east of the centerline of trail road and 11' north of Well Station LKB-2A, set flush with the ground. Marker is an aluminum disk, stamped "South Florida Water Management District Survey Marker LKBB2A 2008".

Benchmarks Used: National Geodetic Survey points "W 461" and South Florida Water Management District Benchmark point "RH4A23"- Recovered by B. Avramidas, Good Condition.

Notable Land marks:

SKETCH:



PHOTOS:

```
Identification_Information:
        Citation:
                Citation_Information:
                        Originator: Derek G. Zeman,  PSM
                        Originator: Gareth J. Santos
                        Originator: Wantman Group, Inc
                        Publication_Date: Unpublished material
                        Publication_Time: Unknown
                        Title: S.F.W.M.D. LKBB2A
                        Edition: 1
                        Series_Information:
                        Publication_Information:
                                Publication_Place: Not Published
                                Publisher: Unknown
                        Online_Linkage: www.wantmangroup.com
                        Larger_Work_Citation:
                                Citation_Information:
                                        Series_Information:
                                        Publication_Information:
        Description:
                Abstract:
                        South Florida Water Manegement District, Kissimmee River
                        Well, LKKBB2A
                Purpose:
                        To establish a benchmark with NAVD 88 and NGVD 29
                        elevation near well site LKB-2A, and elevation of a
                        reference mark (mark point) on well
        Time_Period_of_Content:
                Time_Period_Information:
                        Single_Date/Time:
                                Calendar_Date: 20080228
                                Time_of_Day: 08000000
                        Range_of_Dates/Times:
                        Multiple_Dates/Times:
                Currentness_Reference: See date & time of field work
        Status:
                Progress: Complete
                Maintenance_and_Update_Frequency: Unknown
        Spatial_Domain:
                Bounding_Coordinates:
        Keywords:
                Theme:
                        Theme_Keyword_Thesaurus: LKBB2A
                        Theme_Keyword: Record Survey
                        Theme_Keyword: Well Site LKB-2A
                Place:
                        Place_Keyword_Thesaurus: LKBB2A
                        Place_Keyword: S.F.W.M.D. Well LKB-2A
                        Place_Keyword: Sec. 25, Twp. 33 S., Rge 31 E.
                        Place_Keyword: Highland County
                        Place_Keyword: Florida
                        Place_Keyword_Thesaurus: Geographic Names Information System
                        Place_Keyword: Florida
                        Place_Keyword: Highlands County
                        Place_Keyword: LKB-2A
                Stratum:
                Temporal:
        Access_Constraints: There is a lock on well.  See point of contact for key.
        Use_Constraints: There is a lock on the well.  See point of contact for key.
        Point_of_Contact:
                Contact_Information:
                        Contact_Person_Primary:
                                Contact_Person: Howard Ehmke, P.S.M.
                                Contact_Organization: South Florida Water Management District
                        Contact_Organization_Primary:
                        Contact_Position: Lead Project Manager
                        Contact_Address:
                                Address_Type: mailing and physical address
                                Address: 3301 Gun Club Road
                                City: West Palm Beach
                                State_or_Province: Florida
                                Postal_Code: 33406
```

Country: USA
Contact_Voice_Telephone: (561) 686-8800
Contact_Electronic_Mail_Address: hemke@sfwmd.gov
Hours_of_Service: 8:00 am to 5: pm EST
Security_Information:
Cross_Reference:
Citation_Information:
Series_Information:
Publication_Information:
Data_Quality_Information:
Attribute_Accuracy:
Attribute_Accuracy_Report:
This survey was prepared using GPS & Leveling Instruments.
Horizontal locations of the well and benchmark were established using a Garmin GPSMAP 76 (sub-meter), handheld reciever unit.
Vertical data was collected using a Topcon DL-102C Electronic Digital Level and Topcon three meter fiberglass sectional invar rods.
Coordinates are based on the Florida State Plane Coordinate system, East Zone, NAD 83/90.
Elevations are based on NAVD 88 and NGVD 29.
Logical_Consistency_Report:
Horizontal data was established using sub-meter GPS equipment.
Vertical Data was established using NGS control point "W 461" PID(AH8798) and South Florida Water Management District Benchmark point "RH4A23"
Completeness_Report:
MP -- Existing reference mark (Mark Point) is a black marked square located at the perimeter of circular opening in 6" metal casing at the center of recorder box, on a wooden platfom, above a 4' concrete pad.
53.067' (ft) NAVD 88 based on published NGS values.
54.212' (ft) NGVD 29 based on published S.F.W.M.D. values.

Site Benchmark "LKBB2A"
From the intersection of State Road 64 and State Road 27 in Avon Park, go east and northeast on S.R. 64 for 11.3 miles to the entrance of the Avon Park Air Force Bombing Range/ Correctional Facility, Continue east through guard shack on Avon Park Air Force Bombing Range Roads for 5.3 miles to a junction of a road on the left, turn left, on road Kissimmee South, and go east for 4.8 miles to gate at Charlie Range (Call Range Control for clearance) continue southeast for 2.8 miles to the shower-restroom installations, then travel southwest along Marsh Trail for 1.75 miles to a sugar sand road on the right, turn right, on sugar sand road go west for 0.05 miles to a trail road to the right, turn right going southwest for 0.2 miles to Well Station LKB-2A and marker. Marker is 10' east of trail road and 11' north of Well Station LKB-2A, set flush with the ground. Marker is an aluminum disk, stamped "South Florida Water Management District Survey Marker LKBB2A 2008".

Latitude: 27°34'28.9"
Logitude: -81°11'09.0"

Newly leveled elevations.
49.338' (ft) NAVD 88 based on published NGS values.
50.483' (ft) NGVD 29 based on published S.F.W.M.D. values.

United States Department of the Interior Geologic Survey Quadrangle map -- Fort Kissimmee
Positional_Accuracy:

Horizontal_Positional_Accuracy:
Horizontal_Positional_Accuracy_Report:
The horizontal positions of the well and benchmark were established using a Garmin GPSMAP 76 GPS receiver with integrated differentially corrected GPS (DGPS), Positions were established by Wide Area Augmentation System (WAAS) positioning. The position refers to the North American Datum of 1983 (NAD83).
Quantitative_Horizontal_Positional_Accuracy_Assessment:
Horizontal_Positional_Accuracy_Value: +/- 3 feet
Horizontal_Positional_Accuracy_Explanation: The intended accuracy is +/- 3 feet
Vertical_Positional_Accuracy:
Vertical_Positional_Accuracy_Report:
A level line was run originating on benchmark "RH4A23" running through "LKBB2A" and terminating on benchmark "W 461". The vertical positional accuracy for this level run is in accordance with Florida Minimum Technical Standards (Chapter 61G17-6). The level run was adjusted with "Survey Link with Geodetic and Digital Level Modules 7.5.5". Please refer to "Survey Link with Geodetic and Digital Level Modules 7.5.5" output file (33630A.txt) for statistical summary.

The NAVD 88 elevations were established using the published NGS Data sheet NAVD 88 values for the above referenced benchmarks.

The NGVD 1929 elevations were established using the published S.F.W.M.D. NGVD 1929 values for the above referenced benchmarks.

The "NGVD 1929 (VERTCON transformation)" elevations are based upon values derived from NGS VERTCON program (version 2.10), utilizing "vertcone.94" datum transformation grid.
Quantitative_Vertical_Positional_Accuracy_Assessment:
Vertical_Positional_Accuracy_Value: Third order
Vertical_Positional_Accuracy_Explanation: 0.03 x square root of the benchrun distance in miles
Lineage:
Source_Information:
Source_Citation:
Citation_Information:
Series_Information:
Publication_Information:
Larger_Work_Citation:
Citation_Information:
Series_Information:
Publication_Information:
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Range_of_Dates/Times:
Multiple_Dates/Times:
Process_Step:
Process_Description:
The horizonatal work was performed with Garmin GPSMAP 76, handheld unit. This equipment was used with Wide Area Augmentation System (WAAS) software and North American Datum of 1983 (NAD 83)datum. The positions for the found monuments are as published by National Geodetic Survey, South Florida Water Management District, or if there is no published horizontal position a position was established by WAAS positioning. The position refers to the NAD83 datum.
Each level line runs through two existing Second Order vertical marks. Each level run commenced at a published National Geodetic Survey Benchmark and the elevation

was confirmed by running to a second published National Geodetic Survey Benchmark at least a half-mile from the starting benchmark. Each loop ran through the newly established mark near the structure and closed on the second National Geodetic Survey Benchmark. The run then looped back from the second National Geodetic Survey Benchmark Second Order mark to the newly established mark. The leveling for this project is in accordance with the "Standards and Specifications for Geodetic Control Networks" for third order vertical control as established by the Federal Geodetic Control Committee. The Federal Geodetic Control Subcommittee allowable error for a third order level run is 0.03 feet multiplied by the square root of the distance in miles. All of the level runs in this project are within the allowable tolerances.

Process_Date: 20080220
Process_Time: 08000000
Process_Contact:
Contact_Information:
Contact_Person_Primary:
Contact_Organization_Primary:
Contact_Address:
Spatial_Data_Organization_Information:
Spatial_Reference_Information:
Horizontal_Coordinate_System_Definition:
Geographic:
Planar:
Map_Projection:
Albers_Conical_Equal_Area:
Azimuthal_Equidistant:
Equidistant_Conic:
Equirectangular:
General_Vertical_Near-sided_Perspective:
Gnomonic:
Lambert_Azimuthal_Equal_Area:
Lambert_Conformal_Conic:
Mercator:
Modified_Stereographic_for_Alaska:
Miller_Cylindrical:
Oblique_Mercator:
Oblique_Line_Point:
Orthographic:
Polar_Stereographic:
Polyconic:
Robinson:
Sinusoidal:
van_der_Grinten:
Space_Oblique_Mercator_(Landsat):
Stereographic:
Transverse_Mercator:
van_der_Grinten:
Grid_Coordinate_System:
Universal_Transverse_Mercator:
Transverse_Mercator:
Universal_Polar_Stereographic:
Polar_Stereographic:
State_Plane_Coordinate_System:
Lambert_Conformal_Conic:
Transverse_Mercator:
Oblique_Mercator:
Oblique_Line_Point:
Polyconic:
ARC_Coordinate_System:
Equirectangular:
Azimuthal_Equidistant:
Local_Planar:
Planar_Coordinate_Information:
Coordinate_Representation:
Distance_and_Bearing_Representation:
Local:
Geodetic_Model:
Horizontal_Datum_Name: North American Datum of 1983

```
                                Ellipsoid_Name: Geodetic Reference System 80
                Vertical_Coordinate_System_Definition:
                        Altitude_System_Definition:
                        Depth_System_Definition:
Entity_and_Attribute_Information:
        Detailed_Description:
                Entity_Type:
                Attribute:
                        Attribute_Domain_Values:
                        Attribute_Value_Accuracy_Information:
        Overview_Description:
Distribution_Information:
        Distributor:
                Contact_Information:
                        Contact_Person_Primary:
                        Contact_Organization_Primary:
                        Contact_Address:
        Standard_Order_Process:
                Digital_Form:
                        Digital_Transfer_Information:
                        Digital_Transfer_Option:
                                Online_Option:
                                        Computer_Contact_Information:
                                                Network_Address:
                                                Dialup_Instructions:
                                OffLine_Option:
                                        Recording_Capacity:
        Available_Time_Period:
                Time_Period_Information:
                        Single_Date/Time:
                        Range_of_Dates/Times:
                        Multiple_Dates/Times:
Metadata_Reference_Information:
        Metadata_Contact:
                Contact_Information:
                        Contact_Person_Primary:
                        Contact_Organization_Primary:
                        Contact_Address:
                                Address_Type: mailing and physical address
        Metadata_Standard_Name: FGDC Content Standards for Digital Geospatial Metadata
        Metadata_Standard_Version: June 08,1994
        Metadata_Security_Information:
```

Closure Report for file K:\SFWMD\Kissimee Vertical Control Wells LKB\BENCHRUNS\33630A.lev

Job No. : 33630A
Benchmark No. : RHA23
Starting BM Elev. : 45.915
Ending BM Elev. : 49.340
Unadjusted Ending Elev.: 49.352
Closure Error : 0.012
Length of Level Run : 15,158.840
Allowable Error : 0.195
Units : Meters

Closure is within allowable tolerances

Adjustment proportional to number of turns

Pt.#	Unadj. Elev.	Adj. Elev.	Description
RHA23	45.915		CONC/MON
1	42.627	42.627	
2	42.863	42.862	
3	47.762	47.761	
4	49.672	49.671	
5	50.705	50.703	
6	49.340	49.338	
7	49.434	49.432	
8	45.849	45.846	
9	45.228	45.225	
10	43.843	43.839	
11	43.109	43.105	
12	40.607	40.603	
13	40.815	40.810	
14	40.721	40.716	
15	40.508	40.503	
16	39.791	39.785	
17	40.870	40.864	
18	47.133	47.127	
19	50.219	50.212	
20	50.700	50.693	
21	50.221	50.214	
22	47.139	47.131	
23	40.877	40.869	
24	39.798	39.790	
25	40.516	40.507	
26	40.734	40.725	
27	40.834	40.824	
28	40.628	40.618	
29	43.127	43.117	
30	43.864	43.853	
31	45.235	45.224	
32	45.865	45.854	
33	49.444	49.432	
34	49.352	49.340	

Closure Report for file K:\SFWMD\Kissimee Vertical Control Wells LKB\BENCHRUNS\33630F.lev

Job No. : 33630F
Benchmark No. : V462
Starting BM Elev. : 56.120
Ending BM Elev. : 46.960
Unadjusted Ending Elev.: 46.981
Closure Error : 0.021
Length of Level Run : 41,913.460
Allowable Error : 0.141
Units : Feet

Closure is within allowable tolerances

Adjustment proportional to total distance

Pt.#	Unadj. Elev.	Adj. Elev.	Description
V462	56.120		CONC-MON
1	56.166	56.166	
2	55.340	55.340	
3	54.085	54.084	
4	53.217	53.216	
5	52.385	52.384	
6	51.412	51.411	
7	50.564	50.562	
8	50.006	50.004	
9	48.674	48.672	
10	46.971	46.969	
11	47.581	47.578	
12	48.456	48.453	
13	47.918	47.915	
14	45.504	45.501	
15	44.705	44.701	
16	48.002	47.998	
17	51.194	51.190	
18	49.238	49.234	
19	47.667	47.662	
20	48.568	48.563	
21	47.251	47.246	
22	46.273	46.268	
23	47.548	47.542	
24	47.158	47.152	
25	46.073	46.067	
26	45.912	45.906	
27	43.467	43.460	
28	44.545	44.538	
29	49.565	49.558	
30	53.389	53.382	
31	48.584	48.576	
32	49.458	49.450	
33	54.339	54.331	
34	57.558	57.550	
35	59.333	59.325	
36	59.737	59.728	
37	59.498	59.489	
38	59.578	59.569	
39	60.215	60.205	
40	59.617	59.607	
41	58.240	58.230	
42	52.749	52.739	
43	49.010	48.999	
44	47.733	47.722	
45	47.586	47.575	
46	47.309	47.298	
47	45.554	45.542	
48	44.713	44.701	
49	45.556	45.544	
50	47.307	47.295	
51	47.584	47.572	
52	47.727	47.714	

53	49.000	48.987
54	52.736	52.723
55	58.221	58.208
56	59.600	59.586
57	60.188	60.174
58	59.551	59.537
59	59.469	59.455
60	59.704	59.689
61	59.297	59.282
62	57.523	57.508
63	54.306	54.291
64	49.430	49.414
65	48.557	48.541
66	53.363	53.347
67	49.542	49.526
68	44.543	44.527
69	43.461	43.444
70	45.907	45.890
71	46.069	46.052
72	47.155	47.138
73	47.545	47.527
74	46.269	46.251
75	47.248	47.230
76	48.565	48.547
77	47.666	47.647
78	49.241	49.222
79	51.196	51.177
80	48.004	47.985
81	44.708	44.688
82	45.507	45.487
83	47.921	47.901
84	48.461	48.441
85	47.589	47.568
86	46.981	46.960

01/14/03

70° PC

"AVON PARK MONITORING WELLS"

LKB1-A & LKB2-A

SFWMD

302336.30 - 1020

GARMIN 45 HAND HELD GPS

NIKON DIGITAL CAMERA

LOCATE MW & VERTICAL CONTROL

PNT #	DESC.	:	COMMENTS
130	T 461	-	BRASS DISC IN CONC. @ Y-JUNCTION OF BOSWELL & KISSIMMEE, 1.0' E. OF ORANGE PIPE
		-	EL: 51.08' (NAVD 88')
119	B 462	:	PNT NOT FOUND DUE TO SPOIL PILE REMOVED/SCRAPED
120	H 26		" "
121	Z 461		
122	KR 1379		
123	H 27		
124	Y 461		
125	X 461		
126	V 461		
127	U 461		
[illegible]	H 28		
[illegible]	KR 595		PNT DISTURBED WHEN 8.0 DIA. OAK TREE FELL OVER NORTHWEST, MONUMENT CURRENTLY LEANING

NOTE: - SCREENED CR ACCESS POINTS ALONG SOUTH FRANCIS RD BOTH FENCE GATES BTWN VAN FLEET & MARSH TRAIL INACCESSIBLE

- AREA DRY AT THIS TIME ALONG KISSIMMEE MARSH AREA

G. SPARKS

201/52

MEET W/ "NED" JAMES N. STRICKLAND (SFWMD - OKEECHOBEE)
CELL: 561-662-2619

MEET W/ MICHAEL GOODSON - AVON PD

ATTENDED E.O.D. COURSE (EXPLOSIVE ORDINANCE DISPOSAL)

- FOUND "W 461" AT WEIR #2 (SFWMD)
EL. -

1-15-08 | AVON PARK MONITOR WELLS | ABRAMIDES [instrument symbol] | DIG LEVEL 10 | 201/53

70° | LK B1 A & LK B2 A | GRAY ⊼

WINDY, COOL | SFWMD | ARMBRUCK 9 | T 1020

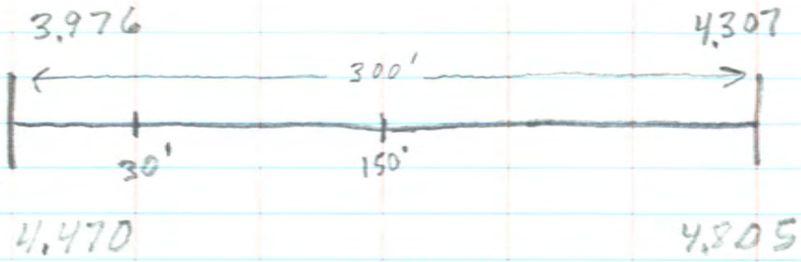
NORTH 2A | J 302336.30

STN.	MEAN	HI	DIST.	MEAN	EL	DIST	ADJ	DESC.
							45.915	BM-RH4A23 EL 45.915 88' DATUM CONC. MON ON A 4' CONC POST 10" DIA CAST IN PVC
BM	1.828	47.743	249.00					
TP 1				5.116	42.627	220.02		SET HUB
	5.711	48.338	252.54					
TP 2				5.475	42.863	274.22		SET HUB
	7.324	50.187	249.96					
TP 3				2.425	47.762	345.82		SET HUB
	6.175	53.937	288.76					
TP 4				4.265	49.672	230.86		SET HUB
	4.983	54.655	258.08					
TP 5				3.950	50.705	228.04		SET HUB.
	4.208	54.913	186.42					
TP 6				5.573	49.340	186.26		SET MON IN CONC @ N. WELL 4' DEEP, 12" DIA @ TOP & 18" DIA @ BOTTOM!
	5.142	54.482	165.62					
TP 7				5.048	49.434	245.50		SET HUB
	3.177	52.611	185.78					
TP 8				6.762	45.849	206.90		SET HUB
	3.837	49.686	237.00					
TP 9				4.458	45.228	227.40		SET HUB
	4.770	49.998	233.80					
TP 10				6.155	43.843	214.44		SET HUB
	3.936	47.779	254.94					
TP 11				4.670	43.109	254.94		SET HUB
	2.374	45.483	241.28					
TP 12				4.876	40.607	258.94		SET HUB
	4.456	45.063	250.62					

1-15-08
70°
Windy & Cool

AVON PARK MONITOR WELLS
LKBB1A & LKBB2A

"Peg Test"



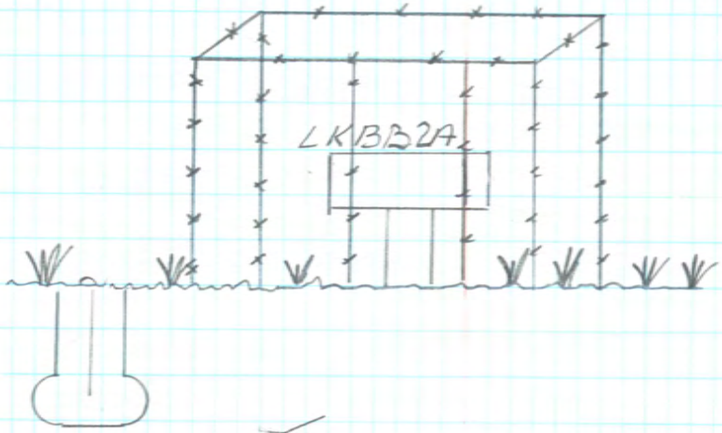
ERROR - 0.004

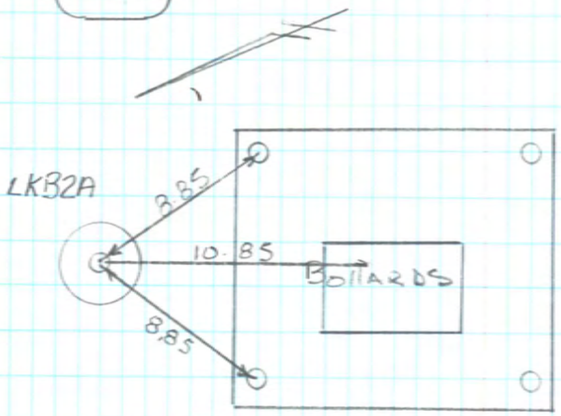
AVENUE
GOLF
APPROACH

201/54

1020
302336-30

NORTH WELL SITE





1-15-08

60°

Cool

Avon Park Monitoring Wells

SFWMD

STA.	MEAN	HI	DIST	MEAN	EL.	DIST	ADJ.
TP-13				4.248	40.815	249.64	
	3.544	44.359	237.12				
TP-14				3.638	40.721	257.94	
	5.367	46.088	264.32				
TP-15				5.580	40.508	244.44	
1-16-08							
SAME CREW							
	5.029	45.537	319.32				
TP-16				5.746	39.791	193.96	
	5.408	45.199	120.28				
TP-17				4.329	40.870	177.58	
	7.298	48.168	244.80				
TP-18				1.035	47.133	181.04	
	7.030	54.163	263.68				
TP-19				3.944	50.219	218.86	
	4.729	54.948	65.24				
TP-20				4.248	50.700	79.	
	3.882	54.582	79.50				
TP-21				4.361	50.221	65.30	
	3.859	54.080	218.36				
TP-22				6.941	47.139	264.12	
	1.106	48.245	196.86				
TP-23				7.368	40.877	229.38	
	4.206	45.083	177.28				
TP-24				5.285	39.798	119.90	
	5.486	45.284	197.98				

50.7

ANRAMIDES

GRAY T

PAPINDICK 9

201/55

1020

302336-3D

DESC.

SET HUB

SET HUB

SET HUB

SET HUB

SET HUB

SET HUB

SET HUB

BM W461 @ WEIR 2 ON A 4'X8' CONC SLAB

SAME AS TP 19

SAME AS TP 18

SAME AS TP 17

SAME AS TP 16

1-16-08 AVON PARK MONITORING WELLS
68° SFWMD
COOL

VERTICAL CONTROL

STA	MEAN	HI	DIST	MEAN	EI	DIST	ADJ	DESC
TP-25				4.768	40.516	321.30		SAME AS TP 15
	5.465	45.981	277.88					
TP-26				5.247	40.734	234.46		SAME AS TP 14
	3.751	44.485	259.72					
TP-27				3.651	40.834	233.46		SAME AS TP 13
	4.312	45.146	256.70					
TP-28				4.518	40.628	243.24		SAME AS TP 12
	5.087	45.715	266.66					
TP-29				2.588	43.127	232.40		SAME AS TP 11
	4.707	47.834	262.02					
TP-30				3.970	43.864	247.34		SAME AS TP 10
	6.373	50.237	219.10					
TP-31				5.002	45.235	223.26		SAME AS TP 9
	4.447	49.682	246.70					
TP-32				3.817	45.865	217.58		SAME AS TP 8
	6.620	52.485	204.74					
TP-33				3.041	49.444	187.86		SAME AS TP 7
	5.059	54.503	244.24					
TP-34				5.151	49.352	166.68		SAME AS TP 6

(CLOSING ERROR)

DIST. =
GND HEIGHT =

PAPINDICK 1 20/56
1020
302336.80

1-16-08
68°
Cool

AVON PARK MONITORING WELL
SFWMD
LKBR 1A
VERTICAL RUN

STA	MEAN	HI	DIST	MEAN	EL	DIST	ADJ 46.96
BM	5.594	52.554	251.66				
TP 1				4.364	48.190	294.36	
	5.317	53.507	307.18				
TP 2				4.896	48.611	281.38	
	5.199	53.810	298.04				
TP 3				6.949	46.861	286.88	
	3.878	50.739	307.18				
TP 4				3.666	47.073	302.70	
	4.152	51.225	234.28				
TP 5				3.865	47.360	214.64	
	6.039	53.399	312.08				
TP 6				2.970	50.429	284.18	
	6.034	56.463	291.04				
TP 7				6.312	56.463	234.06	
TP 8							
TP 9							
TP 10							
TP 11							
TP 12							

ANDRUS ☐ DIG LEVEL 10 201/57
GRAY ↑ TRUCK 17
PAPINDICK 9 FILE: 33630 B 1020
302336.30

DESC (1992)
CONC MON. STAMP U 462 ADJUSTED 46.96
ON E. SIDE BLUFF HAMMOCK ROAD

S HUB W. EDGE ON DIRT ROAD OPP CURVE IN ROAD BLUFF HAMMOCK
S. HUB ON W. EDGE ON DIRT ROAD 20' South of SIGN POST ON BLUFF HAMMOCK
S HUB O E EDGE ON DIRT ROAD OPP CANAL DITCH E/W DIRECTION
S HUB ON W. EDGE DIRT ROAD 3' EAST GUARD RAIL

S HUB ON W. EDGE DIRT ROAD going N into KISSIMEE LILIE RANCH.
S HUB ON E EDGE DIRT ROAD OPP S END DOG PEN
S. HUB ON W. EDGE DIRT ROAD 250± South from KISSISEMEE CAMP HOUSE

V 462
EL. 56.12
1997

1-22-08
65°
Cool

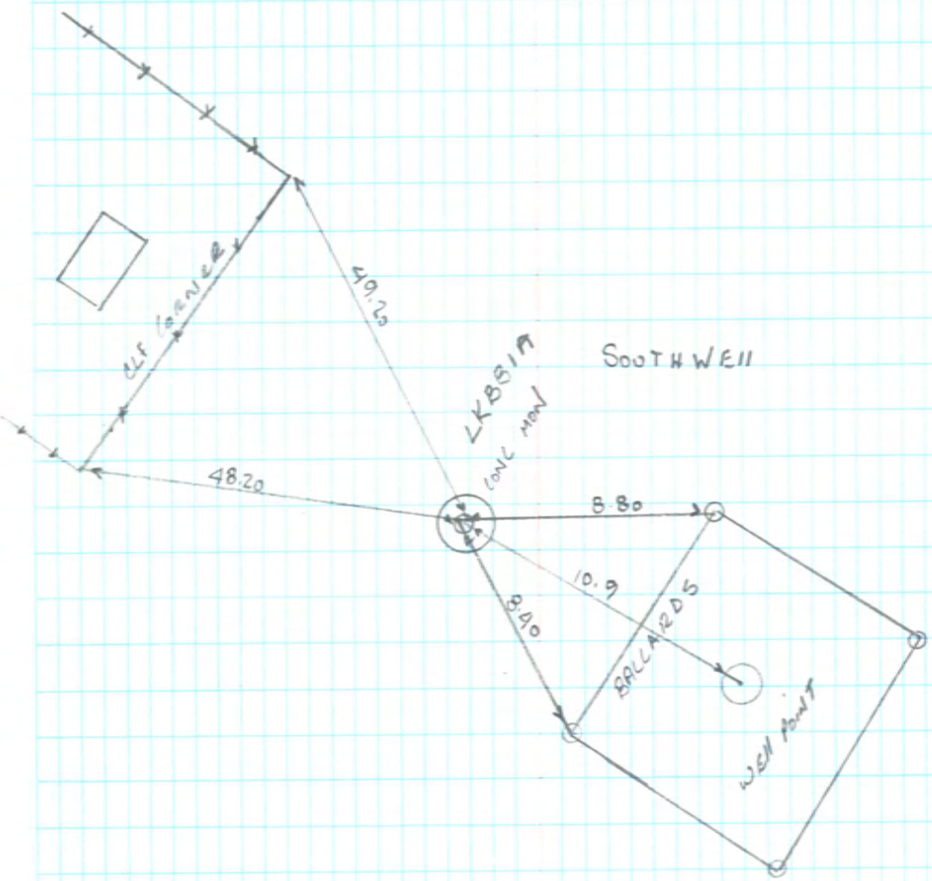
AVON PARK SFWMD

SKETCH OF MON

AVRAMIDES
GRAY T
PAPIN DICK 9

DIG LEVEL
RED QUAD
TRUCK 17

201/58



1-22-08

65°

206

SFWMD AVON PARK

LKBB1A BACK 1, FORE 1

USING LEVEL 1. FORE 2, BACK 2

VERTICAL BENCH LOOP

BS 1	GH	FS 1	FS 2	BK 2	EL
5.369	56.166	5.323	5.473	5.521	
242.12		250.64	250.42	242.38	56.168

File: 33630 F

STA	MEAN	HI	DIST	MEAN	EL	DIST	ADJ
							56.12
BM	5.150	61.27	240.78				
TP 1				5.104	56.166	252.22	
	4.297	60.463	248.16				
TP 2				5.123	55.340	249.48	
	3.876	59.216	249.46				
TP 3				5.131	54.085	250.56	
	4.108	58.193	250.18				
TP 4				4.976	53.217	249.38	
	4.313	57.530	253.32				
TP 5				5.145	52.385	244.64	
	4.707	57.092	251.30				
TP 6				5.680	51.412	244.86	
	4.699	56.111	250.86				
TP 7				5.547	50.564	247.42	
	4.961	55.525	253.64				
TP 8				5.519	50.006	255.62	
	4.592	54.598	252.88				
TP 9				5.924	48.674	246.00	
	4.288	52.962	167.76				

AVRAMIDES

GRAY T

PADMDICK 9

FILE: 33630F

DIG LEVEL 10

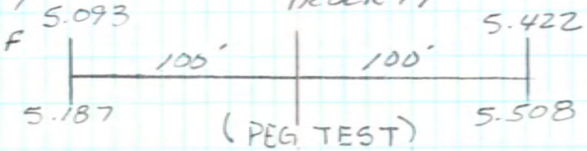
RED QUAD

TRUCK 17

201/59

T-1020

J-302336.30



BM √462 56.12

TP 1 S HUB E.O.P E SIDE 500± N ON BLUFF HAMMOCK ROAD

REMARK

BM √462 EL 56.12

S HUB E.O.P. E SIDE 500± N ON BLUFF HAMMOCK ROAD

" " "

" " "

" " "

" " "

" " "

" " "

" " "

SET HUB E.O.P. E. SIDE 500± N ON BLUFF HAMMOCK RD.

1-22-08 SFWMD Avon Park
75°
Nice Cont Vertical Bench Loop

File: 33630 F

STA.	mean HI	Dist.	mean EL.	Dist.	ADJ.
TP10			5.991	46.971	205.04
	5.617	52.588	254.04		
TP11			5.007	47.581	248.36
	5.876	53.457	258.66		
TP 12			5.001	48.456	246.48
	5.780	54.236	254.76		
TP 13			6.318	47.918	253.96
	3.755	51.673	251.32		
TP 14			6.169	45.504	249.86
	6.019	51.523	254.54		
TP 15			6.818	44.705	250.38
	7.051	51.756	252.84		
TP 16			3.754	48.002	251.00
	6.604	54.606	253.36		
TP 17			3.412	51.194	253.02
	4.597	55.791	253.76		
TP 18			6.553	49.238	250.28
	5.227	54.465	253.60		
TP 19			6.798	47.667	252.00
	6.469	54.136	250.20		
TP 20			5.568	48.568	252.26
	4.771	53.339	252.84		
TP 21			6.088	47.251	253.36
	4.614	51.865	251.46		

ARVAMIDES ☐☐ Dig. Level 10 201/60
GRAY π Red Quad
PAPINDICK 9 Truck 17 T 1020
J 302336.30

Desc.

FND Conc Mon U462 46.96 ELE.

S. Hub E.O.P. W. Side 500± on Bluff Hammock Rd

" " " "

" " " "

" " " "

S Hub on W. Side Edge of Dirt Rd 500±

Set Hub on E Side 20' North @ Kissimmee River Little Ranch Sign

Set Hub on W Side Edge of Dirt Rd 30' N @ Dog Cage

Set Hub W. Side Edge of Dirt Rd 500± @ Kissimmee River Camp House

S Hub Near Rock Road 30'N North

S Hub Near Oak 30' East Next to Rock Road

1-22-08 SFWMD AVON PARK

77°

NICE CONT. VERTICAL BENCH LOOP

File: 33630F

AURAM. DES ☐ Dig. Level 10 201/61

GRAY ⊼ REF QUAD

APPENDIX 9 TRUCK 17 T 1020

J. 302336.30

STA	MEAN HI	DIST.	MEAN EL	DIST.	ADJ.	DESC.
TP 22			5.592	46.273	248.90	S HUB 50± NORTH OF CANAL DITCH
	5.742	52.015	253.98			
TP 23			4.467	47.548	251.22	S HUB NEAR DIRT ROAD 5± SOUTH TREE'S DAK
	4.118	51.666	251.66			
TP 24			4.508	47.158	259.74	S HUB IN OPEN 180± NORTH OF GATE
	4.783	51.941	252.98			
TP 25			5.868	46.073	245.08	S HUB IN OPEN FIELD 20'± W BARB WIRE FENCE
	3.962	50.035	243.30			
TP 26			4.123	45.912	238.88	S HUB IN PILE COW POOP NEAR 2 24" OAKS
	3.703	49.615	250.64			
TP 27			6.148	43.467	248.46	S HUB NEAR GATE TO MARSH LANG 20' OFF FENCE
	5.528	48.995	248.46			
TP 28			4.450	44.545	249.24	S HUB NEAR 2 24" OAKS & 18" DEAD OAK
	6.327	50.872	249.12			
TP 29			1.307	49.565	220.66	S HUB NEAR OLD BULLDOZER ON INCLINE
	8.714	58.279	210.66			
TP 30			4.890	53.389	204.36	S HUB NEAR 10" SABEL PALM & 28" OAK
	2.069	55.458	208.26			
TP 31			6.874	48.584	195.76	S HUB NEAR TRASH BIN W WOOD LOGS ON IT
	4.963	53.547	216.18			
TP 32			4.089	49.458	216.28	S HUB 150± N. OF CULVERT
	6.469	55.927	247.00			
TP 33			1.588	54.339	157.54	S HUB IN PASTURE FIELD 500±
	6.921	61.260	199.06			

1-22-08 SFWMD AVON PARK
77°
NICE CONT. VERTICLE BENCH LOOP

File: 33630 F

STA.	MEAN HI	DIST.	MEAN EL.	DIST.	ADJ.
TP 34			3.702	57.558	195.68
	6.134	63.692	245.90		
TP 35			4.359	59.333	247.32
	5.224	64.557	249.82		
TP 36			4.820	59.737	247.50

1-23-08 (SAME CREW) 70° CLOUDY & FOG

	5.140	64.877	269.52		
TP 37			5.379	59.498	256.88
	5.236	64.734	272.58		
TP 38			5.156	59.578	275.82
	5.519	65.097	275.00		
TP 39			4.882	60.215	272.66
	4.553	64.768	271.54		
TP 40			5.151	59.617	271.28
	4.492	64.109	269.08		
TP 41			5.869	58.240	274.88
	2.942	61.182	267.66		
TP 42			8.433	52.749	242.06
	1.571	54.320	221.74		
TP 43			5.310	49.010	260.82
	3.936	52.946	267.40		

AURAMIDES [II] Dig. Level 10 20162
GRAY T Rod Quad
PAPENDICK 9 TRUCK 17 T 1020
J 302336.30

DESC.
SET HUB IN PASTURE FIELD 500±
SET HUB IN PASTURE FIELD 500±
SET HUB IN PASTURE FIELD 500±
SET HUB IN PASTURE FIELD 550±
SET HUB IN PASTURE FIELD 550±
SET HUB IN PASTURE FIELD 550±
SET HUB IN PASTURE FIELD 550±
SET HUB IN PASTURE FIELD 550± SE of A CATTLE TUB 80'
SET HUB IN PASTURE FIELD 550±
SET HUB @ 200' NE TO GATE

1-23-08 SFWMD AVON PARK
70°
RAIN & CLOUDY CONT VERTICLE BENCH LOOP

File: 33630 F

STA.	mean HI	Dist.	mean EL.	Dist.	ADJ
TP 44			5.213	47.733	275.62
	4.915	52.648	275.88		
TP 45			5.062	47.586	278.28
	5.707	53.293	275.16		
TP 46			5.984	47.309	263.84
	4307	51.616	278.84		
TP 47			6.062	45.554	186.48
	4.628	50.182	101.78		
TP 48			5469	44.713	71.24
	5.178	49.891	71.14		
TP 49			4.335	45.556	101.74
	6085	51.641	217.00		
TP 50			4.334	47.307	248.02
	5.915	53.222	262.50		
TP 51			5.638	47.584	275.44
	5.220	52.804	276.82		
TP 52			5.077	47.727	277.24
	5.017	52.744	274.86		
TP 53			3.744	49.000	267.40
	5.506	54.506	256.54		
TP 54			1.770	52.736	218.76
	8.544	61.280	240.34		
TP 55			3.059	58.221	269.44
	5.969	64.190	274.58		

AVRAMIDES [I] Dig. Level 10 201/63
GRAY K RED QUAD
PARNDICK 9 TRUCK 17 T-1020
J. 302336.30

	Desc.
TP 44	SET HUB @ a DEAD BURNT TREE
TP 45	SET HUB @ a 24" OAK 15' NORTH
TP 46	SET HUB @ 30' NORTH OAK TREE
TP 47	SET HUB 71' S.W. of MON. WELL
TP 48	CONC. MON LK BB1A
TP 49	SAME AS TP 47
TP 50	SAME AS TP 46
TP 51	SAME AS TP 45
TP 52	SAME AS TP 44
TP 53	SAME AS TP 43
TP 54	SAME AS TP 42
TP 55	SAME AS TP 41

1-23-08 SFWMD AVON PARK
78°
Cloudy CONT Vertical Bench Loop

File: 33630 F

STA.	MEAN HI	DIST.	MEAN EL.	DIST.	ADJ.
TP 56			4.590	59.600	269.12
	5.202	64.802	271.18		
TP 57			4.614	60.188	271.22
	4.954	65.142	272.22		
TP 58			5.591	59.551	275.36
	5.126	64.677	275.88		
TP 59			5.208	59.469	272.22
	5.491	64.960	256.80		
TP 60			5.256	59.704	269.50
	4.879	64.583	247.62		
TP 61			5.286	59.297	249.50
	4.581	63.878	247.16		
TP 62			6.355	57.523	245.54
	3.589	61.112	195.24		
TP 63			6.806	54.306	199.14
	1.768	56.074	157.08		
TP 64			6.644	49.430	247.20
	4.295	53.725	215.52		
TP 65			5.168	48.557	219.52
	7.436	55.993	212.76		
TP 66			2.630	53.363	190.92
	4.623	57.986	207.08		
TP 67			8.444	49.542	207.48
	1.383	50.925	219.38		

AURAMIDES (II)
GRAY π
PAPER PICK 9

Dig. Level 10
RED QUAD
TRUCK

201/64
T-1020
J. 302336.30

Desc.	
SAME AS TP 40	
SAME AS TP 39	
SAME AS TP 38	
SAME AS TP 37	
SAME AS TP 36	
SAME AS TP 35	
SAME AS TP 34	
SAME AS TP 33	
SAME AS TP 32	
SAME AS TP 31	
SAME AS TP 30	
SAME AS TP 29	

1-23-08
78°
Cloudy

SFWMD AVON PARK

CONT VERTICAL BENCH LOOP

File: 33630 F

STA.	MEAN HI	DIST.	MEAN EL.	DIST.	ADJ.
TP 68			6.382	44.543	248.90
	4.567	49.110	248.44		
TP 69			5.649	43.461	248.84
	6.049	49.510	248.16		
TP 70			3.603	45.907	250.80
	4.190	50.097	238.60		
TP 71			4.028	46.069	243.10
	5.966	52.035	246.14		
TP 72			4.880	47.155	251.82
	4.775	51.930	259.30		
TP 73			4.385	47.545	251.92
	4.493	52.038	251.22		
TP 74			5.769	46.269	253.92
	5.660	51.929	248.76		
TP 75			4.681	47.248	251.50
	6.310	53.558	253.10		
TP 76			4.993	48.565	252.94
	5.608	54.173	251.94		
TP 77			6.507	47.666	250.36
	6.719	54.385	251.40		
TP 78			5.144	49.241	253.90
	7.162	56.403	250.32		
TP 79			5.207	51.196	253.12
	3.802	54.998	254.08		

AVRAMIDES ☐☐ Dig. Level 10 201/65
GRAY π RED QUAD
PAPENDICK 9 TRUCK 17 T-1020
J.302336.30

Desc.
SAME AS TP 28
SAME AS TP 27
SAME AS TP 26
SAME AS TP 25
SAME AS TP 24
SAME AS TP 23
SAME AS TP 22
SAME AS TP 21
SAME AS TP 20
SAME AS TP 19
SAME AS TP 18
SAME AS TP 17

1-23-08 SFWMD AVON PARK
79°
CloudY CONT VERTICAL BENCH LOOP

File: 33630F

STA.	MEAN HI	DIST.	MEAN EL.	DIST.	ADJ	DESC.
TP 80			6.994	48.004	253.54	SAME AS TP 16
	3.864	51.868	251.40			
TP 81			7.160	44.708	252.46	SAME AS TP 15
	6.939	51.647	250.20			
TP 82			6.140	45.507	254.66	SAME AS TP 14
	6.273	51.780	249.96			
TP 83			3.859	47.921	251.46	SAME AS TP 13
	6.560	54.481	253.78			
TP 84			6.020	48.461	254.76	SAME AS TP 12
	5.084	53.545	246.22			
TP 85			5.956	47.589	258.66	SAME AS TP 11
	5.212	52.801	248.00			
BM U462			5.820	46.981	253.74	CONC. MON. EL 46.96 BM U462

DIST. 41913.4'

ERROR 0.021

AVRAMIDES [illegible]
GRAY
PAPEN DICK

Dig. Level 10
RED QUAD
TRUCK 17

201/66

T-1020
J.302336.30

1-24-08 SAMMO HOOK TRACK

70°

Fog. & Cloudy Vertical Bench Loop

File: 33630 G

STA.			DIST			DIST	A.C.J. 46.96
TP-10	5.722	52.682	253.62				
TP-11				5.154	47.568	247.38	
	5.923	53.491	252.34				
TP-12					47.932	246.66	
	5.870	54.305	254.96				
TP-13				6.32	47.896	253.86	
	3.800	51.696	251.48				
TP-14				6.21-	45.482	250.14	
	6.045	51.527	254.94				
TP-15				6.3-5	44.682	250.38	
	7.116	51.798	252.52				
TP-16				3.820	47.978	251.42	
	6.632	54.610	253.32				
TP-17				5.354	51.176	252.88	
	5.047	56.223	253.04				
TP-18				7.004	49.219	250.58	
	6.065	55.284	133.78				
TP-18A				6.528	48.756	120.68	
	4.986	53.742	127.32				
TP-19				5.216	49.646	122.78	
	6.454	54.100	124.12				
TP 19A				5.294	52.006	127.24	
	6.025	54.031	124.94				
TP 20				5.489	52.542	128.72	
	5.367	53.951	124.94				

NYRAM/DES (1) Dig. Level 10 201/59

GRAY T RED QUAD

PAPER DISK 9 TRUCK 19 T-1020

J. 302336.30

Desc.	
See Page	201/59
See Page	201/60
See Page	201/60
See Page	201/60
See Page	201/60
See Page	201/60
See Page	201/60
See Page	201/60
See Page	201/60
SET TIE	
See Page	201/60
SET HUB	
See Page	201/60

* NOTE *

SHORTEN TURNS DUE TO HEAVY FOG

1-24-08 SFWMD AVON PARK

75°

Fog & Cloudy Cont. Vertical Bench Loop

File: 33630 G

STA.	mean HI	Dist	mean EL	Dist	Adj
TP-20A			5.954	47.955	125.28
	5.268	53,223	125.46		
TP-21			5.996	47,227	127.94
	5.210	52.437	126.98		
TP-21A			5.572	46.865	124.64
	5.160	52.025	126.58		
TP-22			5.786	46.259	123.24
	5.831	52.070	128.28		
TP-22A			5.059	47.011	128.72
	5.008	52.019	127.94		
TP-23			4.499	47.520	124.18
	4.620	52.148	125.64		
TP-23A			5.258	46.882	135.54
	4.866	51.748	126.50		
TP-24			4.622	47.126	127.24
	4.549	51.775	129.94		
TP-24A			4.801	46.874	122.98
	4.715	51.559	129.36		
TP-25			5.242	47.040	120.06
	3.958	50.022	242.36		
TP-26			4.144	45.878	240.08
	3.518	49.396	250.68		
TP-27			5.965	43.431	242.42
	5.027	49.058	249.66		
TP-28			4.548	44.510	250.06
	6.331	50.841	249.00		

AVRAMIDES [I]
GRAY π
PAPONDICK 9

Pig. level 10 201/68
RED QUAD
TRUCK 17 T-1020
J. 302336.30

Desc.

Set HUB

* NOTE *

SHORTEN TURNS DUE TO HEAVY FOG

See PAGE 201/60

Set HUB

See PAGE 201/61

Set HUB

See PAGE 201/61

Set HUB

See PAGE 201/61

Set HUB

See PAGE 201/61

See PAGE 201/61

See PAGE 201/61

1-24-08 SFWMD AVON PARK

75°

CLOUDY CONT VERTICLE BENCH LOOP

File: 33630 G

STA.	MEAN HI	DIST	MEAN EL.	DIST	ADJ.
TP-29			1.351	49.510	219.40
	2.489	57.999	216.36		
TP-30			4.670	53.329	205.32
	2.098	55.427	212.72		
TP-31			6.906	48.521	191.74
	5.208	53.729	215.62		
TP-32			4.336	49.393	216.30
	6.488	55.881	247.00		
TP-33			1.605	54.246	157.52
	7.082	61.358	199.14		
TP-34			3.864	57.494	195.56
	6.235	63.727	246.12		
TP-35			4.460	59.267	247.28
	5.151	64.418	249.56		
TP-36			4.747	59.671	247.54
	5.032	64.703	269.56		
TP-37			5.269	59.434	256.86
	5.011	64.445	272.28		
TP-38			4.932	59.513	275.50
	5.464	64.977	275.18		
TP-39			4.826	60.151	272.12
	4.701	64.852	271.30		
TP-40			5.301	59.551	271.30
	4.576	64.127	268.94		
TP-41			5.956	58.171	274.66
	2.738	60.909	268.42		

AVRAM DES II
GRAY T
PAPENDICK 9

DIG. LEVEL 10
RED QUAD
TRUCK 17

201/69
T-1020
J. 302336.30

DESC.

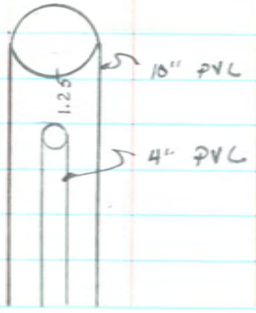
See PAGE 201/61	
See PAGE 201/61	
See PAGE 201/61	
See PAGE 201/61	
See PAGE 201/61	
See PAGE 201/62	
See PAGE 201/62	
See PAGE 201/62	
See PAGE 201/62	
See PAGE 201/62	
See PAGE 201/62	
See PAGE 201/62	

1-24-08 SFWMD AVON PARK
75°
Cloudy CONT VERTICLE BENCH LOOP

File: 33630 G

STA.	MEAN HI	DIST	MEAN EL.	DIST	ADJ
TP-42			8.222	52.687	241.20
	2.134	54.821	217.96		
TP-43			5.872	48.949	252.34
	3.849	52.798	267.16		
TP-44			5.123	47.675	275.46
	4.869	52.544	276.22		
TP-45			5.016	47.528	277.62
	5.820	53.348	275.30		
TP-46			6.123	47.225	261.92
	4.408	51.633	247.96		
TP-47			6.127	45.506	217.20
	4.556	50.062	81.82		
LK BB1A			5.398	44.664	91.18

ERROR .049
DIST. 18529.0



AVRAMIDES
GRAY T
PAPEN DICK 9

Dig. Level 10
RED QUAD
TRUCK 17

201/70

T-1020
J. 302336.30

See PAGE 201/62

See PAGE 201/62

See PAGE 201/63

See PAGE 201/63

See PAGE 201/63

See PAGE 201/63

CONC. MON.

2-20-08
70°
Cool

AVON PARK
SFWMD

SET ELEV ON GROUND WELL

ELEV @ LKBB1A

STA	+	AVG	HI	−	AVG	EL	REMARK
	5.29					45846	29 DAT
BM	5.21 5.14	5.21	51.056				
				2.37			TOP GND
TP 1				2.29 2.22	2.29	48.763	WELL
	2.71						
	2.63						
	2.56	2.63	51.396				
				5.63			
				5.55			
TP 2				5.48	5.55	45,846	BM CONC MON

LKBB1A GW
ELEV. 48.763
DATE 2·20·08
BY WGI
NAVD NGVD 29

INFO ON STAMPED BRASS TAG

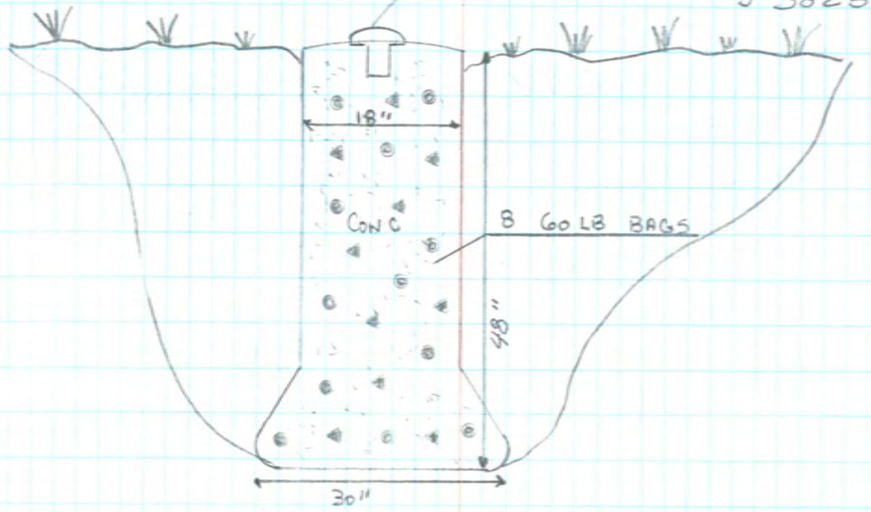
AVRAMIDES
GRAY
GLADMAN

CONC. MON. VIEW

20/71

(SEE BELOW)

T 1020
J 302336.30



ELEV @ TOP MON. DISK = 45846 "29" DATUM

S.F.L. WATER MANAGEMENT DIST. SURVEY
LKBB1A
2008
MARKER

2/22/08
75°
Cool, windy

ANON PARK
SFWMD

SET EIEV ON GROUND WELL

EIEV @ LKBB2A

STA	+	AVG	HI	−	AVG	EI	REMARKS
						50.483	29 DATUM
	5.608						
BM	5.498	5.498	55.981				
	5.388						
				1.859			TOP OF
TP1				1.769	1.769	54.212	GROUND
				1.679			WELL
	1.753						
	1.662						
	1.567	1.661	55.873				
				5.505			
TP2				5.394	5.394	50.479	Vent @
				5.283			LKBB2A

LKBB2A GW
EIEV. 54.212
DATE 2·22·08
BY WGI
NAVD NGVD 29

INFO ON STAMPED BRASS TAG

AVRAMIDES III
GRAY T

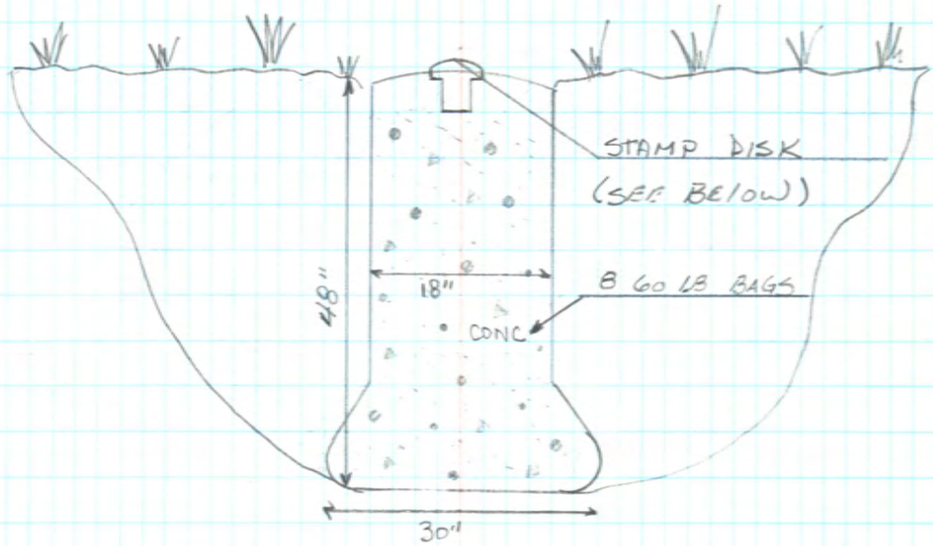
DIG LEVEL 10
102 C

201/72

T1020

CONC MON VIEW

302336.30



EIEV @ TOP MON DISK = 50.483 "29" DAT

The NGS Data Sheet

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

```
DATABASE = Sybase ,PROGRAM = datasheet, VERSION = 7.58
1        National Geodetic Survey,   Retrieval Date = FEBRUARY 29, 2008
 AH8813 ***********************************************************************
 AH8813  DESIGNATION -  U 462
 AH8813  PID         -  AH8813
 AH8813  STATE/COUNTY-  FL/HIGHLANDS
 AH8813  USGS QUAD   -  BASINGER NW (1972)
 AH8813
 AH8813                        *CURRENT SURVEY CONTROL
 AH8813  ______________________________________________________________________
 AH8813* NAD 83(2007)-  27 29 38.00973(N)     081 12 37.58637(W)      ADJUSTED
 AH8813* NAVD 88     -        14.314  (meters)       46.96   (feet)  ADJUSTED
 AH8813  ______________________________________________________________________
 AH8813  EPOCH DATE  -         2002.00
 AH8813  X           -     865,158.757 (meters)                      COMP
 AH8813  Y           -  -5,595,329.463 (meters)                      COMP
 AH8813  Z           -   2,926,864.424 (meters)                      COMP
 AH8813  LAPLACE CORR-          -0.89  (seconds)                     DEFLEC99
 AH8813  ELLIP HEIGHT-         -11.799 (meters)          (02/10/07) ADJUSTED
 AH8813  GEOID HEIGHT-         -26.09  (meters)                      GEOID03
 AH8813  DYNAMIC HT  -          14.292 (meters)       46.89  (feet)  COMP
 AH8813
 AH8813  ------- Accuracy Estimates (at 95% Confidence Level in cm) --------
 AH8813  Type    PID    Designation                        North   East  Ellip
 AH8813  ----------------------------------------------------------------------
 AH8813  NETWORK AH8813 U 462                               0.69   0.67   1.27
 AH8813  ----------------------------------------------------------------------
 AH8813  MODELED GRAV-     979,134.8   (mgal)                        NAVD 88
 AH8813
 AH8813  VERT ORDER  -  SECOND    CLASS I
 AH8813
 AH8813.The horizontal coordinates were established by GPS observations
 AH8813.and adjusted by the National Geodetic Survey in February 2007.
 AH8813
 AH8813.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
 AH8813.See National Readjustment for more information.
 AH8813.The horizontal coordinates are valid at the epoch date displayed above.
 AH8813.The epoch date for horizontal control is a decimal equivalence
 AH8813.of Year/Month/Day.
 AH8813
 AH8813.The orthometric height was determined by differential leveling
 AH8813.and adjusted in July 1999.
 AH8813
 AH8813.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 AH8813
 AH8813.The Laplace correction was computed from DEFLEC99 derived deflections.
 AH8813
 AH8813.The ellipsoidal height was determined by GPS observations
 AH8813.and is referenced to NAD 83.
 AH8813
 AH8813.The geoid height was determined by GEOID03.
 AH8813
 AH8813.The dynamic height is computed by dividing the NAVD 88
 AH8813.geopotential number by the normal gravity value computed on the
 AH8813.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 AH8813.degrees latitude (g = 980.6199 gals.).
 AH8813
```

```
AH8813.The modeled gravity was interpolated from observed gravity values.
AH8813
AH8813;                    North         East      Units Scale Factor Converg.
AH8813;SPC FL E     -   350,145.315   179,205.957   MT  0.99994651   -0 05 49.7
AH8813;SPC FL E     - 1,148,768.42    587,944.88    sFT  0.99994651   -0 05 49.7
AH8813;UTM  17      - 3,041,157.829   479,213.052   MT  0.99960533   -0 05 49.7
AH8813
AH8813!             -  Elev Factor  x  Scale Factor =   Combined Factor
AH8813!SPC FL E     -   1.00000185  x   0.99994651  =   0.99994836
AH8813!UTM  17      -   1.00000185  x   0.99960533  =   0.99960718
AH8813
AH8813                          SUPERSEDED SURVEY CONTROL
AH8813
AH8813  NAD 83(1999)-  27 29 38.00965(N)     081 12 37.58638(W) AD(       ) 1
AH8813  ELLIP H (05/31/01)  -11.783  (m)                        GP(       ) 4 1
AH8813  NAD 83(1990)-  27 29 38.00865(N)     081 12 37.58588(W) AD(       ) 1
AH8813  ELLIP H (06/01/99)  -11.798  (m)                        GP(       ) 4 1
AH8813  NAVD 88 (06/01/99)   14.35   (m)           47.1    (f) LEVELING    3
AH8813
AH8813.Superseded values are not recommended for survey control.
AH8813.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AH8813.See file dsdata.txt to determine how the superseded data were derived.
AH8813
AH8813_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RML7921341158(NAD 83)
AH8813_MARKER: DD = SURVEY DISK
AH8813_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
AH8813_STAMPING: U 462 1997
AH8813_MARK LOGO: FLDNR
AH8813_MAGNETIC: N = NO MAGNETIC MATERIAL
AH8813_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
AH8813+STABILITY: SURFACE MOTION
AH8813_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AH8813+SATELLITE: SATELLITE OBSERVATIONS - May 17, 2005
AH8813
AH8813  HISTORY     - Date     Condition        Report By
AH8813  HISTORY     - 1997     MONUMENTED       FLDEP
AH8813  HISTORY     - 19981128 GOOD             DENI
AH8813  HISTORY     - 20050517 GOOD             MACTEC
AH8813
AH8813                          STATION DESCRIPTION
AH8813
AH8813'DESCRIBED BY FL DEPT OF ENV PRO 1997 (JLM)
AH8813'THE MARK IS ABOUT 33.5 MI (53.9 KM) NORTHWEST OF OKEECHOBEE, 4.6
AH8813'NORTHEAST OF LORIDA, 1.0 MI (1.6 KM) WEST OF KISSIMMEE RIVER IN
AH8813'SECTION 27, TOWNSHIP 34 SOUTH, RANGE 31 EAST. TO REACH THE MARK FROM
AH8813'THE POST OFFICE IN LORIDA, GO SOUTHEAST ON U.S.  HIGHWAY 98 FOR 1.05
AH8813'MI (1.69 KM) TO THE JUNCTION OF BLUFF HAMMOCK ROAD ON THE LEFT, TURN
AH8813'LEFT ON BLUFF HAMMOCK ROAD AND GO NORTHEAST FOR 4.15 MI (6.68 KM) TO
AH8813'THE END OF THE PAVED ROAD AND A Y-JUNCTION, BEAR LEFT ON THE SAND ROAD
AH8813'AND GO NORTH FOR 0.35 MI (0.56 KM) TO THE MARK ON THE RIGHT, SET IN
AH8813'THE TOP OF A ROUND CONCRETE MONUMENT FLUSH WITH THE GROUND AND LEVEL
AH8813'WITH THE SAND ROAD. LOCATED 67.7 FT (20.6 M) SOUTHEAST OF THE CENTER
AH8813'OF A METAL GATE, 60.0 FT (18.3 M) SOUTHEAST OF THE SOUTHEAST GATE
AH8813'POST, 59.8 FT (18.2 M) SOUTHEAST OF THE SOUTHEAST END OF A 30-INCH
AH8813'STEEL PIPE UNDER A ROAD LEADING NORTH-SOUTH, 41.3 FT (12.6 M)
AH8813'SOUTHEAST OF THE CENTER OF A WOODEN GATE, 32.2 FT (9.8 M) NORTHEAST OF
AH8813'THE CENTERLINE OF THE SAND ROAD, 1.0 FT (0.3 M) SOUTHWEST OF A HOG
AH8813'WIRE FENCE AND 0.8 FT (24.4 CM) SOUTHWEST OF A CARSONITE WITNESS POST.
AH8813
AH8813                          STATION RECOVERY (1998)
AH8813
AH8813'RECOVERY NOTE BY DENI ASSOCIATES INCORPORATED 1998 (RLW)
AH8813'THE STATION IS ABOUT 28.7 MI (46.2 KM) NORTHWEST OF OKEECHOBEE, 4.5 MI
AH8813'(7.2 KM) NORTHEAST OF LORIDA, 1.0 MI (1.6 KM) WEST OF THE KISSIMMEE
```

AH8813'RIVER CANAL C-38 IN SECTION 27, TOWNSHIP 34 SOUTH, RANGE 31 EAST. TO
AH8813'REACH THE STATION FROM THE POST OFFICE IN LORIDA, GO SOUTHEAST ON
AH8813'U.S.HIGHWAY 98 FOR 1.05 MI (1.69 KM) TO THE JUNCTION OF BLUFF HAMMOCK
AH8813'ROAD ON THE LEFT, TURN LEFT ON BLUFF HAMMOCK ROAD AND GO NORTHEAST FOR
AH8813'4.15 MI (6.68 KM) TO THE END OF THE PAVED ROAD AND A Y-JUNCTION, BEAR
AH8813'LEFT ON THE SAND ROAD AND GO NORTH FOR 0.35 MI (0.56 KM) TO THE
AH8813'STATION ON THE RIGHT, SET IN THE TOP OF A ROUND CONCRETE MONUMENT
AH8813'FLUSH WITH THE GROUND AND LEVEL WITH THE SAND ROAD. LOCATED 67.7 FT
AH8813'(20.6 M) SOUTHEAST OF THE CENTER OF A METAL GATE, 59.0 FEET (18.0 M)
AH8813'SOUTHEAST OF THE SOUTHEAST GATE POST/T FENCE POST, 138 FT (42.1 M)
AH8813'SOUTHEAST OF THE NORTHEAST END OF A 4.0 FT (1.2 M) DIAMETER METAL PIPE
AH8813'CULVERT UNDER THE SAND ROAD, 31 FT (9.4 M) NORTHEAST OF THE CENTERLINE
AH8813'OF THE SAND ROAD, 2.5 FT (0.8 M) SOUTHWEST OF A HOG WIRE R/W FENCE AND
AH8813'N.G.S.CARSONITE WITNESS POST.
AH8813
AH8813 STATION RECOVERY (2005)
AH8813
AH8813'RECOVERY NOTE BY MACTEC ENGINEERING AND CONSULTING 2005 (CGB)
AH8813'RECOVERED AS DESCRIBED

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

The NGS Data Sheet

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

```
DATABASE = Sybase ,PROGRAM = datasheet, VERSION = 7.58
1        National Geodetic Survey,   Retrieval Date = FEBRUARY 29, 2008
 AH8814 ***********************************************************************
 AH8814  DESIGNATION -  V 462
 AH8814  PID         -  AH8814
 AH8814  STATE/COUNTY-  FL/HIGHLANDS
 AH8814  USGS QUAD   -  BASINGER NW (1972)
 AH8814
 AH8814                        *CURRENT SURVEY CONTROL
 AH8814  ______________________________________________________________________
 AH8814* NAD 83(1986)-  27 28 55.      (N)     081 12 53.      (W)      SCALED
 AH8814* NAVD 88     -         17.106  (meters)       56.12    (feet)   ADJUSTED
 AH8814  ______________________________________________________________________
 AH8814  GEOID HEIGHT-          -26.07  (meters)                         GEOID03
 AH8814  DYNAMIC HT  -           17.080 (meters)       56.04    (feet)   COMP
 AH8814  MODELED GRAV-      979,132.8   (mgal)                           NAVD 88
 AH8814
 AH8814  VERT ORDER  -  SECOND    CLASS I
 AH8814
 AH8814.The horizontal coordinates were scaled from a topographic map and have
 AH8814.an estimated accuracy of +/- 6 seconds.
 AH8814
 AH8814.The orthometric height was determined by differential leveling
 AH8814.and adjusted in July 1999.
 AH8814
 AH8814.The geoid height was determined by GEOID03.
 AH8814
 AH8814.The dynamic height is computed by dividing the NAVD 88
 AH8814.geopotential number by the normal gravity value computed on the
 AH8814.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 AH8814.degrees latitude (g = 980.6199 gals.).
 AH8814
 AH8814.The modeled gravity was interpolated from observed gravity values.
 AH8814
 AH8814;                    North         East     Units  Estimated Accuracy
 AH8814;SPC FL E     -   348,820.      178,780.       MT  (+/- 180 meters Scaled)
 AH8814
 AH8814                          SUPERSEDED SURVEY CONTROL
 AH8814
 AH8814.No superseded survey control is available for this station.
 AH8814
 AH8814_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RML787398(NAD 83)
 AH8814_MARKER: DD = SURVEY DISK
 AH8814_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
 AH8814_STAMPING: V 462 1997
 AH8814_MARK LOGO: FLDEP
 AH8814_MAGNETIC: N = NO MAGNETIC MATERIAL
 AH8814_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
 AH8814+STABILITY: SURFACE MOTION
 AH8814_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
 AH8814+SATELLITE: SATELLITE OBSERVATIONS - 1997
 AH8814
 AH8814  HISTORY     - Date     Condition        Report By
 AH8814  HISTORY     - 1997     MONUMENTED       FLDEP
 AH8814
 AH8814                          STATION DESCRIPTION
 AH8814
```

AH8814'DESCRIBED BY FL DEPT OF ENV PRO 1997 (JLM)
AH8814'THE MARK IS ABOUT 33.0 MI (53.1 KM) NORTHWEST OF OKEECHOBEE, 3.6
AH8814'NORTHEAST OF LORIDA, 2.0 MI (3.2 KM) WEST OF KISSIMMEE RIVER IN
AH8814'SECTION 34, TOWNSHIP 34 SOUTH, RANGE 31 EAST. TO REACH THE MARK FROM
AH8814'THE POST OFFICE IN LORIDA, GO SOUTHEAST ON U.S. HIGHWAY 98 FOR 1.05
AH8814'MI (1.69 KM) TO THE JUNCTION OF BLUFF HAMMOCK ROAD ON THE LEFT, TURN
AH8814'LEFT ON BLUFF HAMMOCK ROAD AND GO NORTHEAST FOR 3.5 MI (5.6 KM) TO THE
AH8814'JUNCTION OF A BARBWIRE FENCES ON THE RIGHT, LEADING EAST AND THE MARK
AH8814'ON THE RIGHT, SET IN THE TOP OF A ROUND CONCRETE MONUMENT FLUSH WITH
AH8814'THE GROUND AND LEVEL WITH THE BLUFF HAMMOCK ROAD. LOCATED 39.5 FT
AH8814'(12.0 M) SOUTHEAST OF THE CENTERLINE OF BLUFF HAMMOCK ROAD, 1.8 FT
AH8814'(0.5 M) NORTHWEST OF THE BARBWIRE FENCES AND 1.2 FT (0.4 M) NORTHWEST
AH8814'OF A CARSONITE WITNESS POST.

*** 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 = 7.58
1        National Geodetic Survey,   Retrieval Date = FEBRUARY 29, 2008
 AH8798 ***********************************************************************
 AH8798  DESIGNATION -  W 461
 AH8798  PID         -  AH8798
 AH8798  STATE/COUNTY-  FL/HIGHLANDS
 AH8798  USGS QUAD   -  FORT KISSIMMEE (1972)
 AH8798
 AH8798                        *CURRENT SURVEY CONTROL
 AH8798
 AH8798* NAD 83(1986)-  27 33 56.     (N)    081 10 30.     (W)     SCALED
 AH8798* NAVD 88     -        15.452  (meters)      50.70   (feet)  ADJUSTED
 AH8798
 AH8798  GEOID HEIGHT-         -26.20  (meters)                      GEOID03
 AH8798  DYNAMIC HT  -          15.429 (meters)      50.62  (feet)  COMP
 AH8798  MODELED GRAV-     979,146.0   (mgal)                        NAVD 88
 AH8798
 AH8798  VERT ORDER  -  SECOND    CLASS I
 AH8798
 AH8798.The horizontal coordinates were scaled from a topographic map and have
 AH8798.an estimated accuracy of +/- 6 seconds.
 AH8798
 AH8798.The orthometric height was determined by differential leveling
 AH8798.and adjusted in July 1999.
 AH8798
 AH8798.The geoid height was determined by GEOID03.
 AH8798
 AH8798.The dynamic height is computed by dividing the NAVD 88
 AH8798.geopotential number by the normal gravity value computed on the
 AH8798.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 AH8798.degrees latitude (g = 980.6199 gals.).
 AH8798
 AH8798.The modeled gravity was interpolated from observed gravity values.
 AH8798
 AH8798;                    North         East     Units  Estimated Accuracy
 AH8798;SPC FL E     -   358,080.      182,720.      MT  (+/- 180 meters Scaled)
 AH8798
 AH8798                          SUPERSEDED SURVEY CONTROL
 AH8798
 AH8798.No superseded survey control is available for this station.
 AH8798
 AH8798_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RML827490(NAD 83)
 AH8798_MARKER: DD = SURVEY DISK
 AH8798_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
 AH8798_SP_SET: CONCRETE POST
 AH8798_STAMPING: W 461 1997
 AH8798_MARK LOGO: FLDEP
 AH8798_MAGNETIC: N = NO MAGNETIC MATERIAL
 AH8798_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
 AH8798+STABILITY: SURFACE MOTION
 AH8798_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
 AH8798+SATELLITE: SATELLITE OBSERVATIONS - 1997
 AH8798
 AH8798  HISTORY     - Date     Condition        Report By
 AH8798  HISTORY     - 1997     MONUMENTED       FLDEP
 AH8798
 AH8798                          STATION DESCRIPTION
```

AH8798
AH8798'DESCRIBED BY FL DEPT OF ENV PRO 1997 (JLM)
AH8798'THE MARK IS ABOUT 7.0 MI (11.3 KM) NORTHEAST OF LORIDA, 0.05 MI (0.08
AH8798'KM) WEST OF KISSIMMEE RIVER IN SECTION 36, TOWNSHIP 33 SOUTH, RANGE 31
AH8798'EAST. TO REACH THE MARK FROM THE POST OFFICE IN LORIDA, GO SOUTHEAST
AH8798'ON U.S. HIGHWAY 98 FOR 1.05 MI (1.69 KM) TO THE JUNCTION OF BLUFF
AH8798'HAMMOCK ROAD ON THE LEFT AND THE SEABOARD COAST RAILROAD TRACKS, TURN
AH8798'LEFT ON BLUFF HAMMOCK ROAD AND GO NORTHEAST FOR 4.15 MI (6.68 KM) TO
AH8798'THE END OF THE PAVED ROAD AND A Y-JUNCTION, BEAR LEFT ON THE SAND ROAD
AH8798'AND GO NORTH FOR 0.7 MI (1.1 KM) TO THE JUNCTION OF A DIRT ROAD ON THE
AH8798'LEFT (LEADING NORTH) , CONTINUE NORTHEAST ON THE SAND ROAD FOR 0.7 MI
AH8798'(1.1 KM) TO THE JUNCTION OF A LEVEE ROAD ON THE LEFT, TURN LEFT ON THE
AH8798'LEVEE ROAD AND GO NORTH FOR 0.05 MI (0.08 KM) TO A LOCKED GATE,
AH8798'CONTINUE NORTH ON THE LEVEE ROAD FOR 3.15 MI (5.07 KM) TO A 90 DEGREE
AH8798'TURN EAST, TURN RIGHT ON THE LEVEE ROAD AND GO EAST FOR 0.55 MI (0.89
AH8798'KM) TO A 90 DEGREE TURN LEFT, TURN LEFT ON THE LEVEE ROAD AND GO NORTH
AH8798'FOR 128.0 FT (39.0 M) TO THE JUNCTION OF AN EAST-WEST LEVEE ROAD, TURN
AH8798'RIGHT ON THE LEVEE ROAD AND GO EAST FOR 0.15 MI (0.24 KM) TO THE
AH8798'JUNCTION OF A DIM ROAD LEADING NORTH, TURN LEFT ON THE DIM ROAD AND GO
AH8798'NORTH FOR 73.0 FT (22.3 M) TO A LOCKED GATE, CONTINUE NORTH ON THE DIM
AH8798'ROAD FOR 78.0 FT (23.8 M) TO THE JUNCTION OF A TRAIL ROAD LEADING
AH8798'EAST-WEST, TURN RIGHT ON THE TRAIL ROAD AND GO EAST FOR 1.4 MI (2.3
AH8798'KM) TO AN OPEN GATE, CONTINUE EAST ON THE TRAIL ROAD FOR 0.9 MI (1.4
AH8798'KM) TO THE MARK ON THE LEFT, SET IN THE TOP OF A ROUND CONCRETE
AH8798'MONUMENT FLUSH WITH THE GROUND AND LEVEL WITH THE TRAIL ROAD. LOCATED
AH8798'603.0 FT (183.8 M) SOUTHEAST OF SURVEY MARK X 461 1997, 508.0 FT
AH8798'(154.8 M) SOUTHEAST OF SURVEY MARK V 461 1997, 200.0 FT (61.0 M)
AH8798'NORTHWEST OF THE NORTH SIDE OF THE CANAL, 30.0 FT (9.1 M) NORTHWEST OF
AH8798'THE APPROXIMATE CENTERLINE OF THE TRAIL ROAD, 4.4 FT (1.3 M)
AH8798'WEST-SOUTHWEST OF AN ANTENNA TOWER WITH THREE GUY WIRES ATTACHED AND
AH8798'2.0 FT (0.6 M) SOUTH OF A CARSONITE WITNESS POST. NOTE FOR ACCESS AND
AH8798'KEY CONTACT SOUTH FLORIDA WATER MANAGEMENT DISTRICT AT 561-686-8800.

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

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Survey Monument BenchMark Database Search

Designation	Rh4a23			Latitude	273423.7
County	Highlands			Longitude	811044.4
Quad	Fort kissimmee			Monument	Mactec eng & consltg inc
Project	Kissimmee river valley wells			Year Set	2006
S/T/R	25	33	31	Type	V
Status				Stamping	Rh4a 23
				Party Chief	
NAD 1927				FB	Kr-mec 07
N:				Pg	18
E:				**NGVD 1929**	
Adjustment				Elevation	47.06
NAD 1983				Order	
N:	1177600			Class	
E:	598176			**NAVD 1988**	
Adjustment				Elevation	45.915
Order				Order	2
Class				Class	

Back

TO REACH THE STATION FROM THE INTERSECTION STATE ROAD 64 AND STATE ROAD 27 IN AVON PARK, GO EAST AND NORTH-EAST ON STATE ROAD 64 FOR 11.3 MI TO THE ENTRANCE OF THE AVON PARK AIR FORCE BOMBING RANGE / CORRECTIONAL FACILITY, CONTINUE EAST THRU GUARD SHACK ON AVON PARK AIR FORCE BOMBING RANGE ROADS FOR 5.3 MILE TO A JUNCTION OF A ROAD ON THE RIGHT, TURN RIGHT ON ROAD AND GO SOUTH FOR 3.2 MILE TO A JUNCTION OF A ROAD ON THE LEFT, TURN LEFT ON ROAD AND GO EAST FOR 4.8 MILES TO GATE AT CHARLIE RANGE (CALL RANGE CONTROL FOR CLEARANCE) CONTINUE ON ROAD AND EXIT CHARLIE RANGE, CONTINUE SOUTHEAST FOR 2.8 MILES TO THE SHOWER-RESTROOM INSTALLATIONS, THEN TRAVEL SOUTHWEST ALONG TRAIL FOR 1.5 MILES TO THE STATION LOCATED AT:LAT. +27? 34' 23.68" LON. -81? 10' 44.43"

THE MARK IS A SFWMD 3 1/2" BRASS DISK; STAMPED [RH4A23 2006]; SET IN TOP OF A 12" DIAMETER PVC PIPE FILLED WITH CONCRETE.

WELL DATA
HORIZONTAL LOCATION TAKEN AT APPROXIMATE CENTER OF WELL
RH4A 21
LAT. +27? 34' 23.68"
LON. -81? 10' 44.43"
N 1177600. USFT
E 598176. USFT

MP -- EXISTING REFERENCE MARK (MARK POINT) IS A BLACK MARKED SQUARE LOCATED AT THE PERIMETER OF CIRCULAR OPENING IN RECORDER BOX FLOOR.
15.542 (M) 50.99 (FT) NAVD 88 BASED ON PUBLISHED NGS VALUES.
15.925 (M) 52.25 (FT) NGVD 29 BASED ON PUBLISHED S.F.W.M.D. VALUES.
15.889 (M) 52.13 (FT) NGVD 29 (VERTCON TRANSFORMATION)

Back

South Florida Water Management District
Benchmark Database

Report run on: March 26, 2008 11:34 AM

Designation: RH4A23
County: HIGHLANDS
USGS Quad: FORT KISSIMMEE
Project: KISSIMMEE RIVER VALLEY WELLS
Sec: 25 Twp: 33 Rge: 31
Status:

NAD 1927 Coordinates:
N =
E =
Adjustment:

NAD 1983 Coordinates:
X = 598176.000
Y = 1177600.000
Adjustment:
Order:
Class:

Latitude: 273423.700 Scaled values only
Longitude: 811044.400
Monument By: MACTEC ENG & CONSLTG INC
Year: 2006
Type: V
Stamping: RH4A 23
Party Chief:
Field Book KR-MEC 07
Page: 18

NGVD 1929
Elevation: 47.060
Order:
Class:

NAVD 1988
Elevation: 45.915
Order: 2
Class:

Description:

TO REACH THE STATION FROM THE INTERSECTION STATE ROAD 64 AND STATE ROAD 27 IN AVON PARK, GO EAST AND NORTH-EAST ON STATE ROAD 64 FOR 11.3 MI TO THE ENTRANCE OF THE AVON PARK AIR FORCE BOMBING RANGE / CORRECTIONAL FACILITY, CONTINUE EAST THRU GUARD SHACK ON AVON PARK AIR FORCE BOMBING RANGE ROADS FOR 5.3 MILE TO A JUNCTION OF A ROAD ON THE RIGHT, TURN RIGHT ON ROAD AND GO SOUTH FOR 3.2 MILE TO A JUNCTION OF A ROAD ON THE LEFT, TURN LEFT ON ROAD AND GO EAST FOR 4.8 MILES TO GATE AT CHARLIE RANGE (CALL RANGE CONTROL FOR CLEARANCE) CONTINUE ON ROAD AND EXIT CHARLIE RANGE, CONTINUE SOUTHEAST FOR 2.8 MILES TO THE SHOWER-RESTROOM INSTALLATIONS, THEN TRAVEL SOUTHWEST ALONG TRAIL FOR 1.5 MILES TO THE STATION LOCATED AT:LAT. +27? 34' 23.68" LON. -81? 10' 44.43"

THE MARK IS A SFWMD 3 1/2" BRASS DISK; STAMPED [RH4A23 2006]; SET IN TOP OF A 12" DIAMETER PVC PIPE FILLED WITH CONCRETE.

WELL DATA
HORIZONTAL LOCATION TAKEN AT APPROXIMATE CENTER OF WELL
RH4A 21
LAT. +27? 34' 23.68"
LON. -81? 10' 44.43"
N 1177600. USFT
E 598176. USFT

MP -- EXISTING REFERENCE MARK (MARK POINT) IS A BLACK MARKED SQUARE LOCATED AT THE PERIMETER OF CIRCULAR OPENING IN RECORDER BOX FLOOR.
15.542 (M) 50.99 (FT) NAVD 88 BASED ON PUBLISHED NGS VALUES.
15.925 (M) 52.25 (FT) NGVD 29 BASED ON PUBLISHED S.F.W.M.D. VALUES.
15.889 (M) 52.13 (FT) NGVD 29 (VERTCON TRANSFORMATION)

Office

Project

17 March 2017

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

LKBB1A

1/2

Latitude: 27 32 07.7
Longitude: 81 13 14.6
Elevation/Z: 0

Northing/Y: 1163890.218
Easting/X: 584638.637
Elevation/Z: 1.132
Convergence: -0 06 07.34319
Scale Factor: 0.999947041
Combined Factor: 0.999951090

LKBB2A

2/2

Latitude: 27 34 28.9
Longitude: 81 11 09.0
Elevation/Z: 0

Northing/Y: 1178130.381
Easting/X: 595966.274
Elevation/Z: 1.142
Convergence: -0 05 09.68403
Scale Factor: 0.999945331
Combined Factor: 0.999949389

Remark: