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# Surveyor's Report

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## Specific Purpose Survey Well Site POF 23

SFWMD Work Order Number: 4500015866

Contractors Project No. 07050.07

Report Date: 12/28/07

Submittal: Final

Prepared for:

**South Florida Water Management  
District**

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Licensed Business (L.B.) 6860

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## **OVERVIEW OF THE PROJECT**

### **PURPOSE**

This survey request consists of the establishment of elevations to third order National Geodetic Survey (NGS) Standards at well site POF 23, Polk County, Florida:

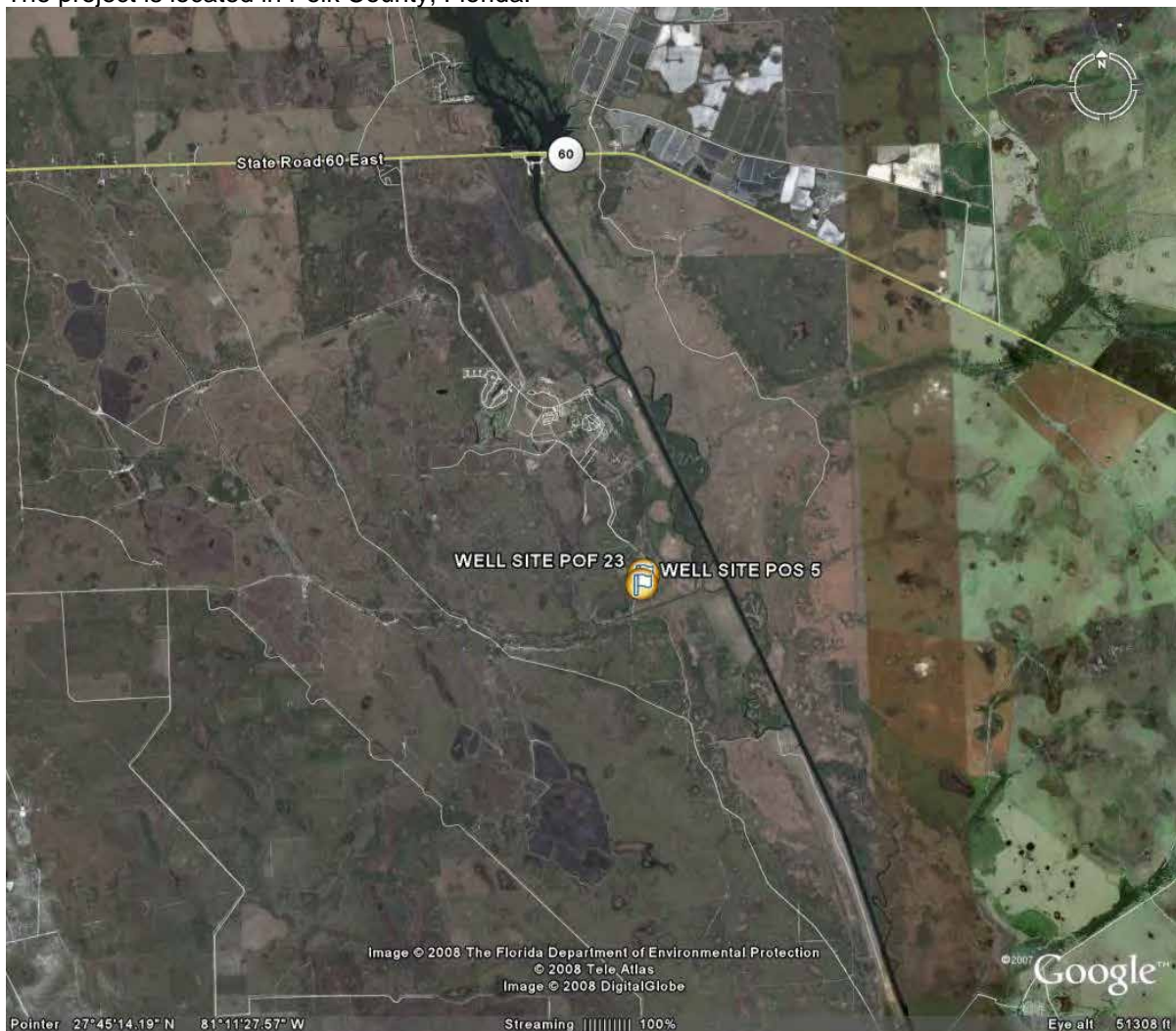
The objective of this Work Order is to:

1. Establish new elevations NGVD 1929 and NAVD 1988 on the well(s).
2. Set a site benchmark within 500' of the well.

The services listed in this report were performed under the direction of a Professional Surveyor and Mapper (PSM) registered in the State of Florida in accordance with Chapter 472 of the Florida Statutes.

### **LOCATION OF PROJECT**

The project is located in Polk County, Florida.



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## **ITEMS DELIVERED TO THE DISTRICT**

The following items were delivered to the District with this report.

A CD containing the following:

- The survey report in Microsoft Word format.
- Digital photos.
- Scanned copies of field notes.
- Any other digital files associated with the survey.
- Completed District benchmark description sheet for all set marks.
- Completed Excel benchmark spread sheet
- Completed Excel well activation sheet
- CorpsMet 95 Meta Data Report.

## **VERTICAL DATUM FOR THE PROJECT**

The vertical datum for the project is the North American Vertical Datum of 1988. For correlation with older data sets, the elevations of the benchmarks are also shown in the National Geodetic Vertical Datum (NGVD) of 1929. The NGVD 29 elevations were derived using data provided by the South Florida Water Management District in a file named “NGVD29.txt” when applicable, otherwise NGS superseded values or South Florida Water Management District’s Benchmark Data Base values were used. The linear unit for all elevations is U.S. survey feet unless otherwise stated.

## **LEVELING METHODS**

### **CONFIGURATION OF LEVEL RUN**

Third-Order leveling procedures were used to establish the elevation(s) on the well measuring point(s) and the site benchmark.

Benchmark POF 23 2007 (the site benchmark) was used as the primary vertical control for establishing the elevations on the measuring points. A level loop was run starting at NGS benchmark Z-460, through NGS benchmark KR 1559, through the newly set benchmark POF 23 2007 , through the newly set benchmark POS 5 2007 and back to Benchmark Z-460.

The SFWMD maximum allowable misclosure for this type of run is 0.03’ multiplied by the square root of the length of the level line in miles.

### **EQUIPMENT USED**

All leveling during the project was performed with a Leica NA1 conventional level and a three-section, fiberglass level rod.

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## **GPS METHODS**

### **INTRODUCTION**

A GPS horizontal value for the site benchmark was required as part of this contract. The site benchmark was occupied for a minimum of fifteen minutes for rapid static processing to obtain sub-meter accuracy.

The following instrumentation was used for the GPS observation:



- (1) Trimble 5700 receiver/antenna

### **DATA PROCESSING**



#### **Data Acquisition**

Data was downloaded from the receiver using Trimble Geomatics Office, version 1.62 (TGO). The DAT file was then sent to the National Geodetic Survey program OPUS RS (On-line Positioning User Service rapid static) for processing. Each data file submitted to OPUS RS is processed with respect to 3 CORS sites. The sites selected may not be the nearest to the static session but are selected by distance, number of observations, site stability, etc. The results of the three baselines are then added together and averaged to obtain the unknown station(s) (site benchmark POF 23) values. Those values for the site benchmark (latitude and longitude) are shown in the corresponding vertical control section below .



## VERTICAL CONTROL

<b>Z-460</b>		Elevation:	<b>NAVD 1988</b>	<b>53.930'</b>	<b>NGVD 1929</b>	<b>55.15'</b>
PID - AH8768		Latitude	27° 44' 56" (Scaled)			From SFWM benchmark data base
State/County FL/Polk		Longitude	- 81° 11' 01" (Scaled)			
USGS QUAD Fort Kissimmee NW						
Vertical Order Class	Second I	<p>The mark is about 30.0 mi (48.3 km) southeast of Lake Wales, 0.5 mi (0.8 km) west of the Kissimmee River on Kicco Road in Section 25, Township 31 South, Range 1 East. To reach the mark from the intersection of State Road 27 underpass and State Road 60 in Lake Wales, go east-southeast on State Road 60 for 25.7 mi (41.4 km) to the junction of River Ranch Boulevard on the right, turn right on River Ranch Boulevard and go southeast for 2.55 mi (4.10 km) to the guard house at the entrance to river ranch, continue south on River Ranch Boulevard for 0.3 mi (0.5 km) to the junction of Kicco Road on the right, turn right on Kicco Road and go southeast for 0.2 mi (0.3 km) to four sets of double unlocked gates, continue south on Kicco Road for 0.5 mi (0.8 km) to another unlocked metal gate, continue southeast on Kicco Road for 0.05 mi (0.08 km) to a locked metal gate, the entrance to property owned by the South Florida Water Management District, continue southeast on a shell road (Kicco Road) for 0.2 mi (0.3 km) to the junction of a road on the left, continue south-southeast on the shell road (Kicco Road) for 0.8 mi (1.3 km) to the mark on the right, a stainless steel rod driven to refusal at a depth of 40.3 ft (12.3 m) with a logo cap flush with the ground and level with Kicco Road, the datum point is recessed 0.4 ft (12.2 cm) below the level of the logo cap. Located 37.5 ft (11.4 m) southwest of the approximate centerline of Kicco Road and 1.0 ft (0.3 m) northwest of a carsonite witness post. Note access to datum point is had through a 5-inch logo cap.</p>				
						

**VERTICAL CONTROL**

<b>KR 1559</b>		Elevation:	<b>NAVD 1988</b>	<b>54.357'</b>	<b>NGVD 1929</b>	<b>55.56'</b>
PID - AH8769		Latitude	27° 44' 51" (Scaled)			From SFWMD benchmark data base
State/County FL/Polk		Longitude	- 81° 10' 59" (Scaled)			
USGS QUAD Fort Kissimmee NW						
Vertical Order Class	Second I		<p>The mark is about 30.0 mi (48.3 km) southeast of Lake Wales, 0.5 mi (0.8 km) west of the Kissimmee River on Kicco Road in Section 25, Township 31 South, Range 31 East. To reach the mark from the intersection of State Road 27 underpass and State Road 60 in Lake Wales, go east-southeast on State Road 60 for 25.7 mi (41.4 km) to the junction of River Ranch Boulevard on the right, turn right on River Ranch Boulevard and go southeast for 2.55 mi (4.10 km) to the guard house at the entrance to river ranch, continue south on River Ranch Boulevard for 0.3 mi (0.5 km) to the junction of Kicco Road on the right, turn right on Kicco Road and go southeast for 0.2 mi (0.3 km) to four sets of double unlocked gates, continue south on Kicco Road for 0.5 mi (0.8 km) to another unlocked metal gate, continue southeast on Kicco Road for 0.05 mi (0.08 km) to a locked metal gate, the entrance to property owned by the South Florida Water Management District, continue southeast on a shell road (Kicco Road) for 0.2 mi (0.3 km) to the junction of a road on the left, continue south-southeast on the shell road (Kicco Road) for 0.95 mi (1.53 km) to the mark on the left, a standard corps of engineers brass disk set in concrete inside of a 6-inch pvc pipe imbedded in the ground, projecting 0.2 ft (6.1 cm) above the level of the ground and 0.6 ft (18.3 cm) below the level of the shell road. Located 200.0 ft (61.0 m) south of an 18-inch culvert under the shell road (Kicco Road) , 17.7 ft (5.4 m) east-southeast of the approximate centerline of the shell road (Kicco Road) , 2.0 ft (0.6 m) west-northwest of a metal witness post and 0.75 ft (22.86 cm) northwest of a carsonite witness post.</p>			
						

## VERTICAL CONTROL

<b>SITE BENCHMARK POF 23 2007</b>		Elevation:	<b>NAVD 1988</b>	<b>54.998'</b>	<b>NGVD 1929</b>	<b>56.218'</b>
	Latitude		27° 44' 54.4"	From level run described above		From level run described above
State/County FL/Polk	Longitude		-81° 11' 02.0"			
USGS QUAD Fort Kissimmee NW						
Vertical Order 3 Horizontal Order 3	<p>The mark is about 30.0 mi (48.3 km) southeast of Lake Wales, 0.5 mi (0.8 km) west of the Kissimmee River on Kicco Road in Section 25, Township 31 South, Range 1 East. To reach the mark from the intersection of State Road 27 underpass and State Road 60 in Lake Wales, go east-southeast on State Road 60 for 25.7 mi (41.4 km) to the junction of River Ranch Boulevard on the right, turn right on River Ranch Boulevard and go southeast for 2.55 mi (4.10 km) to the guard house at the entrance to river ranch, continue south on River Ranch Boulevard for 0.3 mi (0.5 km) to the junction of Kicco Road on the right, turn right on Kicco Road and go southeast for 0.2 mi (0.3 km) to four sets of double unlocked gates, continue south on Kicco Road for 0.5 mi (0.8 km) to another unlocked metal gate, continue southeast on Kicco Road for 0.05 mi (0.08 km) to a locked metal gate, the entrance to property owned by the South Florida Water Management District, continue southeast on a shell road (Kicco Road) for 0.2 mi (0.3 km) to the junction of a road on the left, continue south-southeast on the shell road (Kicco Road) for 0.8 mi (1.3 km) to the mark on the right, Approx. 121' W. of the centerline of Kicco Rd. a 3 1/2" SFWMD brass disk in the concrete encasement for well POF 23 stamped POF 23 2007.</p>					
						
						



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**SITE PHOTOS**



**Measuring Point, Well location and Text**

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**PROJECT RESULTS**

**Well POF 23**

Reference mark: **Set mark on top steel pipe encased in gray pipe.**

**New Information at the site:**

**Wrote the following information on the side of the well pipe.**

Mark El. **56.63'**

**NGVD 29**

Initials: **K&A**

Date: **11/12/07**

Offset **1.22'**

**Previous Information at the site:**

Reference Mark Elevation(s)

El. **None**

Date: **None**

Initials: **None**

Reference Mark location

**Same As noted above**

**DTW** (Distance to water inside well)

Reference mark: **Same as noted above**

El. **45.4'** (NGVD 29)

Measurement to water: **11.2'**

Date: **11/12/07**

Time: **12:34 p.m.**

**Ground Elevation next to Well**

**56.17' (NGVD 1929) (on concrete pad).**

**55.7' (NGVD 1929) (grass next to concrete pad).**

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## Comments

Elevations shown hereon are NGVD 1929 datum unless noted otherwise.

Party Chief: D. Ferels Field Book: 279 Pages 40-41

Bench Mark: "POF 23 2007" El. 54.998', Vertical Datum: NAVD1988  
El. 56.218', Vertical Datum: NGVD1929

Offset: 1.22' SFWMD VALUE (subtract this value to convert to NAVD 1988)

Offset: 1.22' NGS VALUE (subtract this value to convert to NAVD 1988)

The offset values referred to as "SFWMD VALUE" and "NGS VALUE" were derived by subtracting the NAVD 1988 value from the NGVD 1929 value at benchmark Z-460. The NGVD 1929 value for benchmark Z-460 was obtained from the South Florida Water Management District's Benchmark Data Base..

NAVD 88 - North American Vertical Datum of 1988

NGVD29 -National Geodetic Vertical Datum of 1929

NAD 83 -99 (Horizontal Datum) North American Datum

NGS - National Geodetic Survey

SFWMD - South Florida Water Management District

PVC - Polyvinyl Chloride

L.B. - Licensed Business

RTK – Real Time Kinematic

K&A – Keith and Associates

PSM – Professional Surveyor & Mapper

USGS – United States Geological Survey

QUAD – Quadrangle Map

PID - Permanent Identifier

## SURVEYOR'S CERTIFICATION

I hereby certify that this Specific Purpose 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.

Keith and Associates, Inc.

L.B. number 6860

By:



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Date of Survey  
November 12, 2007

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Michael M. Mossey, PSM  
Professional Surveyor and Mapper  
State of Florida  
Certificate No. 5660

# WELL SITE POF 23



11/12/07

NGS Benchmark Z-460

Keith and Associates, Inc.

# WELL SITE POF 23



**11/12/07**

**NGS Benchmark Z-460 Location**

**Keith and Associates, Inc.**

# WELL SITE POF 23



**11/12/07**

**NGS Benchmark KR 1559**

**Keith and Associates, Inc.**

# WELL SITE POF 23



**11/12/07**

**NGS Benchmark KR 1559 Location**

**Keith and Associates, Inc.**

# WELL SITE POF 23



11/12/07

Site Benchmark POF 23 2007

Keith and Associates, Inc.



# WELL SITE POF 23

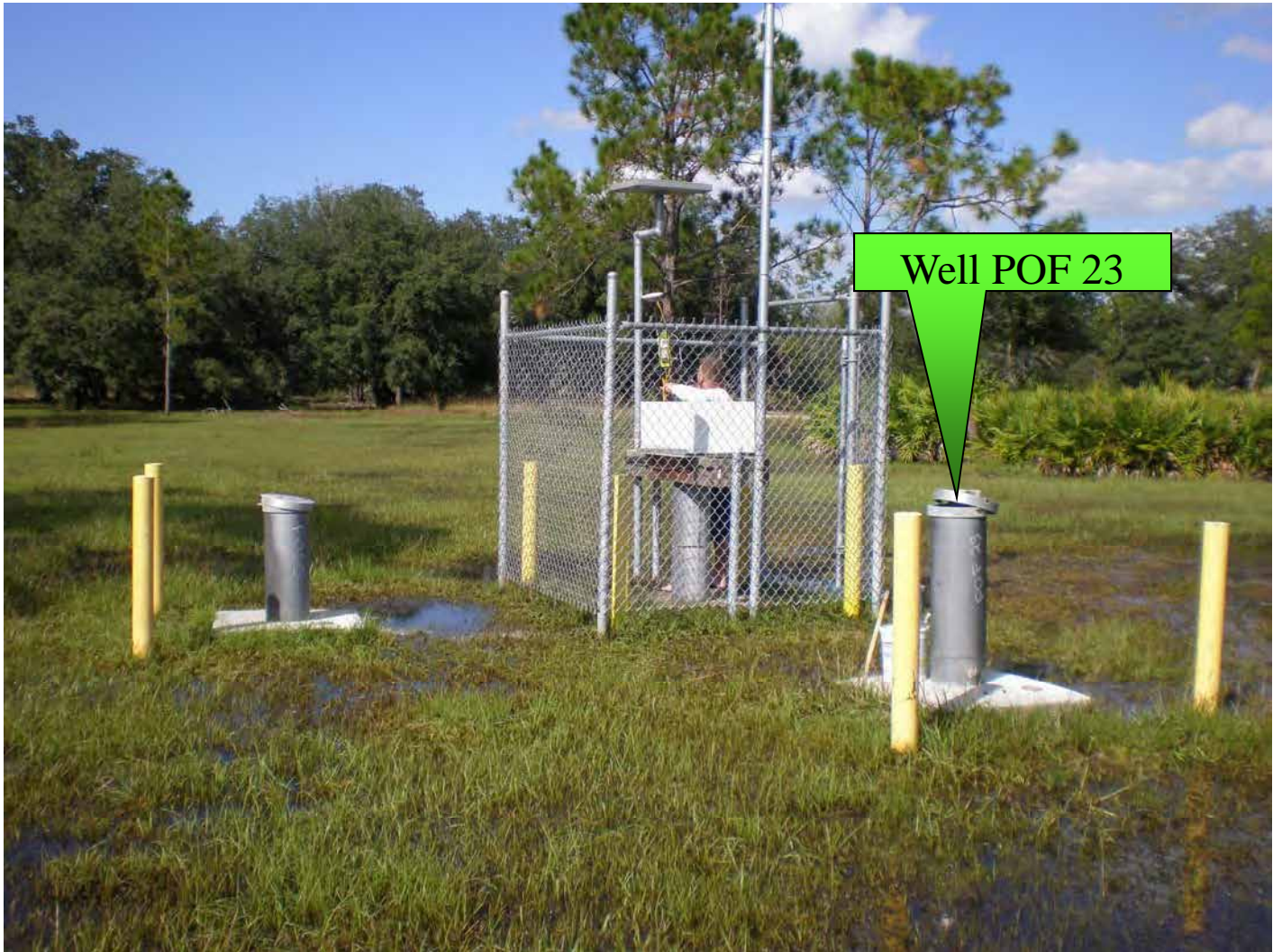


11/12/07

Site Benchmark POF 23 Location

Keith and Associates, Inc.

# WELL SITE POF 23



**11/12/07**

**Well POF 23 Location**

**Keith and Associates, Inc.**

# WELL SITE POF 23

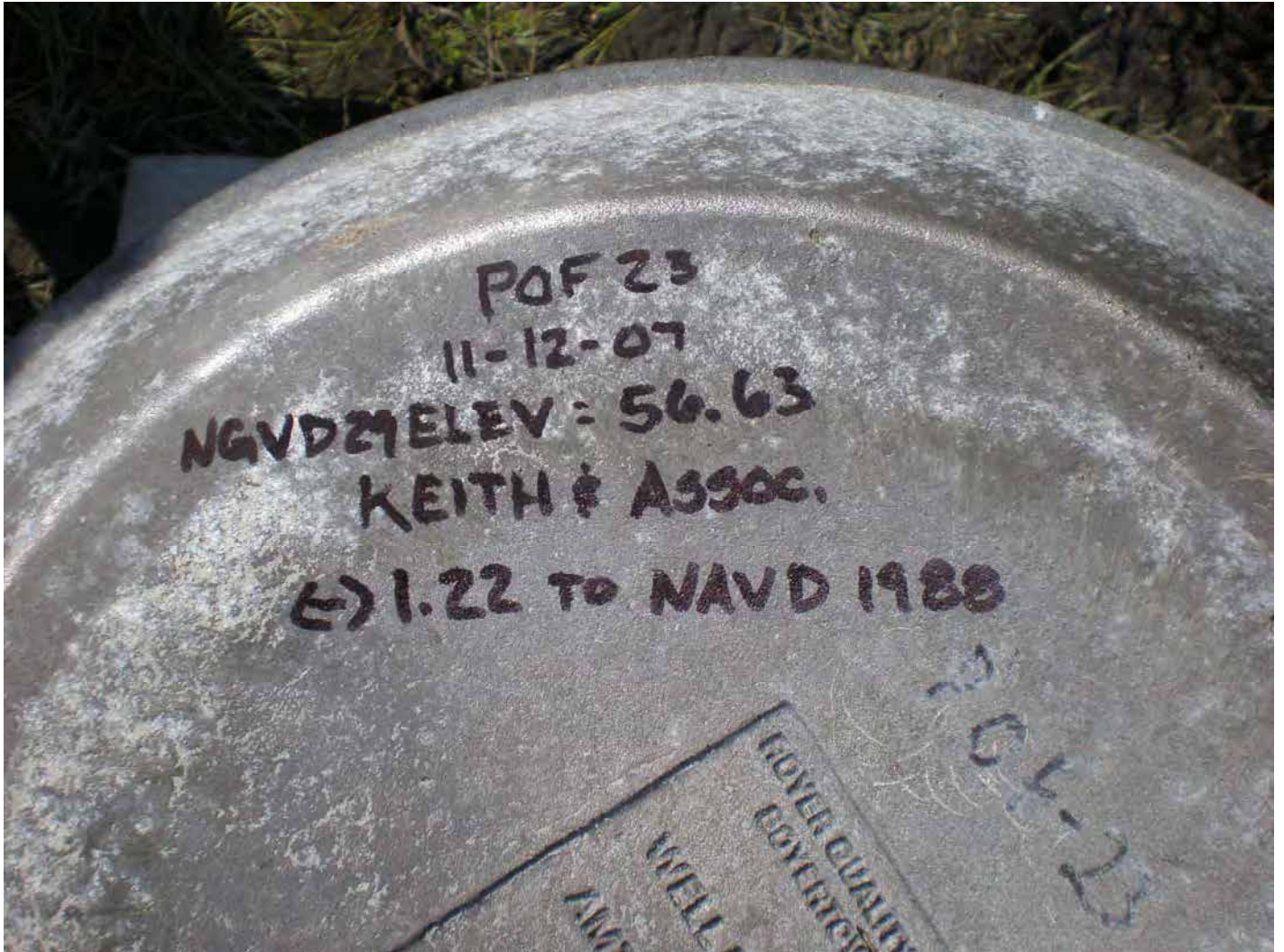


11/12/07

Well POF 23 Measure Point

Keith and Associates, Inc.

# WELL SITE POF 23



11/12/07

Well POF 23 Text

Keith and Associates, Inc.





11-12-07  
ELEV. = 59.45 NGVD 1929  
KEITH & ASSOC.  
(-) 1.22 TO NAVD 1988



11-12-07

ELEV. = 59.45 NGVD 1929

KEITH & ASSOC.

(-) 1.22 TO NAVD 1988



11-12-07  
FERELS  
GREES

S.F.W.M.D.  
POF 23 / POS 5

	+	HI	-	NAVD 1988 ELEV.	NGVD 1929 ELEV.
BM 2460	6.921			53.930	55.15
	5.673				
(250)	4.425				
	5.675	59.605			
TP 1			6.107		
	5.800		4.857		
(24)	5.405	(250)	3.607		
	5.010		4.857	54.748	
	5.405	60.153			
TP 2			6.225		
BM	5.230		5.795		
KR1559 (242)	3.990	(24)	5.365		
	2.750		5.795	54.358	
	3.990	58.343			
TP 3			4.710		
	5.383		3.350		
	4.777	(212)	1.990		
(12)	4.173		3.350	54.998	
	4.778	59.776		(54.997) ADJ.	56.217
TP 4			5.525		
	4.913		4.873		
(8)	4.493	(13)	4.217		
	4.073		4.872	54.904	
	4.493	59.397		(54.903) ADJ.	56.124
BM 2460			5.895		
			5.467		
		86	5.037		
			5.466	53.931	

FROM SR 60 & US 41 @ YEEHAW JCT. GO WEST ON SR 60 FOR 20.6 MILES  
TO RIVER RAUCH RD TURN LEFT 2.9 MILES ON RIVER RAUCH RD  
TO KICCO RD 1.8 MILES ON KICCO RD (DIRT RD) TO MARK ON RIGHT  
37.5' W. OF THE C. OF RD. 6.10' W. OF WITNESS POST  
OFFSET 1.22

SET 60d 126

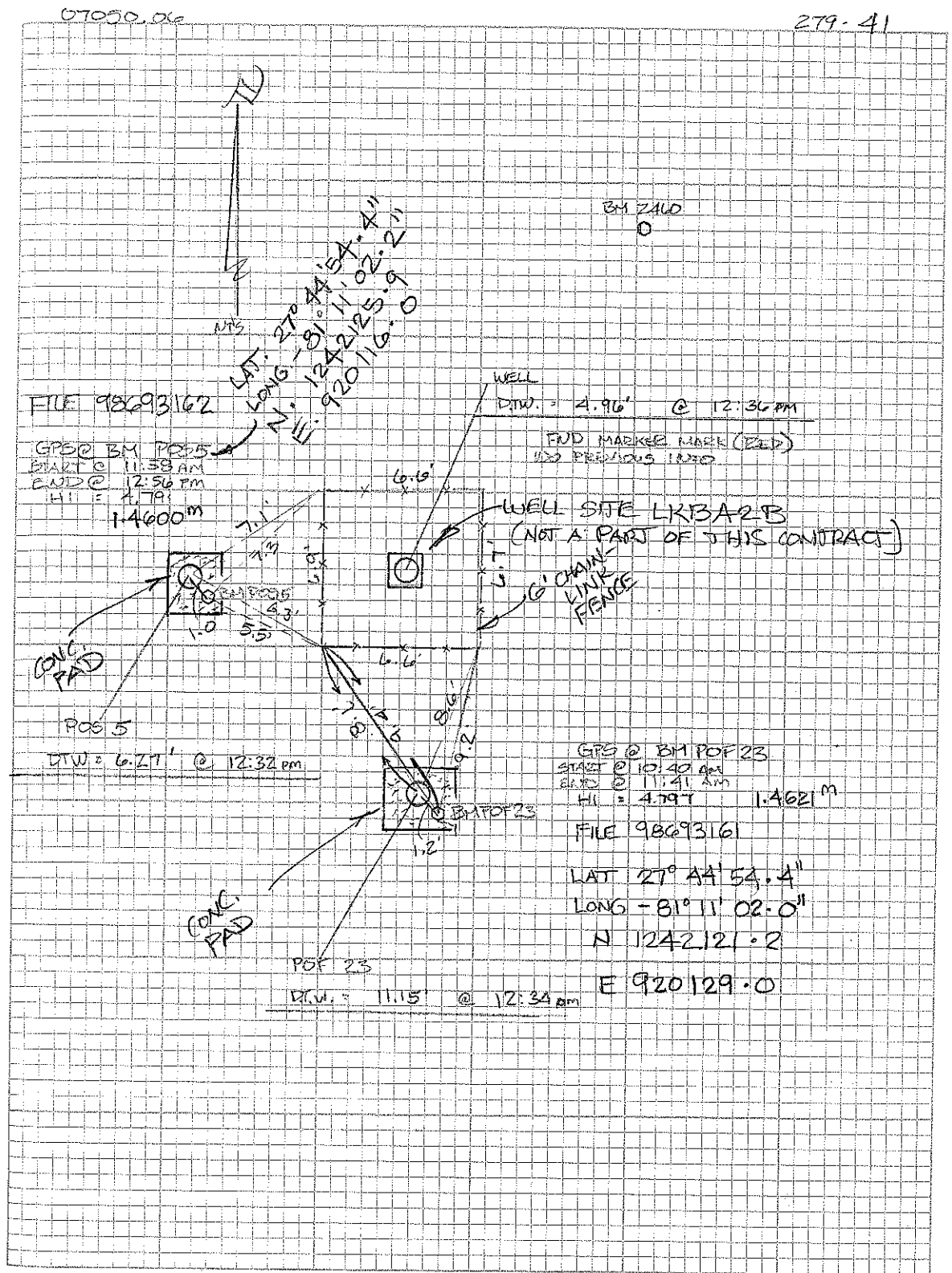
BM KR1559  
NAVD 1988 EL: 54.357

SET 60WIND BRASS DISC IN CONC @ WELL - POF 23  
STAMPED - POF 23 2007  
3/4 121' WEST OF C. OF KICCO RD

SET 60WIND BRASS DISC IN CONC @ WELL -  
STAMPED - POS 5 2007  
3/4 131' WEST OF C. OF KICCO RD

ERROR 0.001

11-12-07 FERRELLS GREENS		S. F. W. M. D. POE 23 / POE 5			DATE 1988
	+	HI	-	ELLV	
BM 2460	5.460	59.390		53.930	
POE 5	2.657	59.527	2.520	56.870	FUD MARKER MARK A/D/P PIC
			4.690	54.837	CONC BASE @ POE 5
			5.12	54.407	NATURAL GND @ POE 5
POE 23	4.280	59.692	4.115	55.412	SET MARKER MARK A/D/P PIC
			4.740	54.952	CONC BASE @ POE 23
			5.20	54.492	NATURAL GND @ POE 23
T.P.	1.410	59.617	1.485	58.207	
WELL	1.513	59.743	1.387	58.230	FUD MARKER MARK A/D/P PIC
			5.070	54.613	CONC BASE @ WELL
			5.37	54.37	NATURAL GND @ WELL
BM		4.750		54.993	POE 23



Identification\_Information:

Citation:

Citation\_Information:

Originator: Michael M. Mossey, P. S. M. (ed.)

Publication\_Date: 20080317

Publication\_Time: Unknown

Title: POF 23

Edition: 1

Series\_Information:

Publication\_Information:

Publication\_Place: Not Published

Publisher: None

Online\_Linkage: mmossey@keith-associates.com

Larger\_Work\_Citation:

Citation\_Information:

Series\_Information:

Publication\_Information:

Description:

Abstract: Well site POF 23

Purpose:

To establish reference elevations in NAVD 1988 and NGVD 1929 datum at the site on the existing well. Set a site benchmark.

Time\_Period\_of\_Content:

Time\_Period\_Information:

Single\_Date/Time:

Calendar\_Date: 20071112

Range\_of\_Dates/Times:

Multiple\_Dates/Times:

Currentness\_Reference: Publication Date

Status:

Progress: Complete

Maintenance\_and\_Update\_Frequency: Unknown

Spatial\_Domain:

Bounding\_Coordinates:

West\_Bounding\_Coordinate: 81°11' 02.0"

East\_Bounding\_Coordinate: 81°11' 02.0"

North\_Bounding\_Coordinate: 27°44' 54.4"

South\_Bounding\_Coordinate: 27°44' 54.4"

Keywords:

Theme:

Theme\_Keyword\_Thesaurus: Specific Purpose Survey

Theme\_Keyword: Well Site

Place:

Place\_Keyword\_Thesaurus: Polk County, Florida

Place\_Keyword: Well Site POF 23

Place\_Keyword: Sections 25 Township 31 S - Range 31 E

Stratum:

Temporal:

Access\_Constraints: Need SFWMD Key to gain access through locked gates .

Use\_Constraints: None

Point\_of\_Contact:

Contact\_Information:

Contact\_Person\_Primary:

Contact\_Person: Steve Krupa

Contact\_Organization: South Florida Water Management

District

Contact\_Organization\_Primary:

Contact\_Position: Senior Supervisor

Contact\_Address:

Address\_Type: mailing and physical address

Address:

3301 Gun Club Road

MS 4330

City: West Palm Beach

State\_or\_Province: Florida

Postal\_Code: 33409

Country: USA

Contact\_Voice\_Telephone: Office (561) 682-6923

Contact\_Electronic\_Mail\_Address: skrupa@sfwmd.gov

Well Site POF 23.gen

Hours\_of\_Service: 8:00 am to 5:00 pm EST

Security\_Information:

Cross\_Reference:

Citation\_Information:

Series\_Information:

Publication\_Information:

Data\_Quality\_Information:

Attribute\_Accuracy:

Attribute\_Accuracy\_Report:

Horizontal Locations were obtained using a Trimble 5700 receiver and 15-minute static session. The vertical data was collected using a Leica NA2 Level. Coordinates are based on the Florida State Plane Coordinate System, West Zone, NAD 1983/90. Elevations are based on NGVD 1929 with an offset supplied to convert to NAVD 1988.

Logical\_Consistency\_Report:

Vertical data at the site was established using site Benchmark "POF 23 2007", a SFWMD 3-1/2" brass disk in concrete pad next to well POF 23.

Completeness\_Report:

Well POF 23

56.63' (NGVD1929) Marker Mark on top of PVC pipe  
Offset written at wells (-) 1.22' to NAVD 1988.

Site Benchmark POF 23 2007

NAVD 1988 elevation 54.998' (field derived)

NGVD 1929 elevation 56.218' (field derived)

Benchmark Z-460

NAVD 1988 elevation 53.930' (Data sheet(s))

NGVD 1929 elevation 55.15' (Data sheet(s))

Benchmark KR 1559

NAVD 1988 elevation 54.357' (Data sheet(s))

NGVD 1929 elevation 55.577' (Data sheet(s))

Positional\_Accuracy:

Horizontal\_Positional\_Accuracy:

Horizontal\_Positional\_Accuracy\_Report:

The horizontal locations of the benchmark was obtained using sub-meter GPS methods, a Trimble 5700 receiver and 15-minute static session.

Quantitative\_Horizontal\_Positional\_Accuracy\_Assessment:

Horizontal\_Positional\_Accuracy\_Value: Lat. 27°44'54.4"

Long. -81°11'02.0"

Horizontal\_Positional\_Accuracy\_Explanation: Value derived using Trimble 5700 receiver/cellu GPS

Vertical\_Positional\_Accuracy:

Vertical\_Positional\_Accuracy\_Report:

NGS benchmarks Z-460 and KR 1559 were used to establish elevations on the site benchmark.

Quantitative\_Vertical\_Positional\_Accuracy\_Assessment:

Vertical\_Positional\_Accuracy\_Value: 0.001

Vertical\_Positional\_Accuracy\_Explanation: Better than

0.03ft. x sq. root of miles of the level loop.

Quantitative\_Vertical\_Positional\_Accuracy\_Assessment:

Vertical\_Positional\_Accuracy\_Value: 0.001

Vertical\_Positional\_Accuracy\_Explanation: Better than

0.03ft. x the sq. root of miles of the level loop.

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:

Well Site POF 23.gen  
Multiple\_Dates/Times:

Process\_Step:

Process\_Description:

Differential leveling was performed using a Leica NA2 conventional level. A level loop was run starting at NGS benchmark Z-460, through NGS benchmark KR 1559, through the newly set benchmark POF 23 2007, through the newly set benchmark POS 5 2007 and back to Benchmark Z-460.

Process\_Date: 20071112

Process\_Contact:

Contact\_Information:

Contact\_Person\_Primary:

Contact\_Organization\_Primary:

Contact\_Address:

Spatial\_Data\_Organization\_Information:

Spatial\_Reference\_Information:

Horizontal\_Coordinate\_System\_Definition:

Geographic:

Latitude\_Resolution: 27° 44' 54.4"

Longitude\_Resolution: -81° 11' 02.0"

Geographic\_Coordinate\_Units: Degrees, minutes, and decimal

seconds

Geodetic\_Model:

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\_Organization: Keith and Associates

Contact\_Person: Michael Mossey

Contact\_Position: Project Surveyor

Contact\_Address:

Address\_Type: mailing and physical address

Address: 301 East Atlantic Boulevard

City: Pompano Beach

State\_or\_Province: Florida

Postal\_Code: 33060-6643

Country: Broward

Contact\_Voice\_Telephone: 954 788-3400

Contact\_Facsimile\_Telephone: 954 788-3500

Contact\_Electronic\_Mail\_Address: mmossey@keith-associates.com

Hours\_of\_Service: 8:00-5:00 est.

Distribution\_Liability: None

Standard\_Order\_Process:

Digital\_Form:

Digital\_Transfer\_Information:

Digital\_Transfer\_Option:

Online\_Option:

Computer\_Contact\_Information:

Network\_Address:

Dialog\_Instructions:

Offline\_Option:

Recording\_Capacity:

Availability\_Time\_Period:

Time\_Period\_Information:

Single\_Date/Time:

Range\_of\_Dates/Times:

Multiple\_Dates/Times:

Metadata\_Reference\_Information:

Well Site POF 23.gen

Metadata\_Date: 20071112

Metadata\_Review\_Date: 20050721

Metadata\_Contact:

Contact\_Information:

Contact\_Person\_Primary:

Contact\_Person: Michael M. Mossey, P. S. M.

Contact\_Organization: Keith and Associates

Contact\_Organization\_Primary:

Contact\_Position: Project Surveyor

Contact\_Address:

Address\_Type: mailing and physical address

Address: 301 East Atlantic Boulevard

City: Pompano Beach

State\_or\_Province: FL

Postal\_Code: 33060-6643

Country: USA

Contact\_Voice\_Telephone: 954 788-3400

Contact\_Facsimile\_Telephone: 954 788-3500

Contact\_Electronic\_Mail\_Address: mmossey@keith-associates.com

Hours\_of\_Service: 8:00 am to 5:00 pm EST

Metadata\_Standard\_Name: FGDC Content Standards for Digital Geospatial Metadata

Metadata\_Standard\_Version: 19940608

Metadata\_Security\_Information:



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Rev. 4/01

COUNTY <u>Polk</u>		PROJECT <u>POF 23</u>		DESIGNATION <u>POF 23 2007</u>	
SECTION <u>25</u>		TOWNSHIP <u>31 S</u>		RANGE <u>31 E</u>	
<b>GEOGRAPHIC INDEX OF QUAD</b>					
Recovered by <u>Keith and Associates</u>			NAME OF QUADRANGLE <u>Fort Kissimmee N.W. (1972)</u>		
SURVEYOR <u>D. Ferels</u> DATE <u>11/12/2007</u>			FIELD BOOK <u>289</u> PAGE <u>40</u>		
HORIZONTAL DATUM: <u>1983</u> ZONE <u>W</u>					
VERTICAL DATUM: <u>NGVD 1929 and NAVD 1988</u>					
CONTROL ACCURACY: HORIZONTAL <u>3</u> VERTICAL <u>3</u>					
STATE PLANE COORDINATES		X <u>920129.0</u>	Y <u>1242121.2</u>	NGVD 1929 EL. <u>56.218'</u> NAVD 1988 EL. <u>54.998'</u>	
LATITUDE <u>27° 44' 54.4"</u>			LONGITUDE <u>-81° 11' 02.0"</u>		
<b>DESCRIPTION</b>					
To Reach:					
The mark is about 30.0 mi (48.3 km) southeast of Lake Wales, 0.5 mi (0.8 km) west of the Kissimmee River on Kicco Road in Section 25, Township 31 South, Range 31 East. To reach the mark from the intersection of State Road 27 underpass and State Road 60 in Lake Wales, go east-southeast on State Road 60 for 25.7 mi (41.4 km) to the junction of River Ranch Boulevard on the right, turn right on River Ranch Boulevard and go southeast for 2.55 mi (4.10 km) to the guard house at the entrance to river ranch, continue south on River Ranch Boulevard for 0.3 mi (0.5 km) to the junction of Kicco Road on the right, turn right on Kicco Road and go southeast for 0.2 mi (0.3 km) to four sets of double unlocked gates, continue south on Kicco Road for 0.5 mi (0.8 km) to another unlocked metal gate, continue southeast on Kicco Road for 0.05 mi (0.08 km) to a locked metal gate, the entrance to property owned by the South Florida Water Management District, continue southeast on a shell road (Kicco Road) for 0.2 mi (0.3 km) to the junction of a road on the left, continue south-southeast on the shell road (Kicco Road) for 0.8 mi (1.3 km) to the mark on the right, Approx. 121' W. of the centerline of Kicco Rd. a 31/2" SFWMD brass disk in the concrete encasement for well POF 23 stamped POF 23 2007.					
Notable Land marks: See attached photos.					



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Rev. 4/01







# The NGS Data Sheet

See file [dsdata.txt](#) for more

DATABASE = Sybase ,PROGRAM  
1 National Geodetic

AH8768 \*\*\*\*\*  
 AH8768 DESIGNATION - Z 460  
 AH8768 PID - AH8768  
 AH8768 STATE/COUNTY- FL/POLK  
 AH8768 USGS QUAD - FORT KISSIMMEE NW (1972)

AH8768 \*CURRENT SURVEY CONTROL

AH8768*	NAD 83(1986)-	27 44 56.	(N)	081 11 01.	(W)	SCALED
AH8768*	NAVD 88	- 16.438	(meters)	53.93	(feet)	ADJUSTED
AH8768	GEOID HEIGHT-	-26.64	(meters)			GEOID03
AH8768	DYNAMIC HT -	16.413	(meters)	53.85	(feet)	COMP
AH8768	MODELED GRAV-	979,157.5	(mgal)			NAVD 88

AH8768 VERT ORDER - SECOND CLASS I  
 AH8768 The horizontal coordinates were scaled from a topographic map and have  
 AH8768 an estimated accuracy of +/- 6 seconds.

AH8768 The orthometric height was determined by differential leveling  
 AH8768 and adjusted in July 1999.

AH8768 The geoid height was determined by GEOID03.

AH8768 The dynamic height is computed by dividing the NAVD 88  
 AH8768 geopotential number by the normal gravity value computed on the  
 AH8768 Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45  
 AH8768 degrees latitude (g = 980.6199 gals.).

AH8768 The modeled gravity was interpolated from observed gravity values.

AH8768;	North	East	Units	Estimated Accuracy
AH8768; SPC FL W -	378,650.	280,480.	MT	(+/- 180 meters Scaled)

AH8768 SUPERSEDED SURVEY CONTROL  
 AH8768 No superseded survey control is available for this station.

AH8768 U.S. NATIONAL GRID SPATIAL ADDRESS: 17RML819694(NAD 83)  
 AH8768 MARKER: F = FLANGE-ENCASED ROD  
 AH8768 SETTING: 49 = STAINLESS STEEL ROD W/O SLEEVE (10 FT.+)  
 AH8768 STAMPING: Z 460 1997  
 AH8768 MARK LOGO: NGS  
 AH8768 PROJECTION: FLUSH  
 AH8768 MAGNETIC: N = NO MAGNETIC MATERIAL  
 AH8768 STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL  
 AH8768 SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR  
 AH8768 SATELLITE: SATELLITE OBSERVATIONS - 1997  
 AH8768 ROD/PIPE-DEPTH: 12.3 meters

AH8768	HISTORY	- Date	Condition	Report By
AH8768	HISTORY	- 1997	MONUMENTED	FLDEP

AH8768 STATION DESCRIPTION  
 AH8768 DESCRIBED BY FL DEPT OF ENV PRO 1997 (JLM)  
 AH8768 THE MARK IS ABOUT 30.0 MI (48.3 KM) SOUTHEAST OF LAKE WALES, 0.6 MI  
 AH8768 (1.0 KM) WEST OF THE KISSIMMEE RIVER ON KICCO ROAD IN SECTION 25,  
 AH8768 TOWNSHIP 31 SOUTH, RANGE 31 EAST. TO REACH THE MARK FROM THE  
 AH8768 INTERSECTION OF STATE ROAD 27 UNDERPASS AND STATE ROAD 60 IN LAKE  
 AH8768 WALES, GO EAST-SOUTHEAST ON STATE ROAD 60 FOR 25.7 MI (41.4 KM) TO THE  
 AH8768 JUNCTION OF RIVER RANCH BOULEVARD ON THE RIGHT, TURN RIGHT ON RIVER  
 AH8768 RANCH BOULEVARD AND GO SOUTHEAST FOR 2.55 MI (4.10 KM) TO THE GUARD  
 AH8768 HOUSE AT THE ENTRANCE TO RIVER RANCH, CONTINUE SOUTH ON RIVER RANCH  
 AH8768 BOULEVARD FOR 0.3 MI (0.5 KM) TO THE JUNCTION OF KICCO ROAD ON THE  
 AH8768 RIGHT, TURN RIGHT ON KICCO ROAD AND GO SOUTHEAST FOR 0.2 MI (0.3 KM)

DATASHEETS

AH8768' TO FOUR SETS OF DOUBLE UNLOCKED GATES, CONTINUE SOUTH ON KICCO ROAD  
AH8768' FOR 0.5 MI (0.8 KM) TO ANOTHER UNLOCKED METAL GATE, CONTINUE SOUTHEAST  
AH8768' ON KICCO ROAD FOR 0.2 MI (0.3 KM) TO THE JUNCTION OF ROAD ON THE LEFT,  
AH8768' CONTINUE SOUTH-SOUTHEAST ON KICCO ROAD FOR 0.8 MI (1.3 KM) TO THE MARK  
AH8768' ON THE RIGHT, A STAINLESS STEEL ROD DRIVEN TO REFUSAL AT A DEPTH OF  
AH8768' 40.3 FT (12.3 M) WITH A LOGO CAP FLUSH WITH THE GROUND AND LEVEL WITH  
AH8768' KICCO ROAD, THE DATUM POINT IS RECESSED 0.4 FT (12.2 CM) BELOW THE  
AH8768' LEVEL OF THE LOGO CAP. LOCATED 37.5 FT (11.4 M) SOUTHWEST OF THE  
AH8768' APPROXIMATE CENTERLINE OF KICCO ROAD AND 1.0 FT (0.3 M) NORTHWEST OF A  
AH8768' CARSONITE WITNESS POST. NOTE ACCESS TO DATUM POINT IS HAD THROUGH A  
AH8768' 5-INCH LOGO CAP. FOR KEY CONTACT SOUTH FLORIDA WATER MANAGEMENT  
AH8768' DISTRICT AT 561-686-8800.

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



# South Florida Water Management District Benchmark Database

Report run on: February 25, 2008 6:56 AM

Designation: Z460	Latitude: 274456.000	Scaled values only
County: POLK	Longitude: 811101.000	
USGS Quad: FT.KISSIMMEE NW	Monument By: FL DEPT OF ENVIR PROT	
Project: LKBA2B WELL SITE	Year: 1997	
Sec: 25    Twp: 31    Rge: 31	Type: V	
Status: GOOD	Stamping: Z 460 1997	
<b>NAD 1927 Coordinates:</b>	Party Chief:	
N =	Field Book	
E =	Page:	
Adjustment:	<b>NGVD 1929</b>	
<b>NAD 1983 Coordinates:</b>	Elevation: 55.114	
X =	Order: 2	
Y =	Class: I	
Adjustment:	<b>NAVD 1988</b>	
Order:	Elevation: 53.930	
Class:	Order: 2	
	Class: I	

Description:

OLD NGVD 1929 ELEVATION = 55.15  
 \*\*\*\*\* RECOVERY NOTE \*\*\*\*\*  
 3/6/2007 RAGER NICK MILLER INC FIELDBOOK19 PAGE 53 BM Z460  
 5/6/1999 PURPERA OF 3001 INC., A CONTRACTOR FOR THE CORPS OF ENGINEERS,  
 FIELD BOOK #1 99-133, PAGE 16, Z 460 (1997) EL. 55.24 NGVD 29, A  
 STAINLESS STEEL ROD WITH ACCESS CAP STAMPED "Z 460 1997"  
 \*\*\*\*\*

THE NGS DATA SHEET  
 DATABASE = SYBASE ,PROGRAM = DATASHEET, VERSION = 6.20  
 STARTING DATASHEET RETRIEVAL...  
 1 NATIONAL GEODETIC SURVEY, RETRIEVAL DATE = MAY 24, 2000  
 AH8768 \*\*\*\*\*  
 AH8768 DESIGNATION - Z 460  
 AH8768 PID - AH8768  
 AH8768 STATE/COUNTY- FL/POLK  
 AH8768 USGS QUAD - FORT KISSIMMEE NW (1973)  
 AH8768  
 AH8768 \*CURRENT SURVEY CONTROL  
 AH8768  
 AH8768\* NAD 83(1986)- 27 44 56. (N) 081 11 01. (W) SCALED  
 AH8768\* NAVD 88 - 16.438 (METERS) 53.93 (FEET) ADJUSTED  
 AH8768  
 AH8768 GEOID HEIGHT- -26.67 (METERS) GEOID99  
 AH8768 DYNAMIC HT - 16.413 (METERS) 53.85 (FEET) COMP  
 AH8768 MODELED GRAV- 979,157.5 (MGAL) NAVD 88  
 AH8768  
 AH8768 VERT ORDER - SECOND CLASS I  
 AH8768  
 AH8768.THE HORIZONTAL COORDINATES WERE SCALED FROM A TOPOGRAPHIC MAP AND HAVE  
 AH8768.AN ESTIMATED ACCURACY OF +/- 6 SECONDS.  
 AH8768  
 AH8768.THE ORTHOMETRIC HEIGHT WAS DETERMINED BY DIFFERENTIAL LEVELING  
 AH8768.AND ADJUSTED BY THE NATIONAL GEODETIC SURVEY IN JULY 1999.



# South Florida Water Management District Benchmark Database

Report run on: February 25, 2008 6:56 AM

AH8768  
AH8768.THE GEOID HEIGHT WAS DETERMINED BY GEOID99.  
AH8768  
AH8768.THE DYNAMIC HEIGHT IS COMPUTED BY DIVIDING THE NAVD 88  
AH8768.GEOPOTENTIAL NUMBER BY THE NORMAL GRAVITY VALUE COMPUTED ON THE  
AH8768.GEODETIC REFERENCE SYSTEM OF 1980 (GRS 80) ELLIPSOID AT 45  
AH8768.DEGREES LATITUDE (G = 980.6199 GALS.).  
AH8768  
AH8768.THE MODELED GRAVITY WAS INTERPOLATED FROM OBSERVED GRAVITY VALUES.  
AH8768  
AH8768;                    NORTH        EAST    UNITS ESTIMATED ACCURACY  
AH8768;SPC FL W   - 378,650.    280,480.    MT (+/- 180 METERS SCALED)  
AH8768  
AH8768                    SUPERSEDED SURVEY CONTROL  
AH8768  
AH8768.NO SUPERSEDED SURVEY CONTROL IS AVAILABLE FOR THIS STATION.  
AH8768  
AH8768\_MARKER: F = FLANGE-ENCASED ROD  
AH8768\_SETTING: 49 = STAINLESS STEEL ROD W/O SLEEVE (10 FT.+)  
AH8768\_STAMPING: Z 460 1997  
AH8768\_PROJECTION: FLUSH  
AH8768\_MAGNETIC: N = NO MAGNETIC MATERIAL  
AH8768\_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL  
AH8768\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR  
AH8768+SATELLITE: SATELLITE OBSERVATIONS - 1997  
AH8768\_ROD/PIPE-DEPTH: 12.3 METERS  
AH8768  
AH8768 HISTORY    - DATE        CONDITION        RECOV. BY  
AH8768 HISTORY    - 1997        MONUMENTED        FLDEP  
AH8768  
AH8768                    STATION DESCRIPTION  
AH8768  
AH8768'DESCRIBED BY FL DEPT OF ENV PRO 1997 (JLM)  
AH8768'THE MARK IS ABOUT 30.0 MI (48.3 KM) SOUTHEAST OF LAKE WALES, 0.6 MI  
AH8768'(1.0 KM) WEST OF THE KISSIMMEE RIVER ON KICCO ROAD IN SECTION 25,  
AH8768'TOWNSHIP 31 SOUTH, RANGE 31 EAST. TO REACH THE MARK FROM THE  
AH8768'INTERSECTION OF STATE ROAD 27 UNDERPASS AND STATE ROAD 60 IN LAKE  
AH8768'WALES, GO EAST-SOUTHEAST ON STATE ROAD 60 FOR 25.7 MI (41.4 KM) TO THE  
AH8768'JUNCTION OF RIVER RANCH BOULEVARD ON THE RIGHT, TURN RIGHT ON RIVER  
AH8768'RANCH BOULEVARD AND GO SOUTHEAST FOR 2.55 MI (4.10 KM) TO THE GUARD  
AH8768'HOUSE AT THE ENTRANCE TO RIVER RANCH, CONTINUE SOUTH ON RIVER RANCH  
AH8768'BOULEVARD FOR 0.3 MI (0.5 KM) TO THE JUNCTION OF KICCO ROAD ON THE  
AH8768'RIGHT, TURN RIGHT ON KICCO ROAD AND GO SOUTHEAST FOR 0.2 MI (0.3 KM)  
AH8768'TO FOUR SETS OF DOUBLE UNLOCKED GATES, CONTINUE SOUTH ON KICCO ROAD  
AH8768'FOR 0.5 MI (0.8 KM) TO ANOTHER UNLOCKED METAL GATE, CONTINUE SOUTHEAST  
AH8768'ON KICCO ROAD FOR 0.2 MI (0.3 KM) TO THE JUNCTION OF ROAD ON THE LEFT,  
AH8768'CONTINUE SOUTH-SOUTHEAST ON KICCO ROAD FOR 0.8 MI (1.3 KM) TO THE MARK  
AH8768'ON THE RIGHT, A STAINLESS STEEL ROD DRIVEN TO REFUSAL AT A DEPTH OF  
AH8768'40.3 FT (12.3 M) WITH A LOGO CAP FLUSH WITH THE GROUND AND LEVEL WITH  
AH8768'KICCO ROAD, THE DATUM POINT IS RECESSED 0.4 FT (12.2 CM) BELOW THE  
AH8768'LEVEL OF THE LOGO CAP. LOCATED 37.5 FT (11.4 M) SOUTHWEST OF THE  
AH8768'APPROXIMATE CENTERLINE OF KICCO ROAD AND 1.0 FT (0.3 M) NORTHWEST OF A  
AH8768'CARSONITE WITNESS POST. NOTE ACCESS TO DATUM POINT IS HAD THROUGH A  
AH8768'5-INCH LOGO CAP. FOR KEY CONTACT SOUTH FLORIDA WATER MANAGEMENT  
AH8768'DISTRICT AT 561-686-8800.  
ELAPSED TIME = 00:00:02

# The NGS Data Sheet

See file [dsdata.txt](#) for more information



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PROGRAM = datasheet95, VERSION = 8.8
1      National Geodetic Survey,  Retrieval Date =
AH8769 *****
AH8769 DESIGNATION - KR 1559
AH8769 PID - AH8769
AH8769 STATE/COUNTY- FL/POLK
AH8769 COUNTRY - US
AH8769 USGS QUAD - FORT KISSIMMEE NW (1972)
AH8769
AH8769 *CURRENT SURVEY CONTROL
AH8769
AH8769* NAD 83(1986) POSITION- 27 44 51. (N) 081 10 59. (W) SCALED
AH8769* NAVD 88 ORTHO HEIGHT - 16.568 (meters) 54.36 (feet) ADJUSTED
AH8769
AH8769 GEOID HEIGHT - -26.670 (meters) GEOID12B
AH8769 DYNAMIC HEIGHT - 16.543 (meters) 54.27 (feet) COMP
AH8769 MODELED GRAVITY - 979,157.6 (mgal) NAVD 88
AH8769
AH8769 VERT ORDER - SECOND CLASS I
AH8769
AH8769.The horizontal coordinates were scaled from a topographic map and have
AH8769.an estimated accuracy of +/- 6 seconds.
AH8769.
AH8769.The orthometric height was determined by differential leveling and
AH8769.adjusted by the NATIONAL GEODETIC SURVEY
AH8769.in July 1999.
AH8769
AH8769.Significant digits in the geoid height do not necessarily reflect accuracy.
AH8769.GEOID12B height accuracy estimate available here.
AH8769
AH8769.The dynamic height is computed by dividing the NAVD 88
AH8769.geopotential number by the normal gravity value computed on the
AH8769.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
AH8769.degrees latitude (g = 980.6199 gals.).
AH8769
AH8769.The modeled gravity was interpolated from observed gravity values.
AH8769
AH8769;
AH8769;SPC FL W - 378,500. 280,540. MT (+/- 180 meters Scaled)
AH8769
AH8769 SUPERSEDED SURVEY CONTROL
AH8769
AH8769.No superseded survey control is available for this station.
AH8769
AH8769_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RML819692(NAD 83)
AH8769
AH8769_MARKER: DD = SURVEY DISK
AH8769_SETTING: 9 = SET IN PREFABRICATED CONCRETE POST IMBEDDED IN GROUND
AH8769_STAMPING: KR-1559 GPS 1994 JAX. FLA.
AH8769_MARK LOGO: USE
AH8769_MAGNETIC: N = NO MAGNETIC MATERIAL
AH8769_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY
AH8769_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AH8769+SATELLITE: SATELLITE OBSERVATIONS - May 06, 2008
AH8769
AH8769 HISTORY - Date Condition Report By
AH8769 HISTORY - 1994 MONUMENTED USE

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AH8769 HISTORY - 19970710 GOOD FLDEP  
AH8769 HISTORY - 20080506 GOOD PICKET

AH8769

AH8769 STATION DESCRIPTION

AH8769

AH8769'DESCRIBED BY FL DEPT OF ENV PRO 1997 (JLM)

AH8769'THE MARK IS ABOUT 30.0 MI (48.3 KM) SOUTHEAST OF LAKE WALES, 0.5 MI  
AH8769'(0.8 KM) WEST OF THE KISSIMMEE RIVER ON KICCO ROAD IN SECTION 25,  
AH8769'TOWNSHIP 31 SOUTH, RANGE 31 EAST. TO REACH THE MARK FROM THE  
AH8769'INTERSECTION OF STATE ROAD 27 UNDERPASS AND STATE ROAD 60 IN LAKE  
AH8769'WALES, GO EAST-SOUTHEAST ON STATE ROAD 60 FOR 25.7 MI (41.4 KM) TO THE  
AH8769'JUNCTION OF RIVER RANCH BOULEVARD ON THE RIGHT, TURN RIGHT ON RIVER  
AH8769'RANCH BOULEVARD AND GO SOUTHEAST FOR 2.55 MI (4.10 KM) TO THE GUARD  
AH8769'HOUSE AT THE ENTRANCE TO RIVER RANCH, CONTINUE SOUTH ON RIVER RANCH  
AH8769'BOULEVARD FOR 0.3 MI (0.5 KM) TO THE JUNCTION OF KICCO ROAD ON THE  
AH8769'RIGHT, TURN RIGHT ON KICCO ROAD AND GO SOUTHEAST FOR 0.2 MI (0.3 KM)  
AH8769'TO FOUR SETS OF DOUBLE UNLOCKED GATES, CONTINUE SOUTH ON KICCO ROAD  
AH8769'FOR 0.5 MI (0.8 KM) TO ANOTHER UNLOCKED METAL GATE, CONTINUE SOUTHEAST  
AH8769'ON KICCO ROAD FOR 0.05 MI (0.08 KM) TO A LOCKED METAL GATE, THE  
AH8769'ENTRANCE TO PROPERTY OWNED BY THE SOUTH FLORIDA WATER MANAGEMENT  
AH8769'DISTRICT, CONTINUE SOUTHEAST ON A SHELL ROAD (KICCO ROAD) FOR 0.2 MI  
AH8769'(0.3 KM) TO THE JUNCTION OF A ROAD ON THE LEFT, CONTINUE  
AH8769'SOUTH-SOUTHEAST ON THE SHELL ROAD (KICCO ROAD) FOR 0.95 MI (1.53 KM)  
AH8769'TO THE MARK ON THE LEFT, A STANDARD CORP OF ENGINEERS BRASS DISK SET  
AH8769'IN CONCRETE INSIDE OF A 6-INCH PVC PIPE INBEDDED IN THE GROUND,  
AH8769'PROJECTING 0.2 FT (6.1 CM) ABOVE THE LEVEL OF THE GROUND AND 0.6 FT  
AH8769'(18.3 CM) BELOW THE LEVEL OF THE SHELL ROAD. LOCATED 200.0 FT (61.0 M)  
AH8769'SOUTH OF AN 18-INCH CULVERT UNDER THE SHELL ROAD (KICCO ROAD) , 17.7  
AH8769'FT (5.4 M) EAST-SOUTHEAST OF THE APPROXIMATE CENTERLINE OF THE SHELL  
AH8769'ROAD (KICCO ROAD) , 2.0 FT (0.6 M) WEST-NORTHWEST OF A METAL WITNESS  
AH8769'POST AND 0.75 FT (22.86 CM) NORTHWEST OF A CARSONITE WITNESS POST.  
AH8769'NOTE FOR ACCESS AND KEY CONTACT SOUTH FLORIDA WATER MANAGEMENT  
AH8769'DISTRICT AT 561-686-8800.

AH8769

AH8769 STATION RECOVERY (2008)

AH8769

AH8769'RECOVERY NOTE BY PICKETT AND ASSOCIATES 2008 (JS)

AH8769'RECOVERED IN GOOD CONDITION.

\*\*\* retrieval complete.

Elapsed Time = 00:00:03

JOB#	7050.07		PARTY CHIEF	D.Ferels	DATE:	November 12, 2007		Datum:	NAVD88		FIELD BOOK	PAGE	40.000
STATION	3 WIRE	AVG.(ENG)	HI	3 WIRE	AVG.(ENG)	ELEV.	BM EL.	DIST.	ERROR	ACCUM.	ADJ. ELEV.	METRIC	DESCRIPTION
	6.927												
BM	5.673	5.675	59.605			53.930	53.930						NGS BM Z-460
	4.425	-0.002											
STADIA		250.200											
	5.800			6.107									
TP1	5.405	5.405	60.153	4.857	4.857	54.748		500.20	0.000207535	0.000207535	54.748	16.687	
	5.010	0.000		3.607	0.000			0.20					
	16.215			14.571				0.20					
STADIA		79.000			250.000								
	5.230			6.225									
TP2	3.990	3.990	58.348	5.795	5.795	54.358		165.00	0.000068459	0.000275994	54.358	16.568	NGS BM KR 1559
	2.750	0.000		5.365	0.000			-7.00					
	11.970			17.385				-6.80					
STADIA		248.000			86.000								
	5.383			4.710									
TP3	4.777	4.778	59.776	3.350	3.350	54.998		520.00	0.000215750	0.000491743	54.998	16.763	SET 31/2" SFWMD BRASS DISK
	4.173	-0.001		1.990	0.000			-24.00					IN THE CONC. SLAB ENCASING
	14.333			10.050				-30.80					WELL POF 23, APPROX 121' W.
STADIA		121.000			272.000								OF CL KICCO RD. STAMPED POF
	4.913			5.525									23 2007
TP4	4.493	4.493	59.397	4.873	4.872	54.904		130.80	0.000054269	0.000596216	54.903	16.735	SET 31/2" SFWMD BRASS DISK
	4.073	0.000		4.217	0.001			-130.80					IN THE CONC. SLAB ENCASING
	13.479			14.615				-40.60					WELL POS 5, APPROX 131' W.
STADIA		84.000			130.800								OF CL KICCO RD. STAMPED POS
				5.895									5 2007
BM				5.467	5.466	53.931	53.930	169.80	0.000070451	0.000666667	53.930	16.438	BM CHECK Z-460
Z-460				5.037	0.001			-1.80					
				16.399				-42.40					
					85.800								
							LOR=	1606.80	CHECK VALUES TO VERIFY SAME				
									OR TO SEE THEY ARE WITHIN				
	TOTAL +=	782.200		TOTAL -=	824.600			1606.80	THIRD ORDER SPECS( MAX DIFF. 33 FT.)				
					-42.40								
				RAW CLOSURE=	0.001								
				ERROR PER FOOT=	0.000								
				MTS ALLOWABLE ERROR FOR THIRD ORDER=	0.017								
				ACTUAL ERROR=	0.001				RED IF BAD-----GREEN IF GOOD				

JOB#	7050.07	PARTY CHIEF	D.Ferels	DATE:	November 12, 2007	Datum:	NGVD29	FIELD BOOK	279	PAGE	40		
STATION	3 WIRE	AVG.(ENG)	HI	3 WIRE	AVG.(ENG)	ELEV.	BM EL.	DIST.	ERROR	ACCUM.	ADJ. ELEV.	METRIC	DESCRIPTION
	6.927												
BM	5.673	5.675	60.825			55.150	55.150						NGS BM Z-460
	4.425	-0.002											
STADIA		250.200											
	5.800			6.107									
TP1	5.405	5.405	61.373	4.857	4.857	55.968		500.20	0.000207535	0.000207535	55.968	17.059	
	5.010	0.000		3.607	0.000			0.20					
	16.215			14.571				0.20					
STADIA		79.000			250.000								
	5.230			6.225									
TP2	3.990	3.990	59.568	5.795	5.795	55.578		165.00	0.000068459	0.000275994	55.578	16.940	NGS BM KR 1559
	2.750	0.000		5.365	0.000			-7.00					
	11.970			17.385				-6.80					
STADIA		248.000			86.000								
	5.383			4.710									
TP3	4.777	4.778	60.996	3.350	3.350	56.218		520.00	0.000215750	0.000491743	56.218	17.135	SET 31/2" SFWMD BRASS DISK
	4.173	-0.001		1.990	0.000			-24.00					IN THE CONC. SLAB ENCASING
	14.333			10.050				-30.80					WELL POF 23, APPROX 121' W.
STADIA		121.000			272.000								OF CL KICCO RD. STAMPED POF
													23 2007
	4.913			5.525									
TP4	4.493	4.493	60.617	4.873	4.872	56.124		130.80	0.000054269	0.000596216	56.123	17.106	SET 31/2" SFWMD BRASS DISK
	4.073	0.000		4.217	0.001			-130.80					IN THE CONC. SLAB ENCASING
	13.479			14.615				-40.60					WELL POS 5, APPROX 131' W.
STADIA		84.000			130.800								OF CL KICCO RD. STAMPED POS 5
													2007
				5.895									
BM				5.467	5.466	55.151	55.150	169.80	0.000070451	0.000666667	55.150	16.810	BM CHECK AT Z-460
Z-460				5.037	0.001			-1.80					
				16.399				-42.40					
					85.800								
							LOR=	1606.80	CHECK VALUES TO VERIFY SAME				
									OR TO SEE THEY ARE WITHIN				
	TOTAL +=	782.200		TOTAL -=	824.600			1606.80	THIRD ORDER SPECS( MAX DIFF. 33 FT.)				
					-42.40								
							RAW CLOSURE=	0.001					
							ERROR PER FOOT=	0.000					
							MTS ALLOWABLE ERROR FOR THIRD ORDER=	0.017					
							ACTUAL ERROR=	0.001	RED IF BAD-----GREEN IF GOOD				