

SURVEYOR'S REPORT

**Specific Purpose Survey of
Ground Water (USGS) Well F-239**

Miami-Dade County, Florida

Prepared for:

South Florida Water Management District

Prepared by:



301 East Atlantic Boulevard

Pompano Beach, Florida 33060-6643

Ph. (954) 788-3400

Fax (954) 788-3500

Licensed Business (L.B.) 6860

South Florida Water Management District's

Purchase Order number 4500015866

Keith and Associates project number 07050.06,

Task 001

Report Date: April 7, 2008

Submittal: Final

SURVEYOR'S REPORT

TABLE OF CONTENTS

Purpose	1
Project location	1
Deliverables	2
Datum	2
Leveling Methods	2
Vertical Control	3-4
Project Results	5
Site Photos	6
Comments	7
Surveyor's Certificate	7

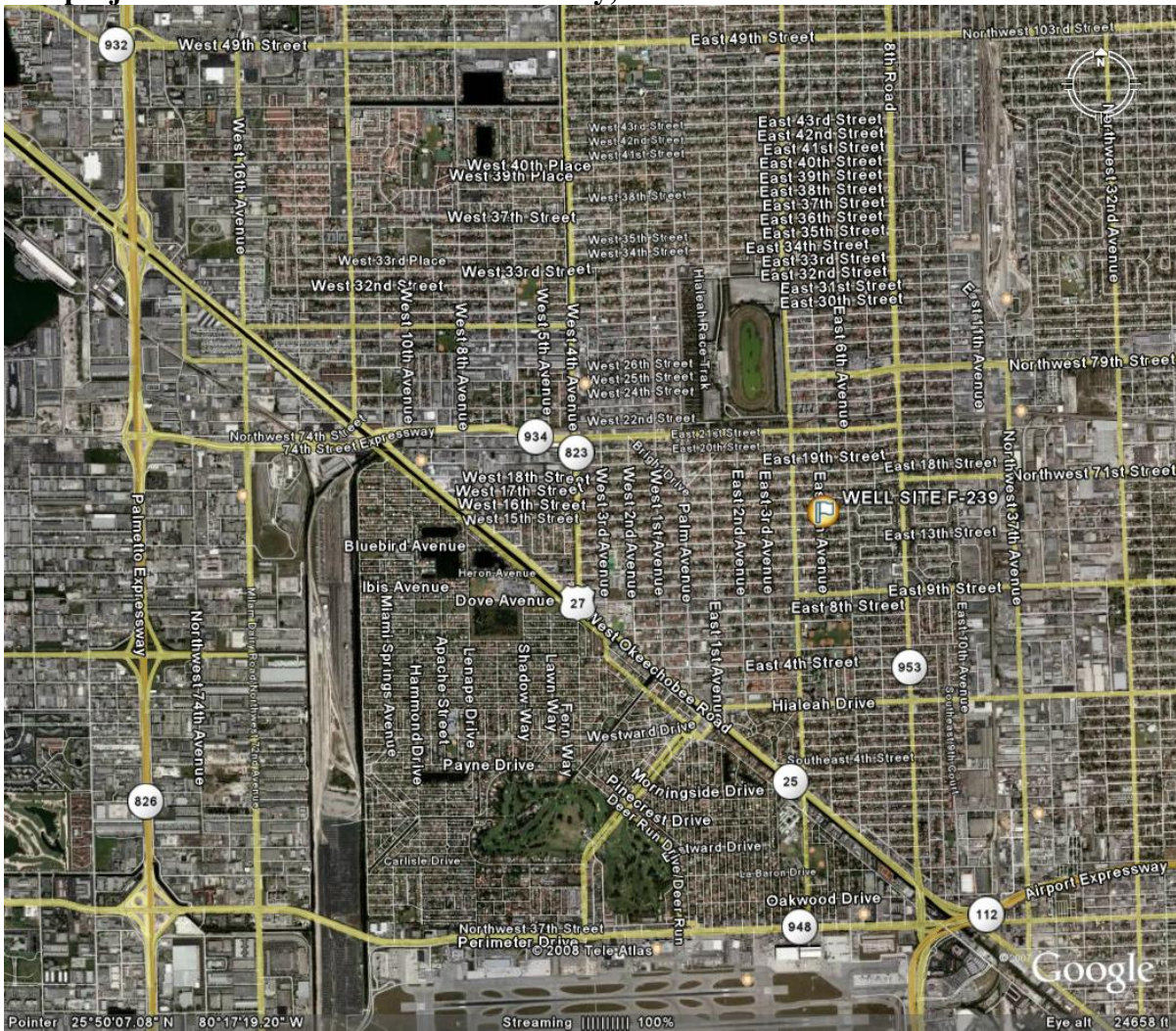
SURVEYOR'S REPORT

PURPOSE

To establish (NAVD 1988 and NGVD 1929) vertical data on the existing Wells and set a site benchmark.

LOCATION OF PROJECT

The project is located in Miami-Dade County, Florida.



SURVEYOR'S REPORT

ITEMS DELIVERED TO THE DISTRICT

1. Electronic copy of field notes
2. Electronic copy of all computation sheets
3. CORPSMET 95 file
4. Site photographs
5. Surveyor's Report
6. District Benchmark Sheets
7. District Well Excel Sheet
8. Well Activation Excel Sheet

DATUM FOR THE PROJECT

The vertical datum for the project is National Geodetic Vertical Datum (NGVD) of 1929 and North American Vertical Datum (NAVD) of 1988. The NGVD 1929 elevation and offset were obtained using Benchmark X-421 as found in the South Florida Water Management District's benchmark data base. National Geodetic Survey (NGS) benchmark W-421 was used to establish the elevations on site benchmark "F-239 2007". The horizontal datum is NAD (North American Datum) 1983/90. All measurements shown hereon are U.S. Survey Feet unless otherwise noted.

LEVELING METHODS

Site Benchmark "F-239 2007" is a 3-1/2" South Florida Water Management District brass disk set in the concrete sidewalk adjacent to well F-239. A level loop was run starting at NGS benchmark W-421, through site benchmark F-239 2007 and back to W-421. A Leica NA2 conventional level was used for the level run and the site As-Builts. The level run meets or exceeds the closure requirement of "the square root of the level run in miles x 0.03".



SURVEYOR'S REPORT

VERTICAL CONTROL

W-421		Elevation:	NAVD 1988	11.306'	NGVD 1929	(None)
PID AB7784		Latitude	25° 49' 46" (Scaled)		From NGS Data Sheet	
State/County FL/Miami-Dade		Longitude	-80° 17' 22" (Scaled)			
USGS QUAD Hialeah(1994)						
Vertical Order Class	First II	<p>The mark is in Miami Springs, about 1.2 mi (1.9 km) southeast of the junction of State Road 934 and U.S. Highway 27, in Section 18, Township 53 South, Range 41 East. To reach the mark from the intersection of U.S. Highway 27 and State Road 826 (Palmetto Expressway) go southeast on U.S. Highway 27 for 2.6 mi (4.2 km) to the junction of U.S. Highway 27 and Northwest 57th Avenue (Red Road) and the mark on the left, set vertically in the southeast face of a pedestrian overpass, 5.0 ft (1.5 m) above the level of the ground, 19.5 ft (5.9 m) south of a metal traffic box, 14.0 ft (4.3 m) northwest of a wooden power pole and 5.5 ft (1.7 m) northeast of the northeast edge of the curb and gutter.</p>				

SURVEYOR'S REPORT

VERTICAL CONTROL (CONTINUED)

SITE BENCHMARK F-239 2007	Elevation:	NAVD 1988	7.594'	NGVD 1929	9.144'
	Latitude	25° 50' 08.7"	Derived from the level loop as described in the Leveling Methods section of this report.	Derived from the level loop as described in the Leveling Methods section of this report.	
State/County FL/Miami-Dade	Longitude	-80° 16' 17.9"			
USGS QUAD Hialeah (1994)					
Vertical Order Third Horizontal Order Third		<p>The mark is in Miami Springs, about 1.2 mi (1.9 km) southeast of the junction of State Road 934 and U.S. Highway 27, in Section 18, Township 53 South, Range 41 East. To reach the mark from the intersection of U.S. Highway 27 (Okeechobee Road) and State Road 826 (Palmetto Expressway) go southeast on U.S. Highway 27(Okeechobee Road) for 4.0 mi to the junction of U.S. highway 27(Okeechobee Road) and East 4th Avenue, turn left onto East 4th Avenue and proceed north 1.26 miles to the intersection of East 15th Street, turn right onto east 15th Street and proceed to the intersection of East 15th Street and East 5th Avenue and the mark on the left, 55.5' east of the centerline of East 5th Avenue, 25.5' north of the centerline of East 15 Street. Being a 3 1/2" SFWMD brass disk set in the concrete sidewalk, 3' north of USGS well F-239. .</p>			
					
					

SURVEYOR'S REPORT

PROJECT RESULTS

USGS Well F-239

Reference mark: **Found X-mark in magic marker under hood.**

New Information at the site:
Wrote the following information inside the well housing.

Mark El. **10.585'**

NGVD 29

Initials: **K&A**

Date: **12/27/07**

Offset **1.550'**

Previous Information at the site:

Reference Mark Elevation(s)

El. **10.215'**

Date: **12-14-2005**

Initials: **Levels SB/JUND**

Reference Mark location

Same as noted above.

DTW (Distance to water inside well)

Reference mark: **Same as noted above**

El. **0.58'** (NGVD 29)

Measurement to water: **10.0'**

Date: **12/27/07**

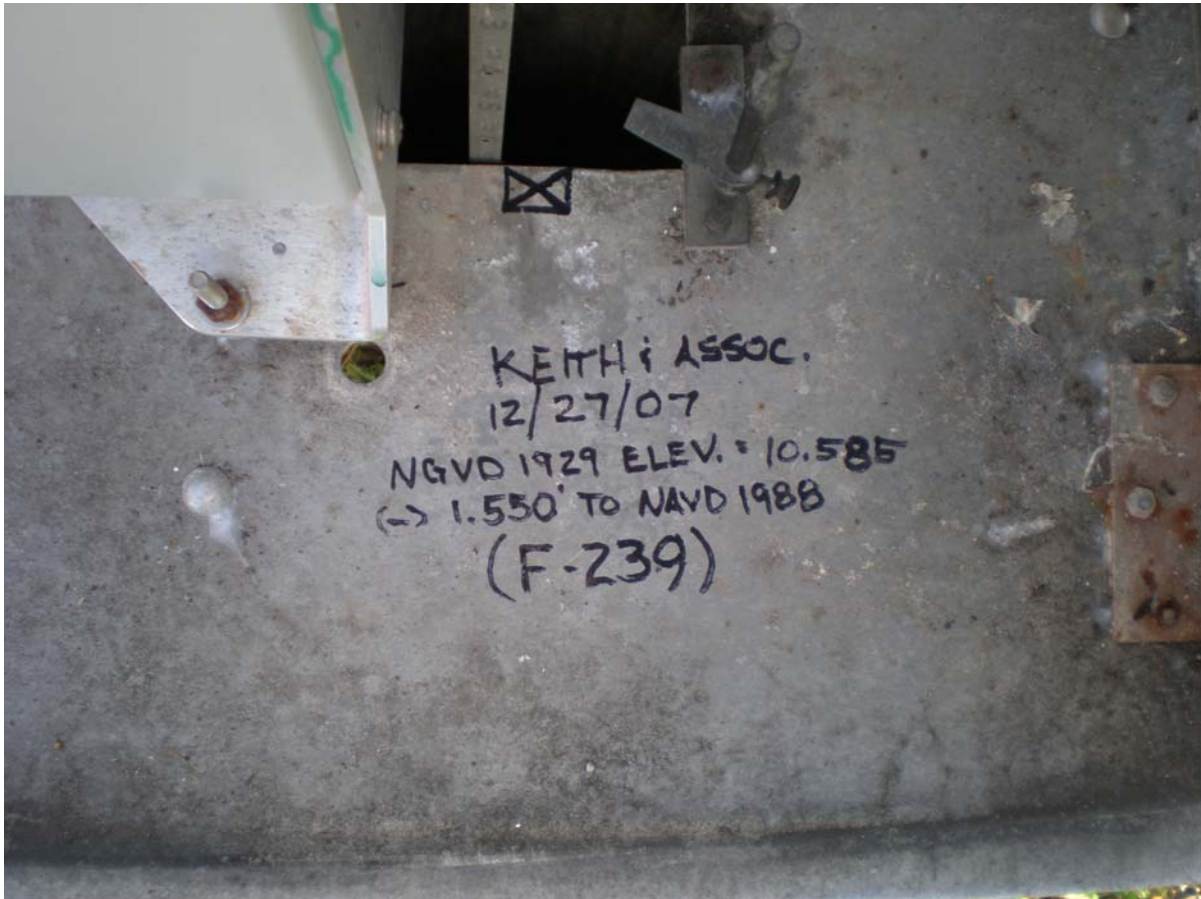
Time: **9:17 a.m.**

Ground Elevation next to Well

9.0' (NGVD 1929)

SURVEYOR'S REPORT

PROJECT RESULTS



12/27/07

New information established on well F-239

Keith and Associates

SURVEYOR'S REPORT

Comments

Elevations shown hereon are NGVD 1929 datum unless noted otherwise.

Party Chief: D. Fe rels Field Book: 279 Page Pages 58-63,

Bench Mark: "F-239 2007" El. 7.594', Vertical Datum: NAVD1988

El. 9.144', Vertical Datum: NGVD1929

Offset: 1.55' SFWMD VALUE (subtract this value from NGVD 1929 to convert to NAVD 1988)

Offset: 1.55' NGS VALUE (subtract this value from NGVD 1929 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 using NGS benchmark X-421.

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:

Date of Survey
December 27, 2007

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