



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

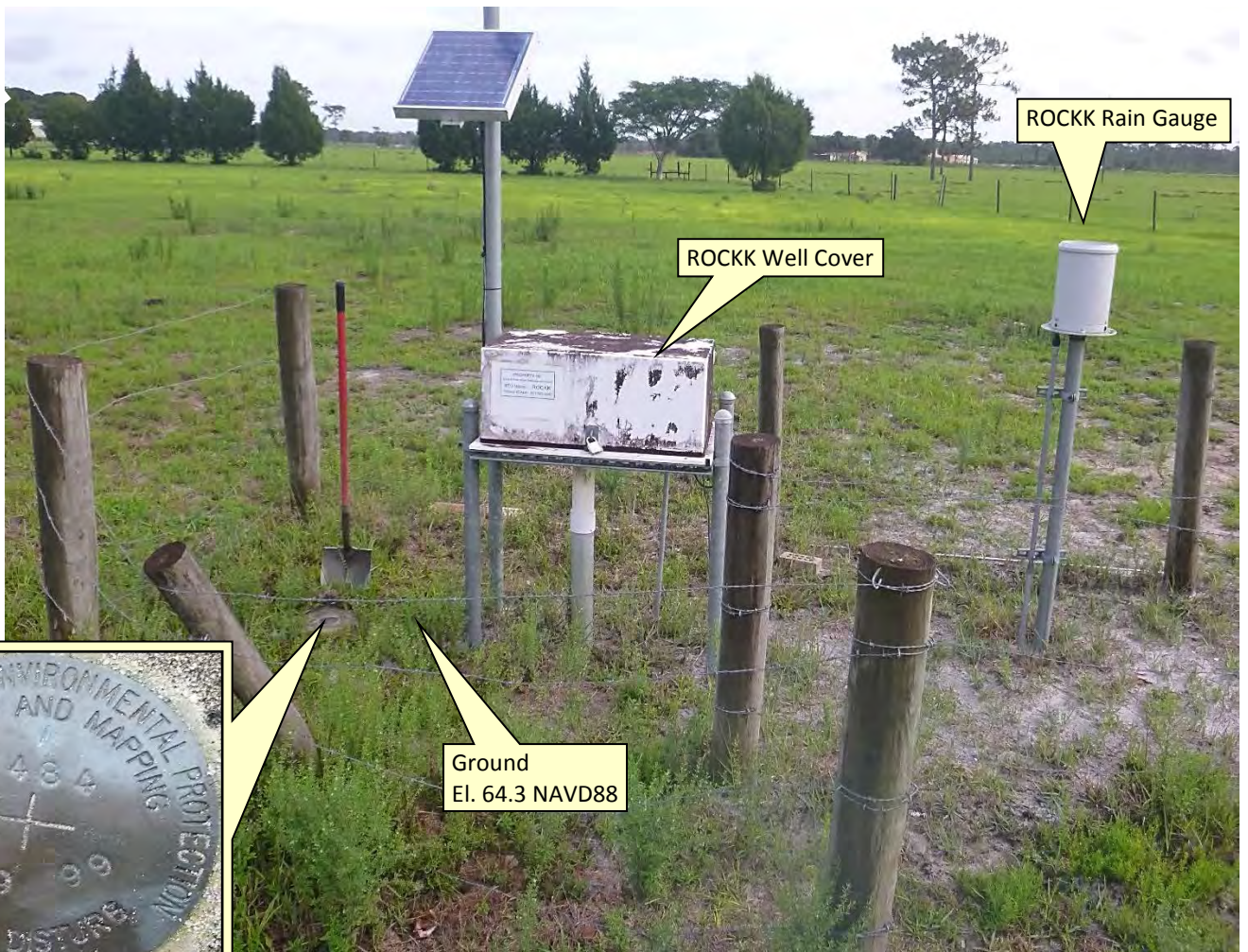
Rev. 1/16

DB Hydro Station Name: ROCK K		DB Hydro Site Name: ROCKK	Date of Field Work: 19-jun-17
Party Chief: Strickland		Field Book: Misc 7B	Page 65
Site Benchmark: NGS Z484 (AJ3297)		Benchmark Elevation (NAVD88) 64.334	Corpscon 6.0.1 Conversion Factor (NAVD88 to NGVD29) +1.243
Reference Elevation(s) (NAVD88): 67.68		Existing Tag Elevation (NGVD 29 Datum): 68.90 9-21-06 EE SP	Calibration Port Elevation(s) (NAVD88): Not applicable
Ground Elevation (NAVD88): 64.3 (taken between benchmark and well)			Pad Elevation (NAVD88): Not applicable
Latitude: 27°33'28.389"			Longitude: 80°49'38.577"

Notes:
NAVD88 – North American Vertical Datum of 1988
NGVD29- National Geodetic Vertical Datum of 1929
Corpscon 6.0.1 - A U.S. Army Corps of Engineers Engineering Research and Development Center Topographic Engineering Center Alexandria, Virginia Windows-based program to convert coordinates and elevations between datum's using vertcon05.txt and vertcon05.05 files supplied by the U.S. Army Corps of Engineers South Atlantic Division, Jacksonville FL.

PICTURES

Overall Well Site



ROCKK Rain Gauge

ROCKK Well Cover

Ground
El. 64.3 NAVD88



Site Benchmark
 NGS Z484 (AJ3297)
 El. 64.334 NAVD88
 El. 65.55 NGVD29 *

Looking Northerly (Not to scale) (19-jun-17)

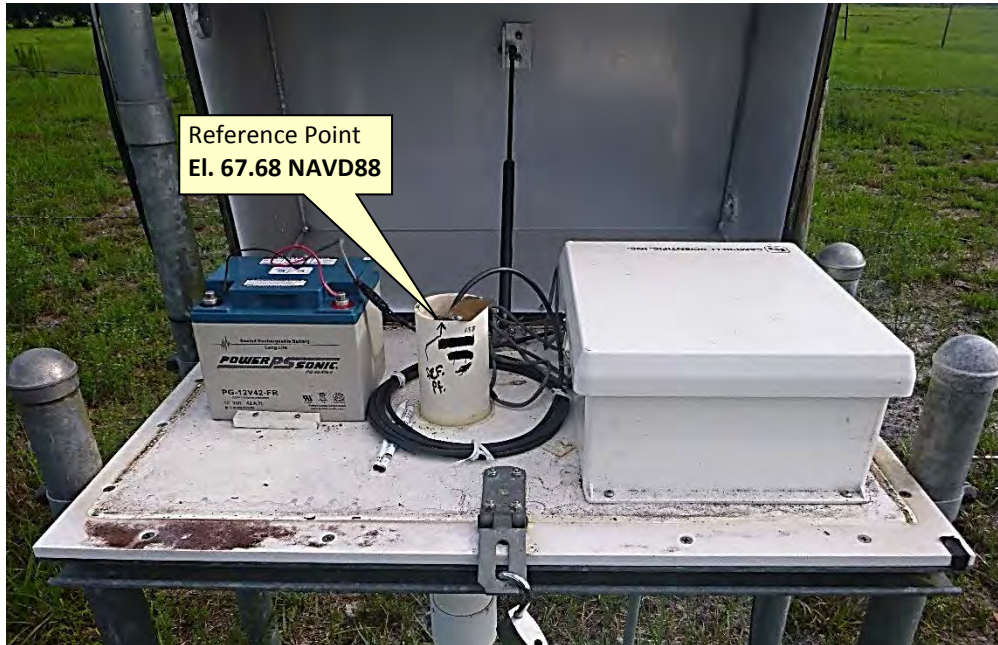
*Taken from the "ngvd29.txt" file provided by National Geodetic Survey for the Comprehensive Everglades Restoration Plan (CERP) Geodetic Vertical Control Project.



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Rev. 1/16

Inside Well Cover



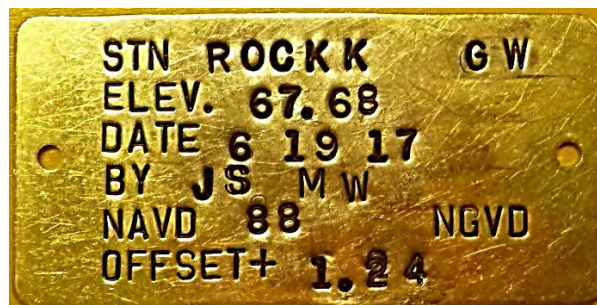
Looking Northerly (Not to scale) (16-jun-17)

Reference Point and old NGVD29 Brass tag



Not to scale (19-jun-17)

New NAVD 88 Brass Tag Close-Up



ROCKK Well Site



Not to Scale (esri product)

SEC 33 TWP 33 RGE 35

CHECK NAVD 88 ELEVATIONS
@ GW WELL ROCKK

FILE NAME: ROCKK

STA	PT#	EL	Bm EL
BM	#1 Y484		64.09 NAVD 88
BM	#5 Z484	64.314	64.33
		ERROR = 0.010	
BM	#10 Z484		64.33
GROUND #11	GROUND	64.26	
REF	#12 REF MARK	67.678	
BM	#13 Z484	64.33	64.33

EQUIPMENT USED
DINI LEVEL SERIAL # 771295
BAR CODE ROD

π III m. WISE
Ø STRICKLAND

COMMENTS

BM Y484 END FDEP BRASS DISC STAMPED Y484 1999 IN
CONCRETE GOOD CONDITION

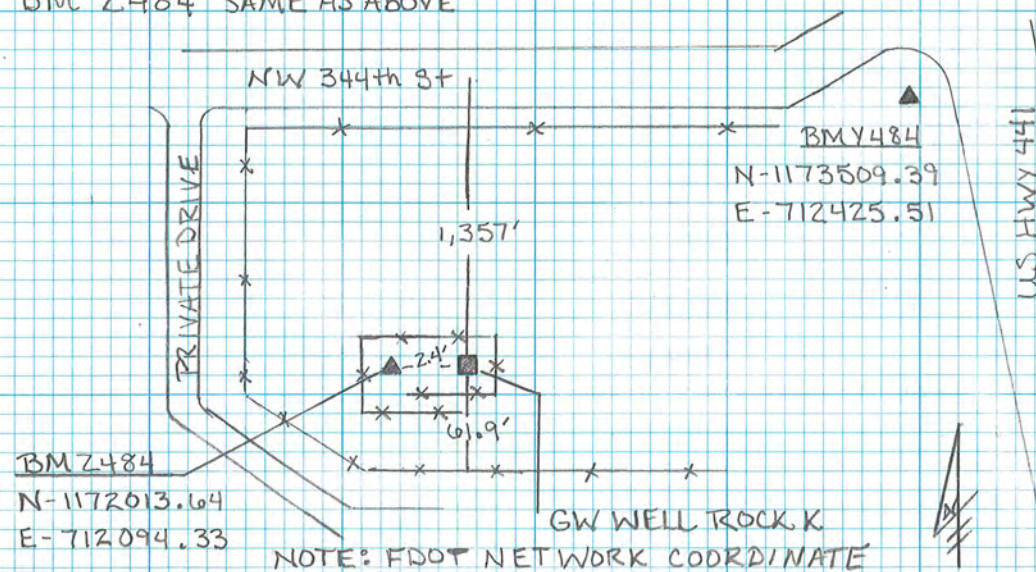
BM Z484 END FDEP BRASS DISC STAMPED Z484 1999 IN
CONCRETE GOOD CONDITION

BM Z484 SAME AS ABOVE

GROUND SHOT BETWEEN BM Z484 AND WELL

REF MARK IS MAGIG MARKER ON SOUTH SIDE OF 3" PVC
PIPE LOCATED IN LOCK BOX

BM Z484 SAME AS ABOVE



From the "ngvd29.txt" file provided by NGS for the CERP Geodetic Vertical Control Project.
 Line/Part: L26043 SSN+: mark floated, SSN*: mark constrained, SSN#: mark floated & constrained
 Mark ID SSN PID Designation Geopotential Elevation Codes
 504 0067 AJ3297 Z 484 19.5801 19.9797

Datum difference
 19.9797m - 19.609m = 0.3707m (1.216')

The NGS Data Sheet

See file [dsdata.pdf](#) for more information about the datasheet.

```
PROGRAM = datasheet95, VERSION = 8.12.1
1      National Geodetic Survey, Retrieval Date = JUNE 6, 2017
AJ3297 *****
AJ3297 DESIGNATION - Z 484
AJ3297 PID - AJ3297
AJ3297 STATE/COUNTY- FL/OKEECHOBEE
AJ3297 COUNTRY - US
AJ3297 USGS QUAD - FORT DRUM (1972)
AJ3297
AJ3297 *CURRENT SURVEY CONTROL
AJ3297
AJ3297* NAD 83(1986) POSITION- 27 33 36. (N) 080 49 48. (W) SCALED
AJ3297* NAVD 88 ORTHO HEIGHT - 19.609 (meters) 64.33 (feet) ADJUSTED
AJ3297
AJ3297 GEOID HEIGHT - -26.751 (meters) GEOID12B
AJ3297 DYNAMIC HEIGHT - 19.579 (meters) 64.24 (feet) COMP
AJ3297 MODELED GRAVITY - 979,146.7 (mgal) NAVD 88
AJ3297
AJ3297 VERT ORDER - SECOND CLASS I
AJ3297
AJ3297.The horizontal coordinates were scaled from a topographic map and have
AJ3297.an estimated accuracy of +/- 6 seconds.
AJ3297.
AJ3297.The orthometric height was determined by differential leveling and
AJ3297.adjusted by the NATIONAL GEODETIC SURVEY
AJ3297.in October 2001.
AJ3297
AJ3297.Significant digits in the geoid height do not necessarily reflect accuracy.
AJ3297.GEOID12B height accuracy estimate available here.
AJ3297
AJ3297.The dynamic height is computed by dividing the NAVD 88
AJ3297.geopotential number by the normal gravity value computed on the
AJ3297.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
AJ3297.degrees latitude (g = 980.6199 gals.).
AJ3297
AJ3297.The modeled gravity was interpolated from observed gravity values.
AJ3297
AJ3297; North East Units Estimated Accuracy
AJ3297;SPC FL E - 357,460. 216,790. MT (+/- 180 meters Scaled)
AJ3297
AJ3297_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNL167484(NAD 83)
AJ3297
AJ3297 SUPERSEDED SURVEY CONTROL
AJ3297
AJ3297.No superseded survey control is available for this station.
AJ3297
AJ3297_MARKER: DD = SURVEY DISK
AJ3297_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
AJ3297_STAMPING: Z 484 1999
AJ3297_MARK LOGO: FLDEP
AJ3297_MAGNETIC: N = NO MAGNETIC MATERIAL
```

AJ3297_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
 AJ3297+STABILITY: SURFACE MOTION
 AJ3297_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
 AJ3297+SATELLITE: SATELLITE OBSERVATIONS - 1999

AJ3297

AJ3297	HISTORY	- Date	Condition	Report By
AJ3297	HISTORY	- 1999	MONUMENTED	FLDEP

AJ3297

AJ3297 STATION DESCRIPTION

AJ3297

AJ3297'DESCRIBED BY FL DEPT OF ENV PRO 1999 (JLM)

AJ3297'THE MARK IS ABOUT 22.7 MI (36.5 KM) NORTH OF OKEECHOBEE, 10.6 MI (17.1
 AJ3297'KM) SOUTH OF YEE HAW JUNCTION, IN SECTION 33, TOWNSHIP 33 SOUTH, RANGE
 AJ3297'35 EAST. TO REACH THE MARK FROM THE JUNCTION OF U.S. HIGHWAY 441 AND
 AJ3297'STATE ROAD 60 AT YEE HAW JUNCTION, GO SOUTHEASTERLY ON U.S. HIGHWAY
 AJ3297'441 FOR 10.75 TO THE JUNCTION OF 344TH STREET (ROCKING K ROAD) ON THE
 AJ3297'RIGHT, TURN RIGHT ON 344TH STREET (ROCKING K ROAD) AND GO WEST FOR 0.1
 AJ3297'MI (0.2 KM) TO THE MOST WEST GATE OF THREE GATE ON THE LEFT (ENTRANCE
 AJ3297'TO FIELDS), TURN LEFT PASSING THROUGH THE MOST WEST GATE AND GO
 AJ3297'SOUTH-SOUTHWEST FOR 0.15 MI (0.24 KM) CROSSING A FIELD TO THE MARK,
 AJ3297'SET IN THE TOP OF A ROUND CONCRETE MONUMENT PROJECTING 0.1 FT (3.0 CM)
 AJ3297'ABOVE THE LEVEL OF THE GROUND, 0.1 MI (0.2 KM) SOUTHEAST OF A WHITE
 AJ3297'HOUSE. LOCATED 475.0 FT (144.8 M) SOUTH-SOUTHWEST OF A POWER POLE,
 AJ3297'290.0 FT (88.4 M) SOUTHWEST OF A 12-INCH DIAMETER PINE TREE, 66.0 FT
 AJ3297'(20.1 M) WEST-NORTHWEST OF NORTHWEST CORNER OF A BARBED WIRE FENCE AND
 AJ3297'2.4 FT (0.7 M) WEST OF THE SOUTHWEST CORNER OF THE GAGE.

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



From the "ngvd29.txt" file provided by NGS for the CERP Geodetic Vertical Control Project.
 Line/Part: L26043 SSN+: mark floated, SSN*: mark constrained, SSN#: mark floated & constrained
 Mark ID SSN PID Designation Geopotential Elevation Codes
 505 0066 AJ3296 Y 484 19.5085 19.9067

The NGS Data Sheet

See file [dsdata.pdf](#) for more information about the datasheet.

```

PROGRAM = datasheet95, VERSION = 8.12.1
1      National Geodetic Survey,  Retrieval Date = JUNE  7, 2017
AJ3296 *****
AJ3296 DESIGNATION - Y 484
AJ3296 PID - AJ3296
AJ3296 STATE/COUNTY- FL/OKEECHOBEE
AJ3296 COUNTRY - US
AJ3296 USGS QUAD - FORT DRUM (1972)
AJ3296
AJ3296 *CURRENT SURVEY CONTROL
AJ3296
AJ3296* NAD 83(1986) POSITION- 27 33 43. (N) 080 49 35. (W) SCALED
AJ3296* NAVD 88 ORTHO HEIGHT - 19.536 (meters) 64.09 (feet) ADJUSTED
AJ3296
AJ3296 GEOID HEIGHT - -26.765 (meters) GEOID12B
AJ3296 DYNAMIC HEIGHT - 19.506 (meters) 64.00 (feet) COMP
AJ3296 MODELED GRAVITY - 979,146.4 (mgal) NAVD 88
AJ3296
AJ3296 VERT ORDER - SECOND CLASS I
AJ3296
AJ3296.The horizontal coordinates were scaled from a topographic map and have
AJ3296.an estimated accuracy of +/- 6 seconds.
AJ3296.
AJ3296.The orthometric height was determined by differential leveling and
AJ3296.adjusted by the NATIONAL GEODETIC SURVEY
AJ3296.in October 2001.
AJ3296
AJ3296.No vertical observational check was made to the station.
AJ3296
AJ3296.Significant digits in the geoid height do not necessarily reflect accuracy.
AJ3296.GEOID12B height accuracy estimate available here.
AJ3296
AJ3296.The dynamic height is computed by dividing the NAVD 88
AJ3296.geopotential number by the normal gravity value computed on the
AJ3296.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
AJ3296.degrees latitude (g = 980.6199 gals.).
AJ3296
AJ3296.The modeled gravity was interpolated from observed gravity values.
AJ3296
AJ3296; North East Units Estimated Accuracy
AJ3296;SPC FL E - 357,680. 217,140. MT (+/- 180 meters Scaled)
AJ3296
AJ3296_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNL171486(NAD 83)
AJ3296
AJ3296 SUPERSEDED SURVEY CONTROL
AJ3296
AJ3296.No superseded survey control is available for this station.
AJ3296
AJ3296_MARKER: DD = SURVEY DISK
AJ3296_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
AJ3296_STAMPING: Y 484 1999

```


AJ3296_MARK LOGO: FLDEP

AJ3296_MAGNETIC: N = NO MAGNETIC MATERIAL

AJ3296_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO

AJ3296+STABILITY: SURFACE MOTION

AJ3296_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

AJ3296+SATELLITE: SATELLITE OBSERVATIONS - 1999

AJ3296

AJ3296	HISTORY	- Date	Condition	Report By
AJ3296	HISTORY	- 1999	MONUMENTED	FLDEP

AJ3296

AJ3296 STATION DESCRIPTION

AJ3296

AJ3296'DESCRIBED BY FL DEPT OF ENV PRO 1999 (JLM)

AJ3296'THE MARK IS ABOUT 22.7 MI (36.5 KM) NORTH OF OKEECHOBEE, 10.6 MI (17.1

AJ3296'KM) SOUTH OF YEE HAW JUNCTION ON THE RIGHT-OF-WAY OF U.S. HIGHWAY 441,

AJ3296'IN SECTION 33, TOWNSHIP 33 SOUTH, RANGE 35 EAST. TO REACH THE MARK

AJ3296'FROM THE JUNCTION OF U.S. HIGHWAY 441 AND STATE ROAD 60 AT YEE HAW

AJ3296'JUNCTION, GO SOUTHEASTERLY ON U.S. HIGHWAY 441 FOR 10.75 MI (17.30 KM)

AJ3296'TO THE JUNCTION OF A PRIVATE ROAD ON THE RIGHT AND THE MARK ON THE

AJ3296'RIGHT, SET IN THE TOP OF A ROUND CONCRETE MONUMENT FLUSH WITH THE

AJ3296'GROUND AND LEVEL WITH U.S. HIGHWAY 441. LOCATED 72.2 FT (22.0 M)

AJ3296'SOUTHWEST OF THE CENTERLINE OF U.S. HIGHWAY 441, 66.0 FT (20.1 M)

AJ3296'SOUTHEAST OF THE APPROXIMATE CENTERLINE OF 344TH STREET (ROCKING K

AJ3296'ROAD) AND 1.0 FT (0.3 M) NORTHEAST OF A CARSONITE WITNESS POST AND

AJ3296'FENCE LINE.

*** retrieval complete.

Elapsed Time = 00:00:01



Office

Project

20 June 2017

INPUT

State Plane, flhp gn - Florida HPGN
0901 - Florida East, U.S. Feet
Vertical - NAVD88, U.S. Feet

OUTPUT

Geographic, flhp gn - Florida HPGN
Vertical - NGVD29 (Custom), U.S. Feet

Z484

1/2

Northing/Y: 1172013.64
Easting/X: 712094.33
Elevation/Z: 0
Convergence: 0 04 47.49867
Scale Factor: 0.999944762
Combined Factor: 0.999948958

Latitude: 27 33 28.38908
Longitude: 80 49 38.57694
Elevation/Z: 1.243

ROCKK Well

2/2

Northing/Y: 1172016
Easting/X: 712094
Elevation/Z: 0
Convergence: 0 04 47.49705
Scale Factor: 0.999944762
Combined Factor: 0.999948958

Latitude: 27 33 28.41246
Longitude: 80 49 38.58057
Elevation/Z: 1.243

Remark:

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

DBHYDRO | by station

STATION INFORMATION

Station	ROCK K
Site	ROCKK
Type	WELL
Latitude (ddmss.sss)	273328.392
Longitude (ddmss.sss)	804938.53
X Coord (ft) NAD83	712098.464
Y Coord (ft) NAD83	1172013.84
County	Okeechobee
Basin	ST. JOHNS RIVER W.M.D.
Section	33
Township	33
Range	35
Show Map	Google Map
Well Info	Info
Description	ROCKING K RANCH GROUNDWATER NEAR YEEHAW JUNCTION
Notes	
Nearby Stations	Nearby Stations
Attachments	None Available

Query returned 1 station record(s).

[Get Time Series Data](#)

REGISTRATION WORKSHEET - ROCKK Addendum

Site Name: **ROCKK** Today's Date: **6/20/2017** Type Recorder: **CR1000**
 Activity: **Addendum** Effective Date: Effective Date: Start Date of Data :
 Customer: **Steve Krupa** Bus. Area: **5720** Agency: **SFWMD** Internal Order:
 Project Manager: **Howard Ehmke** Bus. Area: **Survey & Mapping** Agency: **SFWMD** Fund:
 Contract #: Contract #:
 Project Name: Legal Mandate:

Short Common Name / Description:

Proj. Mgr. Notes: This addendum was performed to add NAVD 88 surveying data for the reference elevation. To convert to NGVD 29 add +1.243 ft.

Site Directions: From the Okeechobee Field Station drive north on US 441 for approximately 22 miles to NW 344 St. (the road might not be clearly marked); Turn left on to NW 344 St. and drive to the first driveway (approximately .17 miles) and turn on to the driveway. Follow the road around to a storage building; you will see the site in the pasture north of where you have to mark. Ensure the gates are closed after entering and leaving the pasture.

Site Address (if any):

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

Recorder Location/Purpose: **Stand-Alone Recorder (Non-Flow Site)** Structure Type:

Array ID Configuration table attached **NO**

SURVEY INFORMATION

B.M. Elevation: **64.334** Date: **4/17/1999** Stamp: **Z 484 1999**
 Agency: **DEP** Type: **BRASS** Datum: **NAVD 88**

Benchmark Location/ Description: To reach the mark from the junction of U.S. Highway 441 and State Road 60 at Yeehaw junction, go southeasterly on U.S. Highway 441 for 10.75 miles to the junction of 344th Street (Rocking K road) on the right; turn right on 344th Street (Rocking K road) and go west for 0.1 of a mile to the most west gate of three gate on the left (entrance to fields); turn left passing through the most west gate and go south-southwest for 0.15 of a mile crossing a field to the mark. set in the

COMMUNICATIONS INFORMATION

Communications System: Loggernet Server: Loggernet IP Address:
 Tower: Communication Type: R.F. Code/Modem Address: R.F. Access Point:
 Phone Number:
 RTU Address: Gateways:

WELL INFORMATION

Sensor	Customer Ref	Ref Elev	Elev Date	Top of Well	Bottom of Well	Ground Elev	Benchmark Elev	Benchmark Datum	Ref Elevation Location
GW1	ROCKK	67.68	6/19/2017	67.68		64.3	64.334	NAVD 88	Top of PVC Pipe

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

COORDINATE INFORMATION

Item/Par	Lat	Long	X-Coord	Y-Coord	Sec	Township	Range	Quad	Basin	County	Description
GW1	27 33 28.389	80 49 38.577			33	33	35	Fort Drum		Okeechobee	