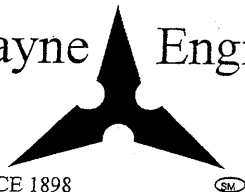


Biscayne Engineering Company, Inc.



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Over 100 Years

CONSULTING ENGINEERS, PLANNERS AND SURVEYORS

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BENCH MARKS

AT

VARIOUS SOUTH FLORIDA WATER

MANAGEMENT SITES

ORDER NO.: 03-76724

DATE: 04-30-2003

South Florida Water Management District

Order No.: 03-76724

Field Book: 2479, PG 15-19

Date: 3/21/2003

Site: PBF-7 (U and L)

Bench Mark: 39.06'

B.M. Information: Designation

PID

State/County FL/Palm Beach

USGS QUAD Belle Glade

B.M.	B.S.	Mean	Hi	F.S.	Mean	Elev. (Feet)
						39.06
AD8245						Stainless Steel Rod Stamped A-414
A414	2.69					
	2.34	2.34	41.40			
	2.00					
T.P. #1				8.86		
				8.54	8.54	32.86
				8.22		
Shake T.P. #1	3.39					
	2.89	2.90	35.76			
	2.41					
T.P. #2				6.35		
				5.99	5.99	29.77
				5.63		
Shake T.P. #2	1.15					
	0.67	0.67	30.44			
	0.19					
T.P. #3				7.93		
				7.65	7.65	22.79
				7.36		
Shake T.P. #3	1.24					
	0.87	0.87	23.66			
	0.50					
T.P. #4				7.79		
				7.48	7.48	16.18
				7.18		
Shake T.P. #4	4.64					
	4.17	4.17	20.35			
	3.7					
Brass Disk				4.74		
				4.26	4.26	16.09
				3.78		
Shake Brass Disk	4.86					
	4.39	4.39	20.48			
	3.92					
T.P. #5				4.76		
				4.30	4.30	16.18
				3.83		
Shake T.P. #5	8.09					
	7.72	7.72	23.90			
	7.35					
T.P. #6				1.41		
				1.10	1.10	22.80
				0.79		
Shake T.P. #6	7.97					
	7.68	7.68	30.48			
	7.39					

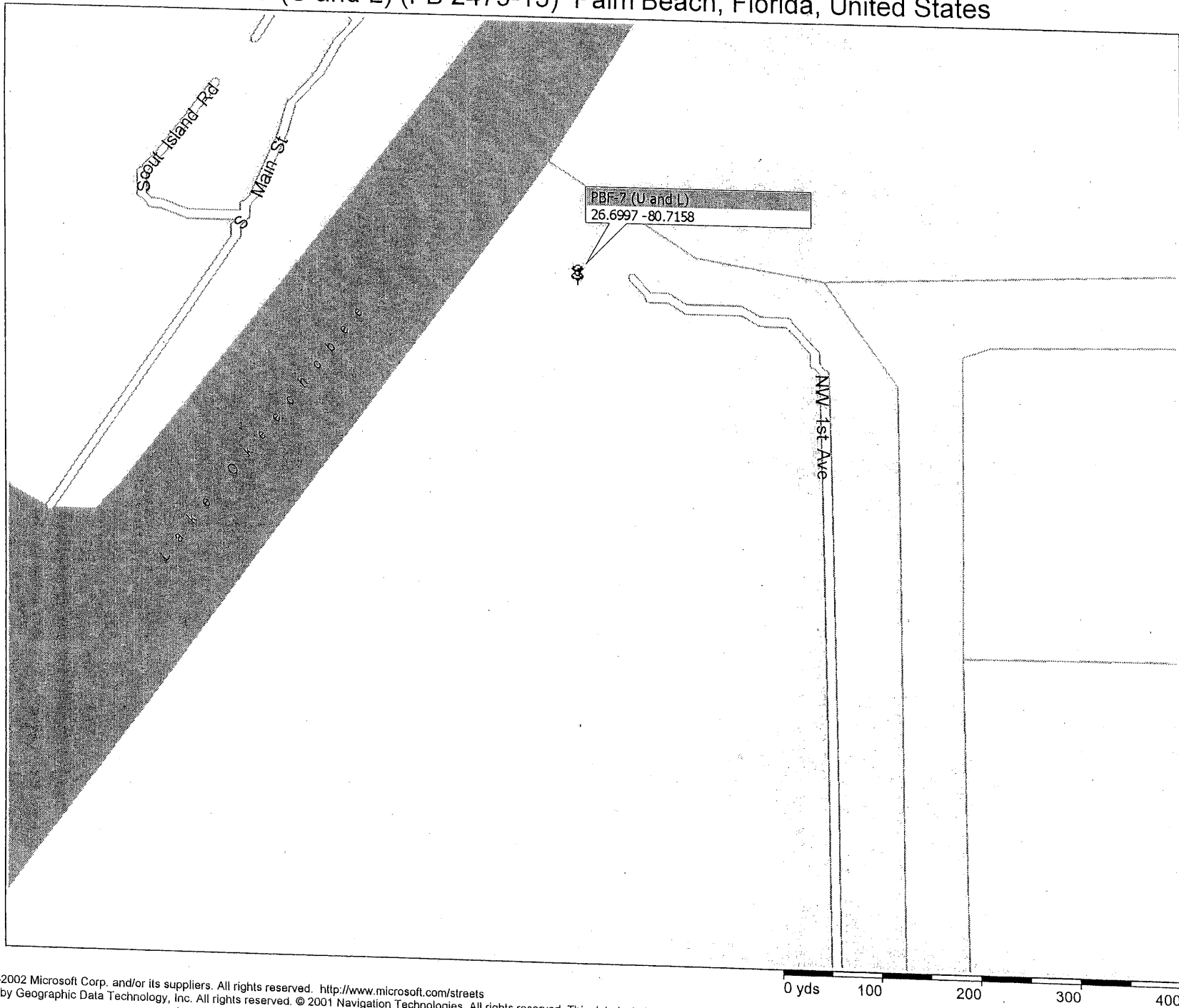
<u>B.M.</u>	<u>B.S.</u>	<u>Mean</u>	<u>Hi</u>	<u>F.S.</u>	<u>Mean</u>	<u>Elev. (Feet)</u>
T.P. #7				1.18		
				0.70	0.70	29.78
				0.23		
Shake T.P. #7	6.17					
	5.81	5.81	35.59			
	5.45					
T.P. #8				3.19		
				2.71	2.71	32.88
				2.23		
Shake T.P. #8	8.62					
	8.31	8.31	41.19			
	7.99					
AD8245				2.46		
A414				2.11	2.11	39.08
				1.76		39.06
						0.02

Site: PBF-7 (U and L)

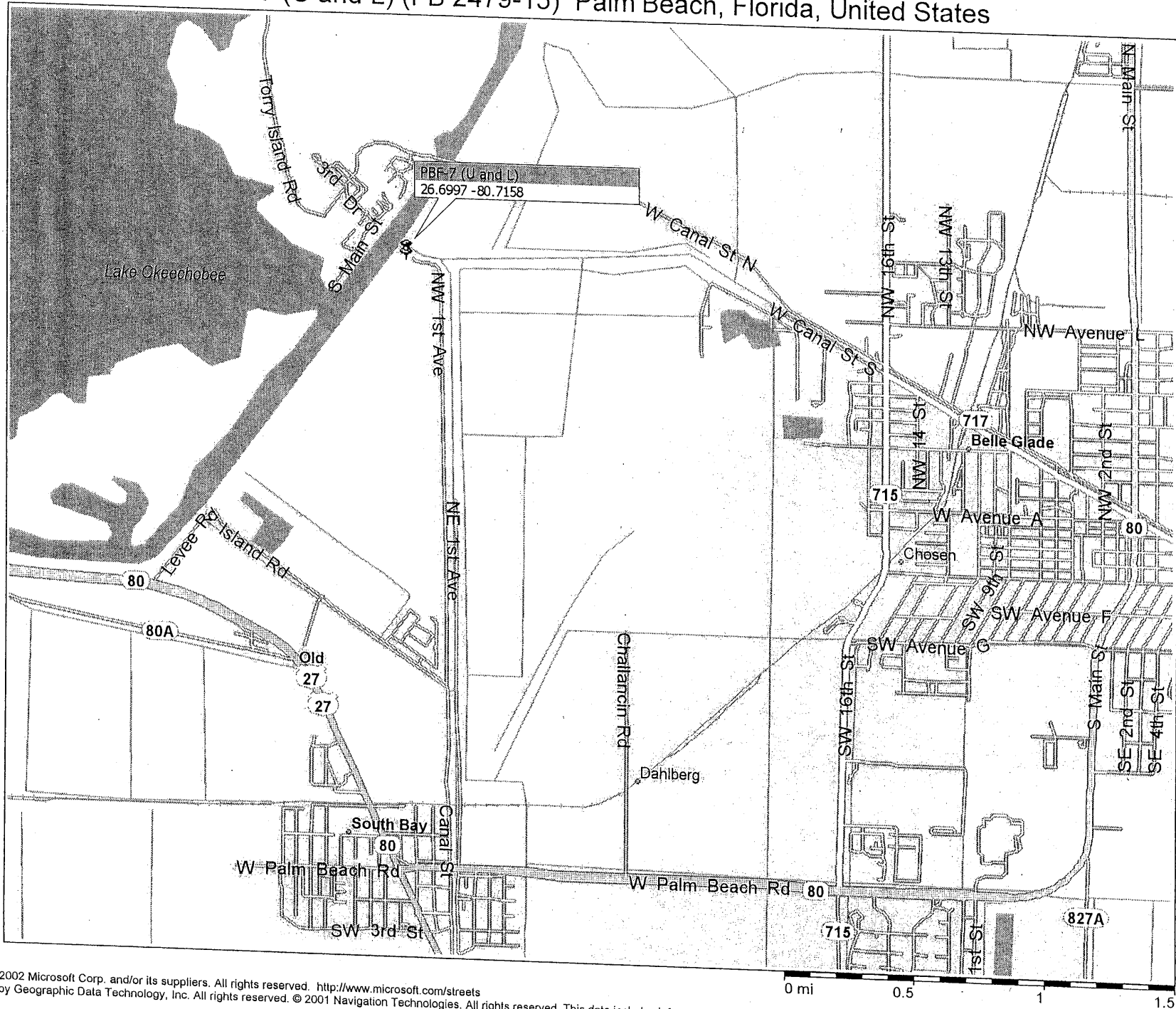
Summary: Set Brass disc at Southeast corner of concrete slab for wellhead at the following elevation.

<u>16.08'</u>	NAVD 88	
<u>17.51'</u>	NGVD 29	computed based on dual elevation data for County Bench Mark A414

PBF-7 (U and L) (FB 2479-15) Palm Beach, Florida, United States



PBF-7 (U and L) (FB 2479-15) Palm Beach, Florida, United States



South Florida Water Management District

Order No.: 03-76724

Field Book: 2479, PG 01

Date: 3/19/2003

Site: Alligator Alley (A.A. 1-5)

Bench Mark: NAVD 88 25.68

B.M. Information: Designation - LADDER

NGVD 29 27.4

PID - AD7260

1.72

State/County - FL/Broward

USGS QUAD - Lone Palm Head (1973)

NAVD 88

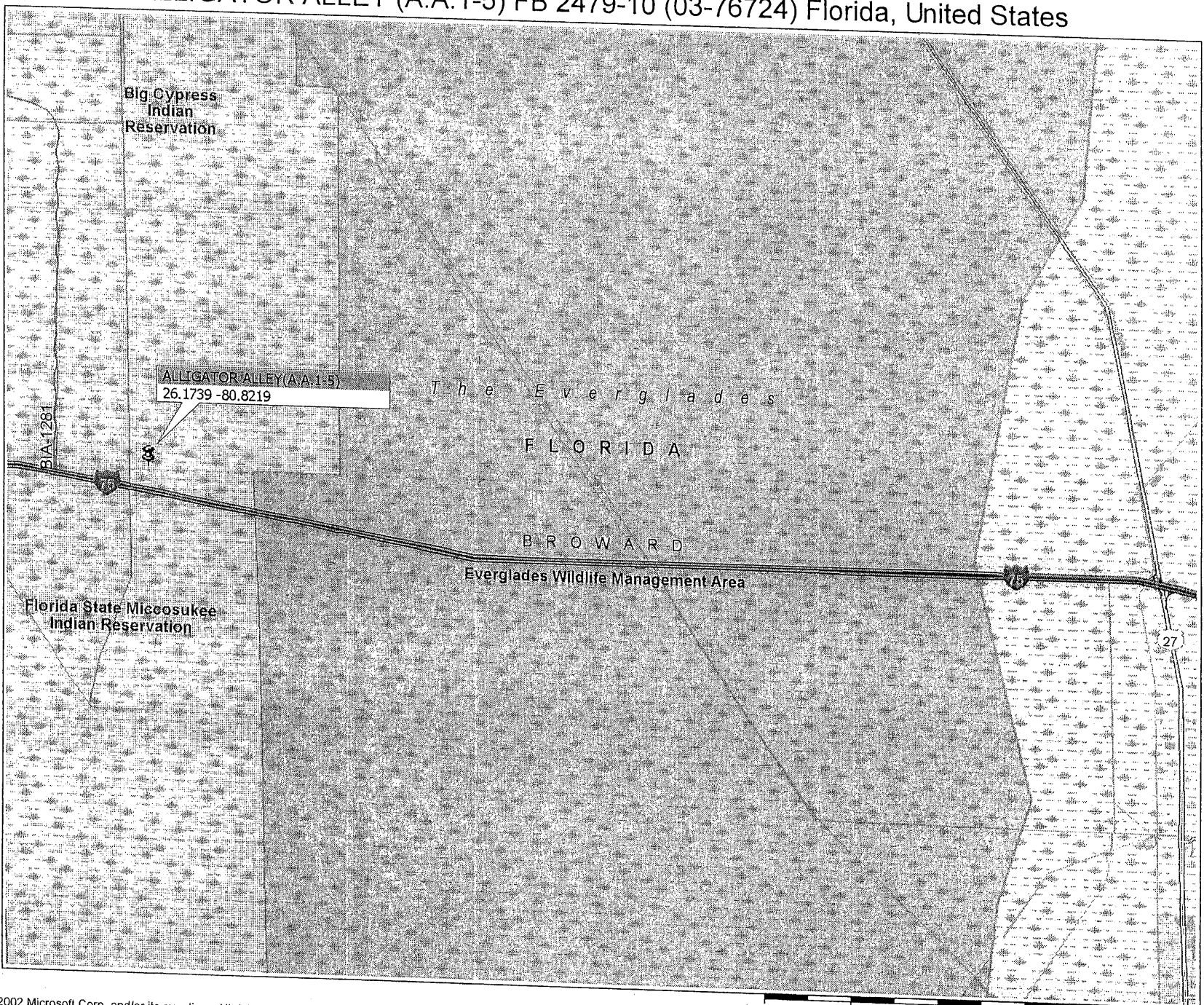
NGVD 29

NAVD 88+(NGVD 29-NAVD 88)

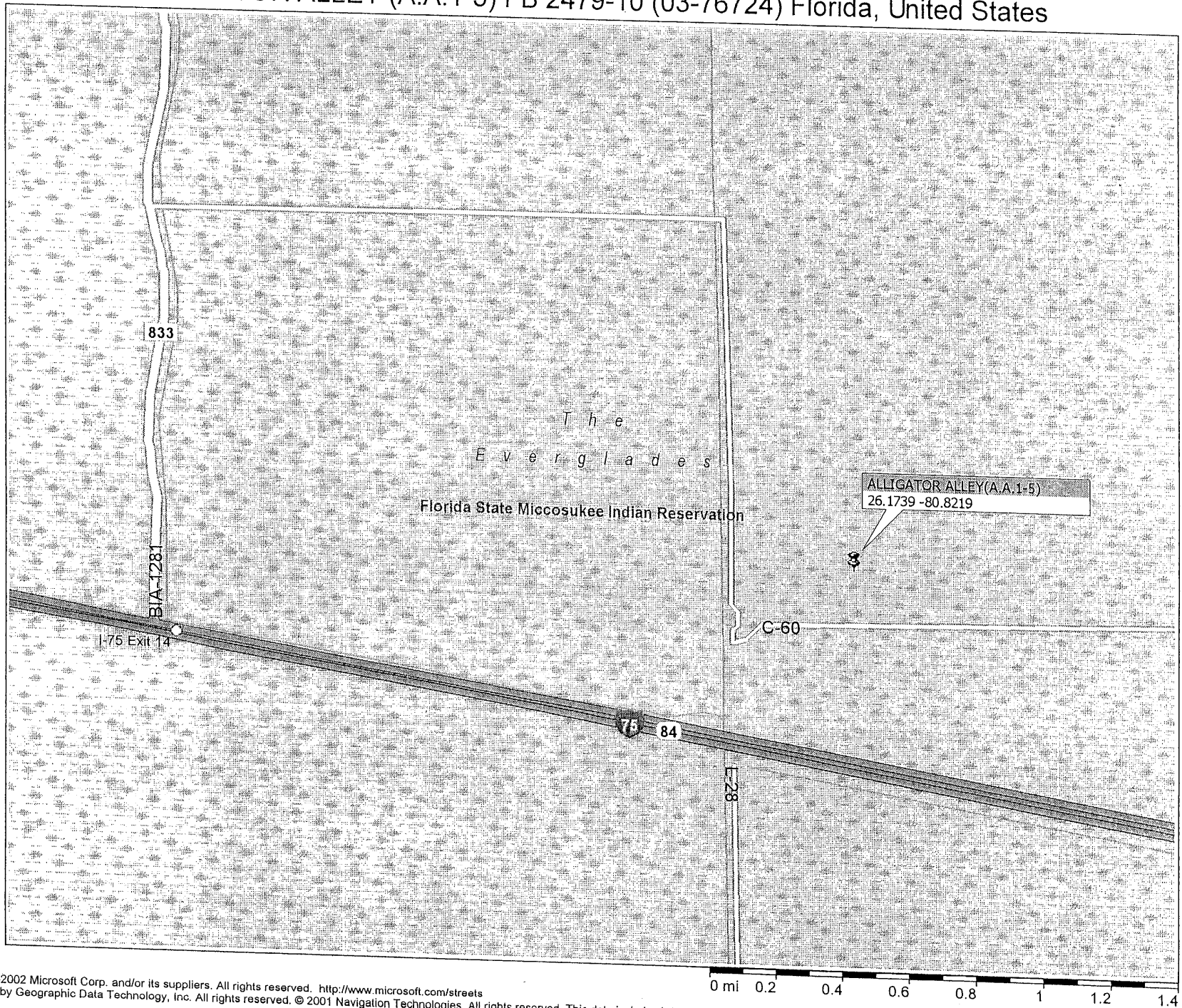
B.M.	B.S.	Mean	Hi	F.S.	Mean	Elev. (Feet)	Elev. (Feet)
------	------	------	----	------	------	--------------	--------------

NAVD 88	6.15						
	5.41	5.41	31.09				
	4.67						
				5.99			
				4.97	4.98	26.11	27.83
				3.97			
T.P. #1	2.19						
	1.945	1.945	28.06				
	1.70						
T.P. #2				9.99			
				9.7	9.70	18.36	20.08
				9.41			
	1.19						
	0.73	0.73	19.09				
	0.27						
T.P. #3				6.06			
				5.24	5.24	13.85	15.57
				4.42			
	6.565						
	5.59	5.59	19.44				
	4.62						
T.P. #4				6.78			
				5.80	5.80	13.64	15.36
				4.82			
	6.13						
	4.99	4.99	18.63				
	3.85						
T.P. #5				6.36			
				5.23	5.23	13.40	15.12
				4.10			
	6.94						
	5.69	5.69	19.09				
	4.44						
Set Brass Disk				5.86			
				4.29	4.29	14.80	16.52
				2.72			Alligator Alley
	6.06						
	4.50	4.50	19.30				
	2.94						
T.P. #6				7.15			
				5.895	5.90	13.41	15.13
				4.64			
	6.435						
	5.305	5.31	18.71				
	4.175						

ALLIGATOR ALLEY (A.A.1-5) FB 2479-10 (03-76724) Florida, United States



ALLIGATOR ALLEY (A.A.1-5) FB 2479-10 (03-76724) Florida, United States



South Florida Water Management District

Date: 3/20/2003

Order No.: 03-76724

Field Book: 2479, PG 06-14

Site: IWSDGW

Bench Mark: 26.57'

B.M. Information: Designation - E 533
 PID - AJ7588
 State/County - FL/Collier
 USGS QUAD - Immokalee (1987)

B.M.	B.S.	Mean	Hi	F.S.	Mean	Elev. (Feet)
						26.57
E 533	8.17					
	6.83	6.83	33.4			
	5.49					
				6.66		
				5.34	5.34	28.06
				4.01		
T.P. #1	6.51					
	5.23	5.23	33.30			
	3.96					
T.P. #2				6.52		
				5.22	5.22	28.08
				3.92		
	6.46					
	5.18	5.18	33.26			
	3.90					
T.P. #3				7.48		
				6.18	6.18	27.08
				4.88		
	6.44					
	5.12	5.12	32.19			
	3.79					
T.P. #4				6.82		
				5.27	5.27	26.92
				3.72		
	6.42					
	5.11	5.11	32.03			
	3.8					
T.P. #5				6.59		
				5.18	5.18	26.85
				3.77		
	6.4					
	5.25	5.25	32.10			
	4.1					
T.P. #6				6.93		
				5.55	5.55	26.55
				4.17		
	7.52					
	5.99	5.99	32.55			
	4.47					
T.P. #7				6.11		
				4.64	4.64	27.90
				3.18		
	7.15					
	5.59	5.59	33.49			
	4.03					
T.P. #8				3.48		
				2.36	2.36	31.13
				1.24		
	6.63					
	4.98	4.98	36.11			
	3.32					

B.M.	B.S.	Mean	Hi	F.S.	Mean	Elev. (Feet)
T.P. #9				5.90		
				4.76	4.76	31.35
				3.62		
	3.59					
	2.78	2.78	34.13			
	1.98					
T.P. #10				4.95		
				4.01	4.01	30.13
				3.06		
	6.49					
	5.69	5.69	35.82			
	4.90					
Set Brass Disk				6.47		
				5.77	5.77	30.05
				5.07		
	6.32					
	5.64	5.64	35.69			
	4.96					
T.P. #11				6.33		
				5.55	5.55	30.14
				4.77		
	5.19					
	4.23	4.23	34.37			
	3.28					
T.P. #12				3.81		
				3.01	3.01	31.36
				2.21		
	5.48					
	4.49	4.49	35.85			
	3.50					
T.P. #13				6.77		
				4.71	4.71	31.14
				2.65		
	3.74					
	2.59	2.59	33.73			
	1.44					
T.P. #14				7.39		
				5.82	5.82	27.92
				4.24		
	6.08					
	4.58	4.58	32.50			
	3.08					
T.P. #15				7.45		
				5.93	5.93	26.57
				4.41		
	6.92					
	5.58	5.58	32.15			
	4.24					
T.P. #16				6.47		
				5.28	5.28	26.86
				4.10		
	6.64					
	5.19	5.19	32.05			
	3.74					
T.P. #17				6.39		
				5.12	5.12	26.93
				3.85		
	6.67					
	5.12	5.12	32.05			
	3.57					

<u>B.M.</u>	<u>B.S.</u>	<u>Mean</u>	<u>Hi</u>	<u>F.S.</u>	<u>Mean</u>	<u>Elev. (Feet)</u>
T.P. #18				6.27		
				4.96	4.96	27.10
				3.64		
	7.49					
	6.04	6.04	33.14			
	4.59					
T.P. #19				6.16		
				5.04	5.04	28.10
				3.91		
	6.59					
	5.11	5.11	33.21			
	3.63					
T.P. #20				6.20		
				5.11	5.11	28.10
				4.03		
	6.72					
	5.36	5.36	33.46			
	4.00					
E - 533				8.16		
				6.85	6.85	26.60
				5.55		

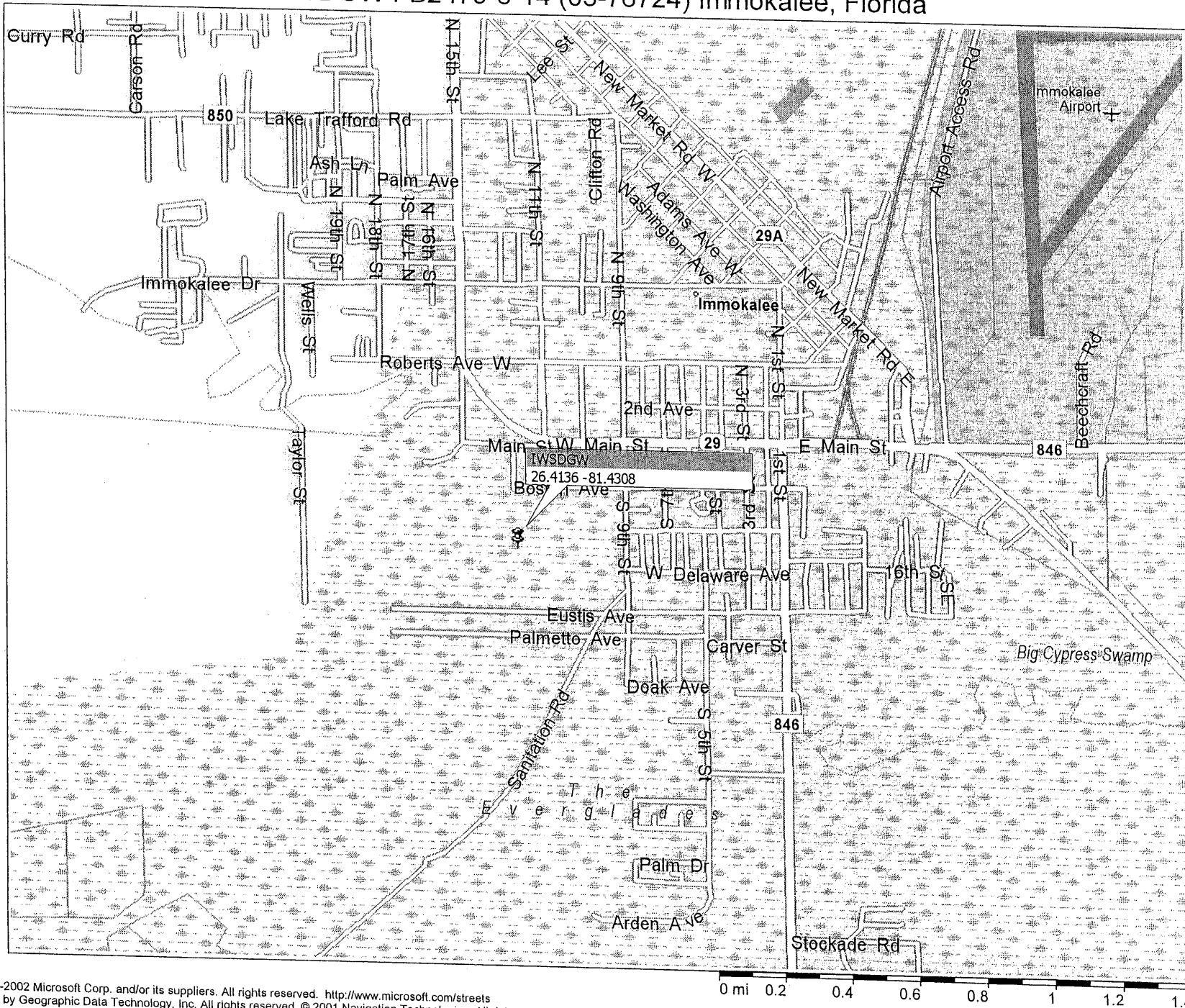
Elevation = 30.05' NAVD 88
 1.28' Via Corpscon
 31.33 NGVD 29

Site: IWSDGW

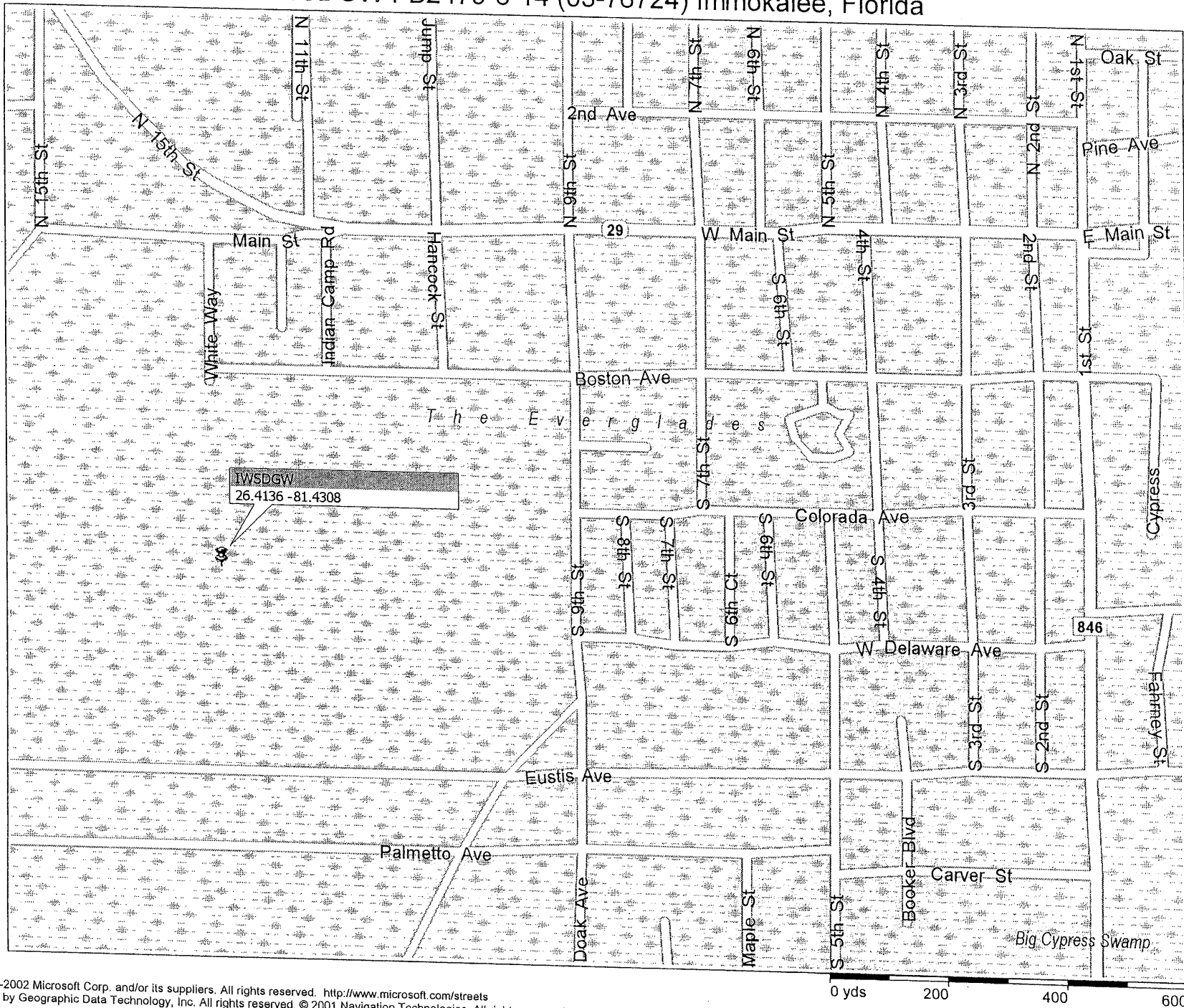
Summary: A Brass disc was set in concrete slab of existing wellhead at the following elevation.

30.05' NAVD 88
31.33' NGVD 29 computed via corpscon

IWSDGW FB2479-6-14 (03-76724) Immokalee, Florida



IWSDGW FB2479-6-14 (03-76724) Immokalee, Florida



South Florida Water Management District

Order No.: 03-76724
 Field Book: 2476, Pg 12

Date: 3/18/2003

Bench Mark: 27.36'
 (NAVD-88)

Site: L2GW (PW1, PW2)
 B.M. Information: HEN 29 RM 2 1983

B.M.	B.S.	Hi	F.S.	Elev. (Feet)	Description
				27.36	HEN 29 RM 2 1983 (NAVED-88)
	0.35	27.71			
<i>HEN-29 1983 12.5' N. of Centerline of County Road 832 & 0.6' West of the East End of the North Conc. Guardrail</i>					
T.P. #1			8.26	19.45	T.P. #1
	2.93	22.38			
T.P. #2			9.64	12.74	T.P. #2
	9.10	21.84			
T.P. #3			0.90	20.94	T.P. #3
	4.16	25.1			
T.P. #4			5.86	19.24	T.P. #4
	2.07	21.31			
Brass & Disc			4.95	16.36	NAVD 88
<i>Set Brass & Disc Elev. NAVD 88</i>					
Brass & Disc	5.11	21.47			
			2.23	19.24	P.T. #5
T.P. #5	6.18	25.42			
T.P. #6			4.99	20.43	T.P. #6
	1.45	21.88			
T.P. #7			9.14	12.74	T.P. #7
	9.44	22.18			
T.P. #8			2.03	20.15	T.P. #8
	7.71	27.86			
			0.48	27.38	BM
				27.36	HEN-29 1983
				0.02	

South Florida Water Management District

Order No.: 03-76724
 Field Book: 2476, Pg 22

Date: 4/24/2003

Site: L2GW (PW1, PW2)

Bench Mark: 27.36'
 (NAVD-88)

M. Information: HEN 29 RM 2 1983

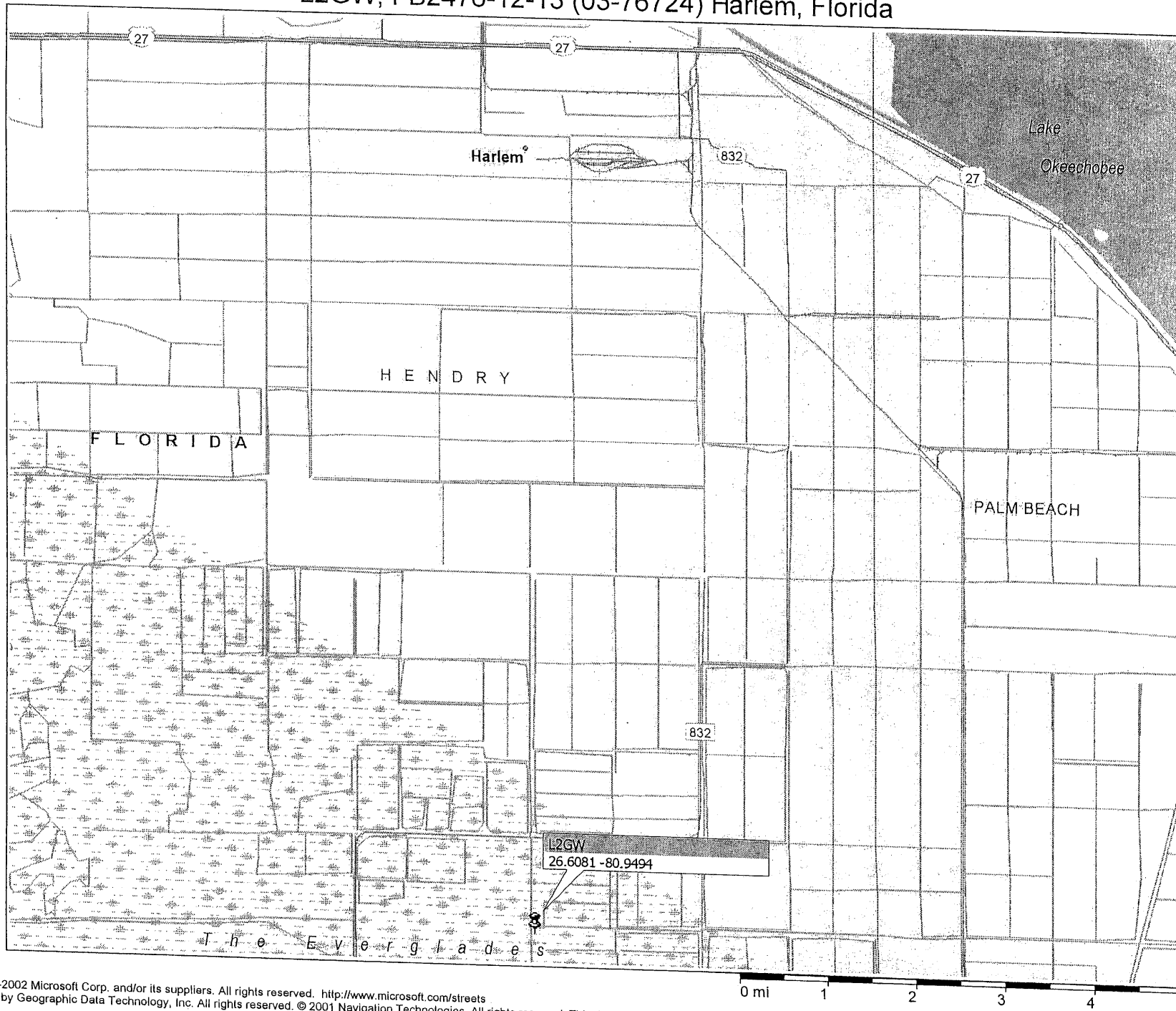
SET	B.S.	Mean	HI	FS	Mean	Elev. (Feet)	Description
						16.36	NAVD 88
	5.41					17.72	NGVD 29
Brass & Disc	5.25	5.25	21.61				(16.36 + 1.36 = 17.72)
	5.09						
				4.66			
Brass & Disc				4.56	4.56	17.05	NAVD 88
				4.46		18.41	NGVD 29
	4.90						(17.05 + 1.36 = 18.41)
Shake	4.80	4.80	21.85				
	4.70						
				5.65			
Brass & Disc				5.49	5.49	16.36	NAVD 88
				5.34		16.36	L2 PW2
						0.00	

Site: L2GW (PW1, PW2)

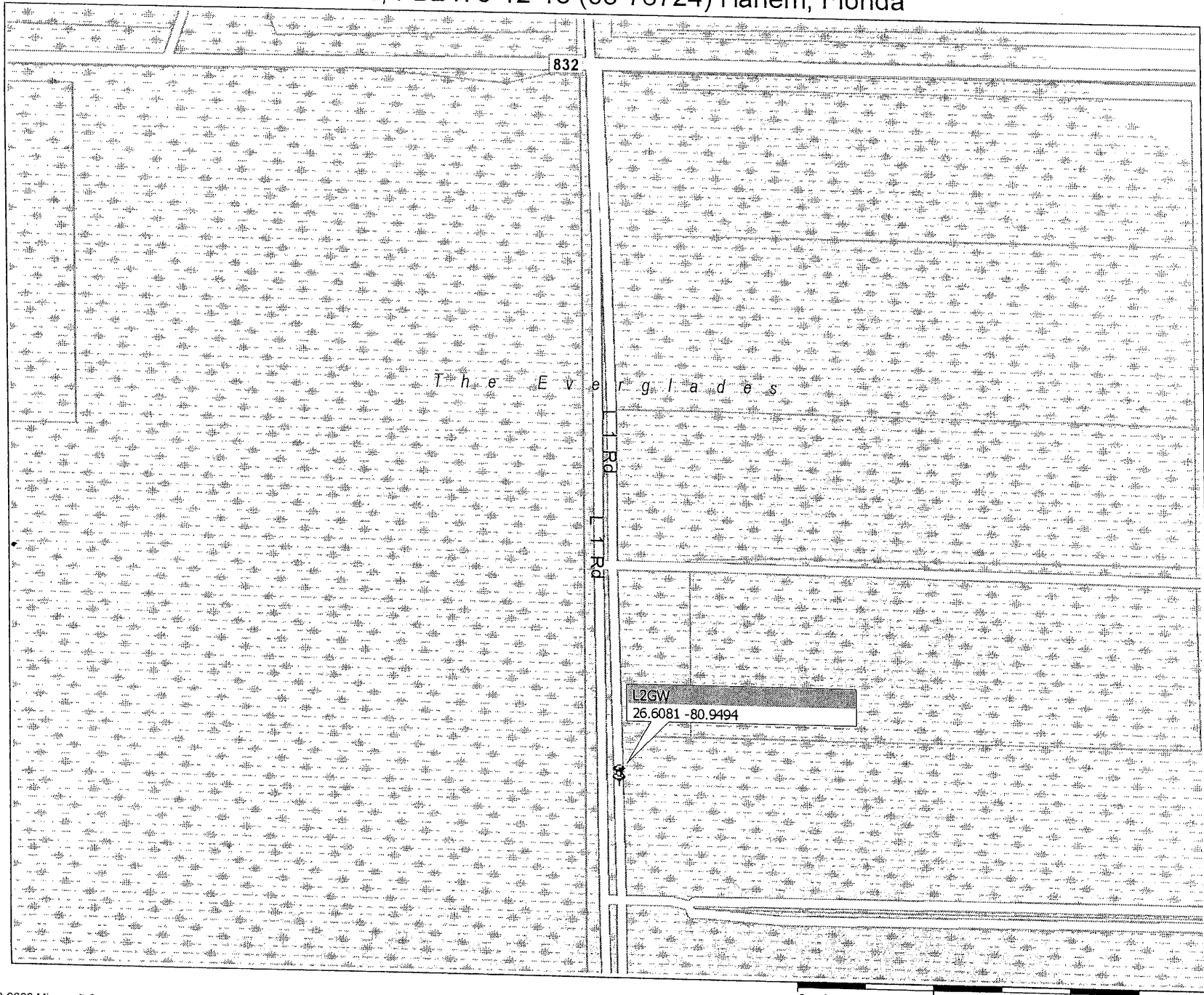
Summary: A Brass Disc was set at the North end of the concrete slab for wellheads L2GW (PW1) and L2GW (PW2). NGVD 29 computed via corpscon

L2GW (PW1)	18.41'	NGVD 29
	17.05'	NAVD 88
L2GW (PW2)	17.72'	NGVD 29
	16.36'	NAVD 88

L2GW, FB2476-12-13 (03-76724) Harlem, Florida



L2GW, FB2476-12-13 (03-76724) Harlem, Florida



South Florida Water Management District

Date: 3/18/2003

Order No.: 03-76724
 Field Book: 2476, PG 10

Bench Mark: 18.95'
 (NAVD-88)

Site: Moorehaven (MHGW)
 B.M. Information: Designation: 872 2551 Tidal 1
 State/County: Florida/Glades

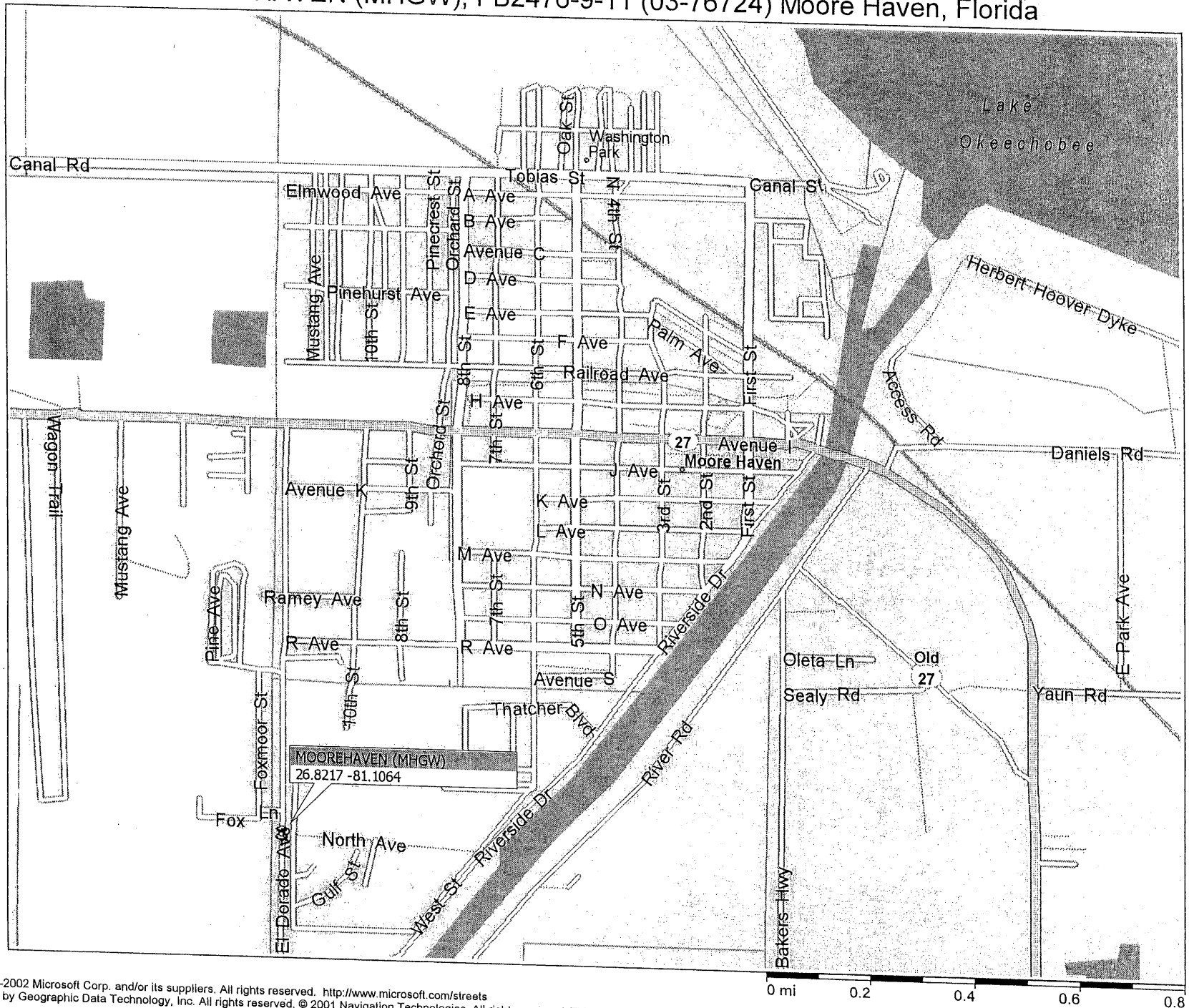
B.M.	B.S.	Hi	F.S.	Elev. (Feet)	Description
				18.95	Name: 872 2551 Tidal 1
	1.32	20.27			(NAVD-88) NGS 2nd order BM
<i>Tidal Station Disk in wall, stamped No. 1 1925 on the West wall of the old locks Canal Calooshatchee</i>					
T.P. #1			10.32	9.95	T.P. #1
	8.64	18.59			
T.P. #2			4.66	13.93	T.P. #2
	5.75	19.68			
T.P. #3			0.78	18.90	T.P. #3
	4.92	23.82			
MHGW			4.90	18.92	NAVD 88 Set Brass Disc in S.
				1.17	end of conc. slab for wellhead
				20.09	NGVD
<i>Set Brass & Disc @ conc. W-529 2001 Cerr highway 27 near the Inters. With West Ave. West Ave. 32.1 North of the center of the Southbound lane US 27</i>					
	0.39	19.31			
T.P. #4			9.15	10.16	P.T. #4
T.P. #5	9.52	19.68			
			1.95	17.73	C
				17.76	BM Name: W 529 (NAVD-88)
				0.03	NGS 1st order BM

Site: Moorehaven (MHGW)

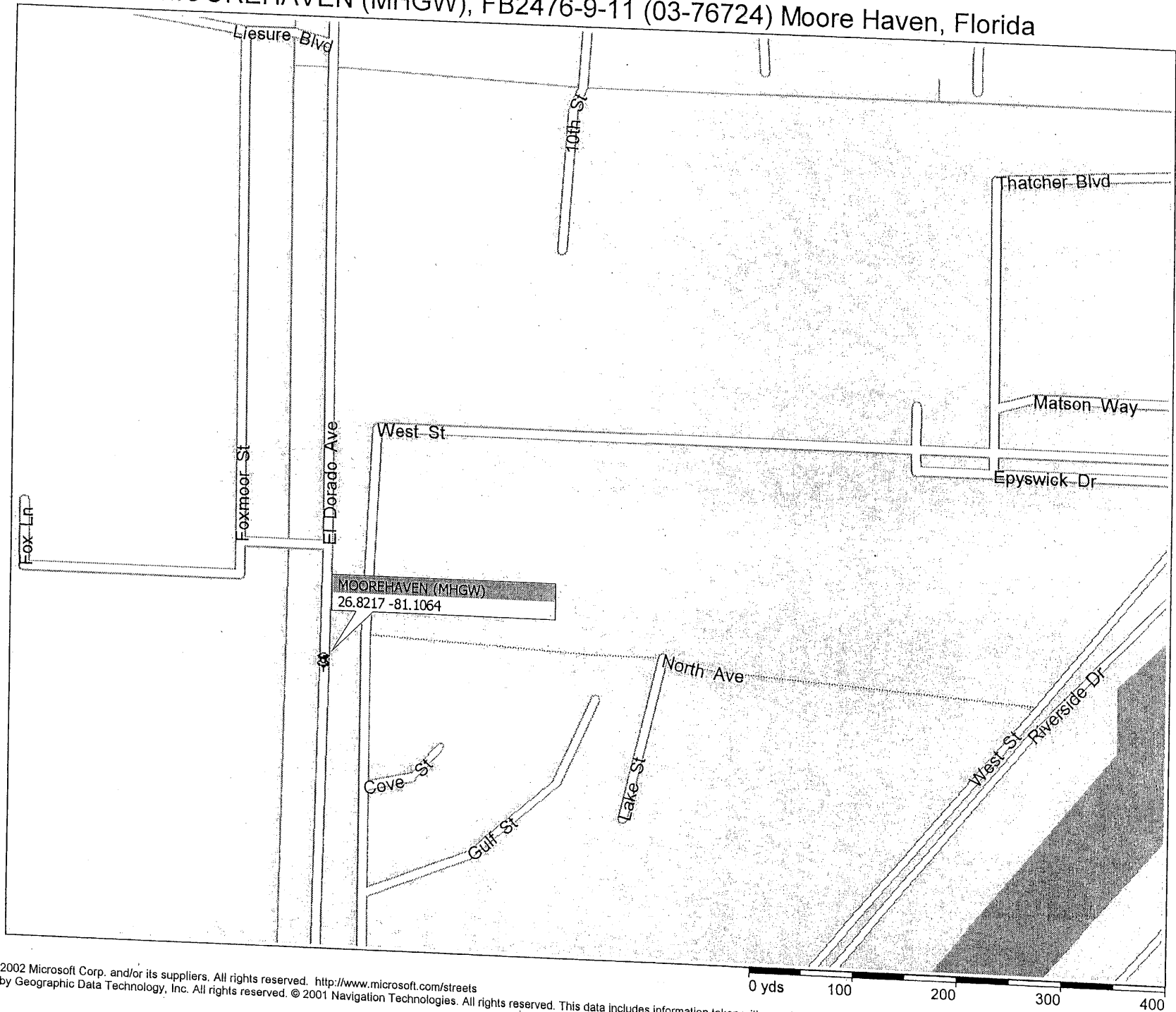
Summary: A Brass Disc was set in South End of concrete slab for wellhead at the following elevation:

20.09' (NGVD-29) computed based on dual elevation data provided for BM "872 2551 Tidal 1" and "W 529"
18.92' (NAVD-88) vial level run

MOOREHAVEN (MHGW), FB2476-9-11 (03-76724) Moore Haven, Florida



MOOREHAVEN (MHGW), FB2476-9-11 (03-76724) Moore Haven, Florida



South Florida Water Management District

Order No.: 03-76724
 Field Book: 2476, Pg 21

Date: 4/23/2003

Site: PBF-2
 B.M. Information: Designation: FEC-Claremore
 State/County: FL/Palm Beach

Bench Mark: 17.536'
 (NGVD-29)

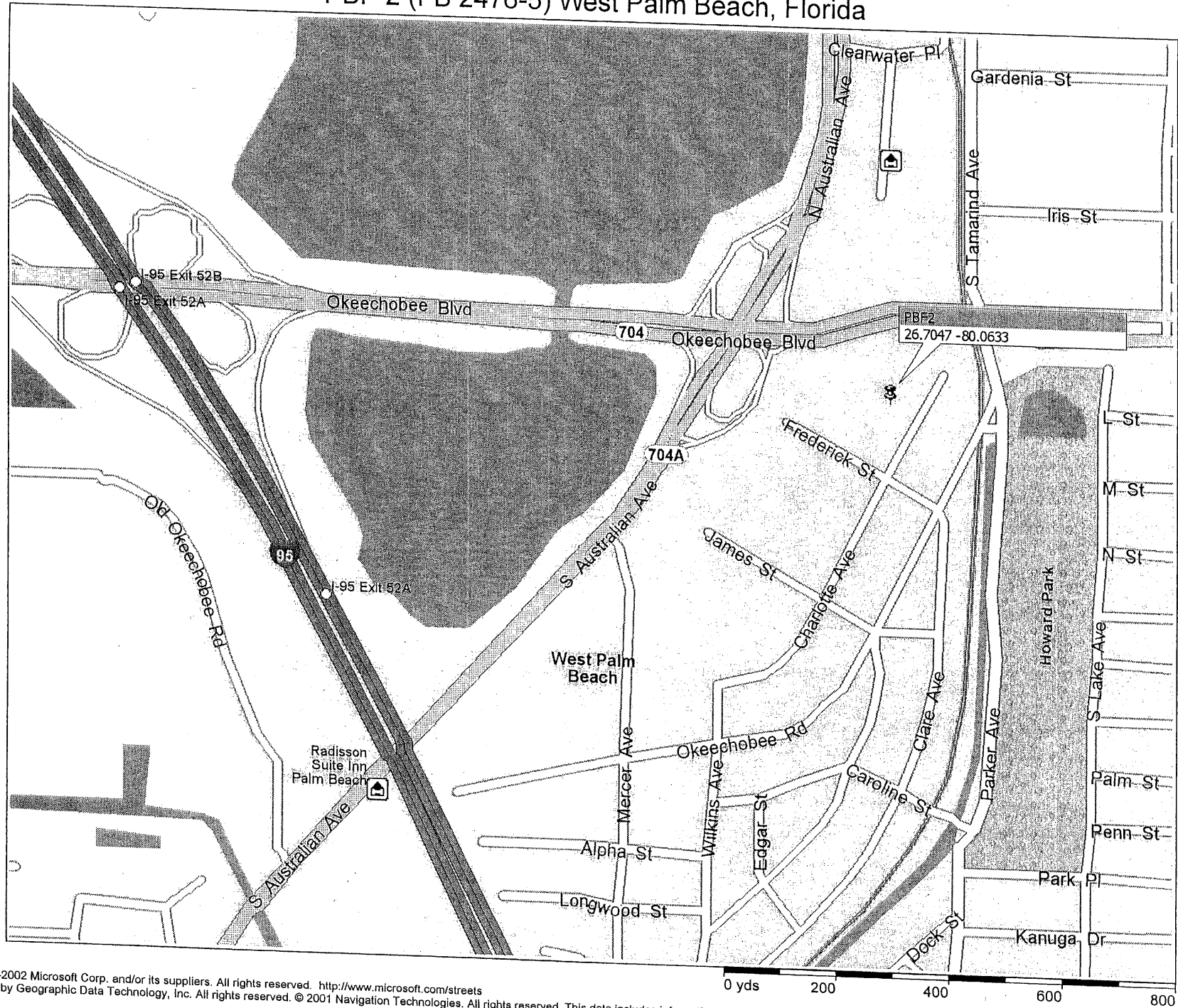
SET	B.S.	Hi	F.S.	Elev. (Feet)	Description
				16.67	Set "X" Mark
Well Head	7.27	23.94			
TP #1			8.23	15.71	
Shake	6.15	21.86			
TP #2			3.82	18.04	
Shake	5.10	23.14			
TP #3			3.28	19.86	
Shake	2.52	22.38			
TP #4			0.63	21.75	
Shake	8.60	30.35			
TP #6			5.89	24.46	
Shake	1.02	25.48			
TP #7			5.37	20.11	
Shake	3.51	23.62			
BM			6.06	17.56	
				17.54	
				0.02	

Site: PBF-2

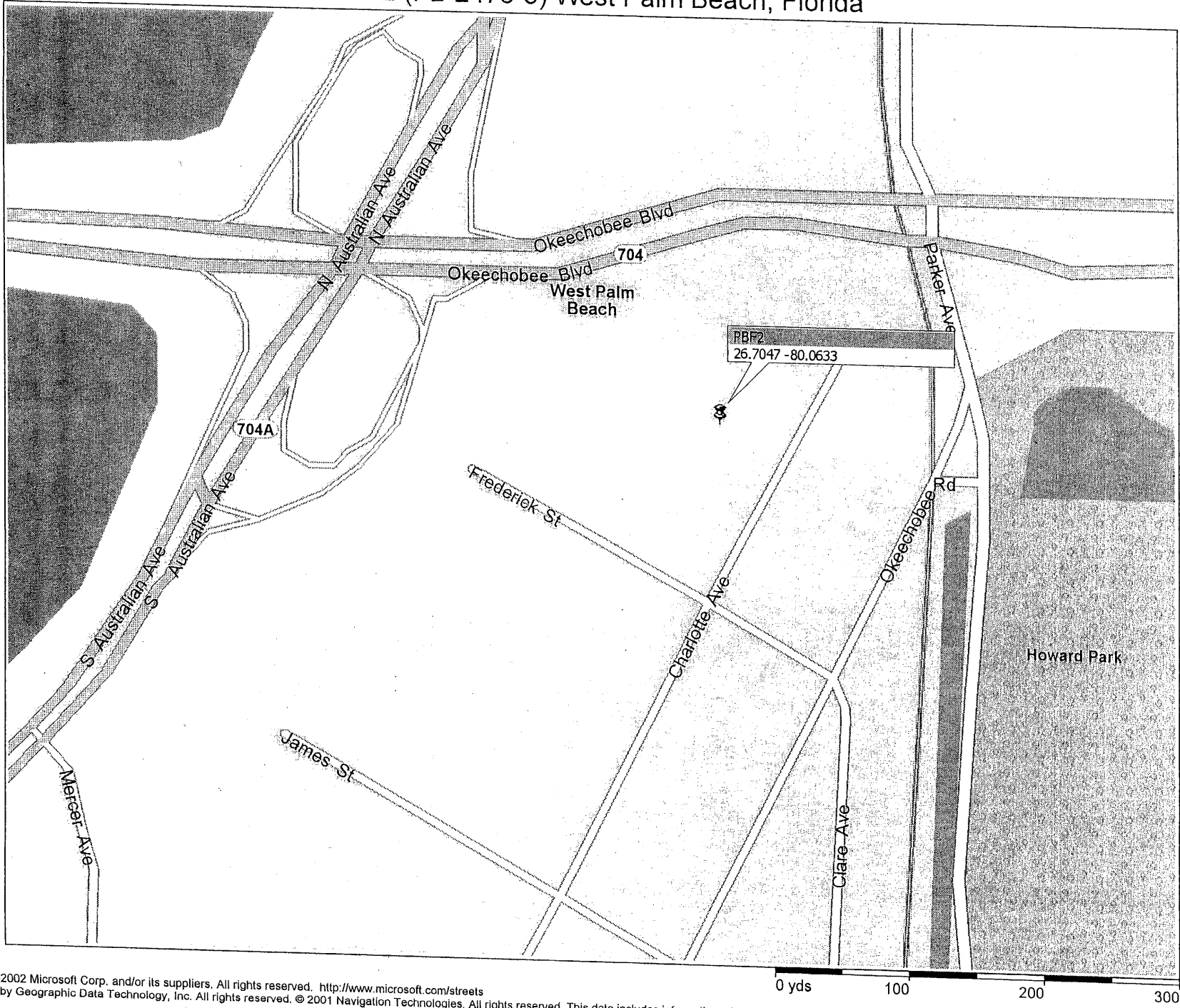
Summary: An "X"-Mark was set in the lower flange plate of wellhead facility at the following elevation:

- 16.57' (NGVD-29) via level run
- 15.15' (NAVD-88) computed based on dual elevation data for P.B. County Benchmark "FEC-Claremore"

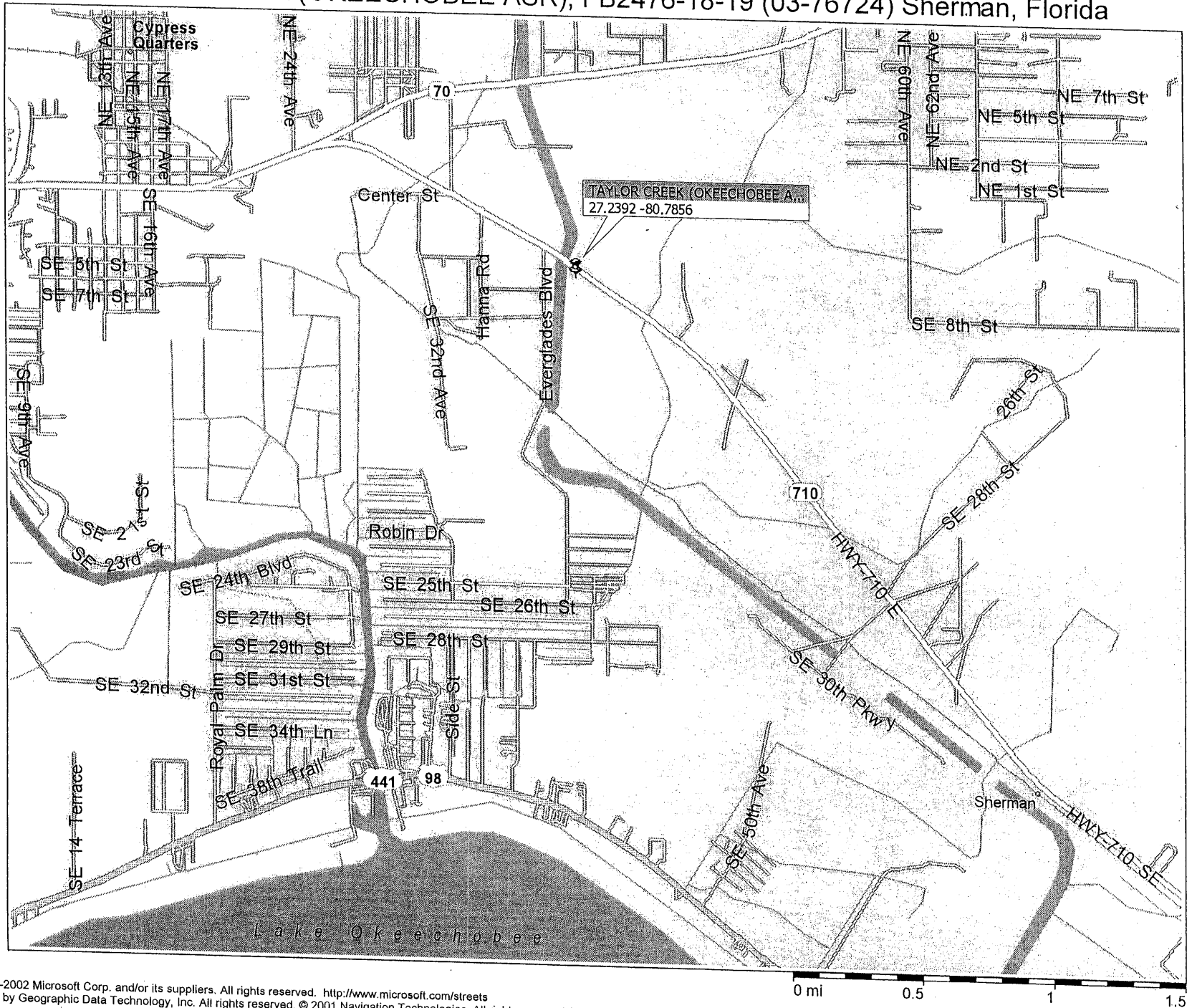
PBF-2 (FB 2476-5) West Palm Beach, Florida



PBF-2 (FB 2476-5) West Palm Beach, Florida



TAYLOR CREEK (OKEECHOBEE ASR), FB2476-18-19 (03-76724) Sherman, Florida



TAYLOR CREEK (OKEECHOBEE ASR), FB2476-18-19 (03-76724) Sherman, Florida



South Florida Water Management District

Date: 3/22/2003

Order No.: 03-76724
 Field Book: 2476, Pg 14

Site: SLF 21
 B.M. Information: Designation: I95 85 B01
 State/County: Florida / St. Lucie

Bench Mark: 45.26'
 (NAVD-88)

B.M.	B.S.	Hi	F.S.	Elev. (Feet)	Description
				45.26	Name (I95 85 B 01) (NAVD-88)
	4.09	49.35			NGS 2nd Order B.M.
<i>Disk in bridge walkway stamped "I95 85 B 01"</i>					
T.P. #1			7.09	42.26	T.P. #1
	1.05	43.31			
T.P. #2			7.06	36.25	T.P. #2
	0.66	36.91			
T.P. #3			8.49	28.42	T.P. #3
	0.52	28.94			
T.P. #4			10.35	18.59	T.P. #4
	5.23	23.82			
T.P. #5			6.21	17.61	T.P. #5
	3.68	21.29			
T.P. #6			4.16	17.13	T.P. #6
	6.46	23.59			
SLF21			5.29	18.30	NAVD 88
<i>Set brass disc in N.W. corner of conc. Slab for wellhead</i>					
	5.14	23.44			
			5.80	17.64	P.T. #7
T.P. #7					
	5.73	23.37			
T.P. #8			4.81	18.56	T.P. #8
	6.41	24.97			
T.P. #9			0.81	24.16	T.P. #9
	8.55	32.71			
T.P. #10			0.51	32.20	T.P. #10
	10.27	42.47			
T.P. #11			0.97	41.50	T.P. #11
	7.97	49.47			
BM			4.26	45.21	
				45.26	Name (I95 85 B01) NAVD-88
				-0.05	

Site: SLF 21

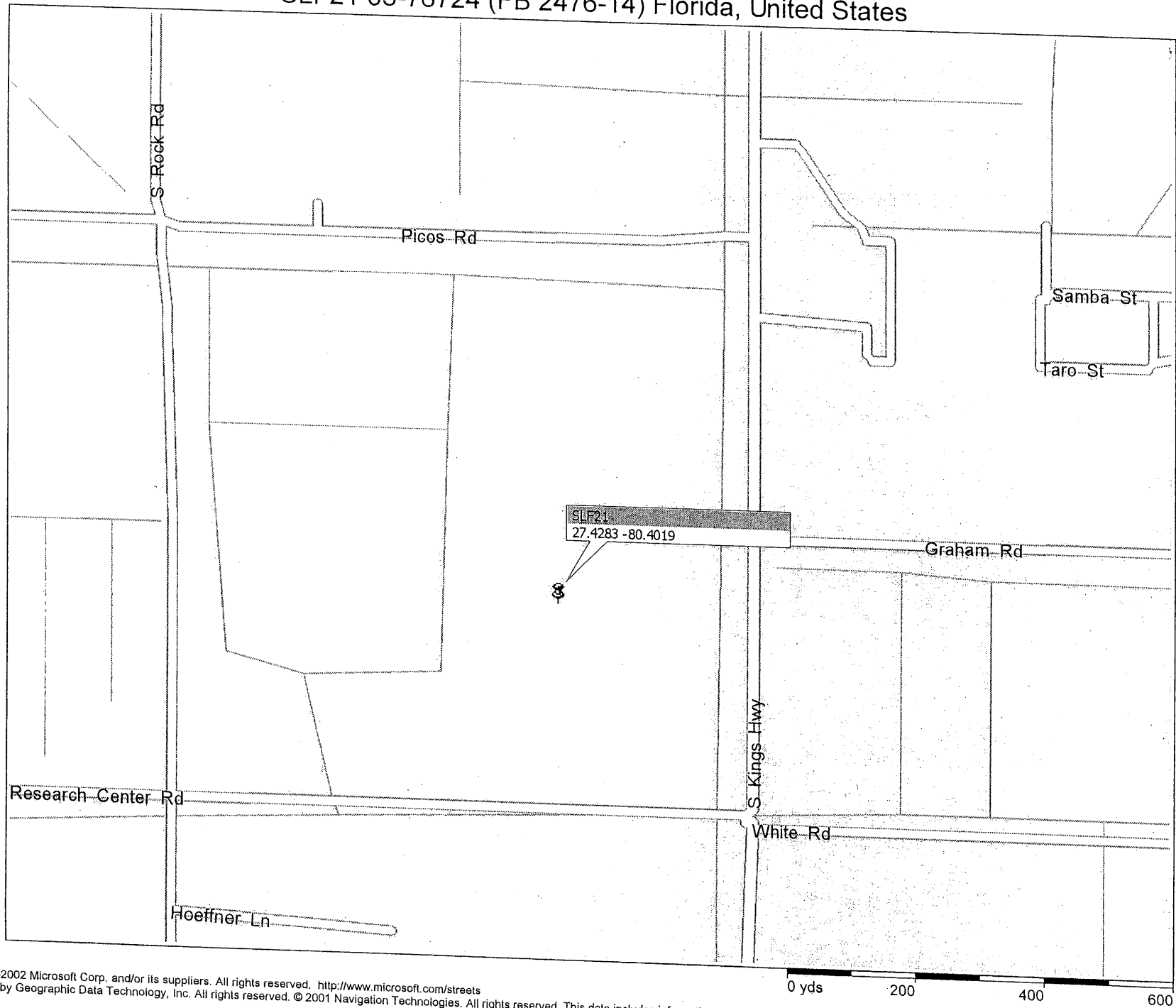
Summary: A brass disc was set in the N.W. corner of the concrete slab for (SLF-21) wellhead at the following elevation:

- 19.79' (NGVD-29) computed via dual data provided by N.G.S. on BM I95 85 B01
- 18.30' (NAVD-88) vial level run

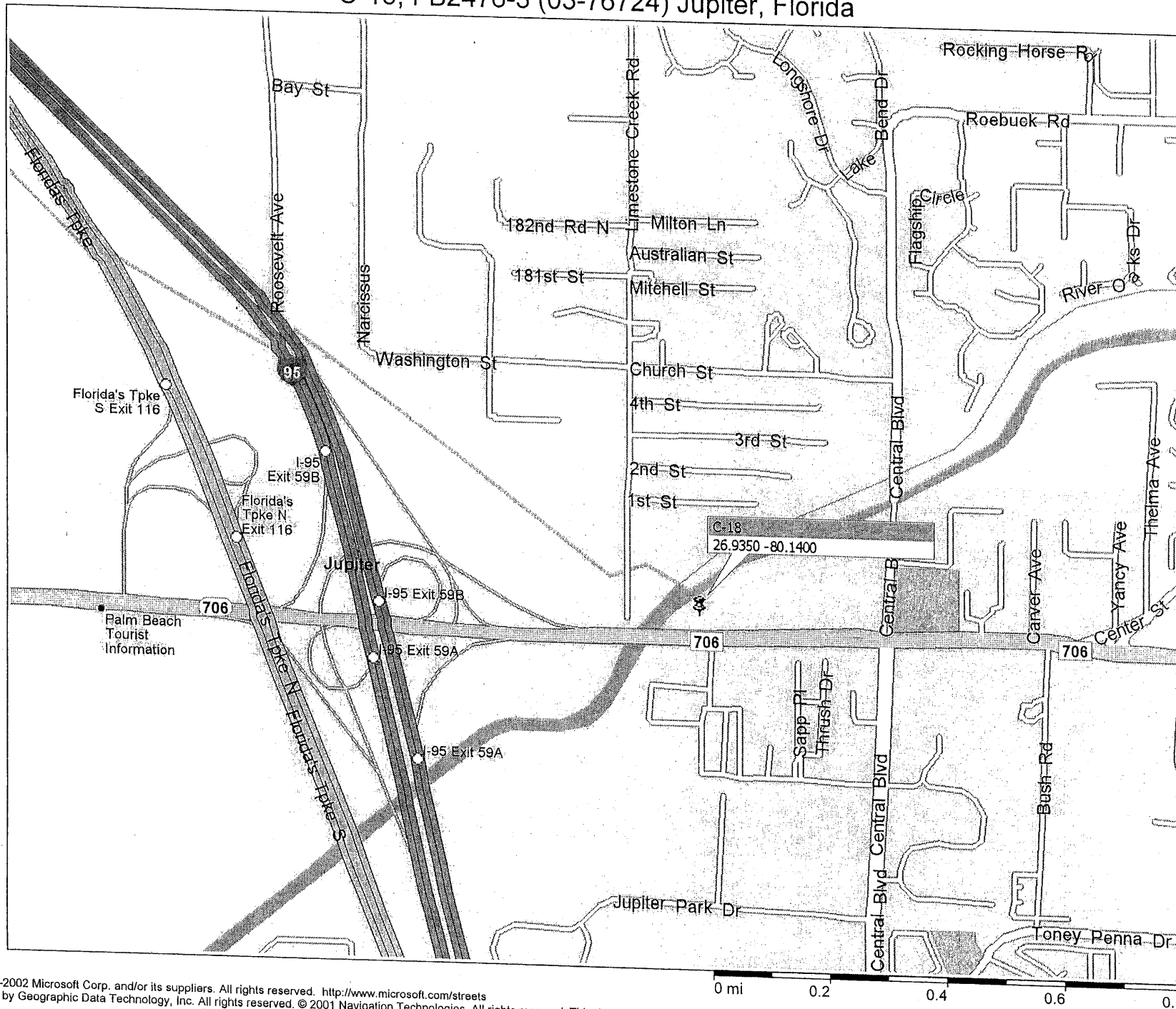
SLF21 03-76724 (FB 2476-14) Florida, United States



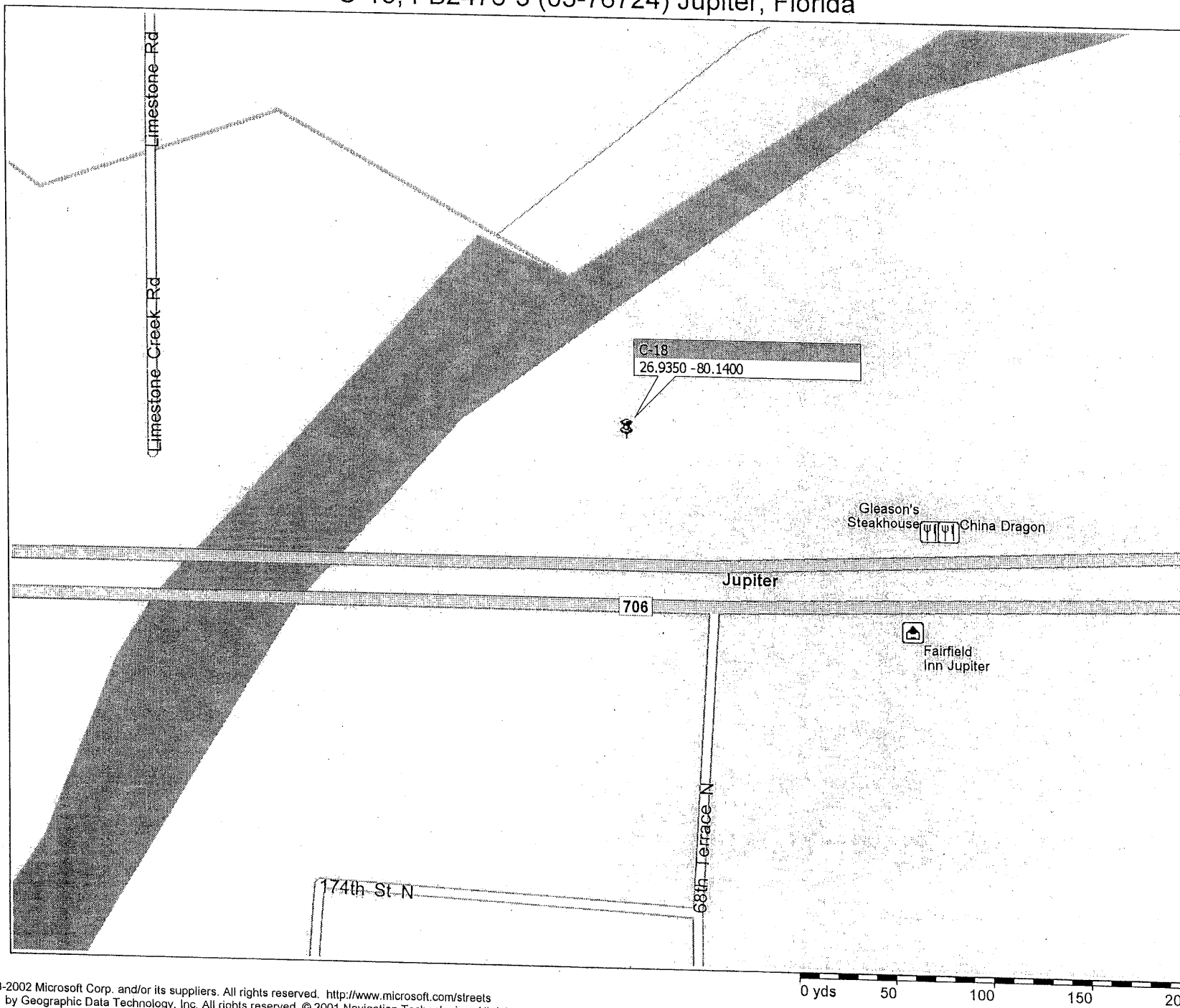
SLF21 03-76724 (FB 2476-14) Florida, United States



C-18, FB2476-3 (03-76724) Jupiter, Florida



C-18, FB2476-3 (03-76724) Jupiter, Florida



South Florida Water Management District

Order No.: 03-76724

Field Book: 2476/1

Date: 3/8/2003

Site: HIAFAS (#139)

Bench Mark: 8.03
(NGVD-29)

B.M. Information: Designation: H-325
State/County: FL/Miami-Dade

B.M.	B.S.	Hi	F.S.	Elev. (Feet)	Description
	5.06	13.09		8.03	H-325 (Miami-Dade Co.)
<i>S. Royal Poinciana Drive Quailave 225' West of Intersection.</i>					
<i>Brass Bar in sidewalk of pedestrian foot bridge over Miami River Canal near Red Road</i>					
T.P. #1			5.95	7.14	T.P. #1
	4.59	11.73			
Brass Disc Hialeah #1			2.27	9.46	Set Brass Disc
Brass Disc T.P. #2	2.35	11.81	4.96	6.85	T.P. #2
	6.65	13.5			
BM			6.86	6.64	M-73 Miami-Dade Co.)
				6.63	BM
				0.01	
<i>West 10 St 41' South of C/L NW 57 Ave. (W 4 Ave.)</i>					
<i>(32.5 East of C/L Brass Bar in conc. Mon. at PC of South edge of curb sidewalk).</i>					

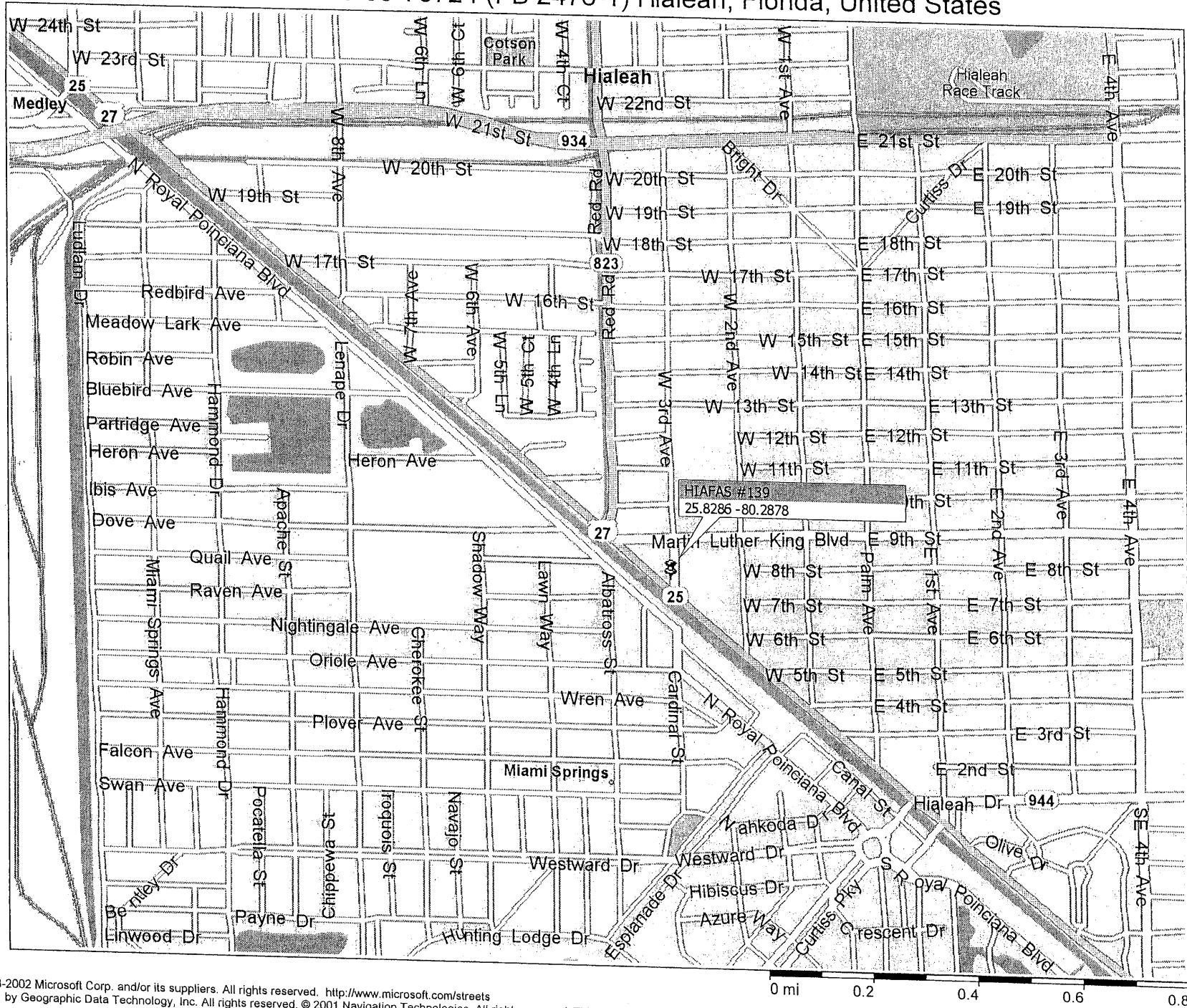
Site: HIAFAS (#139)

Summary: A brass disc was set in concrete slab of existing wellhead at the following elevation:

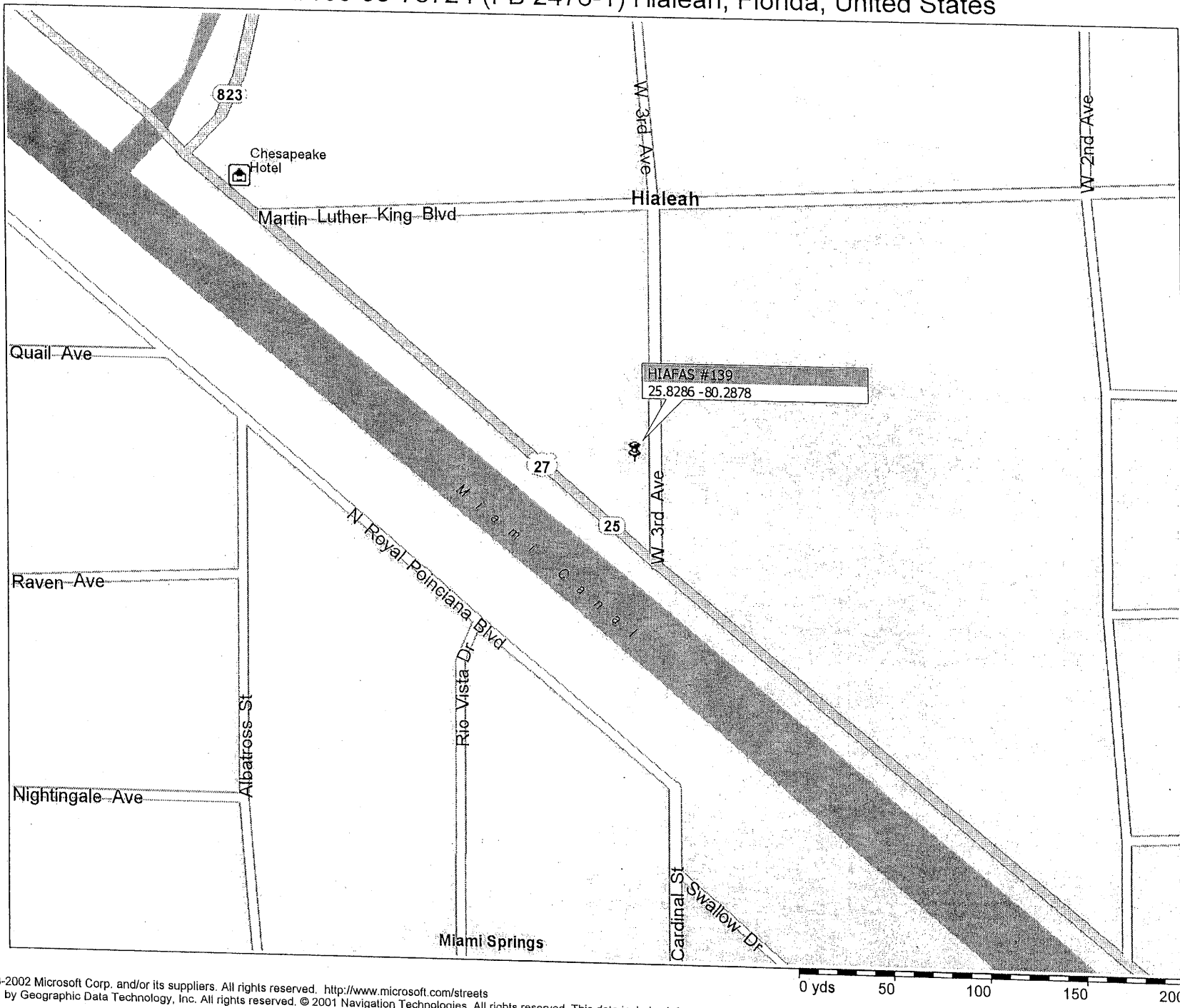
9.46' (NGVD-29) (via level run)

7.91' (NAVD-88) (computed via corpscon)

HIAFAS #139 03-76724 (FB 2476-1) Hialeah, Florida, United States



HIAFAS #139 03-76724 (FB 2476-1) Hialeah, Florida, United States



South Florida Water Management District

Date: 3/22/2003

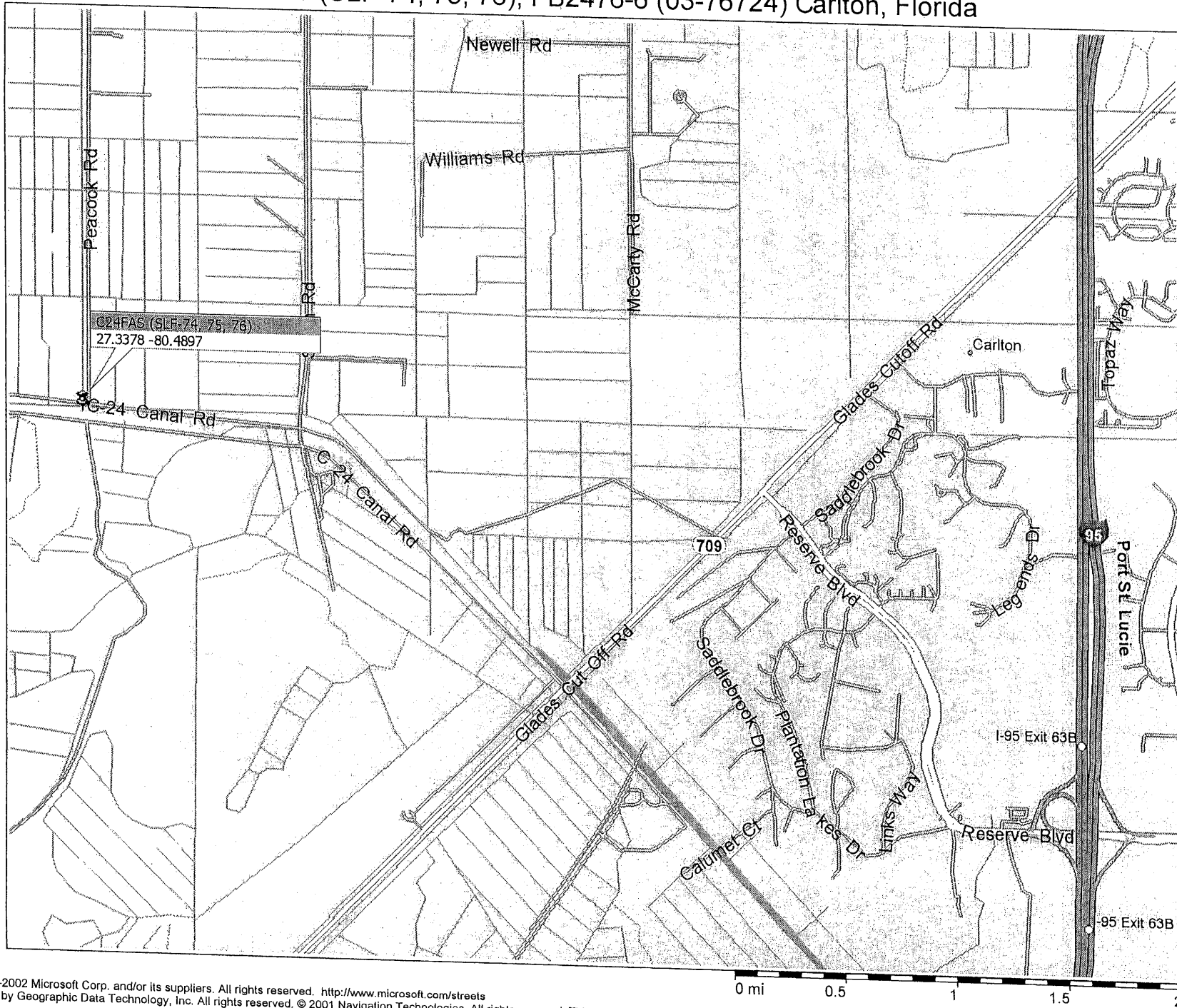
Order No.: 03-76724
 Field Book: 2476, Pg 16

Site: C24FAC
 B.M. Information: Designation: HAWK
 State/County: FL/St. Lucie

Bench Mark: 28.55'
 (NAVD-88)

B.M.	B.S.	Hi	F.S.	Elev. (Feet)	Description
				28.55	Name: (HAWK) (NAVD-88)
AJ8590	4.50	33.05			N.G.S. BM
T.P. #1			8.20	24.85	
T.P. #2	4.48	29.33	9.72	19.61	Top on water
	12.11	31.72			Top on water
SL F 74			2.74	28.98	Set Brass & Disk (NAVD 88)
SL F 76			4.51	27.21	Set Brass & Disk (NAVD 88)
SL F 75			4.68	27.04	Set Brass & Disk (NAVD 88)
T.P. #3	4.50	31.54	11.93	19.61	Top on water
	8.97	28.58			Top on water
BM			4.45	24.13	
AJ8588				24.12	Name (S 544) (NAVD-88)
				0.01	N.G.S. BM

C24FAS (SLF-74, 75, 76), FB2476-6 (03-76724) Carlton, Florida



C24FAS (SLF-74, 75, 76), FB2476-6 (03-76724) Carlton, Florida

