LIETZ
SINCE 1882

WACCASASSA RIVER S.E.T. VOL H

WACCASASSA RIVER
S.E.T.

DEC. 1995 →

LIETZ
SINCE 1882

FIELD BOOK

No. 8152-60

Property of FLORIDA GEOLOGICAL SURVEY

903 W. Tennessee St.

Address Tallahassee, FL. 32304-7700

(904) 488-9380

~~Telephone~~ Jim Ladner, P.G.1

- Location of Bass (3/26/02) Plot
- New cryo data (only: which plots?

This Book
50% Rag
ant Surfac
proof Thre

INDEX

D.E.P. Research / collecting Permit #1024952

82° 48. 766'
29° 10. 203'

29° 10' 43.8" SET #2 29° 10. 730'
82° 48' 46.0" 82° 48. 766'

10. 203

29° 10' 12.2" N SET 1 29° 10. 203'
82° 48' 25.2" W 48. 42 82° 48. 420'

Set data on disk (old set) 7/8/99

Florida Department of Environmental Protection
Division of Recreation and Parks

Renewal Permit Number:
01319712

RESEARCH/COLLECTING PERMIT

This Permit Must Be Carried At All Times While Researching/Collecting

Names of Collectors:	Address:	Issue - Expiration Dates:
Jim Ladner, Ron Hoenstine, Joe Doneghue, Cliff Hendrickson, Brad Perry 904/488-9380	Florida Geological Survey 903 West Tennessee Street Tallahassee, FL 32304	January 31, 1997 January 31, 2001

Representing: Florida Geological Survey and U.S. Geological Survey

To Research/Collect: Install S.E.T. station and collect soil borings quarterly over the next 5 years to study and document sea level rise.

In the Following Areas: Waccasassa Bay State Preserve, near Bird Creek

Special Conditions or Restrictions:

1. Contact the Park Manager, Harry Mitchell at 352/543-5567, in advance of visits (2 weeks notice when possible for coordination and arrangements.
2. Check in upon arrival at and departure from the park. Collected material is subject to inspection.
3. Collect only materials as stated above, in the quantities and manner indicated in the attached application form.
4. Any other applicable state and federal permits are the responsibility of the permittee.
5. Collected objects may not be sold, bartered, or traded.
6. Research reports concerning project data shall be submitted to the district biologist and the park as they are developed. Incidental observations and species lists are also appreciated.
7. Collecting shall be conducted in such a manner as not to attract attention or cause damage to the environment.
8. The permit is non-transferable. At least one named collector (above) must be present.
9. The permittee and research associates will not be subject to park day-fees.
10. The permit is revokable and will need to be renewed annually.
11. Attached are maps showing the known archaeological sites near Bird Creek. Authorization from the Division of Historic Resources is required if work is to be performed in or near these areas. These maps are not for distribution.

Approved:	Title: Chief, Bureau of Parks District 2 Division of Recreation and Parks District 2 Administration 4801 SE 17th Street Gainesville, FL 32641-9299	Phone: (352) 955-2135 Suncom: 625-2135 FAX: (352) 955-2139

Torrey M. Johnson

cc: District Biologist
Park Manager

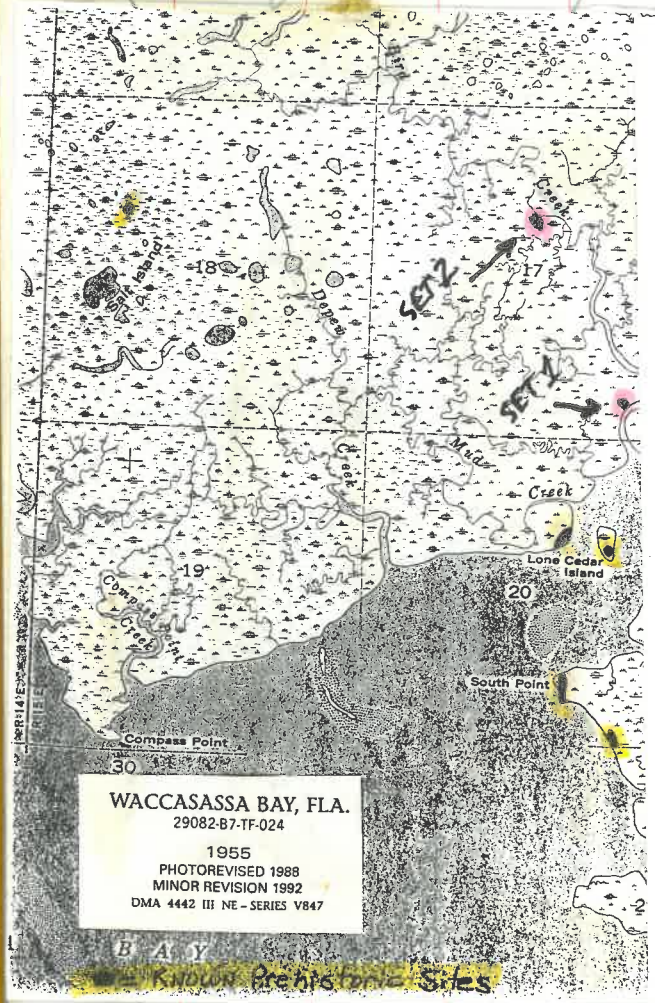
SW 24 accepted 1 DT

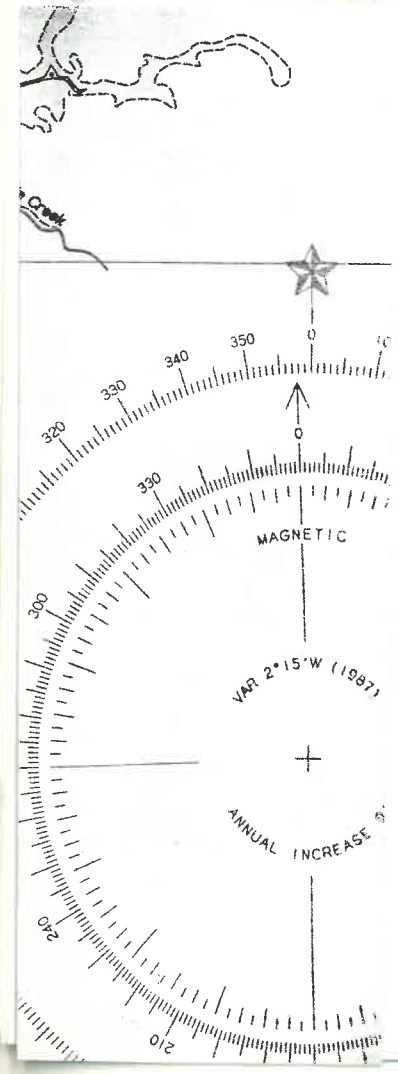
Hodder + Morrison, 1979

Rate of Elevation Change

Vostok to Cape Andyrchi

2000 meters deep





Waccasassa River SET Data

Set up of Stations Dec 4, 1995

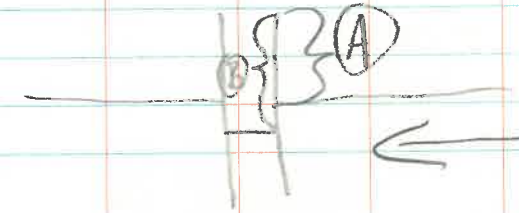
Brad Perry, Henry Freedenberg, Rick Stumpf, Jim Ledner.

2 Set locations were installed on Bird Creek of the Waccasassa River / SEC. 17-15S-15E, LEVY County. Access to the River from Williams Camp on County Rd 326 from Gulf Hammock (via U.S. 98/19).

12-4-95: 2 SET devices constructed along Bird Creek of the Waccasassa River in LEVY COUNTY, FL (SEE MAP AT FRONT OF BOOK).

W17627

Vibracore Loc. at Site 2 on Creek BANK.



Chen Cliff 1-19-96 Breed Jim

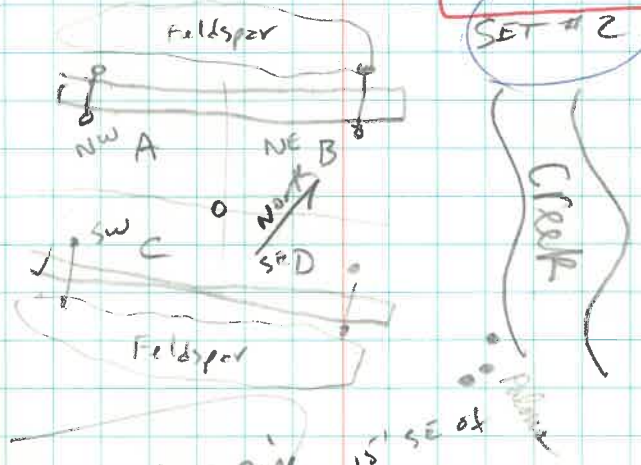
Pb^{210}

68.7 inside top of pipe to ground
93.0 outside " " "

TAKEN BY DRIVING PIPE W/ HAND SLEDGE.

SITE 2

SET # 2



TOTAL length of pipe 184.8 cm

Vibracore (A) length of pipe sticking up 39 cm

(B) depth to sed 44.2 cm

1-19-96 SITE 1 Bird Creek
Initial Readings

Pin	ANW Location	BNW	CS	D Jr
1	31.8	32.6	31.5	32.5
Cm 2	31.3	34.0	31.7	32.7
3	32.5	33.6	31.9	31.7
4	31.5	34.5	31.2	31.9
5	33.4	33.0	32.0	31.9
6	26.0?	33.8	28.1	31.7
7	31.5	32.6	31.8	31.6
8	32.5	33.5	30.1	32.1
9	31.9	33.9	32.5	32.4

NO FELDSPAR READINGS ...
(Still on Surface)

A6 (26.0) was in a hole.

3rd 210Pb attempt
inside 53.5
outside 39.5

cutoff
Doug
Jim

~~1-9-96 Readings~~ 12:50 Am

NEW SET SITE ON LEVEE NEAR SITE 1, (surrounded by mrkr flags)

10-9-96 12:50 Am

Cliff, Brad, Jim

SITE 1

Reading / Loc →	A (NW)	B (NE)	C (SW)	D (SE)
CM 1	33.6	36.9	32.9	35.9
2	37.9	36.0	35.4	33.9
3	36.4	36.6	33.8	37.6
4	38.3	37.3	33.8	35.9
5	36.6	36.7	35.4	35.7
6	35.9	36.1	35.1	37.4
Site 1, 7	35.2	38.1	34.1	36.4
8	35.8	35.3	35.0	34.3
9	35.8	35.5	34.7	36.0

Cryo Encs (SET SITE)

MM					
	1	27.0	23.9 ~~23.0~~	22.1	~~17.0~~ 23.2
	2	26.0	30.0 ~~25.0~~	26.1	~~24.0~~ 17.7
	3	22.0	34.3	26.2	~~23.0~~ 25.2
	4	25.0	25.1	25.3	26.6

111 attempt

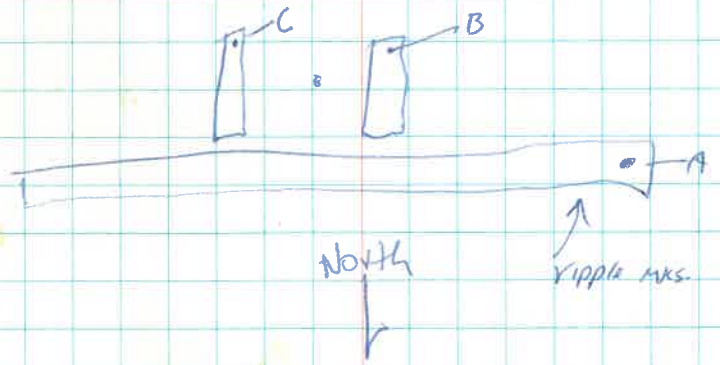
Cryo (Levee)

MM		
1	21.6	2.16 cm
2	23.9	2.39 cm
3	19.2	1.92 cm
4		

12 cm down sites

~~3.2~~ 17.7 ~~25.2~~ ~~26.6~~

Mud thickness on boardwalk



Measured in thick sections of deposit grades to lesser thicknesses at edges

A = 7mm, 8mm, 12mm, 12mm

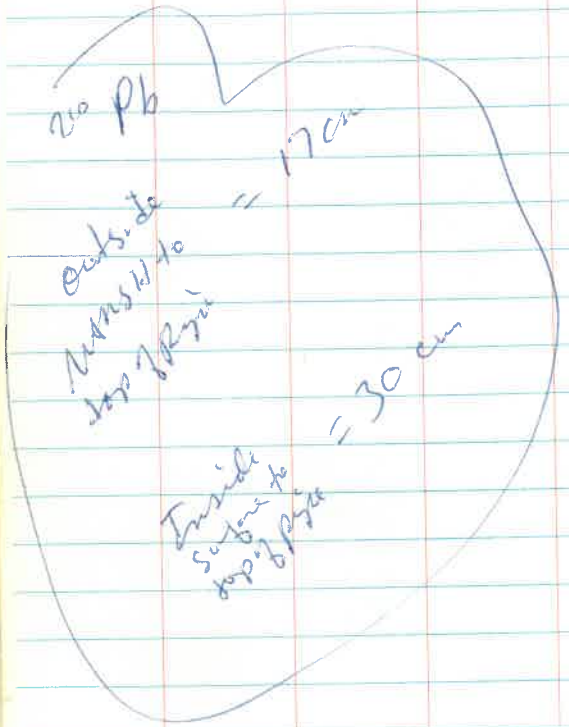
B = 9mm, 9mm, 8mm, 7mm, 11mm

C = 12mm, 9mm, 12mm

Grass trapping Sediment better than more open areas.

? CAN SEE STORM OF CENTURY BEDDING ? → in cryo cores

10-9-12


210 Pb
Outside Antarctic Polar Vortex
= 17 cm
Inside Antarctic Polar Vortex
= 30 cm

1
2
3
4
5

10-9-96

2:55pm SITE 2 SET

JCM
Cliff
Brad

SITE 2

	NW (A)	NE (B)	SED SW (C)	~~SE (D)~~
1	40.0	40.1	40.0	40.5
2	41.1	39.6	39.9	41.7
3	40.5	36.2	40.6	38.5 ← hole
4	41.1	39.3	43.5	41.5
5	41.7	39.4	38.8	42.8
6	41.3	39.9	39.6	43.0
7	40.1	39.7	37.8	39.7
8	~~39.6~~	39.4	38.9	40.5
9	41.6	39.7	39.8	41.7

Cryogenics

1	
2	25.8???
3	20.8???
4	

Zero readings
NO feldspar

very thin layer of sediment on boards

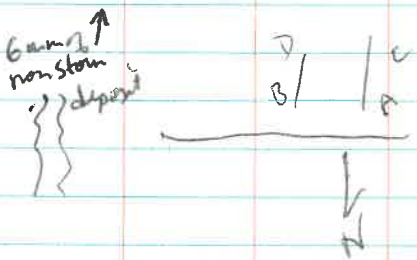
4-17-97 Jim L. & Cliff H.
12:25 pm Partly Cldy-windy-70°F

H = Hole

SITE 1

	A NW	B NE	C SW	D SE
1	34.4	35.4	33.6	34.7
2	33.9	H 29.7	33.6	39.0
3	36.4	34.4	35.3	34.9
4	34.3	34.6	34.4	35.3
5	34.0	35.9	32.4	34.6
6	36.1	34.3	34.1	34.6
7	35.4	36.0	35.3	H
8	33.0	H —	34.6	34.4
9	34.9	35.7	34.9	35.0

	A	B Cryoc	D
1	20.0	25.2	20.0
2	19.9	25.6	21.0
3			27.1
4	H	H	



Palm core

Mark 15 cm top to surface
25 top to core top

Levee Core

Outside top to sfc 45 cm
inside " " 58.5 cm

4-17-97 Cloudy & Windy

1252 pm

SITE 2

		A NW	B NE	C SW	D SE
CM	1	40.5	41.0	40.0	40.0
	2	43.0	40.5	39.5	39.5
	3	40.9	41.0	37.8	40.6
	4	41.0	41.0	39.8	40.6
	5	41.4	41.2	39.8	39.8
	6	43.0	40.6	39.9	40.3
	7	42.1	41.8	38.5	41.8
	8	40.6	41.4	39.5	41.1
	9	42.1	39.8	39.9	40.8

Cryosemics

	A	B	C	D
MM 1			6.6	
2			7.1	
3			8.1	
4				
	II	II	I	III

Note: Both sites need feldspar!
No feldspar added this trip

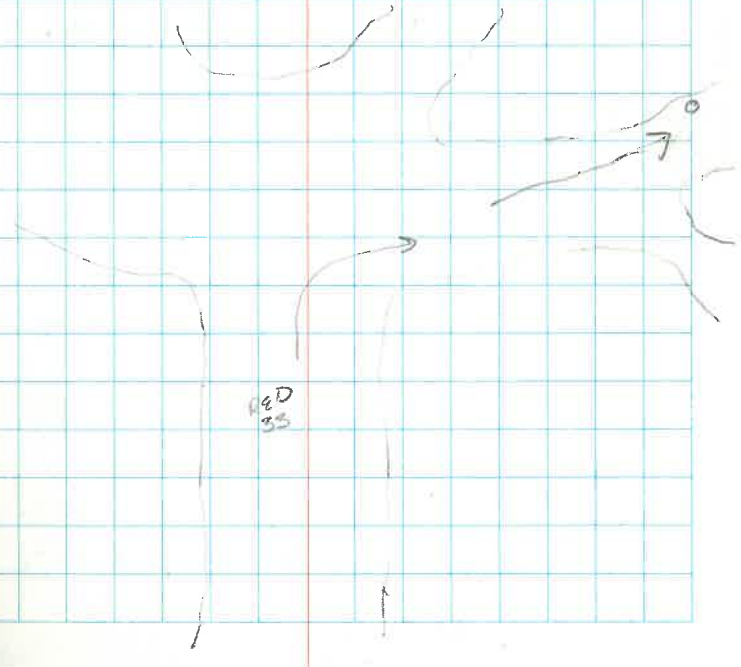
1-9-98 12:20 PM

CLEAR, COOL

WATER QUAL LOC. DATALOGGER 4

29° 10.256'
082° 48.394'

SET TO COMMENCE DATA LOGGING AT 1300 HRS. ON 1-9-98
PUT IN BY AL PIPE USED BY PRIOR RESEARCHERS



DEBRA, JIM, CANDY, NICKI

WACCASASSA

1-9-98 CLEAR, COOL

STATION 2

	A	B	C	D
1	39.3	39.6	38.3	37.7
2	40.9	39.7	39.4	38.7
3	38.5	38.8	38.1	38.6
4	40.6	36.6	38.7	39.4
5	39.4	38.7	38.8	39.3
6	37.5	38.4	38.8	39.9
7	39.7	37.9	38.6	38.3
8	39.0	37.8	38.9	38.6
9	39.0	40.9	38.4	39.3

NO FELDSPAR

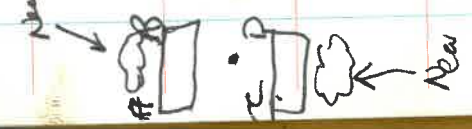
CRYO

1
2
3
4

5 Attempts

3 Attempts

New Feldspar placed @ Loc. of old spreading A-B & C-D



1-9-98

STATION 1

	A	B	C	D
1	32.0	34.8	33.7	35.8
2	29.8	33.9	33.0	35.1
3	32.1	34.5	31.9	35.3
4	34.0	35.3	32.6	35.9
5	34.5	32.2	33.6 crab	35.8
6	33.9	34.0	28.7	36.0
7	28.6	36.0	32.5	35.0
8	33.3	34.3	32.9	35.7
9	31.1	34.9	33.4	36.0

CRYO A-C

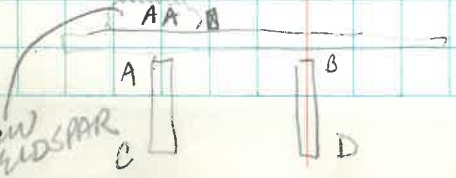
1 34.4 B.C. discontinuous

2 107.5 B.D feels spec; 77.5 cut + fill? 1 laminations in sediment

→ DO NOT USE BIOTURBATED

3 29.2 Discontinuous layer

4 29.0 Discontinuous layer



JL, JB, HF

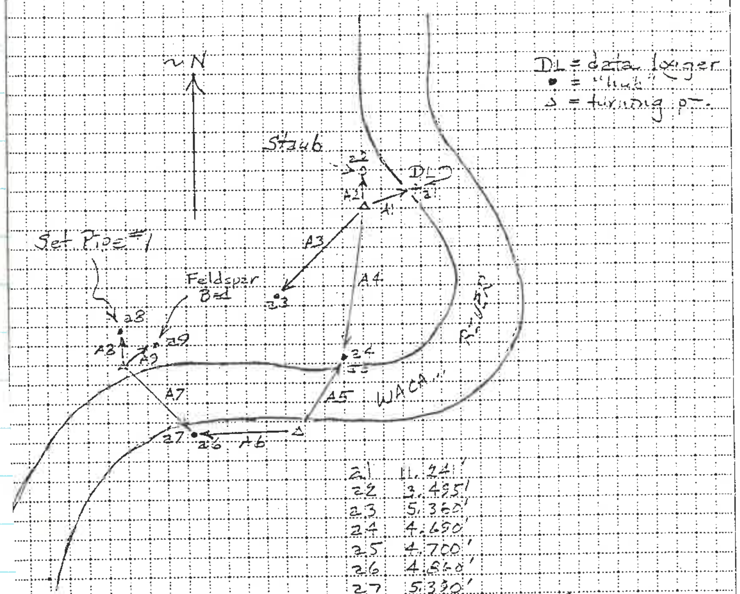
1-22-98 to 1-23-98

1

WACASSASA FIELD SURVEY

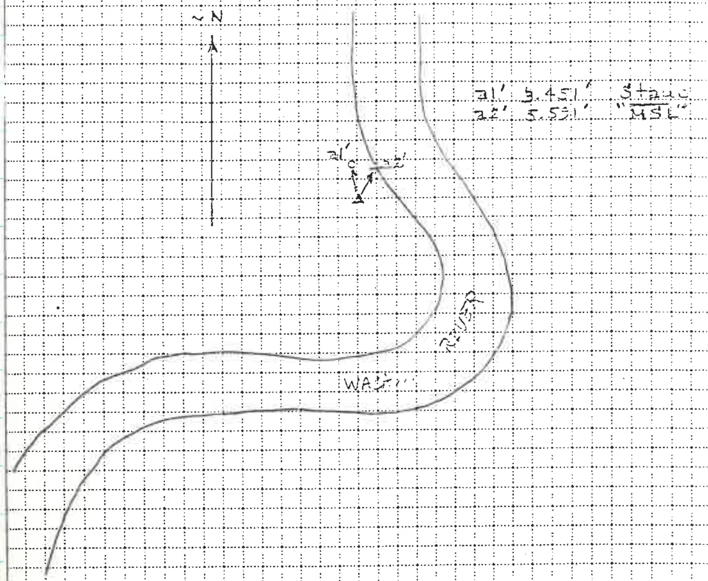
SET SITE #1

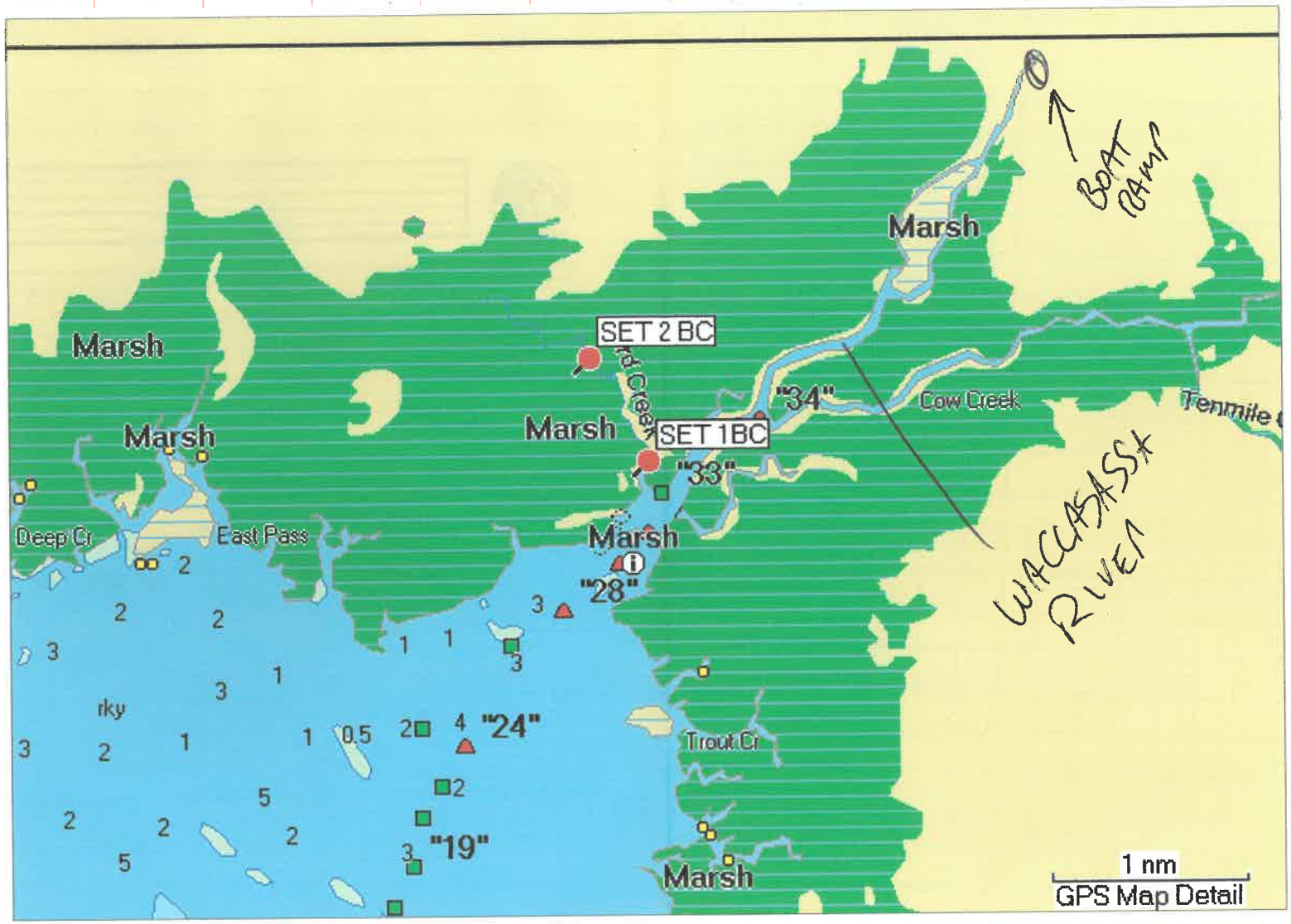
Started surveying @ 10:00 a.m. EST.



z1	11.24'	
z2	3.495'	
z3	5.360'	
z4	4.690'	
z5	4.700'	
z6	4.860'	
z7	5.330'	
z8	6.620'	top of pipe
z5	6.270'	top of mud
z9	5.260'	

SET SITE #1 - Water Level Measurement made @ 11:45 a.m. EST




BOAT RAMP
Marsh
Marsh
Marsh
Marsh
Marsh
SET 2 BC
SET 1BC
"34"
"33"
"28"
"24"
"19"
Cow Creek
Tenmile
WACCASASSA RIVER
Deep Cr
East Pass
Trout Cr
1 nm
GPS Map Detail

8/27/98

STATION 1

Wadsworth

	A	B	C	D
1	34.1	30.2	33.9	33.0
2	31.5	35.1	33.2	35.3
3	30.9	*27.5	33.0	35.3
4	33.9	35.9	33.7	35.4
5	32.9	34.7	33.9	29.3*
6	33.5	34.1	32.7	34.5
7	29.8	*26.8	33.2*	35.0
8	28.2	35.2	32.9	34.9
9	31.8	35.1	33.2	35.4

* cricket holes

Cryo

AA

A-B (new site)
10.15
12.05
9.9, 8.95

B-D (old site)
24.7

* natural Levy trial site still showing fetlock

8/27/98

Station 2

	A	B	C	D
1	37.5	38.0	38.6	39.0
2	37.8	39.5	38.6	38.4
3	37.2	38.8	38.7	38.3
4	36.3	38.3	38.6	39.7
5	37.3	38.0	38.3	39.0
6	38.4	40.0	38.9	39.5
7	36.1	39.3	37.8	39.0
8	38.6	38.1	38.9	39.7
9	38.5	38.5	39.4	38.9

Cryo

C-D
① 15.15 only 1

3/4/99 Jim L. Ellen R. USGS
Tes Trek

Wacassassa River

Bird Creek
SITE 1

OLD SET

	A NW	B NE	C SW	D SE
1	34.2	35.9	35.2	36.1
2	35.1	35.7	34.8	34.4
3	35.1	35.1	33.7	35.6
4	35.5	35.8	33.0	35.6
5	34.3	35.7	33.6	35.4
6	35.3	35.5	34.1	35.2
7	34.0	36.3	33.8	34.9
8	34.2	35.0	33.7	35.5
9	32.3	36.2	34.1	36.5

	A	B	C	D
Cryo 1	51.1	CRYO LEVEL	13.7	
2	35.45		15.05	
3			11.00	

3/4/99

= NEW SET MACHINE
NEWSET

	NWA	NE B	SWC	SED
1	CH	36.1	35.0	36.0
2	35.6	36.0	33.8	35.8
3	36.0	34.6	35.2	35.5
4	34.3	35.6	31.0	36.9
5	34.7	35.8	33.1	36.2
6	34.9	36.0	CH	36.7
7	34.4	CH	34.5	36.4
8	34.2	36.2	34.4	36.1
9	33.9	36.0	34.6	37.8

for Comparison to OLD SET READINGS

3/4/99

SITE 2

OLD SET

Jim / Ted	A NW	B NE	C SW	D SE
mm 1	37.7	39.0	37.1	40.6
2	37.3	38.8	38.9	41.5
3	38.8	39.5	38.7	37.3
4	39.0	35.7	38.7	39.1
5	38.3	38.7	38.7	39.2
6	38.7	38.1	39.0	39.5
7	39.4	37.8	38.1	39.2
8	39.6	38.2	37.6	39.8
9	38.6	38.3	38.9	39.2

	DISCONTINUS AB	DISCONTINUS CD	CD #2
Cryo 1	10.2	23.2	20.55
2	11.6	20.85	19.2
3	11.85		19.9
4			18.9

3/4/99 3:35 PM

SITE 2 NEW SET

Jim / Ted	A	B	C	D
1	37.1	32.0	39.6	37.6
2	38.4	33.9	39.5	38.3
3	38.9	38.5	38.5	38.9
4	37.4	36.4	40.9	40.1
5	38.6	CH	40.6	40.0
6	39.9	38.4	38.8	40.7
7	37.9	37.0	38.0	39.5
8	39.2	36.9	38.8	40.1
9	36.4	37.9	39.3	38.8

Compare to OLD SET

6/29/59 SITE 2 up river

	A	B	C	D
1	37.5	36.4	38.9	37.9
2	37.6	37.5	39.3	CH
3	37.4	38.6	38.5	39.4
4	37.6	36.4	38.1	38.6
5	38.5	36.6	38.3	39.1
6	37.9	38.1	39.0	38.8
7	37.9	37.7	38.4	38.6
8	38.4	37.9	39.7	37.1
9	38.0	38.2	38.2	38.1

	CD2
Cryo 1	19.9
2	31.0
3	31.3
4	33.0

6/29/59 Site 1 down river

	C	B	A	D
1	33.7	35.3	35.9	34.6
2	35.5	34.8	34.8	32.6
3	33.3	34.9	35.0	34.4
4	33.2	34.7	CH	33.4
5	35.2	35.1	35.0	31.0
6	35.5	34.7	34.6	31.0
7	35.6	35.4	33.5	34.7
8	35.4	34.9	CH	34.5
9	36.3	35.0	33.0	34.1

→ CH influence

C. H.

	A site	BD
C	1	32.0
r	2	29.1
y	3	30.7
D	4	33.8

	on levee	
C	1	6.6
r	2	6.6
y	3	6.0
D	4	5.5

12-7-95 Jim C Jim B

SITE 1

	A	B	C	D
1	35.4	34.9	34.5	35.3
2	35.3	34.4	34.4	36.2
3	34.6	33.9	34.2	35.8
4	31.4	34.0	34.6	36.2
5	34.4	34.1	33.7	36.8
6	34.0	34.0	33.7	36.0
7	33.5	34.2	33.9	37.5
8	32.9	34.0	34.3	36.1
9	31.8	34.0	34.1	37.6

BD

Cryo 1	39.75
2	39.21
3	38.29
4	35.29

Levee

1	10.44
2	11.20
3	
4	

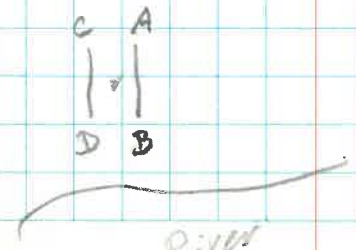
12-7-95 Jim C Jim B

SITE 2

	A	B	C	D
1	39.5	39.1	39.30	38.2
2	38.7	39.5	39.00	40.8
3	39.1	40.0	37.10	38.8
4	39.2	39.0	37.50	39.7
5	39.2	40.1	39.10	40.1
6	39.6	38.7	39.5	40.4
7	38.6	38.8	38.2	39.6
8	38.6	38.8	38.7	38.4
9	38.2	38.7	39.0	38.0

CD2

Cryo 1	28.86
2	25.79
3	18.63
4	17.49



Jim L.
Jim B

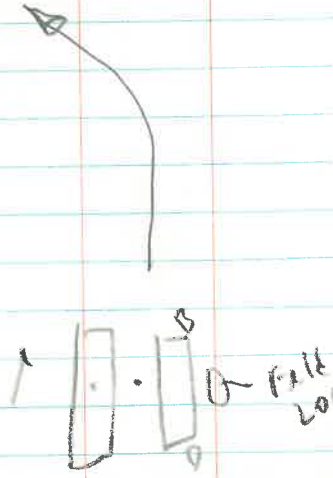
Wacasasa River 3-29-2000

SET 1

	A NW	B NE	C SW	D SE
1	31.8	35.0	34.0	35.9
2	34.4	34.8	34.1	32.7
3	33.7	35.5	34.0	35.1
4	33.8	34.1	34.1	36.1
5	33.2	34.0	33.6	35.3
6	32.6	34.4	33.5	34.2
7	31.3	34.5	34.6	36.0
8	32.4	34.7	33.1	35.7
9	32.4	35.7	32.8	36.8

SET BD Cryo 1 17.2 5 30.1
2 18.0 6 18.4
3 15.6
4 29.7

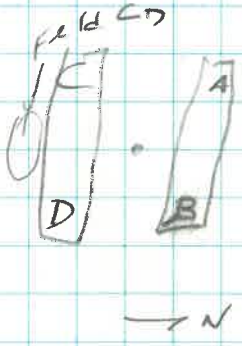
Bank Cryo 1 8.8
2 8.8
3 8.5
4 9.9



SET 2

	A NW	B NE	C SW	D SE
1	37.9	38.0	36.0	38.3
2	37.4	38.0	37.2	37.5
3	38.4	38.1	37.6	38.4
4	38.0	37.4	37.5	(CH 32.3)
5	36.6	35.8	37.6	38.6
6	36.5	37.4	35.6	39.7
7	36.1	38.6	37.3	38.9
8	38.3	38.0	37.7	37.5
9	37.7	37.8	37.3	38.6
	CD2			

Cryo 1 14.7
2 15.5
3 18.7
4 18.6
5 12.4

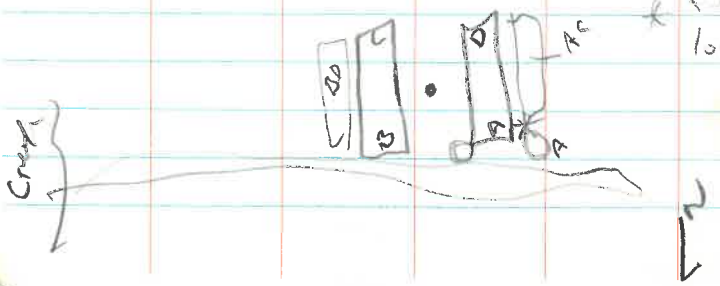


10/3/00 Wacasassa FL

STA 1

	A NW	B NE	C SW	D SE
1	35.4	34.5	34.4	36.6
2	30.2 CH	34.0	34.5	36.5
3	34.1	33.8	33.3	36.1
4	34.3	34.3	34.1	35.5
5	34.0	33.6	33.6	35.6
6	33.1	33.3	34.3	37.1
7	33.1	34.0	34.7	32.1
8	32.2	34.1	33.5	36.2
9	32.8	33.9	33.8	36.6

Cryo	AA	Back lever
1	15.9	17.1
2	14.5	14.7
3	11.9	15.6
4	14.3	15.4

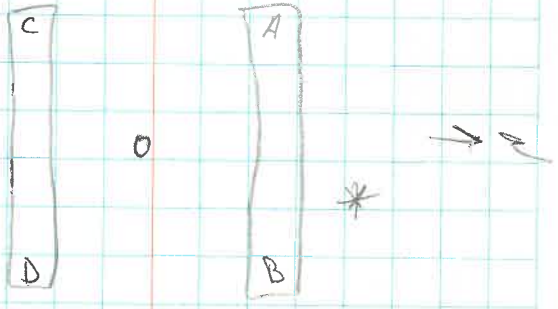


10/3/00 Wacasassa FL

Station 2

	A NW	B NE	C SW	D SE
1	38.8	40.8	39.3	38.0
2	39.0	39.1	38.3	39.4
3	39.4	39.4	38.3	39.1
4	40.3	39.2	38.7	39.9
5	39.3	37.9	38.9	38.5
6	39.8	38.8	38.0	40.6
7	40.2	38.6	39.0	39.2
8	39.1	37.8	39.4	39.4
9	38.7	38.2	39.4	40.5

Cryo	AB 2
1	12.0
2	13.9
3	10.9
4	



5/30/01 Wacassassa River J. L. Brian C.

Station 1

	A	B	C	D
1	34.4	34.6	33.0	33.8
2	32.0	33.7	32.2	35.6
3	31.9	33.7	32.6	35.4
4	29.6	33.2	31.3	~~33.3~~ 34.3
5	33.1	33.6	32.9	35.5
6	32.5	34.1	29.5	34.4
7	32.2	33.8	33.2	36.3
8	32.7	33.6	32.6	35.3
9	31.6	33.8	31.1	35.7

Core

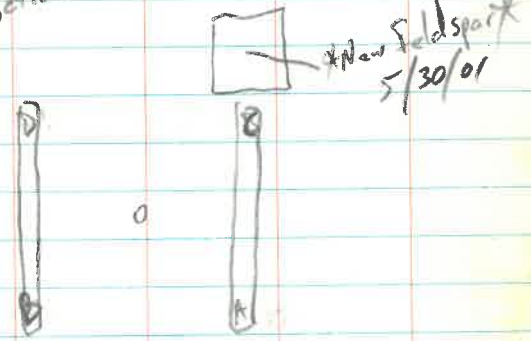
1 ***

2 BC* AD*

3

4

5 Negative



5/30/01 Wacassassa River, J. L. Brian C.

Station 2

	A	B	C	D
1	38.4	33.7	38.7	39.8
2	37.3	37.9	36.6	38.3
3	38.8	38.5	37.5	37.1
4	38.8	34.6	38.4	37.6
5	37.7	36.8	38.7	38.7
6	38.1	38.3	39.8	37.5
7	38.5	39.7	38.6	37.9
8	36.1	39.2	38.0	37.9
9	38.1	38.1	38.4	37.4

Core

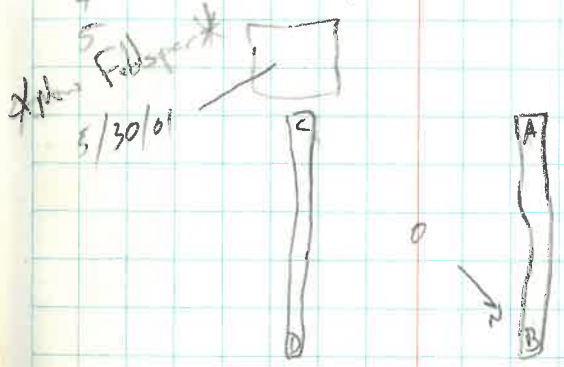
1

2

3

4

5



5/30/01 Cedar Key

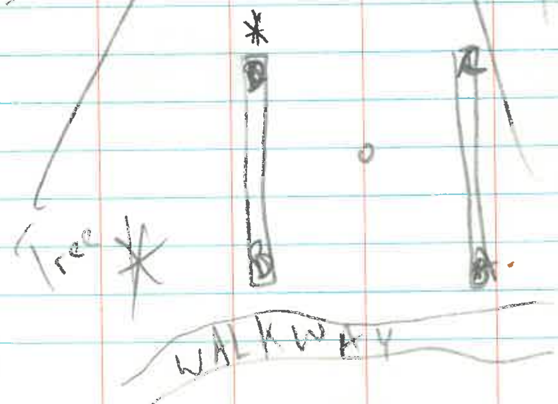
Station 1

J... L
Brian C

	A	B	C	D
1	18.7	16.6	17.5	18.4
2	16.5	15.5	17.9	15.8
3	17.9	15.9	17.4	16.5
4	18.0	15.2	17.4	18.6
5	16.7	15.7	11.0	18.6
6	15.8	16.0	15.7	18.4
7	15.5	16.9	16.7	18.3
8	145	16.5	17.2	18.5
9	15.1	15.4	16.3	16.4

Cryo	D??
1	21.2
2	19.65
3	18.08
4	19.25
5	

Copied to Cedar Key Book



3/2/02

Waccasassa River

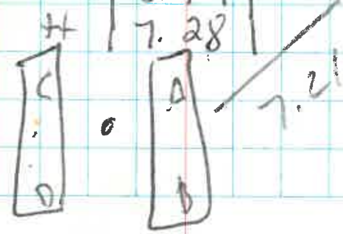
STATION 2

#II SET 10:38

	A NW	B NE	C SW	D SE
1	38.9	38.4	39.4 ~~7.83~~	40.9
2	39.0	40.5	37.9 ~~8.49~~	32.2 ch
3	38.9	38.9	32.1 ch	39.2
4	38.2	38.9	39.0	39.8
5	37.0	39.8	38.8	37.7
6	39.0	38.4	39.0	39.9
7	38.3	38.7	39.5	37.9
8	37.5	37.6	38.4	38.2
9	37.7	38.7	37.8	39.1
	37.3	38.9	38.0	38.3 = 38.[illegible]

Cryo				
1			7.83	
2			8.49	
3			6.73	
4			5.74	
5			7.28	

7.21



3/2/02 Waccasassa River

STA 1

	A NW	B NE	C SW	D SW
1	35.4	33.4	35.0	37.8
2	33.2	33.9	33.7	38.4
3	32.8	33.3	33.4	37.3
4	34.4	34.2	33.1	37.8
5	32.3	33.3	34.3	34.8
6	33.9	34.1	33.8	36.8
7	33.6	34.1	34.2	38.1
8	33.3	34.3	33.5	36.6
9	32.9	34.6	33.7	38.1
	33.5	33.9	33.8	37.3 = 34.7

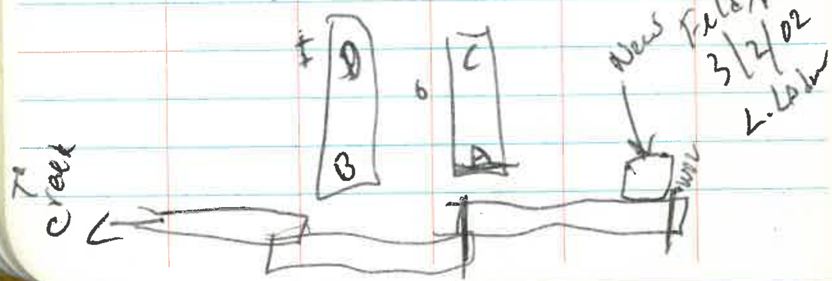
XX

Cryo	D	D
1	30.73	52.66
2	54.52	59.24
3	53.4	
4	54.55	

49.17

Lower plot

Too dry to sample



6/11/03 Waccasassa River

S 1

A

6/11/03 Waccasassa River

SITE 1

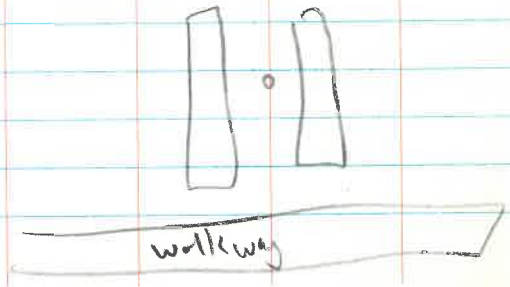
	A NW	B NE	C SW	D SE
1	33.9	33.4	32.8	35.5
2	29.5	33.2	32.8	35.2
3	34.9	33.2	32.6	36.1
4	31.1	33.0	32.5	37.1
5	35.5	32.4	31.7	36.3
6	33.4	33.2	32.9	36.6
7	32.6	33.1	32.8	37.0
8	32.0	33.2	32.2	36.9
9	32.1	33.4	32.3	37.3
	32.8	33.1	32.5	36.3 = 33.6

Cryo 1 ∅ ∅

2

3

4



6/11/03 Wacissa NV

SITE 2

	A	B	C	D
1	39.4	38.4	37.3	37.0
2	39.2	39.1	37.9	38.9
3	39.3	39.5	37.3	38.3
4	38.2	38.0	37.2	37.4
5	38.5	38.4	37.1	36.7
6	38.9	38.2	38.3	35.5
7	38.4	38.9	38.3	36.3
8	38.3	38.1	37.5	38.2
9	38.5	38.7	37.6	38.9
	38.7	38.6	37.7	36.9 = 38.0

Crypt 1 D

2 D

3

4