#95004

BRANCH OF ATLANTIC MARINE GEOLOGY
U.S. GEOLOGICAL SURVEY
Woods Hole, MA 02543

CRUISE REPORT

1. Ship Name/Owner Operator: R/V BELLOWS/Florida Institute of Oceanography

2. Cruise No.: BELLOWS 95004

3. Project Number: 9480-32110

4. Funding Agency: US Geological Survey, Center for Coastal Geology

5. Area of Operation: West Floarida inner Continental Shelf offshore of Sarisota, FL
   Approximate Lat and Long. of the 4 corners:
   27d 19.5'n, 82d 43.7'w
   27d 13.2'n, 82d 38.3'w
   27d 16.6'n, 82d 33.2'w
   27d 23.0'n, 82d 38.5'w

6. Cruise Dates: 2-8 May, 1995

7. Chief Scientists: David Twichell, USGS, Woods Hole

8. Scientific Party: Ken Parolski, USGS, Woods Hole
   VeeAnn Cross, USGS, Woods Hole
   Sean Leathem, USGS, St. Petersburg
   Scott Harrison, USF, St. Petersburg
   Nancy DeWitt, Eckerd College, St. Petersburg
   Jim Edwards, USF, St. Petersburg
   Katie Kowalski, USF, Tampa
   Stefan Ioannou, Univ of Toronto, Canada

9. Ship's Captain: William Millender

10 Purpose of Cruise: Conduct a sidescan sonar, bathymetry, and high-resolution subbottom survey of an 8 by 6.5 nautical mile area of the shoreface and inner West Florida shelf offshore of Sarisota Florida. The survey area extended northwestward from Big Sarisota Pass about half

way up Longboat Key. The survey imaged toe seafloor starting about 100 m off the beach in about 4 m of water and extended about 12km across the shelf to where water depths were approximatelty 10 m. The sidescan data were logged digitally, and about half the data were processed and assembled into a mosaic in the field. In addition to the sidescan imagery, bathymetry and 3.5-kHz subbottom profiles were collected along the tracklines, and 152 underway grab samples were also collected.

11. Navigation Techniques: Differential GPS

12. Scientific Equipment: Klein 100-kHz sidescan sonar
QMIPS sidescan acquisition system
Digital fathometer
3.5-kHz subbottom profiler
GPS navigation system
DEC 3100 workstation for sidescan processing
Underway sediment grab sampler

13. Days at Sea: 7

14. Sidescan Surveys: area (km^2) 27.8 km^2 of continuous sidescan coverage (except for crab pots), approximately 1110 line km of bathymetry, 3.5-kHz profiles and sidescan data.

15. Remarks: This was a very successful collaborative cruise involving researchers from the USGS Center for Coastal Geology, Univ. of South Florida, and Eckard College. Weather during most of the cruise was very calm, so the majority of the sidescan mosaic is of very good quality despite the fact that we were surveying in shallow water. 15-20 knot winds did pick up during two nights of the cruise, and at these times the sidescan images are of inferior quality. All the equipment worked very well. QMIPS only needed to be rebooted twice, and only about one hour of survey time was lost due to equipment malfunction. The major problem that we faced was catching crab pots on the sidescan and 3.5-kHz systems. The ship's crew paid close attention, so the number we caught was minimal, but the consequence is that some of the lines are a bit sinuous, and there are some small gaps in the sidescan coverage due to avoiding crab pots. About half the sidescan data were processed and mosaicked in the field. The bathymetry and 3.5-kHz subbottom data were not anallyzed in the field. In addition to the sidescan and subbottom data, an underway grab sampler was used, and 152 surface sediment samples were recovered using this sampler. These samples will be analysed at Eckard College and will be incorporated into the West Florida Data Base that the USGS in St. Petersburg is compiling.

GEOPHYSICAL SURVEY SUMMARY

LINE	START DATE (D/M/Y)	JD	TIME (GMT)	END DATE (D/M/Y)	JD	TIME (GMT)
1	2/5/95	122	1841	2/5/95	122	2058
2	2/5/95	122	2058	2/5/95	122	2231
3	2/5/95	122	2231	3/5/95	123	0012
4	3/5/95	123	0012	3/5/95	123	0142
5	3/5/95	123	0142	3/5/95	123	0326
6	3/5/95	123	0326	3/5/95	123	0455
7	3/5/95	123	0455	3/5/95	123	0626
8	3/5/95	123	0627	3/5/95	123	0755
9	3/5/95	123	0757	3/5/95	123	0934
10	3/5/95	123	0934	3/5/95	123	1103
11	3/5/95	123	1104	3/5/95	123	1236
12	3/5/95	123	1236	3/5/95	123	1413
13	3/5/95	123	1413	3/5/95	123	1551
14	3/5/95	123	1551	3/5/95	123	1731
15	3/5/95	123	1731	3/5/95	123	1918
16	3/5/95	123	1918	3/5/95	123	2055
17	3/5/95	123	2058	3/5/95	123	2248
18	3/5/95	123	2249	4/5/95	124	0036
19	4/5/95	124	0038	4/5/95	124	0241
20	4/5/95	124	0243	4/5/95	124	0432
21	4/5/95	124	0433	4/5/95	124	0628
22	4/5/95	124	0628	4/5/95	124	0817
23	4/5/95	124	0819	4/5/95	124	1014
24	4/5/95	124	1014	4/5/95	124	1212
25	4/5/95	124	1213	4/5/95	124	1402
26	4/5/95	124	1404	4/5/95	124	1604
27	4/5/95	124	1605	4/5/95	124	1748
28	4/5/95	124	1750	4/5/95	124	1942
29	4/5/95	124	1943	4/5/95	124	2131
30	4/5/95	124	2133	5/5/95	125	0029
31	5/5/95	125	0031	5/5/95	125	0223
32	5/5/95	125	0224	5/5/95	125	0417
33	5/5/95	125	0417	5/5/95	125	0602
34	5/5/95	125	0606	5/5/95	125	0758
35	5/5/95	125	0759	5/5/95	125	0943

36	5/5/95	125	0944	5/5/95	125	1147
37	5/5/95	125	1149	5/5/95	125	1327
38	5/5/95	125	1327	5/5/95	125	1537
39	5/5/95	125	1538	5/5/95	125	1725
40	5/5/95	125	1728	5/5/95	125	1920
41	5/5/95	125	1920	5/5/95	125	1945
42	5/5/95	125	1945	5/5/95	125	2023
43	5/5/95	125	2023	5/5/95	125	2033
44	5/5/95	125	2033	5/5/95	125	2044
45	5/5/95	125	2044	5/5/95	125	2135
46	5/5/95	125	2135	5/5/95	125	2328
47	5/5/95	125	2329	6/5/95	126	0117
48	6/5/95	126	0118	6/5/95	126	0318
49	6/5/95	126	0319	6/5/95	126	0507
50	6/5/95	126	0507	6/5/95	126	0705
51	6/5/95	126	0707	6/5/95	126	0850
52	6/5/95	126	0851	6/5/95	126	1044
53	6/5/95	126	1045	6/5/95	126	1223
54	6/5/95	126	1224	6/5/95	126	1440
55	6/5/95	126	1440	6/5/95	126	1624
56	6/5/95	126	1626	6/5/95	126	1817
57	6/5/95	126	1818	6/5/95	126	2000
58	6/5/95	126	2002	6/5/95	126	2210
59	6/5/95	126	2211	7/5/95	127	0002
60	7/5/95	127	0003	7/5/95	127	0212
61	7/5/95	127	0219	7/5/95	127	0410
62	7/5/95	127	0412	7/5/95	127	0604
63	7/5/95	127	0609	7/5/95	127	0802
64	7/5/95	127	0803	7/5/95	127	0949
65	7/5/95	127	0950	7/5/95	127	1229
66	7/5/95	127	1230	7/5/95	127	1418
67	7/5/95	127	1419	7/5/95	127	1620
68	7/5/95	127	1622	7/5/95	127	1803
69	7/5/95	127	1804	7/5/95	127	2005
70	7/5/95	127	2006	7/5/95	127	2156
71	7/5/95	127	2157	7/5/95	127	2348
72	7/5/95	127	2350	8/5/95	128	0144
73	8/5/95	128	0145	8/5/95	128	0345
74	8/5/95	128	0346	8/5/95	128	0533

75	8/5/95	128	0534	8/5/95	128	0731
76	8/5/95	128	0732	8/5/95	128	0916
77	8/5/95	128	0917	8/5/95	128	1002

SEDIMENT SAMPLE LOCATIONS

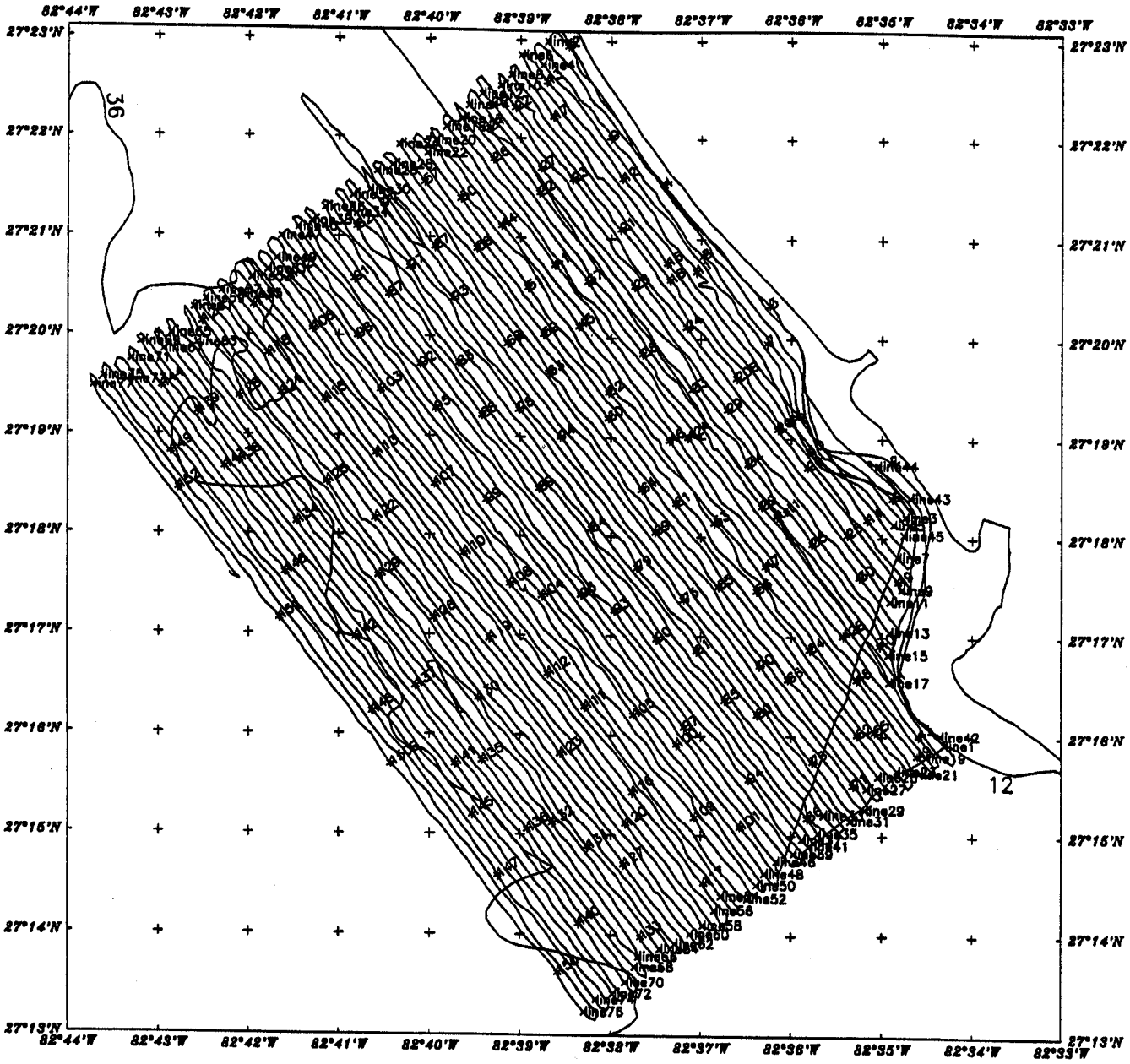
27d18.2109'n	-82d36.1539'w	tst1
27d16.6091'n	-82d34.8216'w	1
27d18.7723'n	-82d34.8984'w	2
27d20.3405'n	-82d36.2346'w	3
27d21.5400'n	-82d37.4078'w	4
27d22.9461'n	-82d38.4700'w	5
27d18.3976'n	-82d34.8826'w	6
27d19.9649'n	-82d36.2619'w	7
27d20.8297'n	-82d36.9749'w	8
27d22.0223'n	-82d37.9976'w	9
27d18.8743'n	-82d35.7992'w	10
27d20.6718'n	-82d37.0474'w	11
27d21.5977'n	-82d37.8683'w	12
27d22.5845'n	-82d38.7069'w	13
27d18.1824'n	-82d35.1607'w	14
27d19.1713'n	-82d36.0175'w	15
27d20.7548'n	-82d37.3687'w	16
27d22.2270'n	-82d38.6352'w	17
27d20.5876'n	-82d37.3388'w	18
27d17.5555'n	-82d34.8212'w	19
27d18.7118'n	-82d35.8144'w	20
27d19.0955'n	-82d36.1444'w	20A
27d19.6080'n	-82d36.5990'w	20B
27d21.0925'n	-82d37.8890'w	21
27d22.3157'n	-82d39.0586'w	22
27d21.5918'n	-82d38.4239'w	23
27d20.1189'n	-82d37.1537'w	24
27d18.0288'n	-82d35.3796'w	25
27d22.3449'n	-82d39.3098'w	26
27d21.7026'n	-82d38.7728'w	27
27d20.5218'n	-82d37.7328'w	28
27d19.2898'n	-82d36.6982'w	29
27d17.6012'n	-82d35.2463'w	30
27d22.1037'n	-82d39.3374'w	31

27d21.4499'n	-82d38.7889'w	32
27d19.4929'n	-82d37.0890'w	33
27d18.7433'n	-82d36.4693'w	34
27d17.9379'n	-82d35.7667'w	35
27d21.7870'n	-82d39.2959'w	36
27d20.5641'n	-82d38.2494'w	37
27d19.8470'n	-82d37.6413'w	38
27d18.3122'n	-82d36.3227'w	39
27d16.9155'n	-82d35.0197'w	40
27d20.7272'n	-82d38.6176'w	41
27d19.0082'n	-82d37.1400'w	42A
27d17.0074'n	-82d35.4271'w	42B
27d16.0076'n	-82d34.5920'w	43
27d21.1159'n	-82d39.2053'w	44
27d20.1215'n	-82d38.3462'w	45
27d18.9769'n	-82d37.3423'w	46
27d17.7069'n	-82d36.2800'w	47
27d16.5723'n	-82d35.2735'w	48
27d15.8035'n	-82d34.6086'w	49
27d21.3882'n	-82d39.6532'w	50
27d20.5003'n	-82d38.9142'w	51
27d19.4543'n	-82d38.0211'w	52
27d18.1408'n	-82d36.8457'w	53
27d16.8716'n	-82d35.7913'w	54
27d16.0468'n	-82d35.0754'w	55
27d17.4629'n	-82d36.3778'w	56
27d21.5513'n	-82d40.0577'w	57
27d20.8867'n	-82d39.4748'w	58
27d20.0362'n	-82d38.7404'w	59
27d19.1945'n	-82d38.0254'w	60
27d18.3367'n	-82d37.2749'w	61
27d16.0144'n	-82d35.2686'w	62
27d19.6468'n	-82d38.6779'w	63
27d18.4757'n	-82d37.6501'w	64
27d17.5030'n	-82d36.8017'w	65
27d16.5757'n	-82d36.0279'w	66
27d20.8982'n	-82d39.9423'w	67
27d19.9406'n	-82d39.1394'w	68
27d18.0440'n	-82d37.5019'w	69

27d16.7097'n	-82d36.3447'w	70
27d15.5043'n	-82d35.3128'w	71
27d21.3189'n	-82d40.5114'w	72
27d20.3806'n	-82d39.7351'w	73
27d19.0057'n	-82d38.5554'w	74
27d17.3702'n	-82d37.1865'w	75
27d15.7393'n	-82d35.7639'w	76
27d20.6947'n	-82d40.2183'w	77
27d19.2784'n	-82d39.0149'w	78
27d17.6902'n	-82d37.7044'w	79
27d16.2137'n	-82d36.3716'w	80
27d16.8530'n	-82d37.0486'w	81
27d21.0957'n	-82d40.7998'w	82
27d19.7333'n	-82d39.6746'w	83
27d18.0759'n	-82d38.2177'w	84
27d16.3573'n	-82d36.7304'w	85
27d15.1756'n	-82d35.8175'w	86
27d20.4185'n	-82d40.4480'w	87
27d19.2169'n	-82d39.4167'w	88
27d18.4819'n	-82d38.7873'w	89
27d16.9733'n	-82d37.4894'w	90
27d20.5701'n	-82d40.8257'w	91
27d19.7172'n	-82d40.0996'w	92
27d17.2550'n	-82d37.9585'w	93
27d15.5601'n	-82d36.4652'w	94
27d19.2773'n	-82d39.9295'w	95
27d17.4106'n	-82d38.3262'w	96
27d16.0859'n	-82d37.1843'w	97
27d20.0023'n	-82d40.7924'w	98
27d18.3583'n	-82d39.3699'w	99
27d15.9099'n	-82d37.2688'w	100
27d15.0842'n	-82d36.5647'w	101
27d20.5836'n	-82d41.5386'w	102
27d19.4599'n	-82d40.5414'w	103
27d17.3979'n	-82d38.7607'w	104
27d16.2078'n	-82d37.7460'w	105
27d20.0673'n	-82d41.2909'w	106
27d18.5149'n	-82d39.9454'w	107
27d17.5191'n	-82d39.1110'w	108

27d15.1802'n	-82d37.0696'w	109
27d17.8218'n	-82d39.6200'w	110
27d16.2852'n	-82d38.2862'w	111
27d16.6196'n	-82d38.6935'w	112
27d18.8209'n	-82d40.5868'w	113
27d20.2978'n	-82d41.9448'w	114
27d19.3601'n	-82d41.1515'w	115
27d15.4252'n	-82d37.7597'w	116
27d14.5241'n	-82d36.9687'w	117
27d19.8163'n	-82d41.7805'w	118
27d16.9698'n	-82d39.3331'w	119
27d15.1141'n	-82d37.8338'w	120
27d19.4217'n	-82d41.6429'w	121
27d18.1653'n	-82d40.5981'w	122
27d15.8099'n	-82d38.5580'w	123
27d20.1301'n	-82d42.5143'w	124
27d18.5311'n	-82d41.1315'w	125
27d17.1675'n	-82d39.9509'w	126
27d14.7065'n	-82d37.8567'w	127
27d19.3807'n	-82d42.1010'w	128
27d17.5888'n	-82d40.5615'w	129
27d16.3669'n	-82d39.4611'w	130
27d14.8838'n	-82d38.2556'w	131
27d15.1185'n	-82d38.6425'w	132
27d13.9823'n	-82d37.6648'w	133
27d18.1214'n	-82d41.4652'w	134
27d15.7378'n	-82d39.4183'w	135
27d15.0516'n	-82d38.9220'w	136
27d16.4852'n	-82d40.1539'w	137
27d18.7378'n	-82d42.0998'w	138
27d19.2319'n	-82d42.5595'w	139
27d14.1193'n	-82d38.3556'w	140
27d15.7006'n	-82d39.7180'w	141
27d16.9703'n	-82d40.8125'w	142
27d18.6732'n	-82d42.2675'w	143
27d19.4816'n	-82d42.9624'w	144
27d15.1957'n	-82d39.5273'w	145
27d17.6159'n	-82d41.5956'w	146
27d14.5866'n	-82d39.2459'w	147
27d16.2276'n	-82d40.6319'w	148

27d18.8208'n	-82d42.8612'w	149
27d13.6264'n	-82d38.5858'w	150
27d15.6959'n	-82d40.4287'w	150B
27d17.1559'n	-82d41.6589'w	151
27d18.4561'n	-82d42.7788'w	152



1 0 1 2 3 4 5 NAUTICAL MILES

1 0 1 2 3 4 5 KILOMETERS

Mercator Projection

Western Florida 1:30,000

BELLOWS 95004