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

9/035

CRUISE REPORT
(corrected copy, 3-12-92)

Ship name: RV Argo Maine

Cruise No.: 9103

Project: EEZ shelf mapping - Eastern Georges Bank

Funding agency: USGS, NMFS

Area of operations: Northern Edge of Georges Bank

Cruise dates: Oct. 1-13, 1991; Castine, ME to Provincetown, MA to Castine, ME

Chief scientist: Page Valentine

Scientific party:
Eric Schmuck, USGS
Nancy Soderberg, USGS
Andrew Brill, USGS
Greg Lough, NMFS
Betsy Broughton, NMFS
Alex Penkrat, NMFS
Jeff Brown, Bigelow Lab

Ship's captain: Don Bradford, Maine Maritime Academy

Cruise purpose: Collaborative research with USGS, NMFS, and Bigelow Lab; sample water column for physical properties, chlorophyll, nutrients, zooplankton, and herring larvae; sample sea floor for texture and herring egg beds; echo sounding and high resolution seismic profiling for bedform and texture distribution; map egg bed distribution and relationship to bottom environment.

Navigation: GPS, Megapulse Loran-C; recorded on 3.5 diskettes

Scientific equipment: CTD, fluorometer, rosette water sampler, zooplankton bongo nets, Digby dredge, Simrad 50, 200 kHz profiler; Echotrac 200 kHz profiler.

Days at sea: 13

Continuous data: 385 km echo sounding between stations 61 and 198.

Stations occupied:

38 CTD stations (sta 1-38, Neil Brown Mark III CTD, Sea Tech fluorometer).

51 water sample stations (sta 1-51 for chlorophyll and nutrient analysis by Bigelow Lab).

57 bongo net and CTD stations, NMFS (sta 1-51, 100, 103, 104, 134, 135, 136; Seabird CTD deployed on all net tows).

136 dredge stations (sta 52-100, 105-133, 137-171, 179-187, 190-198).

NOTE: dredge samples photographed, described, and returned to sea bed.

(gbgrav\am9103.rep)

STA#	DATE	LAT	LON	W.DEPTH(m)	SAMPLER	NO.SAMPLES
1	10/4	41.3593dn	68.9785dw	148	CTD	continuous
					bongo net	4
					water	6
2	10/4	41.3028dn	68.9060dw	130	CTD	continuous
					bongo net	4
					water	6
3	10/4	41.2683dn	68.8317dw	100	CTD	continuous
					bongo net	4
					water	5
4	10/4	41.2247dn	68.7553dw	-	CTD	continuous
					bongo net	4
					water	3
5	10/4	41.1802dn	68.6832dw	62	CTD	continuous
					bongo net	4
					water	4
6	10/4	41.1577dn	68.6280dw	59	CTD	continuous
					bongo net	4
					water	3
7	10/4	41.2805dn	68.5443dw	58	CTD	continuous
					bongo net	4
					water	3
8	10/4	41.3300dn	68.6135dw	-	CTD	continuous
					bongo net	4
					water	6
9	10/4	41.3782dn	68.6860dw	-	CTD	continuous
					bongo net	4
					water	5
10	10/4	41.4257dn	68.7572dw	131	CTD	continuous
					bongo net	4
					water	6
11	10/4	41.4753dn	68.8317dw	144	CTD	continuous
					bongo net	4
					water	6
12	10/4	41.5962dn	68.7815dw	157	CTD	continuous
					bongo net	4
					water	6
13	10/4	41.5845dn	68.6932dw	141	CTD	continuous
					bongo net	4
					water	6
14	10/4	41.5690dn	68.6067dw	131	CTD	continuous

STA#	DATE	LAT	LON	W.DEPTH(M)	SAMPLER	NO. SAMPLES
14	10/4				bongo net	4
					water	6
15	10/4	41.5533dn	68.5175dw	96	CTD	continuous
					bongo net	4
					water	6
16	10/4	41.5405dn	68.4285dw	47	CTD	continuous
					bongo net	4
					water	5
17	10/4	41.6653dn	68.4023dw	24	CTD	continuous
					bongo net	4
					water	3
18	10/5	41.6770dn	68.4230dw	85	CTD	continuous
					bongo net	4
					water	6
19	10/5	41.6927dn	68.4128dw	145	CTD	continuous
					bongo net	4
					water	6
20	10/5	41.7048dn	68.4402dw	180	CTD	continuous
					bongo net	4
					water	6
21	10/5	41.7207dn	68.4607dw	187	CTD	continuous
					bongo net	4
					water	6
22	10/5	41.8217dn	68.2878dw	176	CTD	continuous
					bongo net	4
					water	6
23	10/5	41.8008dn	68.2693dw	114	CTD	continuous
					bongo net	4
					water	5
24	10/5	41.7798dn	68.2510dw	85	CTD	continuous
					bongo net	4
					water	3
25	10/5	41.7615dn	68.2355dw	68	CTD	continuous
					bongo net	4
					water	3
26	10/5	41.7403dn	68.2187dw	53	CTD	continuous
					bongo net	4
					water	4
27	10/5	41.8258dn	67.9637dw	52	CTD	continuous
					bongo net	4

STA#	DATE	LAT	LON	W.DEPTH(M)	SAMPLER	NO. SAMPLES
27					water	4
28	10/5	41.8527dn	67.9870dw	62	CTD	continuous
					bongo net	4
					water	4
29	10/5	41.8817dn	68.0110dw	91	CTD	continuous
					bongo net	4
					water	6
30	10/5	41.9068dn	68.0348dw	156	CTD	continuous
					bongo net	4
					water	6
31	10/5	41.9308dn	68.0575dw	179	CTD	continuous
					bongo net	4
					water	5
32	10/5	42.0195dn	67.8668dw	180	CTD	continuous
					bongo net	4
					water	5
33	10/5	42.0047dn	67.8412dw	169	CTD	continuous
					bongo net	4
					water	5
34	10/5	41.9818dn	67.8197dw	92	CTD	continuous
					bongo net	4
					water	5
35	10/5	41.9615dn	67.7988dw	63	CTD*	continuous
					bongo net	4
					water	3
36	10/5	41.9392dn	67.7805dw	51	CTD	continuous
					bongo net	4
					water	4
37	10/5	41.9642dn	67.5980dw	44	CTD	continuous
					bongo net	4
					water	4
38	10/5	41.9983dn	67.6193dw	47	CTD	continuous
					bongo net	4
					water	4
39	10/5	42.0270dn	67.6340dw	70	bongo net	4
					water	3
40	10/6	42.0593dn	67.6515dw	152	bongo net	4
					water	3
41	10/6	42.0912dn	67.6735dw	173	bongo net	4

STA#	DATE	LAT	LON	W.DEPTH(M)	SAMPLER	NO. SAMPLES
42	10/6	42.1432dn	67.4347dw	177	bongo net	4
					water	3
43	10/6	42.1207dn	67.4260dw	144	bongo net	4
					water	3
44	10/6	42.0903dn	67.4153dw	62	bongo net	4
					water	3
45	10/6	42.0615dn	67.4032dw	53	bongo net	4
					water	3
46	10/6	42.0330dn	67.3890dw	48	bongo net	4
					water	3
47	10/6	42.0150dn	67.3075dw	47	bongo net	4
					water	3
48	10/6	42.0570dn	67.2420dw	43	bongo net	4
					water	3
49	10/6	42.0962dn	67.2490dw	53	bongo net	4
					water	3
50	10/6	42.1375dn	67.2600dw	-	bongo net	4
					water	3
51	10/6	42.1812dn	67.2558dw	174	bongo net	4
					water	3
52	10/7	41.9943dn	67.4968dw	39	dredge	1
53	10/7	41.9964dn	67.5211dw	41	dredge	1
54	10/7	41.9944dn	67.5432dw	40	dredge	1
55	10/7	41.9935dn	67.5601dw	-	dredge	1
56	10/7	41.9953dn	67.5833dw	45	dredge	1
57	10/7	41.9947dn	67.6035dw	46	dredge	1
58	10/7	41.9778dn	67.5978dw	45	dredge	1
59	10/7	41.9782dn	67.5764dw	44	dredge	1
60	10/7	41.9801dn	67.5539dw	40	dredge	1
61	10/8	41.9811dn	67.5321dw	42	dredge	1
62	10/8	41.9892dn	67.5082dw	41	dredge	1
63	10/8	41.9806dn	67.4891dw	40	dredge	1

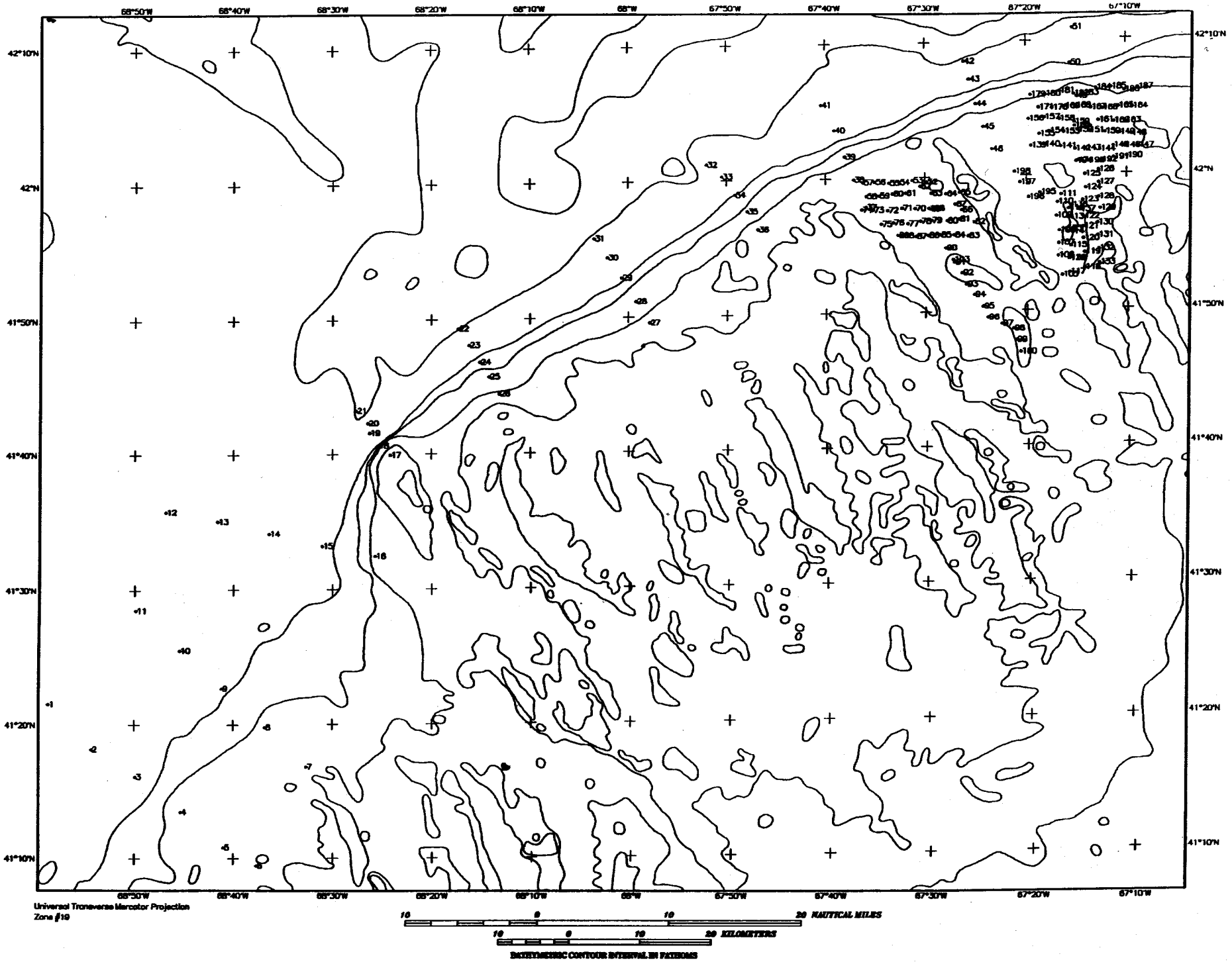
STA#	DATE	LAT	LON	W.DEPTH(M)	SAMPLER	NO. SAMPLES
64	10/8	41.9794dn	67.4647dw	40	dredge	1
65	10/8	41.9808dn	67.4423dw	40	dredge	1
66	10/8	41.9597dn	67.4392dw	41	dredge	1
67	10/8	41.9663dn	67.4492dw	40	dredge	1
68	10/8	41.9633dn	67.4708dw	44	dredge	1
69	10/8	41.9612dn	67.4919dw	45	dredge	1
70	10/8	41.9621dn	67.5169dw	40	dredge	1
71	10/8	41.9624dn	67.5382dw	41	dredge	1
72	10/8	41.9600dn	67.5620dw	41	dredge	1
73	10/8	41.9606dn	67.5864dw	41	dredge	1
74	10/8	41.9614dn	67.6057dw	42	dredge	1
75	10/8	41.9433dn	67.5729dw	41	dredge	1
76	10/8	41.9447dn	67.5527dw	41	dredge	1
77	10/8	41.9435dn	67.5283dw	47	dredge	1
78	10/8	41.9462dn	67.5079dw	45	dredge	1
79	10/8	41.9469dn	67.4894dw	43	dredge	1
80	10/8	41.9463dn	67.4633dw	45	dredge	1
81	10/8	41.9482dn	67.4428dw	45	dredge	1
82	10/8	41.9445dn	67.4185dw	45	dredge	1
83	10/8	41.9273dn	67.4286dw	49	dredge	1
84	10/8	41.9287dn	67.4513dw	53	dredge	1
85	10/8	41.9290dn	67.4744dw	52	dredge	1
86	10/8	41.9285dn	67.4946dw	50	dredge	1
87	10/9	41.9273dn	67.5154dw	51	dredge	1
88	10/9	41.9287dn	67.5368dw	42	dredge	1
89	10/9	41.9293dn	67.5613dw	41	dredge	1
90	10/9	41.9127dn	67.4655dw	57	dredge	1

STA#	DATE	LAT	LON	W.DEPTH(M)	SAMPLER	NO. SAMPLES
91	10/9	41.8945dn	67.4508dw	59	dredge	1
92	10/9	41.8810dn	67.4388dw	65	dredge	1
93	10/9	41.8669dn	67.4317dw	-	dredge	1
94	10/9	41.8537dn	67.4196dw	50	dredge	1
95	10/9	41.8392dn	67.4055dw	51	dredge	1
96	10/9	41.8255dn	67.3977dw	50	dredge	1
97	10/9	41.8176dn	67.3753dw	51	dredge	1
98	10/9	41.8112dn	67.3565dw	57	dredge	1
99	10/9	41.7968dn	67.3522dw	54	dredge	1
100	10/9	41.7822dn	67.3450dw	52	dredge	1
					bongo net	4
103	10/9	41.8979dn	67.4533dw	58	bongo net	4
104	10/9	41.9619dn	67.4936dw	-	bongo net	4
105	10/9	41.8756dn	67.2750dw	47	dredge	1
106	10/9	41.8995dn	67.2820dw	47	dredge	1
107	10/9	41.9151dn	67.2807dw	48	dredge	1
108	10/9	41.9304dn	67.2793dw	48	dredge	1
109	10/9	41.9489dn	67.2843dw	52	dredge	1
110	10/9	41.9658dn	67.2825dw	50	dredge	1
111	10/9	41.9750dn	67.2758dw	49	dredge	1
112	10/9	41.9574dn	67.2638dw	52	dredge	1
113	10/9	41.9470dn	67.2647dw	55	dredge	1
114	10/9	41.9286dn	67.2650dw	52	dredge	1
115	10/9	41.9118dn	67.2601dw	54	dredge	1
116	10/9	41.8957dn	67.2634dw	48	dredge	1
117	10/9	41.8786dn	67.2631dw	48	dredge	1
118	10/9	41.8839dn	67.2378dw	50	dredge	1

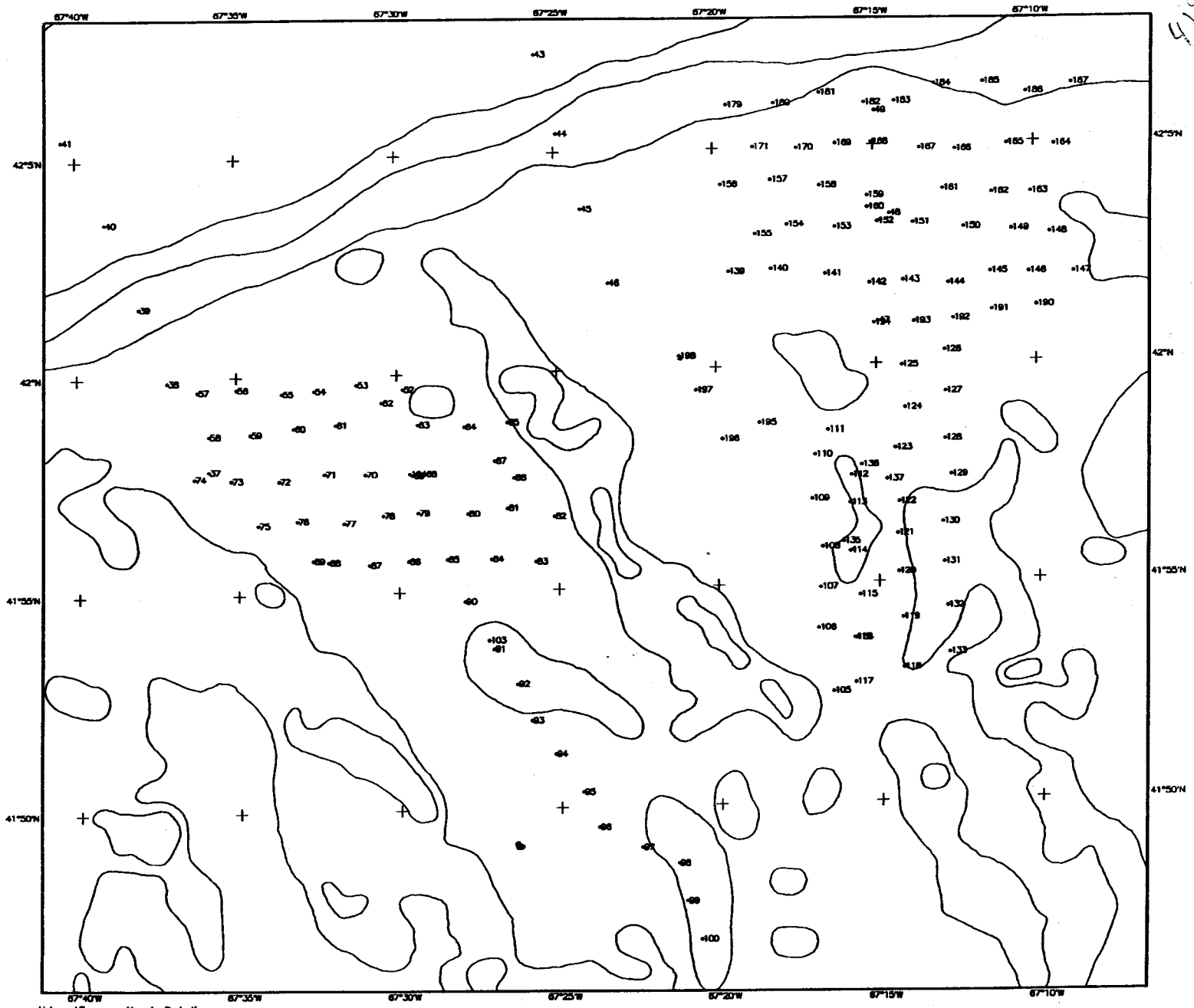
STA#	DATE	LAT	LON	W.DEPTH(M)	SAMPLER	NO. SAMPLES
119	10/10	41.9029dn	67.2380dw	51	dredge	1
120	10/10	41.9202dn	67.2399dw	50	dredge	1
121	10/10	41.9348dn	67.2402dw	50	dredge	1
122	10/10	41.9470dn	67.2390dw	53	dredge	1
123	10/10	41.9676dn	67.2407dw	55	dredge	1
124	10/10	41.9827dn	67.2353dw	49	dredge	1
125	10/10	41.9992dn	67.2367dw	45	dredge	1
126	10/10	42.0046dn	67.2139dw	50	dredge	1
127	10/10	41.9887dn	67.2140dw	51	dredge	1
128	10/10	41.9707dn	67.2145dw	48	dredge	1
129	10/10	41.9569dn	67.2115dw	54	dredge	1
130	10/10	41.9389dn	67.2162dw	55	dredge	1
131	10/10	41.9285dn	67.2157dw	59	dredge	1
132	10/10	41.9068dn	67.2143dw	61	dredge	1
133	10/10	41.8893dn	67.2136dw	52	dredge	1
134	10/10	41.8955dn	67.2626dw	48	bongo net	4
135	10/10	41.9324dn	67.2684dw	53	bongo net	4
136	10/10	41.9615dn	67.2583dw	57	bongo net	4
137	10/10	41.9557dn	67.2453dw	49	dredge	1
139	10/10	42.0362dn	67.3259dw	51	dredge	1
140	10/10	42.0369dn	67.3036dw	46	dredge	1
141	10/10	42.0344dn	67.2758dw	44	dredge	1
142	10/10	42.0307dn	67.2526dw	45	dredge	1
143	10/10	42.0313dn	67.2354dw	46	dredge	1
144	10/10	42.0300dn	67.2112dw	50	dredge	1
145	10/10	42.0339dn	67.1890dw	49	dredge	1
146	10/10	42.0334dn	67.1697dw	51	dredge	1

STA#	DATE	LAT	LON	W.DEPTH(M)	SAMPLER	NO. SAMPLES
147	10/10	42.0329dn	67.1470dw	52	dredge	1
148	10/10	42.0483dn	67.1588dw	49	dredge	1
149	10/10	42.0501dn	67.1780dw	48	dredge	1
150	10/10	42.0512dn	67.2027dw	48	dredge	1
151	10/10	42.0534dn	67.2293dw	44	dredge	1
152	10/10	42.0541dn	67.2482dw	44	dredge	1
153	10/10	42.0524dn	67.2704dw	44	dredge	1
154	10/10	42.0537dn	67.2950dw	49	dredge	1
155	10/11	42.0504dn	67.3114dw	50	dredge	1
156	10/11	42.0697dn	67.3292dw	50	dredge	1
157	10/11	42.0678dn	67.3017dw	50	dredge	1
158	10/11	42.0685dn	67.2780dw	47	dredge	1
159	10/11	42.0643dn	67.2532dw	45	dredge	1
160	10/11	42.0657dn	67.2300dw	45	dredge	1
161	10/11	42.0660dn	67.2137dw	45	dredge	1
162	10/11	42.0643dn	67.1877dw	43	dredge	1
163	10/11	42.0640dn	67.1681dw	45	dredge	1
164	10/11	42.0818dn	67.1562dw	50	dredge	1
165	10/11	42.0826dn	67.1799dw	50	dredge	1
166	10/11	42.0809dn	67.2064dw	49	dredge	1
167	10/11	42.0816dn	67.2257dw	49	dredge	1
168	10/11	42.0843dn	67.2509dw	51	dredge	1
169	10/11	42.0841dn	67.2698dw	50	dredge	1
170	10/11	42.0828dn	67.2897dw	49	dredge	1
171	10/11	42.0836dn	67.3123dw	50	dredge	1
179	10/11	42.0998dn	67.3260dw	56	dredge	1
180	10/11	42.1000dn	67.3012dw	52	dredge	1

STA#	DATE	LAT	LON	W.DEPTH(M)	SAMPLER	NO. SAMPLES
181	10/11	42.1036dn	67.2774dw	53	dredge	1
182	10/11	42.0994dn	67.2544dw	54	dredge	1
183	10/11	42.0997dn	67.2385dw	52	dredge	1
184	10/11	42.1061dn	67.2175dw	53	dredge	1
185	10/11	42.1064dn	67.1918dw	58	dredge	1
186	10/11	42.1022dn	67.1700dw	57	dredge	1
187	10/12	42.1051dn	67.1469dw	57	dredge	1
190	10/12	42.0207dn	67.1661dw	53	dredge	1
191	10/12	42.0195dn	67.1887dw	54	dredge	1
192	10/12	42.0164dn	67.2090dw	54	dredge	1
193	10/12	42.0156dn	67.2298dw	49	dredge	1
194	10/12	42.0155dn	67.2507dw	48	dredge	1
195	10/12	41.9783dn	67.3110dw	54	dredge	1
196	10/12	41.9727dn	67.3302dw	58	dredge	1
197	10/12	41.9914dn	67.3439dw	54	dredge	1
198	10/12	42.0047dn	67.3527dw	54	dredge	1



GEORGES BANK CRUISE AM9103 STATION POSITIONS



Universal Transverse Mercator Projection
Zone #19

5 0 5 10 NAUTICAL MILES

5 0 5 10 KILOMETERS

BATHYMETRIC CONTOUR INTERVAL IN FATHOMS

GEORGES BANK CRUISE AM9103 STATION POSITIONS