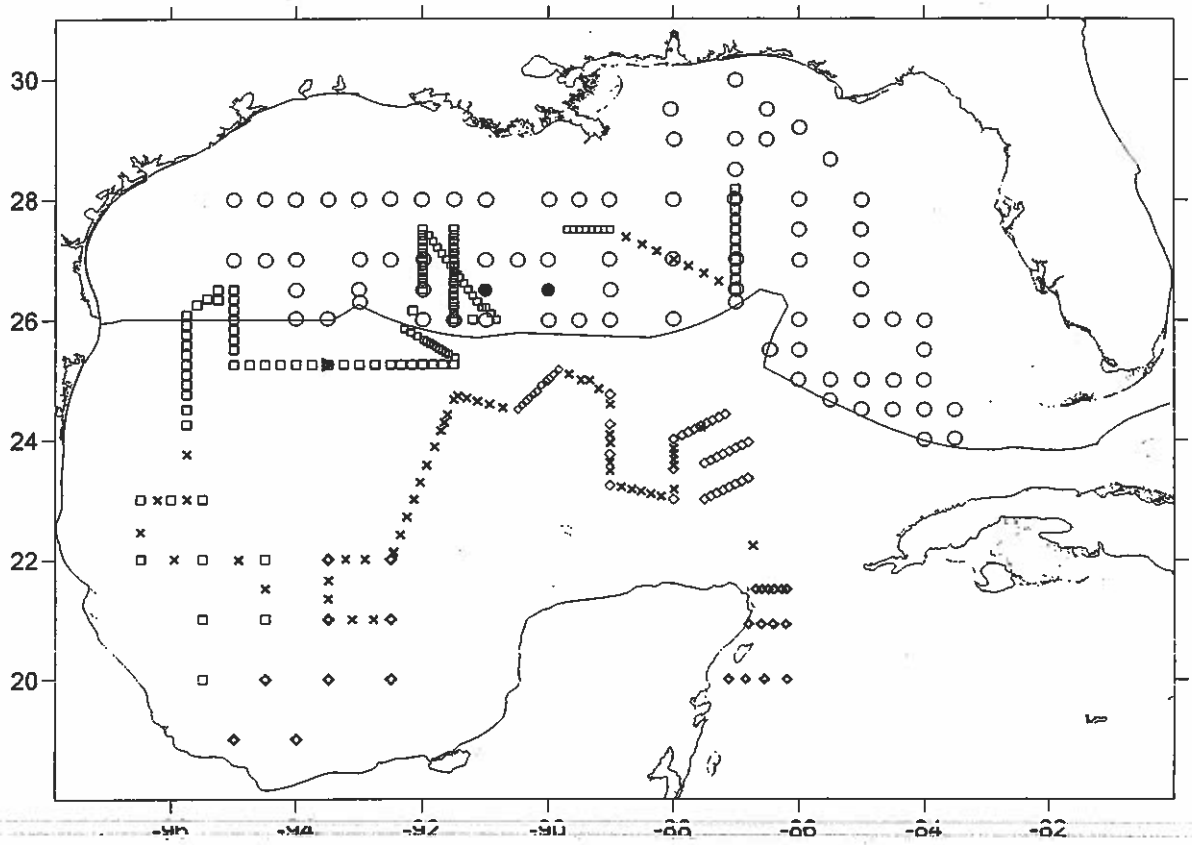
CRUISE RESULTS

Southeast Area Monitoring and Assessment Program (SEAMAP) 2009 Spring Plankton Survey

NOAA Ship *Gordon Gunter* Cruise GU-09-02 (53)
March 29 – June 1, 2009



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INTRODUCTION

The National Oceanic and Atmospheric Administration (NOAA) Ship *Gordon Gunter* departed Pascagoula, MS on 29 March 2009 to initiate the Southeast Area Monitoring and Assessment Program (SEAMAP) Spring Ichthyoplankton Survey in the Gulf of Mexico. The SEAMAP Program is a cooperative State/Federal/University program designed to collect biological and environmental data from waters of the U.S. Gulf of Mexico. During the Spring Survey, plankton samples are collected from a systematic grid of stations to assess distribution, occurrence and abundance of the early life stages of a variety of species of fishes and invertebrates. This survey specifically targets larval bluefin tuna (*Thunnus thynnus*). Directed sampling efforts to assess tuna spawning and larval habitat were the main focus of the first part of the cruise with the added component of a cooperative effort between the US and Mexico which allowed sampling of Mexican waters with participation by Mexican scientists.

A total of 51 successful sea days was worked over three legs during the cruise: Leg 1, March 29 - April 16; Leg 2, April 20 - May 8 and Leg 3, May 13 - June 1, 2009. The Gulf Coast Research Laboratory (GCRL) participated in this survey by sampling stations around the Loop Current aboard the R/V *Tommy Munro*.

The first leg of the survey had been scheduled to depart on 27 March, but weather delayed sailing until 1400 the afternoon of 29 March. Severe weather (35+ kts winds) caused the loss of a day and a half on the first leg. Weather also delayed sailing on the second leg from 19 April to 20 April due to airport closures and the lack of flights to get scheduled scientists to the port of Veracruz to meet the ship. Approximately 22 hours of sampling were lost due to weather, and approximately 24 hours were also lost due to problems with the Seacat profiler used to obtain realtime depth for bongo tows. Standard SEAMAP bongo tows were cancelled for the last eight days on the second leg due to an electrical short found in the slip rings of the bongo winch. This did not prevent deployment of gear from the bongo winch, only use of the conducting cable for the Seacat profiler. This issue was resolved in the port call between Legs 2 and 3. Weather and the need to drop off personnel twice (loss of 32.5 hours) severely impacted Leg 3 resulting in changes to the trackline. Despite these setbacks, overall, most survey objectives were met.

OBJECTIVES

1. Assess the occurrence, abundance and geographical distribution of the early life stages of spring spawning fishes, especially bluefin tuna (*Thunnus thynnus*), from the continental shelf edge to deep Gulf waters using a bongo frame fitted with 0.335 mm nets and a neuston frame fitted with a 0.950 mm net at selected SEAMAP stations in support of annual stock assessments.
    a) Targeted sampling for bluefin tuna larvae in Mexican waters was undertaken during Legs 1 and 2. Sampling sites were chosen based on satellite imagery of sea surface temperature and surface chlorophyll data. Stations were placed in a grid format near frontal zones and along cross-front transects to cover outside, on the edges and inside eddy features.
    b) Sampling for bluefin tuna larvae for inclusion in stock assessments was conducted at standard SEAMAP stations during Leg 3.
2. Describe the pelagic habitat of fish larvae through measurements of various physical and biological parameters.

a) Record profiles through the water column of temperature, salinity, fluorescence, dissolved oxygen, and turbidity using a CTD at all stations.
b) Measure chlorophyll *a* in replicate water samples taken at surface, mid or maximum chlorophyll layer and near bottom (to a maximum of 200 m) depths using bench top fluorometry.
c) Detect and measure frontal features along the survey cruise track using data from the ship's Fluoro-thermosalinograph flow-through system (TSG) and the Acoustic Doppler Current Profiler (ADCP).
d) Record temperature profiles through the water column while the ship remains underway using expendable bathythermograph (XBT) probes.
e) Detect surface currents through deployment of surface drifters.
f) Visually detect possible surface currents and frontal zones through recording of aggregated sargassum along the cruise track.

3. Map the distribution of fish eggs along the cruise track using a Continuous Underway Fish Egg Sampler (CUFES) that collects plankton samples at 30 min intervals.

4. Sample the size fraction of fishes (postlarvae and early juveniles) that are underrepresented in bongo and neuston samples using a Methot juvenile fish trawl at selected locations.

5. Collect detailed observations of net caught jellyfish and ctenophores for Dauphin Island Sea Lab (DISL).

6. Assist in the collection of marine debris from plankton samples for the Plankton & Plastic Surveys of U.S. Ocean Waters project with the National Fish and Wildlife Foundation.

SURVEY RESULTS

Environmental Data

Environmental data were collected with a Seabird SBE 9/11 Plus CTD at a total of 267 stations (Figure 1) during the survey. Two stations do not have associated CTD casts due to weather impacting the ship's ability to maintain position on station. The SBE 9/11 plus CTD profiles were processed at sea by the Field Party Chief using Seabird's SEASAVE processing software. Temperature profiles were recorded from 57 XBT launches, three probes did not provide profile data (Figure 1). Two surface drifters were deployed during Leg 2 of the survey. The drifters were deployed following the CTD cast, before the ship began to transit to the next station at two designated locations (Figure 1). Information from shipboard sensors was accessed via the Scientific Computer System (SCS), which continuously displayed and recorded the ship's position, heading, speed, wind direction, wind speed, barometric pressure, sea surface temperature, air temperature and water depth. All environmental data and data from the ship's SCS were returned to the NMFS Pascagoula Laboratory for editing, analysis and archival storage.

Water samples were taken at 262 stations where the Seabird SBE 9/11 Plus CTD was deployed, using Niskin bottles attached to a SBE Carousel sampler. Target sampling depths were: surface, chlorophyll maximum, and near-bottom (up to 200 m maximum). CTD profiles on Legs 1 and 2 were taken to a maximum of 500 m or to near-bottom while CTD profiles on

Leg 3 were taken to a maximum of 200 m or to near-bottom. Samples were analyzed for chlorophyll *a* concentrations (μg/L) at sea using a Turner Designs 10-AU-005 benchtop fluorometer with a 10-040R optical kit and the modified Welshmeyer method. Standard protocol for SEAMAP stations calls for analysis of three replicate water samples from each of the three target depths. However, at shallower stations where the water column was well mixed and no chlorophyll maximum was present, only surface and bottom samples were taken. Some samples were not analyzed due to bottle firing problems. All replicates at each sample depth were averaged and entered into the Microsoft Access database (Table 1).

Salinity (PSU), sea temperature (° C), and dissolved oxygen (mg/L) were recorded from the sensors on the CTD for the same depths as water samples for the chlorophyll *a* measurements (Table 2). Near surface ($\leq$6 m depth) comparisons of chlorophyll *a* concentrations (μg/L), sea temperature (° C), salinity (PSU), and dissolved oxygen (mg/L) for stations are presented in Figures 2 - 5.

Throughout the cruise, an SBE TSG equipped with a Turner Designs 10-AU fluorometer continuously measured surface salinity, temperature, and fluorescence. A dedicated computer recorded all the information and was backed up daily to the ship's server. This complete dataset was copied off the ship's server and returned to the NMFS Pascagoula Laboratory for analysis and archiving. TSG events were run to detect the presence of surface fronts and were emailed to Miami daily to help determine sampling areas for the frontal boundary sampling portion of the cruise. These data and the ADCP data were also returned to the NMFS Pascagoula Laboratory for editing, analysis and archival storage.

Ichthyoplankton Data

Survey Design

As part of a NASA funded grant, directed sampling efforts targeting bluefin tuna larvae occurred during Legs 1 and 2 (Figures 6 - 7). These non-standard stations were chosen to cross frontal features of the Loop Current and associated cyclonic and anticyclonic eddies. These mesoscale oceanographic features were located based on satellite imagery of sea surface temperature and surface chlorophyll. Daily updates of MODUS based imagery products were examined twice a day to track movements of these features and to position the ship. Shipboard CTD profiles and TSG data were sent daily to the Miami laboratory from the beginning of the cruise until the end of the cruise to assist in the determination of sampling locations. Stations were placed in a grid format near frontal zones and along cross-front transects to cover outside, on the edges and inside eddy features.

A predefined cruise track of 97 standard Spring SEAMAP stations, approximately 30 nautical miles apart in a systematic grid, were targeted for Leg 3 of this survey (Figure 8). Standard SEAMAP plankton gear used at each station consisted of a bongo net, neuston net, and a CTD (as described above).

Sampling Methodology

Samples and data collection were implemented in accordance with procedures outlined in the SEAMAP data collections manual. Plankton samples were taken with the standard SEAMAP 61 cm bongo frame outfitted with two 0.335 mm mesh nets and towed in an oblique path from near bottom or 200 m maximum depth to the surface. An SBE19 Seacat Profiler was attached on the towing wire above the frame to provide real time depth readings along with temperature and salinity. A flowmeter mounted inside each side of the bongo frame measured the volume filtered during the tow. Plankton samples were also taken using a 0.950 mm mesh

neuston net attached to a 1 x 2 m metal frame that was towed for 10 min at a vessel speed (~ 2 kts) sufficient to keep the net opening half submerged in the water maintaining a sampling depth of 0.5 m. Preservation protocol called for the right bongo samples to be preserved in 10% formalin and then transferred to fresh 95% ETOH after 36 hours. The original standard SEAMAP method of initial preservation in 10% formalin for 48 hours was changed to 36 hours in order to improve long term storage for genetic analysis. The left bongo and neuston samples were initially preserved in 95% ETOH and then transferred to fresh 95% ETOH after 24 hours. Subsurface samples were taken with a 0.335 mm mesh neuston net attached to a 1 x 2 m metal frame that was towed for 10 min at a vessel speed (~ 1.5-2 kts) sufficient to keep the net opening completely submerged. A flowmeter was mounted inside the neuston frame to measure the volume filtered during the tow. Thirteen tows were made before the 0.335 mm mesh neuston net was ripped down the whole length of the net. Subsurface bongo tows replaced the subsurface neuston tows. Only the left side of the bongo had a codend to collect a sample and the net was towed in a similar fashion to the subsurface neuston gear in order to keep the bongo frame completely submerged while towing just below the surface. Deepwater Methot trawls were conducted to collect samples of postlarvae and juvenile fishes (Tables 3-4). Trawl gear consisted of a 2.32 x 2.24 m rigid aluminum frame outfitted with a 13.1 m long, 3 mm knotless mesh net. In order to get real-time depth of the gear, a SIMRAD ITI temperature-depth sensor (ITI) was attached to the frame. Max depth obtained, total tow time, tow pattern, and tow speed varied among stations (Table 3). The gear was typically deployed at a ship speed of 2 knots. Once the gear reached maximum depth, ship speed was increased to 2.5-4 knots. Ship speed was sometimes adjusted in an attempt to maintain maximum fishing depths while monitoring the actual gear depth with the ITI. The Methot was also towed for 10 minutes in a subsurface pattern with a ship speed of 2 knots from the stern of the vessel (Table 4).

Collection Summary

Ichthyoplankton samples were collected at 269 stations during this survey (Figures 1, 6-8). A total of 65 stations were sampled during Leg 1 resulting in one deepwater Methot, 48 right bongo, 48 left bongo, 64 neuston, 13 subsurface neuston and 33 subsurface bongo samples (Table 4). A total of 125 stations were sampled on Leg 2 resulting in five deepwater Methot, 42 right bongo, 42 left bongo, and 94 neuston, 67 subsurface bongo and 39 subsurface Methot samples (Table 4). A total of 79 stations were sampled on Leg 3 resulting in 45 right bongo, 45 left bongo, and 77 neuston samples.

A total of 590 near-surface zooplankton and fish egg samples (Table 4, Figure 9) were collected between stations using a CUFES borrowed from the Southwest Fisheries Science Center. Sample water for the CUFES was taken from the bow sea chest with an intake approximately 3 m from the surface of the water. The seawater was then filtered through a 0.505 mm sieve within the CUFES. Collections were taken at 30 min intervals between stations and preserved in 95% ETOH.

Jellyfish and ctenophores collected in bongo, neuston, and Methot nets were thoroughly rinsed, removed from the plankton samples, and noted in the database.

Plastics were found in several of our samples (Figure 10) and will be sent to the independent researcher at the American Chemistry Council for analysis. All relevant station information will be sent along with the samples.

The State of Mississippi also participated in the tuna spawning and larval habitat assessment portion of this survey. Scientists from the GCRL conducted sampling from the R/V *Tommy Munro* during the last week of May. Samples were collected at forty stations near and

through the Loop Current (Table 4). Standard SEAMAP neuston tows were done at 5 stations and subsurface neuston tows with a 0.335 mm mesh net were done at 35 stations.

Archival Storage

Plankton samples were assigned SEAMAP numbers at sea (Table 5). Right bongo and neuston samples will be shipped to the Sea Fisheries Institute, Plankton Sorting and Identification Center, Gdynia, Poland for sorting. The left bongos will be deposited in the SEAMAP Invertebrate Archive at GCRL, University of Southern Mississippi, Ocean Springs, MS. The subsurface samples will be shipped to Miami for sorting and identification. The deepwater Methot samples will remain at the Mississippi Laboratories for sorting and identification. All CUFES samples will be sent to DISL for sorting, identification and some fish egg genetic analyses. Data on gelatinous organisms collected during the cruise will also be sent to DISL. Data on aggregated sargassum will be archived at Mississippi Laboratories for analysis in the future.

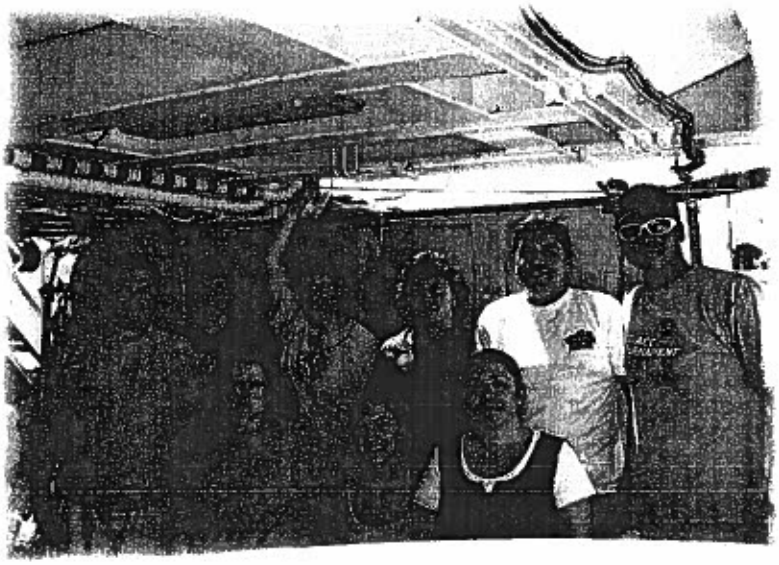
CRUISE PARTICIPANTS

Leg 1 (29 March – 16 April)

Name / Title / Organization

Denice Drass / Field Party Chief / NMFS, Pascagoula, MS
Pam Bond / Fishery Biologist / NMFS, Pascagoula, MS
Angela Cicia / Fishery Biologist / IAP[1], Pascagoula, MS
Adam Pollack / Fishery Biologist / IAP[1], Pascagoula, MS
Brooke Shipley / Fishery Biologist / IAP[1], Pascagoula, MS
Sennai Habtes / Graduate Student / Univ. of Mass, MA
Karina Ramirez / Fisheries Biologist / INAPESCA, MX
Kenneth Cervera / Fisheries Technical Engineer/ INAPESCA, MX
Ramon Fernandez / Fisheries Technical Engineer/ INAPESCA, MX

[1] - IAP World Services



Leg 2 (20 April – 8 May 2009)

Name / Title / Organization

Denice Drass / Field Party Chief / NMFS, Pascagoula, MS
Pam Bond / Fishery Biologist / NMFS, Pascagoula, MS
Jeremy Hall / Fishery Biologist / NMFS, Miami, FL
Christina Schobernd / Fishery Biologist / IAP[1], Pascagoula, MS
John Moser / Fishery Biologist / NMFS, Pascagoula, MS
Sennai Habtes / Graduate Student / Univ. of Mass, MA
Ramon Fernandez / Fisheries Technical Engineer/ INAPESCA, MX

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Leg 3 (13 May – 1 June 2009)

Name / Title / Organization

Christina Schobernd / Field Party Chief / IAP[1], Pascagoula, MS
Glenn Zapfe / Fishery Biologist / IAP[1], Pascagoula, MS
Kim Williams / Assistant in Research / University of South Florida, St. Petersburg, FL
Brooke Shipley / Fishery Biologist / IAP[1], Pascagoula, MS
Michael Felts / Fishery Biologist / IAP[1], Pascagoula, MS

[1] - IAP World Services

Submitted by:

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Denice M. Drass
Field Party Chief

June 30, 2009

Date

Christina Schobernd

Christina M. Schobernd
Field Party Chief

06-30-09

Date

Approved by:

Dr. Lisa Desfosse, Director
Mississippi Laboratories

7/6/09

Date

Dr. Bonnie Ponwith, Center Director
Southeast Fisheries Science Center

07/10/09

Date

Table 1. Summary of average chlorophyll *a* measurements at three depths (surface, chlorophyll maximum, and bottom) for each station during the 2009 Spring SEAMAP Plankton Survey conducted from the NOAA Ship *Gordon Gunter*, cruise GU-09-02 (53), 29 March - 1 June 2009. P-Sta # = Pascagoula station number; S-Sta # = SEAMAP station number or other station identifier; Depth = Depth (meters); D-Code = Sample location (meters) in water column (S = Surface, MAX = Chlorophyll maximum, B = Bottom); Chl-a = Chlorophyll *a* measurement (μg/L).

P-Sta #	S-Sta #	Depth	D-Code	Chl-a
001	MC001	1.73	S	0.0622
001	MC001	126.29	Max	0.3375
001	MC001	201.06	B	0.0102
002	MC002	1.67	S	0.0792
002	MC002	120.02	Max	0.4943
002	MC002	204.97	B	0.0017
003	MC003	2.1	S	0.0908
003	MC003	106.18	Max	0.7117
003	MC003	201.91	B	0.0047
004	MC004	2.1	S	0.085
004	MC004	98.99	Max	0.8333
004	MC004	199.72	B	0.006
005	MC005	1.66	S	0.4447
005	MC005	31.6	B	0.745
006	MC006	2.15	S	0.1205
006	MC006	105.53	Max	0.595
006	MC006	202.85	B	0.007
007	MC007	1.77	S	0.0762
007	MC007	94.49	Max	0.5278
007	MC007	199.64	B	0.0887
008	MC008	4.2	S	0.0763
008	MC008	145.39	Max	0.2247
008	MC008	202.52	B	0.0309
009	MC009	2.86	S	0.0837
009	MC009	105.07	Max	0.6833
009	MC009	201.02	B	0.0243
010	MC010	3.24	S	0.0998

P-Sta #	S-Sta #	Depth	D-Code	Chl-a
010	MC010	71.93	Max	0.4542
010	MC010	199.2	B	0.0145
011	MC011	2.87	S	0.096
011	MC011	62.62	Max	0.6817
011	MC011	216.65	B	0.0061
012	MC012	83.47	B	0.1777
013	MC013	0.29	S	0.2648
013	MC013	33.77	B	0.451
014	MC014	2.23	S	0.4125
014	MC014	25.01	B	1.62
015	YT015	3.36	S	0.2078
015	YT015	89.46	Max	0.8417
015	YT015	206.11	B	0.006
016	YT016	3.76	S	0.1383
016	YT016	66.85	Max	0.65
016	YT016	205.45	B	0.0595
017	YT017	2.38	S	0.3472
017	YT017	102.26	Max	0.675
017	YT017	203.9	B	0.0655
018	YT018	1.79	S	0.2102
018	YT018	56.39	Max	1.0267
018	YT018	282.39	B	0.0509
019	YT019	2.38	S	0.2232
019	YT019	49.48	Max	0.86
019	YT019	69.39	B	0.3725
020	YT020	2.42	S	0.2173
020	YT020	36.98	Max	0.965

Table 1 continued

P-Sta #	S-Sta #	Depth	D-Code	Chl-a
020	YT020	66.82	B	0.4328
021	YT021	1.64	S	0.6333
021	YT021	37.48	Max	0.96
021	YT021	63.76	B	0.7833
022	YT022	3.6	S	0.1405
022	YT022	55.45	B	0.6917
023	YT023	1.54	S	0.1342
023	YT023	86.7	Max	0.6467
023	YT023	130.97	B	0.2248
024	YT024	1.33	S	0.1378
024	YT024	83.76	Max	0.8217
024	YT024	134.31	B	0.1382
025	YT025	1.07	S	0.3143
025	YT025	46.17	Max	0.7483
025	YT025	182.94	B	0.0232
026	YT026	2.14	S	0.2825
026	YT026	41.61	Max	1.2583
026	YT026	146.18	B	0.0267
027	YT027	2.97	S	0.1983
027	YT027	76.83	Max	0.915
027	YT027	213.29	B	0.0472
028	YT028	1.14	S	0.1768
028	YT028	72.69	Max	0.9717
028	YT028	200.36	B	0.0063
029	YT029	1.6	S	0.1215
029	YT029	96.82	Max	0.8333
029	YT029	203.27	B	0.0103
030	YT030	1.27	S	0.1355
030	YT030	100.83	Max	0.3557
030	YT030	199.38	B	0.0718
031	YT031	0.98	S	0.1045
031	YT031	109.21	Max	0.54
031	YT031	201.38	B	0.002
032	YT032	1.8	S	0.1152
032	YT032	96.09	Max	0.7683
032	YT032	201.06	B	0.0079
033	YT033	2.14	S	0.1613
033	YT033	65.8	Max	0.4607
033	YT033	200.65	B	0.0174
034	YT034	1.85	S	0.2373
034	YT034	75	Max	0.7117
034	YT034	200.94	B	0.1242
035	YT035	2.2	S	0.2427
035	YT035	61.83	Max	0.8685
035	YT035	204.32	B	0.0391
036	YT036	1.68	S	0.1952
036	YT036	103.07	Max	0.6617
036	YT036	201.17	B	0.0164
037	YT037	1.35	S	0.1175
037	YT037	85.98	Max	0.7083
037	YT037	201.32	B	0.0085
038	YT038	3.74	S	0.0932
038	YT038	95.44	Max	9783
038	YT038	203.51	B	0.0052
039	CG039	1.98	S	0.1137
039	CG039	94.68	Max	0.7633
039	CG039	198.25	B	0.0055
040	CG040	1.77	S	0.1317
040	CG040	88.18	Max	0.7817
040	CG040	96.86	B	0.6583
041	CG041	2.37	S	0.1748
041	CG041	64.43	B	1.01
042	CG042	2.58	S	0.1645
042	CG042	79.4	Max	1.3567
042	CG042	88.68	B	0.58
043	CG043	3.47	S	0.1218
043	CG043	77.54	Max	0.8633
043	CG043	154.85	B	0.067
044	CG044	3.27	S	0.1352
044	CG044	85.61	Max	0.7367
044	CG044	199.33	B	0.0049
045	CG045	2.98	S	0.1657
045	CG045	84.73	Max	0.5933
045	CG045	200.22	B	0.0258

Table 1 continued

P-Sta #	S-Sta #	Depth	D-Code	Chl-a
046	CE046	2.52	S	0.2282
046	CE046	83.08	Max	0.56
046	CE046	204.69	B	0.0077
047	CE047	1.59	S	0.2393
047	CE047	57.73	Max	0.5583
047	CE047	200.99	B	0.0011
048	CG048	2.27	S	0.2342
048	CG048	66.12	Max	0.6567
048	CG048	201.14	B	0.0022
049	CE049	2.6	S	0.2192
049	CE049	64.27	Max	0.6217
049	CE049	198.88	B	0.0016
050	CE050	2.39	S	0.2153
050	CE050	71.21	Max	0.6083
050	CE050	202.87	B	0.0255
051	CE051	1.56	S	0.1718
051	CE051	85.49	Max	1.0517
051	CE051	200.38	B	0.0236
052	CE052	2.75	S	0.1538
052	CE052	94.99	Max	0.7383
052	CE052	202.93	B	0.0319
053	CE053	1.21	S	0.1287
053	CE053	105.18	Max	0.8767
053	CE053	200.02	B	0.0104
054	CE054	0.95	S	0.097
054	CE054	75	Max	0.7183
054	CE054	200.37	B	0.0004
055	CE055	2.58	S	0.1445
055	CE055	97.21	Max	0.5517
055	CE055	202.42	B	0.0047
056	CE056	3.18	S	0.3643
056	CE056	77.5	Max	0.9867
056	CE056	203.31	B	0.0081
057	VC057	2.34	S	0.1837
057	VC057	72.64	Max	0.8483
057	VC057	200.68	B	0.0211
058	VC058	2.27	S	0.1343

P-Sta #	S-Sta #	Depth	D-Code	Chl-a
058	VC058	93.96	Max	0.5942
058	VC058	200.09	B	0.0044
059	VC059	1.78	S	0.0677
059	VC059	99.7	Max	0.6983
059	VC059	199.76	B	0.0057
060	VC060	1.76	S	0.2002
060	VC060	68.35	B	1.275
061	VC061	3.23	S	0.1803
061	VC061	49.92	Max	0.7967
061	VC061	195.73	B	0.0064
062	VC062	2.26	S	0.1077
062	VC062	79.2	Max	0.9433
062	VC062	201.19	B	0.0054
063	VC063	2.42	S	0.1182
063	VC063	64.6	Max	1.15
063	VC063	200.32	B	0.0042
066	CP1	2.78	S	0.1367
066	CP1	68.22	Max	0.6383
066	CP1	198.33	B	0.006
067	CP2	3.06	S	0.1898
067	CP2	73.33	Max	1.1867
067	CP2	199.03	B	0.0107
068	CP3	1.5	S	0.1012
068	CP3	88.93	Max	0.6955
068	CP3	202.01	B	0.0065
069	CP4	3.07	S	0.1075
069	CP4	97.58	Max	0.5482
069	CP4	495.78	B	0.0178
070	CP5	3.05	S	0.0935
070	CP5	88.8	Max	0.6075
070	CP5	200.31	B	0.0082
071	CP6	3.61	S	0.1017
071	CP6	76.99	Max	0.7883
071	CP6	200.42	B	0.0042
072	CP7	3.37	S	0.978
072	CP7	96.12	Max	0.5667
072	CP7	200.62	B	0.0026

Table 1 continued

P-Sta #	S-Sta #	Depth	D-Code	Chl-a
073	CP8	2.37	S	0.09
073	CP8	100.15	Max	0.635
073	CP8	200	B	0.0057
074	CP9	3.85	S	0.0765
074	CP9	112.37	Max	0.5367
074	CP9	199.37	B	0.0083
075	WG1	1.42	S	0.0817
075	WG1	103.76	Max	0.5167
075	WG1	202.25	B	0.0175
076	WG2	3.32	S	0.0862
076	WG2	100.31	Max	0.6183
076	WG2	201.08	B	0.0039
077	WG3	2.26	S	0.1003
077	WG3	90.36	Max	0.434
077	WG3	200.88	B	0.0086
078	WG4	4.05	S	0.1133
078	WG4	90.98	Max	0.5522
078	WG4	200.87	B	0.0064
079	WG5	1.64	S	0.1443
079	WG5	89.19	Max	0.73
079	WG5	201.81	B	0.0089
080	WG6	3.31	S	0.3152
080	WG6	78.37	Max	0.7383
080	WG6	200.31	B	0.0064
081	WG7	4.98	S	0.223
081	WG7	77.95	Max	0.7083
081	WG7	198.53	B	0.0118
082	WG8	6.33	S	0.1877
082	WG8	76.86	Max	0.7917
082	WG8	200.89	B	0.0123
083	WG9	2.52	S	0.1775
083	WG9	72.06	Max	0.6625
083	WG9	200.26	B	0.0158
084	WG10	2.02	S	0.1825
084	WG10	83.11	Max	0.645
084	WG10	200.81	B	0.007
085	WG11	2.67	S	0.138
085	WG11	83.11	Max	0.6767
085	WG11	198.17	B	0.0031
086	WG12	2.18	S	0.0808
086	WG12	108.93	Max	0.4465
086	WG12	200.83	B	0.0028
087	WG13	109.64	Max	0.4723
087	WG13	201.56	B	0.0068
088	WG14	3.56	S	0.1445
088	WG14	115.54	Max	0.5383
088	WG14	200.54	B	0.0101
089	WG15	2.39	S	0.1637
089	WG15	100.11	Max	0.5867
089	WG15	202.55	B	0.0186
090	WG16	2.01	S	0.111
090	WG16	99.44	Max	0.7183
090	WG16	200.99	B	0.035
091	WG17	4.64	S	0.1212
091	WG17	119.98	Max	0.4023
091	WG17	200.52	B	0.013
092	WG18	2.79	S	0.106
092	WG18	88.78	Max	0.6533
092	WG18	200.75	B	0.0155
093	WG19	3.13	S	0.1238
093	WG19	98.91	Max	0.6933
093	WG19	200.9	B	0.0111
094	WG20	1.94	S	0.0995
094	WG20	91.39	Max	0.5497
095	WG21	3.19	S	0.1088
095	WG21	80.72	Max	0.528
095	WG21	196.9	B	0.0075
096	WG22	2.92	S	0.1848
096	WG22	76.67	Max	0.6583
096	WG22	201.04	B	0.0056
097	WG23	2.04	S	0.2552
097	WG23	66.58	Max	0.56
097	WG23	197.92	B	197.92
098	WG24	3.36	S	0.1617

Table 1 continued

P-Sta #	S-Sta #	Depth	D-Code	Chl-a
098	WG24	67.57	Max	1.1817
098	WG24	200.08	B	0.0141
099	WG25	3.25	S	0.1898
099	WG25	72.37	Max	0.9933
099	WG25	200.99	B	0.0069
100	WG26	3.79	S	0.144
100	WG26	79.5	Max	0.765
100	WG26	205	B	0.0084
101	WG27	2.43	S	0.0957
101	WG27	92.7	Max	0.6
101	WG27	200.73	B	0.0079
102	WG28	3.07	S	0.0051
102	WG28	197.36	B	0.0988
103	WG29	1.99	S	0.0637
103	WG29	105.32	Max	0.3987
103	WG29	200.22	B	0.0134
104	WG30	2.77	S	0.0732
104	WG30	126	Max	0.4102
104	WG30	202.73	B	0.0134
105	WG31	2.06	S	0.0833
105	WG31	94.85	Max	0.6517
105	WG31	200.5	B	0.025
106	WG32	2.73	S	0.0398
106	WG32	124.44	Max	0.2682
106	WG32	202.19	B	0.01
107	WG33	3.45	S	0.997
107	WG33	128.99	Max	0.5533
107	WG33	202.49	B	0.0125
108	WG34	2.7	S	0.0913
108	WG34	72.9	Max	0.9267
108	WG34	199.42	B	0.078
109	WG35	2.36	S	0.0887
109	WG35	102.53	Max	0.63
109	WG35	201.9	B	0.004
110	WG36	2.28	S	0.0603
110	WG36	112.66	Max	0.53
110	WG36	202.49	B	0.0017

P-Sta #	S-Sta #	Depth	D-Code	Chl-a
111	WG37	1.58	S	0.0663
111	WG37	105.59	Max	0.6233
111	WG37	201.58	B	0.0038
112	WG38	2.6	S	0.0708
112	WG38	115.18	Max	0.5783
112	WG38	202.84	B	0.0075
113	WG39	2.04	S	0.051
113	WG39	107.25	Max	0.4518
113	WG39	201.51	B	0.024
114	EA40	1.34	S	0.0517
114	EA40	119.06	Max	0.6067
114	EA40	201.36	B	0.0295
115	EA41	1.53	S	0.0639
115	EA41	126.43	Max	0.536
115	EA41	198.3	B	0.0267
116	EA42	1.4	S	0.0628
116	EA42	105.58	Max	0.4945
116	EA42	199.49	B	0.0231
117	EA43	1.62	S	0.0773
117	EA43	120.31	Max	0.635
117	EA43	200.14	B	0.0117
118	EA44	1.06	S	0.0813
118	EA44	109.41	Max	0.63
118	EA44	200.72	B	0.0161
119	EA45	2.15	S	0.0777
119	EA45	109.05	Max	0.5675
119	EA45	200.55	B	0.0059
120	EA46	1.85	S	0.059
120	EA46	114.12	Max	0.6383
120	EA46	203.1	B	0.0024
121	EA47	1.14	S	0.066
121	EA47	112.8	Max	0.718
121	EA47	202.49	B	0.003
122	EA48	1.83	S	0.077
122	EA48	125.84	Max	0.435
122	EA48	201.99	B	0.003
123	EA49	2.25	S	0.082

Table 1 continued

P-Sta #	S-Sta #	Depth	D-Code	Chl-a
123	EA49	107.39	Max	0.64
123	EA49	201.34	B	0.004
124	EA50	2.99	S	0.079
124	EA50	95.85	Max	0.555
124	EA50	201.75	B	0.054
125	EA51	1.56	S	0.087
125	EA51	92.93	Max	0.496
125	EA51	198.66	B	0.046
126	EA52	2.33	S	0.069
126	EA52	113.7	Max	0.637
126	EA52	199.77	B	0.109
127	NA53	2.92	S	0.094
127	NA53	106.05	Max	0.512
127	NA53	200.45	B	0.042
128	NA54	2.31	S	0.087
128	NA54	120.01	Max	0.469
128	NA54	201.98	B	0.007
129	NA55	1.12	S	0.101
129	NA55	102.52	Max	0.525
129	NA55	198.79	B	0.009
130	NA56	1.8	S	0.109
130	NA56	94.89	Max	0.575
130	NA56	200.17	B	0.006
131	NA57	2.56	S	0.063
131	NA57	102.18	Max	0.396
131	NA57	202.7	B	0.003
132	NA58	1.52	S	0.097
132	NA58	88.86	Max	0.582
132	NA58	200.62	B	0.009
133	NA59	2.91	S	0.09
133	NA59	83.61	Max	0.87
133	NA59	200.27	B	0.051
134	NA60	3	S	0.074
134	NA60	82.8	Max	0.575
134	NA60	200.74	B	0.007
135	NA61	2.65	S	0.007
135	NA61	73.23	Max	0.892
135	NA61	200.48	B	0.006
136	NA62	0.76	S	0.08
136	NA62	75.48	Max	0.821
136	NA62	201.24	B	0.01
137	NA63	3	S	0.055
137	NA63	86.32	Max	0.436
137	NA63	200.75	B	0.004
138	NA64	1.85	S	0.049
138	NA64	86	Max	0.517
139	AE65	1.6	S	0.074
139	AE65	82.95	Max	0.66
139	AE65	201.22	B	0.002
140	AE66	1.99	S	0.089
140	AE66	72.14	Max	0.807
141	AE67	0.81	S	0.093
141	AE67	73.06	Max	0.588
141	AE67	198.69	B	0.004
142	AE68	1.37	S	0.089
142	AE68	67.1	Max	0.705
142	AE68	201.86	B	0.003
143	AE69	88.99		0.622
143	AE69	201.86		0.003
144	AE70	2.14	S	0.127
144	AE70	87.26	Max	0.638
144	AE70	196.24	B	0.014
145	AE71	2.47	S	0.074
145	AE71	101.23	Max	0.675
145	AE71	204.69	B	0.005
146	AE72	2.83	S	0.072
146	AE72	103.53	Max	0.892
146	AE72	197.94	B	0.008
147	AE73	3.15	S	0.072
147	AE73	107.01	Max	0.494
147	AE73	196.7	B	0.035
148	AE74	2.73	S	0.077
148	AE74	109.6	Max	0.443
148	AE74	200.13	B	0.043

Table 1 continued

P-Sta #	S-Sta #	Depth	D-Code	Chl-a
149	AE75	2.56	S	0.086
149	AE75	113.48	Max	0.479
149	AE75	201.25	B	0.084
150	AE76	1.48	S	0.085
150	AE76	94.89	Max	0.682
150	AE76	201.37	B	0.083
151	AE77	2.09	S	0.087
151	AE77	112.42	Max	0.585
151	AE77	201.52	B	0.075
152	AE78	2.97	S	0.112
152	AE78	103.61	Max	0.605
152	AE78	200.43	B	0.068
153	AE79	2.63	S	0.08
153	AE79	134.29	Max	0.384
153	AE79	199.66	B	0.018
154	AE80	1.09	S	0.064
154	AE80	112.53	Max	0.682
154	AE80	199.2	B	0.006
155	TA81	0.039	S	0.064
155	TA81	111.36	Max	0.738
155	TA81	201.74	B	0.008
156	TA82	3.14	S	0.058
156	TA82	116.81	Max	0.388
156	TA82	201.67	B	0.027
157	TA83	1.75	S	0.056
157	TA83	113.76	Max	0.549
157	TA83	202.6	B	0.018
158	TA84	2.15	S	0.084
158	TA84	75.83	Max	0.635
158	TA84	199.87	B	0.062
159	TA85	1.04	S	0.098
159	TA85	120.77	Max	0.527
159	TA85	197.64	B	0.095
160	TA86	2.13	S	0.069
160	TA86	109.79	Max	0.537
160	TA86	203.46	B	0.078
161	TA87	1.76	S	0.086
161	TA87	114.67	Max	0.653
161	TA87	198.66	B	0.058
162	TA88	2.8	S	0.091
162	TA88	116.79	Max	0.56
162	TA88	199.72	B	0.056
163	TA89	2.05	S	0.086
163	TA89	113.52	Max	0.537
163	TA89	201.41	B	0.017
164	TA90	1.69	S	0.086
164	TA90	107.78	Max	0.585
164	TA90	199.85	B	0.025
165	TA91	1.67	S	0.084
165	TA91	122.15	Max	0.422
165	TA91	200.5	B	0.008
166	TA92	1.85	S	0.085
166	TA92	95.99	Max	0.625
166	TA92	201.75	B	0.004
167	TA93	2.48	S	0.1
167	TA93	99.82	Max	0.43
167	TA93	201.11	B	0.002
168	TA94	1.86	S	0.083
168	TA94	86.9	Max	0.79
168	TA94	201.97	B	0.003
169	TA95	1.75	S	0.092
169	TA95	76.56	Max	0.85
169	TA95	202.82	B	0.004
170	TA96	1.76	S	0.084
170	TA96	79.57	Max	0.615
170	TA96	201.35	B	0.007
171	TA97	1.19	S	0.091
171	TA97	84.17	Max	0.777
171	TA97	200.85	B	0.007
172	AL1	2.1	S	0.105
172	AL1	84.5	Max	0.695
172	AL1	201.72	B	0.005
173	AL2	1.28	S	0.07
173	AL2	79.24	Max	0.872

Table 1 continued

P-Sta #	S-Sta #	Depth	D-Code	Chl-a
173	AL2	202.62	B	0.004
174	AL3	1.45	S	0.088
174	AL3	89.6	Max	0.985
174	AL3	201.98	B	0.006
175	AL4	1.44	S	0.106
175	AL4	81.83	Max	0.813
175	AL4	201.13	B	0.008
176	AL5	1.97	S	0.102
176	AL5	84.94	Max	0.568
176	AL5	201.72	B	0.009
177	AL6	1.61	S	0.105
177	AL6	78.36	Max	0.725
177	AL6	201.79	B	0.022
178	AL7	1.14	S	0.102
178	AL7	73.85	Max	0.7
178	AL7	201.14	B	0.01
179	AL8	1.66	S	0.089
179	AL8	69.36	Max	0.582
179	AL8	200.86	B	0.007
180	LC1	1.88	S	0.068
180	LC1	100.14	Max	0.677
180	LC1	200.35	B	0.004
181	LC2	2.22	S	0.081
181	LC2	88.79	Max	0.763
181	LC2	200.52	B	0.009
182	LC3	2.77	S	0.081
182	LC3	70.03	Max	1.56
182	LC3	200.67	B	0.018
183	LC4	1.79	S	0.11
183	LC4	79.31	Max	0.933
183	LC4	200.52	B	0.04
184	LC5	1.47	S	0.084
184	LC5	79.33	Max	0.66
184	LC5	199.9	B	0.009
185	LC6	1.68	S	0.097
185	LC6	79.75	Max	0.627
185	LC6	199.98	B	0.013

P-Sta #	S-Sta #	Depth	D-Code	Chl-a
186	LC7	1.3	S	0.116
186	LC7	76.49	Max	0.677
186	LC7	200.5	B	0.011
187	LC8	1.26	S	0.135
187	LC8	64	Max	0.668
187	LC8	200.64	B	0.007
191	B172	1.89	S	1.38
191	B172	79.27	B	0.06
192	B169	1.25	S	0.52
192	B169	200.65	B	0.02
193	B165	1.93	S	0.33
193	B165	69.07	Max	0.62
193	B165	191.78	B	0.01
194	B160	2.4	S	0.198
194	B160	35.98	Max	0.847
194	B160	178.61	B	0.013
195	B153	2.05	S	0.28
195	B153	65.79	Max	1.135
195	B153	203.46	B	0.014
196	B152	1.32	S	0.106
196	B152	85.66	Max	0.825
196	B152	204.08	B	0.013
197	B151	1.31	S	0.179
197	B151	76.6	Max	0.818
197	B151	203.17	B	0.007
198	B150	1.51	S	0.156
198	B150	92.58	Max	0.683
198	B150	199.67	B	0.021
199	B149	2.03	S	0.104
199	B149	101.12	Max	0.808
199	B149	200.16	B	0.043
200	B147	1.8	S	0.119
200	B147	49.39	Max	0.717
200	B147	202.25	B	0.017
201	B131	2.41	S	0.099
201	B131	84.05	Max	0.993
201	B131	139.4	B	0.163

Table 1 continued

P-Sta #	S-Sta #	Depth	D-Code	Chl-a
202	B130	1.27	S	0.087
202	B130	63.79	Max	0.718
202	B130	135.31	B	0.083
203	B129	3.4	S	0.0995
203	B129	77.72	Max	1.4
203	B129	124.8	B	0.197
204	B128	2.62	S	0.136
204	B128	72.95	Max	0.54
204	B128	200.69	B	0.011
205	B125	2.75	S	0.138
205	B125	68.37	Max	0.491
205	B125	199.76	B	0.025
206	B126	2.6	S	0.113
206	B126	73.8	Max	0.84
206	B126	201.3	B	0.011
207	B127	2.76	S	0.101
207	B127	90.21	Max	0.537
207	B127	200.21	B	0.019
208	B263	1.73	S	0.108
208	B263	109.33	Max	0.68
208	B263	197.93	B	0.095
209	B262	1.97	S	0.114
209	B262	111.36	Max	0.381
209	B262	189.28	B	0.025
210	B007	1.68	S	0.062
210	B007	106.26	Max	0.532
210	B007	200.95	B	0.041
211	B072	1.01	S	0.077
211	B072	121.03	Max	0.568
211	B072	205.1	B	0.033
212	B266	1.64	S	0.064
212	B266	134.6	Max	0.461
212	B266	202.47	B	0.031
213	B261	1.5	S	0.064
213	B261	131.22	Max	0.458
213	B261	204.96	B	0.027
214	B008	0.88	S	0.08
214	B008	133.26	Max	0.433
214	B008	201.46	B	0.042
215	B074	1.36	S	0.067
215	B074	155.66	Max	0.429
215	B074	201.93	B	0.066
216	B270	1.29	S	0.086
216	B270	132.52	Max	0.465
216	B270	205.73	B	0.058
217	B006	2.34	S	0.106
217	B006	120.37	Max	0.541
217	B006	200.23	B	0.019
218	B013	0.01	S	0.167
218	B013	57.53	Max	0.587
218	B013	201.42	B	0.007
219	B291	2.14	S	0.192
219	B291	58.59	Max	1.053
219	B291	201.1	B	0.011
220	B014	3.06	S	0.157
220	B014	95.21	Max	0.543
220	B014	203.26	B	0.004
223	B019	2.31	S	0.138
223	B019	126.61	Max	0.381
223	B019	201.01	B	0.078
224	B299	1.96	S	0.069
224	B299	119.52	Max	0.643
224	B299	199.14	B	0.026
225	B020	3.11	S	0.067
225	B020	116.87	Max	0.598
225	B020	207.14	B	0.006
226	B058	2.93	S	0.068
226	B058	122.88	Max	0.415
226	B058	198.5	B	0.014
227	B021	2.39	S	0.21
227	B021	88.31	Max	0.635
227	B021	199.88	B	0.015
228	B304	2.13	S	0.301
228	B304	99.89	Max	0.426

Table 1 continued

P-Sta #	S-Sta #	Depth	D-Code	Chl-a
228	B304	196.2	B	0.014
229	B024	3.68	S	0.149
229	B024	99.71	Max	0.558
229	B024	202.86	B	0.012
230	B055	4.15	S	0.083
230	B055	95.67	Max	0.517
230	B055	204.03	B	0.06
231	B025	1.95	S	0.072
231	B025	121.2	Max	0.427
231	B025	203.99	B	0.023
232	B307	1.96	S	0.75
232	B307	104.53	Max	0.523
232	B307	199.61	B	0.029
233	B026	1.12	S	0.133
233	B026	88.3	Max	0.602
233	B026	199.65	B	0.011
234	B054	1.56	S	0.096
234	B054	110.69	Max	0.479
234	B054	197.76	B	0.044
235	B027	1.93	S	0.099
235	B027	114.94	Max	0.601
235	B027	203.14	B	0.011
236	B312	1.37	S	0.083
236	B312	155.22	Max	0.474
236	B312	206.16	B	0.03
237	B028	1.64	S	0.076
237	B028	114.42	Max	0.299
237	B028	202.16	B	0.022
238	B223	1.68	S	0.367
238	B223	38.04	Max	1.01
238	B223	80.6	B	0.563
239	B217	1.37	S	0.435
239	B217	65.2	B	1.075
240	B216	1.96	S	0.279
240	B216	36.16	Max	0.712
240	B216	82.63	B	1.095
241	B209	1.47	S	0.224

P-Sta #	S-Sta #	Depth	D-Code	Chl-a
241	B209	66.14	Max	0.765
241	B209	93.36	B	0.697
242	B023	1.52	S	0.187
242	B023	77.06	Max	0.935
242	B023	102.45	B	0.692
243	B202	1.14	S	0.164
243	B202	103.44	B	0.767
244	B022	1.61	S	0.16
244	B022	82.3	Max	0.668
244	B022	118.42	B	0.502
245	B195	1.3	S	0.142
245	B195	77.97	Max	0.615
245	B195	154.4	B	0.135
246	B017	1.7	S	0.11
246	B017	99.31	Max	0.44
246	B017	156.65	B	0.165
247	B018	2.09	S	0.221
247	B018	58.41	Max	0.513
247	B018	201.71	B	0.004
248	B296	1.06	S	0.15
248	B296	60.73	Max	0.464
248	B296	201.18	B	0.007
249	B015	2.1	S	0.36
249	B015	88.71	Max	0.691
249	B015	198.96	B	0.692
250	B016	1.69	S	0.139
250	B016	85.85	Max	0.735
250	B016	201.87	B	0.007
251	B185	2.2	S	0.142
251	B185	79.55	Max	0.468
251	B185	202.29	B	0.013
252	B083	1.14	S	0.102
252	B083	68.62	Max	0.872
252	B083	198.47	B	0.011
253	B012	1.91	S	0.166
253	B012	54	Max	0.793
253	B012	198.84	B	0.016

Table 1 continued

P-Sta#	S-Sta #	Depth	D-Code	Chl-a
254	B063	2.76	S	0.139
254	B063	56.92	Max	0.472
254	B063	202.32	B	0.011
255	B001	2.35	S	3.547
255	B001	203.86	B	0.025
256	B082	1.63	S	0.128
256	B082	80.95	Max	0.825
256	B082	194.96	B	0.005
257	B011	1.92	S	0.183
257	B011	69.57	Max	1.135
257	B011	198.49	B	0.013
258	B010	2.33	S	0.193
258	B010	75.95	Max	0.597
258	B010	204.46	B	0.03
259	B009	1.29	S	0.115
259	B009	120.64	Max	0.48
259	B009	202.15	B	0.013
260	B076	1.94	S	0.102
260	B076	121.68	Max	1.528
260	B076	199.49	B	0.019
261	B004	1.27	S	0.121
261	B004	75.33	Max	75.33
261	B004	198.88	B	0.146
262	B005	1.99	S	0.155
262	B005	113.68	Max	0.598
262	B005	201.2	B	0.016
263	B078	2.44	S	0.291
263	B078	70.86	Max	0.875
263	B078	200.51	B	0.009
264	B163	1.99	S	0.161
264	B163	75.28	Max	0.652
264	B163	202.86	B	0.011
265	B003	1.38	S	0.099
265	B003	71.31	Max	0.718
265	B003	201.28	B	0.004
266	B080	1.84	S	0.26
266	B080	61.09	Max	0.85
266	B080	200.17	B	0.007
267	B170	2.42	S	0.196
267	B170	60.39	Max	0.983
267	B170	201.6	B	0.008
268	B002	2	S	0.163
268	B002	28.28	Max	2.99
268	B002	204.21	B	0.045
269	B176	0.83	S	0.407
269	B176	19.19	Max	1.08
269	B176	44.15	B	1.22

Table 2. Summary of environmental data recorded near the surface (≤6 m depth) using CTD sensors and benchtop Chlorophyll *a* analysis during *Gordon Gunter* cruise 09-02 (53). A=Leg 1; 29 March -16 April 2009, B=Leg 2; 20 April-8 May 2009, C=Leg 3; 13 May-1 June 2009.

A. Measurement	Mean	Minimum	Maximum	No. of Samples
Sea Temperature (° C)	25.256	20.193	26.605	65
Salinity (PSU)	36.261	35.747	36.706	65
Dissolved Oxygen (mg/L)	6.400	4.519	6.632	65
Chlorophyll *a* (μg/L)	0.179	0.062	0.633	62

B. Measurement	Mean	Minimum	Maximum	No. of Samples
Sea Temperature (° C)	24.852	23.801	27.333	125
Salinity (PSU)	36.436	34.950	36.624	125
Dissolved Oxygen (mg/L)	6.500	6.249	6.692	125
Chlorophyll *a* (μg/L)	0.119	0.005	0.997	120

C. Measurement	Mean	Minimum	Maximum	No. of Samples
Sea Temperature (° C)	26.440	25.270	28.494	77
Salinity (PSU)	35.776	25.023	36.646	77
Dissolved Oxygen (mg/L)	6.379	6.174	7.058	77
Chlorophyll *a* (μg/L)	0.227	0.062	3.547	77

Table 3. Summary of deep Methot trawls conducted on the Spring SEAMAP Plankton Survey during *Gordon Gunter* cruise GU-09-02 (53), 29 March - 1 June 2009. P-Sta # = Pascagoula station number; S-Sta # = SEAMAP station number or other station identifier; Latitude and Longitude coordinates in decimal degrees; Date/Time = GMT date and time; Tow Pattern (O=oblique, D=towed horizontally at depth); Max Tow Depth (m); Start Water Depth (m); Total Tow Time (min); Avg. Tow Speed (knots).

P-Sta. #	S-Sta. #	Latitude	Longitude	Date/Time	Tow Pattern	Max Tow Depth	Start Water Depth	Total Tow Time	Avg. Tow Speed
023	YT023	23.523	-87.660	04/06/2009 18:51:09	O	100	134	29.02	2
070	CP5	22.013	-95.502	04/22/2009 19:19:40	O	275	2,956	59.63	4
072	CP7	23.010	-96.506	04/23/2009 13:02:04	O	300	2,200	63.27	4
136	NA62	27.308	-92.011	05/02/2009 01:39:03	D	583	1,000	113.78	3
170	TA96	27.412	-91.504	05/05/2009 00:14:26	D	500	1,005	111.60	3
177	AL6	27.502	-89.206	05/06/2009 01:19:33	D	806	1,850	134.87	3

Table 4. Summary of valid ichthyoplankton collections taken during *Gordon Gunter* cruise 09-02 (53), 29 March - 1 June 2009.

Leg / Vessel	CTD Casts	Right Bongo	Left Bongo	Subsurface Left Bongo	Neuston	Subsurface Neuston	Subsurface Methot	Methot	CUFES
		(0.335 mm)	(0.335 mm)	(0.335 mm)	(0.950 mm)	(0.335 mm)	(3 mm)	(3 mm)	
I / *Gunter*	65	48	48	33	64	13	0	1	340
II / *Gunter*	125	42	42	67	94	0	39	5	199
III / *Gunter*	77	45	45	0	77	0	0	0	51
GCRL / *Munro*	40	0	0	0	5	35	0	0	0
Total	307	135	135	100	241	48	39	6	590

Table 5. Summary of plankton sampling effort during the Spring SEAMAP Plankton Survey conducted from the NOAA Ship *Gordon Gunter*, cruise GU-09-02 (53), 29 March - 1 June 2009. P-Sta # = Pascagoula station number; S-Sta # = SEAMAP station number or other station identifier; Smp # = SEAMAP sample number; RB = Right Bongo; LB = Left Bongo; NN = Neuston; SS NN = Subsurface NN; SS LB = Subsurface Left Bongo; SS MJ = Subsurface Methot trawl; DMJ = Deepwater Methot trawl; Preservative = Initial preservative; Form = Formalin; ETOH = Ethyl alcohol; Date = GMT date; Lat = Latitude of sample in decimal degrees; Lon = Longitude of sample in decimal degrees.

P-Sta #	S-Sta #	Smp #	Gear	Preservative	Date	Lat	Lon
001	MC001	37434	RB	10% Form	4/3/09	20.01603	-86.2037
001	MC001	37435	LB	95% ETOH	4/3/09	20.01603	-86.2037
001	MC001	37436	NN	95% ETOH	4/3/09	20.01603	-86.2037
001	MC001	37437	SS NN	95% ETOH	4/3/09	20.01603	-86.2037
002	MC002	37438	RB	5% Form	4/3/09	20.01550	-86.5489
002	MC002	37439	LB	95% ETOH	4/3/09	20.01550	-86.5489
002	MC002	37440	NN	95% ETOH	4/3/09	20.01550	-86.5489
002	MC002	37441	SS NN	95% ETOH	4/3/09	20.01550	-86.5489
003	MC003	37442	RB	5% Form	4/3/09	20.00942	-86.8467
003	MC003	37443	LB	95% ETOH	4/3/09	20.00942	-86.8467
003	MC003	37444	NN	95% ETOH	4/3/09	20.00942	-86.8467
003	MC003	37445	SS NN	95% ETOH	4/3/09	20.00942	-86.8467
004	MC004	37446	RB	5% Form	4/4/09	20.00712	-87.1048
004	MC004	37447	LB	95% ETOH	4/4/09	20.00712	-87.1048
004	MC004	37448	NN	95% ETOH	4/4/09	20.00712	-87.1048
004	MC004	37449	SS NN	95% ETOH	4/4/09	20.00712	-87.1048
005	MC005	37450	RB	10% Form	4/4/09	20.92203	-86.8039
005	MC005	37451	LB	95% ETOH	4/4/09	20.92203	-86.8039
005	MC005	37452	NN	95% ETOH	4/4/09	20.92203	-86.8039
006	MC006	37453	RB	10% Form	4/4/09	20.91822	-86.5959
006	MC006	37454	LB	95% ETOH	4/4/09	20.91822	-86.5959
006	MC006	37455	NN	95% ETOH	4/4/09	20.91822	-86.5959
007	MC007	37456	RB	10% Form	4/4/09	20.91312	-86.4131
007	MC007	37457	LB	95% ETOH	4/4/09	20.91312	-86.4131
007	MC007	37457	LB	95% ETOH	4/4/09	20.91312	-86.4131
007	MC007	37458	NN	95% ETOH	4/4/09	20.91312	-86.4131
008	MC008	37459	RB	5% Form	4/4/09	20.91855	-86.2173
008	MC008	37460	LB	95% ETOH	4/4/09	20.91855	-86.2173
008	MC008	37461	NN	95% ETOH	4/4/09	20.91855	-86.2173
009	MC009	37462	RB	5% Form	4/4/09	21.51470	-86.1966
009	MC009	37463	LB	95% ETOH	4/4/09	21.51470	-86.1966
009	MC009	37464	NN	95% ETOH	4/4/09	21.51470	-86.1966
009	MC009	37465	SS NN	95% ETOH	4/4/09	21.51470	-86.1966
010	MC010	37466	RB	5% Form	4/4/09	21.51282	-86.2839
010	MC010	37467	LB	95% ETOH	4/4/09	21.51282	-86.2839
010	MC010	37468	NN	95% ETOH	4/4/09	21.51282	-86.2839
010	MC010	37469	SS NN	95% ETOH	4/4/09	21.51282	-86.2839
011	MC011	37470	RB	10% Form	4/5/09	21.50193	-86.3981
011	MC011	37471	LB	95% ETOH	4/5/09	21.50193	-86.3981
011	MC011	37472	NN	95% ETOH	4/5/09	21.50193	-86.3981
011	MC011	37473	SS NN	95% ETOH	4/5/09	21.50193	-86.3981
012	MC012	37474	RB	10% Form	4/5/09	21.49853	-86.4800
012	MC012	37475	LB	95% ETOH	4/5/09	21.49853	-86.4800
012	MC012	37476	NN	95% ETOH	4/5/09	21.49853	-86.4800

Table 5 continued

P-Sta #	S-Sta #	Smp #	Gear	Preservative	Date	Lat	Lon
012	MC012	37477	SS NN	95% ETOH	4/5/09	21.49853	-86.4800
013	MC013	37478	RB	10% Form	4/5/09	21.50862	-86.5824
013	MC013	37479	LB	95% ETOH	4/5/09	21.50862	-86.5824
013	MC013	37480	NN	95% ETOH	4/5/09	21.50862	-86.5824
013	MC013	37481	SS NN	95% ETOH	4/5/09	21.50862	-86.5824
014	MC014	37482	RB	10% Form	4/5/09	21.51107	-86.6832
014	MC014	37483	LB	95% ETOH	4/5/09	21.51107	-86.6832
014	MC014	37484	NN	95% ETOH	4/5/09	21.51107	-86.6832
014	MC014	37485	SS NN	95% ETOH	4/5/09	21.51107	-86.6832
015	YT015	37486	SS NN	95% ETOH	4/5/09	23.35545	-86.7984
015	YT015	37487	NN	95% ETOH	4/5/09	23.35545	-86.7984
016	YT016	37488	NN	95% ETOH	4/6/09	23.29525	-86.8911
016	YT016	37489	SS NN	95% ETOH	4/6/09	23.29525	-86.8911
017	YT017	37490	NN	95% ETOH	4/6/09	23.24163	-86.9996
017	YT017	37491	SS NN	95% ETOH	4/6/09	23.24163	-86.9996
018	YT018	37492	RB	10% Form	4/6/09	23.20322	-87.1001
018	YT018	37493	LB	95% ETOH	4/6/09	23.20322	-87.1001
018	YT018	37494	NN	95% ETOH	4/6/09	23.20322	-87.1001
019	YT019	37495	RB	10% Form	4/6/09	23.15063	-87.1951
019	YT019	37496	LB	95% ETOH	4/6/09	23.15063	-87.1951
019	YT019	37497	NN	95% ETOH	4/6/09	23.15063	-87.1951
020	YT020	37498	RB	10% Form	4/6/09	23.10087	-87.2987
020	YT020	37499	LB	95% ETOH	4/6/09	23.10087	-87.2987
020	YT020	37500	NN	95% ETOH	4/6/09	23.10087	-87.2987
021	YT021	37501	RB	10% Form	4/6/09	23.05325	-87.3923
021	YT021	37502	LB	95% ETOH	4/6/09	23.05325	-87.3923
021	YT021	37503	NN	95% ETOH	4/6/09	23.05325	-87.3923
022	YT022	37504	RB	10% Form	4/6/09	23.00747	-87.4941
022	YT022	37505	LB	95% ETOH	4/6/09	23.00747	-87.4941
022	YT022	37506	NN	95% ETOH	4/6/09	23.00747	-87.4941
023	YT023	37507	RB	10% Form	4/6/09	23.52577	-87.6467
023	YT023	37508	LB	95% ETOH	4/6/09	23.52577	-87.6467
023	YT023	37509	NN	95% ETOH	4/6/09	23.52577	-87.6467
023	YT023	37510	SS LB	95% ETOH	4/6/09	23.52577	-87.6467
023	YT023	37511	DMJ	95% ETOH	4/6/09	23.52577	-87.6467
024	YT024	37512	RB	10% Form	4/6/09	23.56297	-87.5510
024	YT024	37513	LB	95% ETOH	4/6/09	23.56297	-87.5510
025	YT025	37516	RB	10% Form	4/8/09	23.62595	-87.4637
025	YT025	37517	LB	95% ETOH	4/8/09	23.62595	-87.4637
025	YT025	37518	NN	95% ETOH	4/8/09	23.62595	-87.4637
025	YT025	37519	SS LB	95% ETOH	4/8/09	23.62595	-87.4637
026	YT026	37520	RB	10% Form	4/8/09	23.67768	-87.3588
026	YT026	37521	LB	95% ETOH	4/8/09	23.67768	-87.3588
026	YT026	37522	NN	95% ETOH	4/8/09	23.67768	-87.3588
026	YT026	37523	SS LB	95% ETOH	4/8/09	23.67768	-87.3588
027	YT027	37524	RB	10% Form	4/8/09	23.72178	-87.2585
027	YT027	37525	LB	95% ETOH	4/8/09	23.72178	-87.2585
027	YT027	37526	NN	95% ETOH	4/8/09	23.72178	-87.2585
027	YT027	37527	SS LB	95% ETOH	4/8/09	23.72178	-87.2585
028	YT028	37528	RB	10% Form	4/8/09	23.77995	-87.1591
028	YT028	37529	LB	95% ETOH	4/8/09	23.77995	-87.1591
028	YT028	37530	NN	95% ETOH	4/8/09	23.77995	-87.1591
028	YT028	37531	SS LB	95% ETOH	4/8/09	23.77995	-87.1591
029	YT029	37532	RB	10% Form	4/9/09	23.83110	-87.0616
029	YT029	37533	LB	95% ETOH	4/9/09	23.83110	-87.0616
029	YT029	37534	NN	95% ETOH	4/9/09	23.83110	-87.0616
029	YT029	37535	SS LB	95% ETOH	4/9/09	23.83110	-87.0616
030	YT030	37536	RB	10% Form	4/9/09	23.87933	-86.9563

Table 5 continued

P-Sta #	S-Sta #	Smp #	Gear	Preservative	Date	Lat	Lon
030	YT030	37537	LB	95% ETOH	4/9/09	23.87933	-86.9563
030	YT030	37538	NN	95% ETOH	4/9/09	23.87933	-86.9563
030	YT030	37539	SS LB	95% ETOH	4/9/09	23.87933	-86.9563
031	YT031	37540	RB	10% Form	4/9/09	24.40410	-87.1484
031	YT031	37541	LB	95% ETOH	4/9/09	24.40410	-87.1484
031	YT031	37542	NN	95% ETOH	4/9/09	24.40410	-87.1484
031	YT031	37543	SS LB	95% ETOH	4/9/09	24.40410	-87.1484
032	YT032	37544	RB	10% Form	4/9/09	24.34815	-87.2410
032	YT032	37545	LB	95% ETOH	4/9/09	24.34815	-87.2410
032	YT032	37546	NN	95% ETOH	4/9/09	24.34815	-87.2410
032	YT032	37547	SS LB	95% ETOH	4/9/09	24.34815	-87.2410
033	YT033	37548	RB	10% Form	4/9/09	24.29920	-87.3452
033	YT033	37549	LB	95% ETOH	4/9/09	24.29920	-87.3452
033	YT033	37550	NN	95% ETOH	4/9/09	24.29920	-87.3452
033	YT033	37551	SS LB	95% ETOH	4/9/09	24.29920	-87.3452
034	YT034	37552	RB	10% Form	4/9/09	24.25858	-87.4433
034	YT034	37553	LB	95% ETOH	4/9/09	24.25858	-87.4433
034	YT034	37554	NN	95% ETOH	4/9/09	24.25858	-87.4433
034	YT034	37555	SS LB	95% ETOH	4/9/09	24.25858	-87.4433
035	YT035	37556	RB	10% Form	4/9/09	24.20103	-87.5472
035	YT035	37557	LB	95% ETOH	4/9/09	24.20103	-87.5472
035	YT035	37558	NN	95% ETOH	4/9/09	24.20103	-87.5472
035	YT035	37559	SS LB	95% ETOH	4/9/09	24.20103	-87.5472
036	YT036	37560	RB	10% Form	4/9/09	24.14707	-87.6559
036	YT036	37561	LB	95% ETOH	4/9/09	24.14707	-87.6559
036	YT036	37562	NN	95% ETOH	4/9/09	24.14707	-87.6559
036	YT036	37563	SS LB	95% ETOH	4/9/09	24.14707	-87.6559
037	YT037	37564	RB	10% Form	4/9/09	24.10808	-87.7393
037	YT037	37565	LB	95% ETOH	4/9/09	24.10808	-87.7393
037	YT037	37566	NN	95% ETOH	4/9/09	24.10808	-87.7393
037	YT037	37567	SS LB	95% ETOH	4/9/09	24.10808	-87.7393
038	YT038	37568	RB	10% Form	4/10/09	24.06248	-87.8422
038	YT038	37569	LB	95% ETOH	4/10/09	24.06248	-87.8422
038	YT038	37570	NN	95% ETOH	4/10/09	24.06248	-87.8422
038	YT038	37571	SS LB	95% ETOH	4/10/09	24.06248	-87.8422
039	CG039	37572	RB	10% Form	4/10/09	24.00743	-87.9908
039	CG039	37573	LB	95% ETOH	4/10/09	24.00743	-87.9908
039	CG039	37574	NN	95% ETOH	4/10/09	24.00743	-87.9908
040	CG040	37575	RB	10% Form	4/10/09	23.49975	-88.0005
040	CG040	37576	LB	95% ETOH	4/10/09	23.49975	-88.0005
040	CG040	37577	NN	95% ETOH	4/10/09	23.49975	-88.0005
041	CG041	37578	RB	10% Form	4/10/09	23.01132	-87.9884
041	CG041	37579	LB	95% ETOH	4/10/09	23.01132	-87.9884
041	CG041	37580	NN	95% ETOH	4/10/09	23.01132	-87.9884
042	CG042	37581	RB	10% Form	4/10/09	23.25903	-88.9928
042	CG042	37582	LB	95% ETOH	4/10/09	23.25903	-88.9928
042	CG042	37583	NN	95% ETOH	4/10/09	23.25903	-88.9928
042	CG042	37584	SS LB	95% ETOH	4/10/09	23.25903	-88.9928
043	CG043	37585	RB	10% Form	4/11/09	23.75702	-88.9899
043	CG043	37586	LB	95% ETOH	4/11/09	23.75702	-88.9899
043	CG043	37587	NN	95% ETOH	4/11/09	23.75702	-88.9899
043	CG043	37588	SS LB	95% ETOH	4/11/09	23.75702	-88.9899
044	CG044	37589	RB	10% Form	4/11/09	24.25683	-88.9980
044	CG044	37590	LB	95% ETOH	4/11/09	24.25683	-88.9980
044	CG044	37591	NN	95% ETOH	4/11/09	24.25683	-88.9980
044	CG044	37592	SS LB	95% ETOH	4/11/09	24.25683	-88.9980
045	CG045	37593	RB	10% Form	4/11/09	24.76090	-88.9905
045	CG045	37594	LB	95% ETOH	4/11/09	24.76090	-88.9905

Table 5 continued

P-Sta#	S-Sta#	Smp#	Gear	Preservative	Date	Lat	Lon
045	CG045	37595	NN	95% ETOH	4/11/09	24.76090	-88.9905
045	CG045	37596	SS LB	95% ETOH	4/11/09	24.76090	-88.9905
046	CE046	37597	NN	95% ETOH	4/11/09	25.17103	-89.8344
046	CE046	37598	SS LB	95% ETOH	4/11/09	25.17103	-89.8344
047	CE047	37599	NN	95% ETOH	4/11/09	25.09033	-89.9089
047	CE047	37600	SS LB	95% ETOH	4/11/09	25.09033	-89.9089
048	CG048	37601	RB	10% Form	4/11/09	25.00687	-89.9900
048	CG048	37602	LB	95% ETOH	4/11/09	25.00687	-89.9900
048	CG048	37603	NN	95% ETOH	4/11/09	25.00687	-89.9900
049	CE049	37604	NN	95% ETOH	4/12/09	24.97460	-90.0215
049	CE049	37605	SS LB	95% ETOH	4/12/09	24.97460	-90.0215
050	CE050	37606	NN	95% ETOH	4/12/09	24.90907	-90.1038
050	CE050	37607	SS LB	95% ETOH	4/12/09	24.90907	-90.1038
051	CE051	37608	NN	95% ETOH	4/12/09	24.81188	-90.1731
051	CE051	37609	SS LB	95% ETOH	4/12/09	24.81188	-90.1731
052	CE052	37610	NN	95% ETOH	4/12/09	24.75612	-90.2513
052	CE052	37611	SS LB	95% ETOH	4/12/09	24.75612	-90.2513
053	CE053	37612	NN	95% ETOH	4/12/09	24.70137	-90.2895
053	CE053	37613	SS LB	95% ETOH	4/12/09	24.70137	-90.2895
054	CE054	37614	NN	95% ETOH	4/12/09	24.63120	-90.3559
054	CE054	37615	SS LB	95% ETOH	4/12/09	24.63120	-90.3559
055	CE055	37616	NN	95% ETOH	4/12/09	24.58782	-90.4049
055	CE055	37617	SS LB	95% ETOH	4/12/09	24.58782	-90.4049
056	CE056	37618	NN	95% ETOH	4/12/09	24.49792	-90.4874
056	CE056	37619	SS LB	95% ETOH	4/12/09	24.49792	-90.4874
057	VC057	37620	RB	10% Form	4/13/09	22.01330	-92.5051
057	VC057	37621	LB	95% ETOH	4/13/09	22.01330	-92.5051
057	VC057	37622	NN	95% ETOH	4/13/09	22.01330	-92.5051
058	VC058	37623	NN	95% ETOH	4/13/09	22.00692	-93.5016
058	VC058	37624	SS LB	95% ETOH	4/13/09	22.00692	-93.5016
059	VC059	37625	RB	10% Form	4/14/09	21.01200	-93.4994
059	VC059	37626	LB	95% ETOH	4/14/09	21.01200	-93.4994
059	VC059	37627	NN	95% ETOH	4/14/09	21.01200	-93.4994
060	VC060	37628	NN	95% ETOH	4/14/09	21.00033	-92.5033
060	VC060	37629	SS LB	95% ETOH	4/14/09	21.00033	-92.5033
061	VC061	37630	RB	10% Form	4/14/09	19.99683	-92.5021
061	VC061	37631	LB	95% ETOH	4/14/09	19.99683	-92.5021
061	VC061	37632	NN	95% ETOH	4/14/09	19.99683	-92.5021
062	VC062	37633	NN	95% ETOH	4/15/09	20.00333	-93.5030
062	VC062	37634	SS LB	95% ETOH	4/15/09	20.00333	-93.5030
063	VC063	37635	RB	10% Form	4/15/09	20.00522	-94.5016
063	VC063	37636	LB	95% ETOH	4/15/09	20.00522	-94.5016
063	VC063	37637	NN	95% ETOH	4/15/09	20.00522	-94.5016
064	VC064	37638	NN	95% ETOH	4/15/09	19.01053	-94.0011
064	VC064	37639	SS LB	95% ETOH	4/15/09	19.01053	-94.0011
065	VC065	37640	RB	10% Form	4/16/09	19.00382	-94.9951
065	VC065	37641	LB	95% ETOH	4/16/09	19.00382	-94.9951
065	VC065	37642	NN	95% ETOH	4/16/09	19.00382	-94.9951
066	CP1	37643	RB	10% Form	4/21/09	19.99950	-95.5036
066	CP1	37644	LB	95% ETOH	4/21/09	19.99950	-95.5036
066	CP1	37645	NN	95% ETOH	4/21/09	19.99950	-95.5036
067	CP2	37646	SS LB	95% ETOH	4/21/09	20.99810	-95.5025
067	CP2	37647	NN	95% ETOH	4/21/09	20.99810	-95.5025
068	CP3	37648	LB	95% ETOH	4/22/09	21.00478	-94.5048
068	CP3	37649	RB	10% Form	4/22/09	21.00478	-94.5048
068	CP3	37650	NN	95% ETOH	4/22/09	21.00478	-94.5048
069	CP4	37651	RB	10% Form	4/22/09	22.01073	-94.5071
069	CP4	37652	LB	95% ETOH	4/22/09	22.01073	-94.5071

Table 5 continued

P-Sta #	S-Sta #	Smp #	Gear	Preservative	Date	Lat	Lon
069	CP4	37653	NN	95% ETOH	4/22/09	22.01073	-94.5071
070	CP5	37654	RB	10% Form	4/22/09	22.01573	-95.5001
070	CP5	37655	LB	95% ETOH	4/22/09	22.01573	-95.5001
070	CP5	37656	NN	95% ETOH	4/22/09	22.01573	-95.5001
070	CP5	37657	DMJ	95% ETOH	4/22/09	22.01573	-95.5001
071	CP6	37658	RB	10% Form	4/23/09	22.00480	-96.5096
071	CP6	37659	LB	95% ETOH	4/23/09	22.00480	-96.5096
071	CP6	37660	NN	95% ETOH	4/23/09	22.00480	-96.5096
072	CP7	37661	RB	10% Form	4/23/09	23.01712	-96.5045
072	CP7	37662	LB	95% ETOH	4/23/09	23.01712	-96.5045
072	CP7	37663	NN	95% ETOH	4/23/09	23.01712	-96.5045
072	CP7	37664	DMJ	95% ETOH	4/23/09	23.01712	-96.5045
073	CP8	37665	RB	10% Form	4/23/09	23.01130	-96.0094
073	CP8	37666	LB	95% ETOH	4/23/09	23.01130	-96.0094
073	CP8	37667	NN	95% ETOH	4/23/09	23.01130	-96.0094
074	CP9	37668	RB	10% Form	4/23/09	23.01317	-95.4964
074	CP9	37669	LB	95% ETOH	4/23/09	23.01317	-95.4964
074	CP9	37670	NN	95% ETOH	4/23/09	23.01317	-95.4964
075	WG1	37671	RB	10% Form	4/24/09	24.25280	-95.7380
075	WG1	37672	LB	95% ETOH	4/24/09	24.25280	-95.7380
075	WG1	37673	NN	95% ETOH	4/24/09	24.25280	-95.7380
075	WG1	37674	SS LB	95% ETOH	4/24/09	24.25280	-95.7380
076	WG2	37675	RB	10% Form	4/24/09	24.50967	-95.7459
076	WG2	37676	LB	95% ETOH	4/24/09	24.50967	-95.7459
076	WG2	37677	NN	95% ETOH	4/24/09	24.50967	-95.7459
077	WG3	37678	RB	10% Form	4/24/09	24.75620	-95.7581
077	WG3	37679	LB	95% ETOH	4/24/09	24.75620	-95.7581
078	WG4	37680	RB	10% Form	4/24/09	24.92657	-95.7562
078	WG4	37681	LB	95% ETOH	4/24/09	24.92657	-95.7562
079	WG5	37682	RB	10% Form	4/24/09	25.09265	-95.7602
079	WG5	37683	LB	95% ETOH	4/24/09	25.09265	-95.7602
080	WG6	37684	RB	10% Form	4/24/09	25.25918	-95.7573
080	WG6	37685	LB	95% ETOH	4/24/09	25.25918	-95.7573
081	WG7	37686	RB	10% Form	4/25/09	25.41932	-95.7642
081	WG7	37687	LB	95% ETOH	4/25/09	25.41932	-95.7642
082	WG8	37688	RB	10% Form	4/25/09	25.59277	-95.7594
082	WG8	37689	LB	10% Form	4/25/09	25.59277	-95.7594
083	WG9	37690	RB	10% Form	4/25/09	25.75905	-95.7546
083	WG9	37691	LB	95% ETOH	4/25/09	25.75905	-95.7546
084	WG10	37692	RB	10% Form	4/25/09	25.92650	-95.7623
084	WG10	37693	LB	95% ETOH	4/25/09	25.92650	-95.7623
085	WG11	37694	RB	10% Form	4/25/09	26.09733	-95.7500
085	WG11	37695	LB	95% ETOH	4/25/09	26.09733	-95.7500
086	WG12	37696	RB	10% Form	4/25/09	26.25593	-95.5840
086	WG12	37697	LB	95% ETOH	4/25/09	26.25593	-95.5840
087	WG13	37698	RB	10% Form	4/25/09	26.36288	-95.4166
087	WG13	37699	LB	95% ETOH	4/25/09	26.36288	-95.4166
088	WG14	37700	LB	95% ETOH	4/25/09	26.51255	-95.2489
088	WG14	37701	RB	10% Form	4/25/09	26.51255	-95.2489
089	WG15	37702	RB	10% Form	4/25/09	26.51172	-95.0018
089	WG15	37703	LB	95% ETOH	4/25/09	26.51172	-95.0018
090	WG16	37704	RB	10% Form	4/25/09	26.34310	-95.2488
090	WG16	37705	LB	95% ETOH	4/25/09	26.34310	-95.2488
091	WG17	37706	RB	10% Form	4/26/09	26.33673	-95.0048
091	WG17	37707	LB	95% ETOH	4/26/09	26.33673	-95.0048
092	WG18	37708	RB	10% Form	4/26/09	26.17353	-95.0002
092	WG18	37709	LB	95% ETOH	4/26/09	26.17353	-95.0002
093	WG19	37710	RB	10% Form	4/26/09	26.01117	-95.0006

Table 5 continued

P-Sta#	S-Sta #	Smp #	Gear	Preservativ	Date	Lat	Lon
093	WG19	37711	LB	95% ETOH	4/26/09	26.01117	-95.0006
094	WG20	37712	RB	10% Form	4/26/09	25.84633	-94.9999
094	WG20	37713	LB	95% ETOH	4/26/09	25.84633	-94.9999
095	WG21	37714	RB	10% Form	4/26/09	25.67847	-95.0011
095	WG21	37715	LB	95% ETOH	4/26/09	25.67847	-95.0011
096	WG22	37716	RB	10% Form	4/26/09	25.51062	-94.9992
096	WG22	37717	LB	95% ETOH	4/26/09	25.51062	-94.9992
097	WG23	37718	RB	10% Form	4/26/09	25.25950	-94.9994
097	WG23	37719	LB	95% ETOH	4/26/09	25.25950	-94.9994
098	WG24	37720	RB	10% Form	4/26/09	25.26212	-94.7510
098	WG24	37721	LB	95% ETOH	4/26/09	25.26212	-94.7510
099	WG25	37722	RB	10% Form	4/26/09	25.25900	-94.5077
099	WG25	37723	LB	95% ETOH	4/26/09	25.25900	-94.5077
100	WG26	37724	RB	10% Form	4/27/09	25.25202	-94.2541
100	WG26	37725	LB	95% ETOH	4/27/09	25.25202	-94.2541
101	WG27	37726	RB	10% Form	4/27/09	25.25555	-94.0025
101	WG27	37727	LB	95% ETOH	4/27/09	25.25555	-94.0025
102	WG28	37728	RB	10% Form	4/27/09	25.26105	-93.7519
102	WG28	37729	LB	95% ETOH	4/27/09	25.26105	-93.7519
103	WG29	37730	RB	10% Form	4/27/09	25.25350	-93.5077
103	WG29	37731	LB	95% ETOH	4/27/09	25.25350	-93.5077
104	WG30	37732	RB	10% Form	4/28/09	25.25413	-93.2576
104	WG30	37733	LB	95% ETOH	4/28/09	25.25413	-93.2576
105	WG31	37734	RB	10% Form	4/28/09	25.25318	-93.0030
105	WG31	37735	LB	95% ETOH	4/28/09	25.25318	-93.0030
106	WG32	37736	RB	10% Form	4/28/09	25.24802	-92.7395
106	WG32	37737	LB	95% ETOH	4/28/09	25.24802	-92.7395
107	WG33	37738	RB	10% Form	4/28/09	25.25892	-92.4947
107	WG33	37739	LB	95% ETOH	4/28/09	25.25892	-92.4947

P-Sta #	S-Sta #	Smp #	Gear	Preservative	Date	Lat	Lon
107	WG33	37740	NN	95% ETOH	4/28/09	25.25892	-92.4947
107	WG33	37741	SS LB	95% ETOH	4/28/09	25.25892	-92.4947
107	WG33	37742	SS MJ	95% ETOH	4/28/09	25.25892	-92.4947
108	WG34	37743	NN	95% ETOH	4/28/09	25.25327	-92.3246
108	WG34	37744	SS LB	95% ETOH	4/28/09	25.25327	-92.3246
108	WG34	37745	SS MJ	95% ETOH	4/28/09	25.25327	-92.3246
109	WG35	37746	RB	10% Form	4/29/09	25.25778	-92.1681
109	WG35	37747	LB	95% ETOH	4/29/09	25.25778	-92.1681
109	WG35	37748	NN	95% ETOH	4/29/09	25.25778	-92.1681
109	WG35	37749	SS LB	95% ETOH	4/29/09	25.25778	-92.1681
109	WG35	37750	SS MJ	95% ETOH	4/29/09	25.25778	-92.1681
110	WG36	37751	SS MJ	95% ETOH	4/29/09	25.26265	-92.0073
110	WG36	37752	SS LB	95% ETOH	4/29/09	25.26265	-92.0073
110	WG36	37753	NN	95% ETOH	4/29/09	25.26265	-92.0073
111	WG37	37754	NN	95% ETOH	4/29/09	25.24605	-91.8416
111	WG37	37755	SS LB	95% ETOH	4/29/09	25.24605	-91.8416
111	WG37	37756	SS MJ	95% ETOH	4/29/09	25.24605	-91.8416
112	WG38	37757	NN	95% ETOH	4/30/09	25.24975	-91.6740
112	WG38	37758	SS LB	95% ETOH	4/30/09	25.24975	-91.6740
112	WG38	37759	SS MJ	95% ETOH	4/30/09	25.24975	-91.6740
113	WG39	37760	NN	95% ETOH	4/30/09	25.25600	-91.5031
113	WG39	37761	SS LB	95% ETOH	4/30/09	25.25600	-91.5031
113	WG39	37762	SS MJ	95% ETOH	4/30/09	25.25600	-91.5031
114	EA40	37763	SS LB	95% ETOH	4/30/09	25.36428	-91.4762
114	EA40	37764	NN	95% ETOH	4/30/09	25.36428	-91.4762
115	EA41	37765	NN	95% ETOH	4/30/09	25.42460	-91.5849
115	EA41	37766	SS LB	95% ETOH	4/30/09	25.42460	-91.5849
115	EA41	37767	SS MJ	95% ETOH	4/30/09	25.42460	-91.5849
116	EA42	37768	NN	95% ETOH	4/30/09	25.45280	-91.6360

Table 5 continued

P-Sta#	S-Sta#	Smp#	Gear	Preservative	Date	Lat	Lon
116	EA42	37769	SS LB	95% ETOH	4/30/09	25.45280	-91.6360
117	EA43	37770	NN	95% ETOH	4/30/09	25.48463	-91.6872
117	EA43	37771	SS LB	95% ETOH	4/30/09	25.48463	-91.6872
117	EA43	37772	SS MJ	95% ETOH	4/30/09	25.48463	-91.6872
118	EA44	37773	NN	95% ETOH	4/30/09	25.52023	-91.7400
118	EA44	37774	SS LB	95% ETOH	4/30/09	25.52023	-91.7400
119	EA45	37775	NN	95% ETOH	4/30/09	25.54730	-91.7836
119	EA45	37776	SS LB	95% ETOH	4/30/09	25.54730	-91.7836
119	EA45	37777	SS MJ	95% ETOH	4/30/09	25.54730	-91.7836
120	EA46	37778	NN	95% ETOH	4/30/09	25.58243	-91.8337
120	EA46	37779	SS LB	95% ETOH	4/30/09	25.58243	-91.8337
121	EA47	37780	NN	95% ETOH	4/30/09	25.59953	-91.8847
121	EA47	37781	SS LB	95% ETOH	4/30/09	25.59953	-91.8847
121	EA47	37782	SS MJ	95% ETOH	4/30/09	25.59953	-91.8847
122	EA48	37783	NN	95% ETOH	4/30/09	25.62735	-91.9355
122	EA48	37784	SS LB	95% ETOH	4/30/09	25.62735	-91.9355
123	EA49	37785	NN	95% ETOH	4/30/09	25.66158	-91.9780
123	EA49	37786	SS LB	95% ETOH	4/30/09	25.66158	-91.9780
123	EA49	37787	SS MJ	95% ETOH	4/30/09	25.66158	-91.9780
124	EA50	37788	NN	95% ETOH	5/1/09	25.72852	-92.0845
124	EA50	37789	SS LB	95% ETOH	5/1/09	25.72852	-92.0845
125	EA51	37790	NN	95% ETOH	5/1/09	25.77298	-92.1800
125	EA51	37791	SS LB	10% Form	5/1/09	25.77298	-92.1800
125	EA51	37792	SS MJ	10% Form	5/1/09	25.77298	-92.1800
126	EA52	37793	NN	95% ETOH	5/1/09	25.83922	-92.2864
126	EA52	37794	SS LB	95% ETOH	5/1/09	25.83922	-92.2864
127	NA53	37795	NN	95% ETOH	5/1/09	26.15150	-92.1397
127	NA53	37796	SS LB	95% ETOH	5/1/09	26.15150	-92.1397
127	NA53	37797	SS MJ	95% ETOH	5/1/09	26.15150	-92.1397
128	NA54	37798	NN	95% ETOH	5/1/09	26.50175	-92.0056
128	NA54	37799	SS LB	95% ETOH	5/1/09	26.50175	-92.0056
129	NA55	37800	NN	95% ETOH	5/1/09	26.59917	-92.0035
129	NA55	37801	SS LB	95% ETOH	5/1/09	26.59917	-92.0035
129	NA55	37802	SS MJ	95% ETOH	5/1/09	26.59917	-92.0035
130	NA56	37803	NN	95% ETOH	5/1/09	26.71150	-92.0029
131	NA57	37805	NN	95% ETOH	5/1/09	26.81552	-91.9950
131	NA57	37806	SS LB	95% ETOH	5/1/09	26.81552	-91.9950
131	NA57	37807	SS MJ	95% ETOH	5/1/09	26.81552	-91.9950
132	NA58	37808	NN	95% ETOH	5/1/09	26.90580	-92.0024
132	NA58	37809	SS LB	95% ETOH	5/1/09	26.90580	-92.0024
133	NA59	37810	NN	95% ETOH	5/1/09	27.00660	-91.9976
133	NA59	37811	SS LB	95% ETOH	5/1/09	27.00660	-91.9976
133	NA59	37812	SS MJ	95% ETOH	5/1/09	27.00660	-91.9976
134	NA60	37813	NN	95% ETOH	5/1/09	27.10125	-92.0057
134	NA60	37814	SS LB	95% ETOH	5/1/09	27.10125	-92.0057
135	NA61	37815	NN	95% ETOH	5/1/09	27.20378	-91.9978
135	NA61	37816	SS LB	95% ETOH	5/1/09	27.20378	-91.9978
135	NA61	37817	SS MJ	95% ETOH	5/1/09	27.20378	-91.9978
136	NA62	37818	NN	95% ETOH	5/2/09	27.30887	-92.0055
136	NA62	37819	SS LB	95% ETOH	5/2/09	27.30887	-92.0055
136	NA62	37820	DMJ	10% Form	5/2/09	27.30887	-92.0055
137	NA63	37821	NN	95% ETOH	5/2/09	27.40325	-91.9958
137	NA63	37822	SS LB	95% ETOH	5/2/09	27.40325	-91.9958
137	NA63	37823	SS MJ	95% ETOH	5/2/09	27.40325	-91.9958
138	NA64	37824	NN	95% ETOH	5/2/09	27.50338	-92.0006
138	NA64	37825	SS LB	95% ETOH	5/2/09	27.50338	-92.0006
139	AE65	37826	NN	95% ETOH	5/2/09	27.41105	-91.9024
139	AE65	37827	SS LB	95% ETOH	5/2/09	27.41105	-91.9024

Table 5 continued

P-Sta #	S-Sta #	Smp #	Gear	Preservati	Date	Lat	Lon
140	AE66	37828	NN	95% ETOH	5/2/09	27.30913	-91.8314
140	AE66	37829	SS LB	95% ETOH	5/2/09	27.30913	-91.8314
141	AE67	37830	NN	95% ETOH	5/2/09	27.20687	-91.7672
141	AE67	37831	SS LB	95% ETOH	5/2/09	27.20687	-91.7672
142	AE68	37832	NN	95% ETOH	5/2/09	27.10628	-91.6906
142	AE68	37833	SS LB	95% ETOH	5/2/09	27.10628	-91.6906
143	AE69	37834	NN	95% ETOH	5/2/09	27.00507	-91.6204
143	AE69	37835	SS LB	95% ETOH	5/2/09	27.00507	-91.6204
144	AE70	37836	NN	95% ETOH	5/2/09	26.91162	-91.5541
144	AE70	37837	SS LB	95% ETOH	5/2/09	26.91162	-91.5541
145	AE71	37838	NN	95% ETOH	5/2/09	26.80873	-91.4833
145	AE71	37839	SS LB	95% ETOH	5/2/09	26.80873	-91.4833
146	AE72	37840	NN	95% ETOH	5/2/09	26.71140	-91.4121
146	AE72	37841	SS LB	10% Form	5/2/09	26.71140	-91.4121
147	AE73	37842	NN	95% ETOH	5/2/09	26.60652	-91.3393
147	AE73	37843	SS LB	95% ETOH	5/2/09	26.60652	-91.3393
147	AE73	37844	SS MJ	95% ETOH	5/2/09	26.60652	-91.3393
148	AE74	37845	NN	95% ETOH	5/3/09	26.50813	-91.2758
148	AE74	37846	SS LB	95% ETOH	5/3/09	26.50813	-91.2758
149	AE75	37847	NN	95% ETOH	5/3/09	26.40522	-91.1997
149	AE75	37848	SS LB	95% ETOH	5/3/09	26.40522	-91.1997
149	AE75	37849	SS MJ	10% Form	5/3/09	26.40522	-91.1997
150	AE76	37850	NN	95% ETOH	5/3/09	26.30872	-91.1312
150	AE76	37851	SS LB	95% ETOH	5/3/09	26.30872	-91.1312
151	AE77	37852	NN	95% ETOH	5/3/09	26.21037	-91.0519
151	AE77	37853	SS LB	95% ETOH	5/3/09	26.21037	-91.0519
151	AE77	37854	SS MJ	95% ETOH	5/3/09	26.21037	-91.0519
152	AE78	37855	NN	95% ETOH	5/3/09	26.21188	-90.9972
152	AE78	37856	SS LB	95% ETOH	5/3/09	26.21188	-90.9972
153	AE79	37857	NN	95% ETOH	5/3/09	26.11115	-90.9213
153	AE79	37858	SS LB	95% ETOH	5/3/09	26.11115	-90.9213
154	AE80	37859	NN	10% Form	5/3/09	26.01075	-90.8425
154	AE80	37860	SS LB	95% ETOH	5/3/09	26.01075	-90.8425
155	TA81	37861	NN	95% ETOH	5/3/09	26.00500	-91.2065
156	TA82	37862	NN	95% ETOH	5/4/09	26.00660	-91.4864
156	TA82	37863	SS LB	95% ETOH	5/4/09	26.00660	-91.4864
156	TA82	37864	SS MJ	95% ETOH	5/4/09	26.00660	-91.4864
157	TA83	37865	NN	95% ETOH	5/4/09	26.10135	-91.5063
158	TA84	37866	NN	95% ETOH	5/4/09	26.20150	-91.4844
158	TA84	37867	SS LB	95% ETOH	5/4/09	26.20150	-91.4844
158	TA84	37868	SS MJ	95% ETOH	5/4/09	26.20150	-91.4844
159	TA85	37869	NN	95% ETOH	5/4/09	26.30257	-91.5142
160	TA86	37870	NN	95% ETOH	5/4/09	26.40648	-91.4988
160	TA86	37871	SS LB	95% ETOH	5/4/09	26.40648	-91.4988
160	TA86	37872	SS MJ	95% ETOH	5/4/09	26.40648	-91.4988
161	TA87	37873	NN	95% ETOH	5/4/09	26.50520	-91.5119
162	TA88	37874	NN	95% ETOH	5/4/09	26.60600	-91.5012
162	TA88	37875	SS LB	95% ETOH	5/4/09	26.60600	-91.5012
162	TA88	37876	SS MJ	95% ETOH	5/4/09	26.60600	-91.5012
163	TA89	37877	NN	95% ETOH	5/4/09	26.70873	-91.5078
164	TA90	37878	NN	95% ETOH	5/4/09	26.81547	-91.4901
164	TA90	37879	SS LB	95% ETOH	5/4/09	26.81547	-91.4901
164	TA90	37880	SS MJ	95% ETOH	5/4/09	26.81547	-91.4901
165	TA91	37881	NN	95% ETOH	5/4/09	26.90163	-91.5087
166	TA92	37882	NN	95% ETOH	5/4/09	27.00620	-91.4889
166	TA92	37883	SS LB	95% ETOH	5/4/09	27.00620	-91.4889
166	TA92	37884	SS MJ	95% ETOH	5/4/09	27.00620	-91.4889
167	TA93	37885	NN	95% ETOH	5/4/09	27.10620	-91.5092

Table 5 continued

P-Sta #	S-Sta #	Smp #	Gear	Preservative	Date	Lat	Lon
168	TA94	37886	NN	95% ETOH	5/4/09	27.20868	-91.4965
168	TA94	37887	SS LB	95% ETOH	5/4/09	27.20868	-91.4965
168	TA94	37888	SS MJ	95% ETOH	5/4/09	27.20868	-91.4965
169	TA95	37889	NN	95% ETOH	5/4/09	27.30460	-91.5069
170	TA96	37890	NN	95% ETOH	5/5/09	27.41163	-91.4987
170	TA96	37891	SS LB	95% ETOH	5/5/09	27.41163	-91.4987
170	TA96	37892	DMJ	95% ETOH	5/5/09	27.41163	-91.4987
171	TA97	37893	NN	95% ETOH	5/5/09	27.50930	-91.5030
172	AL1	37894	NN	95% ETOH	5/5/09	27.50948	-89.6889
172	AL1	37895	SS LB	95% ETOH	5/5/09	27.50948	-89.6889
172	AL1	37896	SS MJ	95% ETOH	5/5/09	27.50948	-89.6889
173	AL2	37897	NN	95% ETOH	5/5/09	27.51180	-89.6006
174	AL3	37898	NN	95% ETOH	5/5/09	27.50723	-89.4928
174	AL3	37899	SS LB	95% ETOH	5/5/09	27.50723	-89.4928
174	AL3	37900	SS MJ	95% ETOH	5/5/09	27.50723	-89.4928
175	AL4	37901	NN	95% ETOH	5/5/09	27.51047	-89.4001
176	AL5	37902	NN	95% ETOH	5/5/09	27.50577	-89.3034
176	AL5	37903	SS LB	95% ETOH	5/5/09	27.50577	-89.3034
176	AL5	37904	SS MJ	95% ETOH	5/5/09	27.50577	-89.3034
177	AL6	37905	NN	95% ETOH	5/6/09	27.50240	-89.1967
177	AL6	37906	DMJ	95% ETOH	5/6/09	27.50240	-89.1967
178	AL7	37907	NN	95% ETOH	5/6/09	27.50930	-89.0969
178	AL7	37908	SS LB	95% ETOH	5/6/09	27.50930	-89.0969
178	AL7	37909	SS MJ	95% ETOH	5/6/09	27.50930	-89.0969
179	AL8	37910	NN	95% ETOH	5/6/09	27.50305	-89.0079
180	LC1	37911	NN	95% ETOH	5/6/09	26.51162	-86.9888
180	LC1	37912	SS LB	95% ETOH	5/6/09	26.51162	-86.9888
180	LC1	37913	SS MJ	95% ETOH	5/6/09	26.51162	-86.9888
181	LC2	37914	NN	95% ETOH	5/6/09	26.66750	-87.0105
182	LC3	37915	NN	95% ETOH	5/7/09	26.83293	-86.9938
182	LC3	37916	SS LB	95% ETOH	5/7/09	26.83293	-86.9938
182	LC3	37917	SS MJ	95% ETOH	5/7/09	26.83293	-86.9938
183	LC4	37918	NN	95% ETOH	5/7/09	27.00263	-87.0147
184	LC5	37919	NN	95% ETOH	5/7/09	27.17695	-87.0065
184	LC5	37920	SS LB	95% ETOH	5/7/09	27.17695	-87.0065
184	LC5	37921	SS MJ	95% ETOH	5/7/09	27.17695	-87.0065
185	LC6	37922	NN	95% ETOH	5/7/09	27.33397	-87.0112
186	LC7	37923	NN	95% ETOH	5/7/09	27.51115	-86.9983
186	LC7	37924	SS LB	95% ETOH	5/7/09	27.51115	-86.9983
186	LC7	37925	SS MJ	95% ETOH	5/7/09	27.51115	-86.9983
187	LC8	37926	NN	95% ETOH	5/7/09	27.67355	-86.9999
188	LC9	37927	NN	95% ETOH	5/7/09	27.84507	-86.9849
188	LC9	37928	SS LB	95% ETOH	5/7/09	27.84507	-86.9849
188	LC9	37929	SS MJ	95% ETOH	5/7/09	27.84507	-86.9849
189	LC10	37930	NN	95% ETOH	5/7/09	28.00993	-87.0026
190	LC11	37931	NN	95% ETOH	5/7/09	28.17665	-87.0042
190	LC11	37932	SS LB	95% ETOH	5/7/09	28.17665	-87.0042
190	LC11	37933	SS MJ	95% ETOH	5/7/09	28.17665	-87.0042
191	B172	37934	NN	95% ETOH	5/14/09	29.98768	-87.0002
192	B169	37935	NN	95% ETOH	5/14/09	29.49920	-86.5001
193	B165	37936	RB	10% Form	5/14/09	29.20957	-85.9949
193	B165	37937	LB	95% ETOH	5/14/09	29.20957	-85.9949
193	B165	37938	NN	95% ETOH	5/14/09	29.20957	-85.9949
194	B160	37939	NN	95% ETOH	5/14/09	28.67013	-85.5016
195	B153	37940	RB	10% Form	5/15/09	28.00772	-84.9987
195	B153	37941	LB	95% ETOH	5/15/09	28.00772	-84.9987
195	B153	37942	NN	95% ETOH	5/15/09	28.00772	-84.9987
196	B152	37943	NN	95% ETOH	5/15/09	27.50415	-85.0064

Table 5 continued

P-Sta.#	S-Sta #	Smp #	Gear	Preservati	Date	Lat	Lon
197	B151	37944	RB	10% Form	5/15/09	27.00852	-84.9998
197	B151	37945	LB	95% ETOH	5/15/09	27.00852	-84.9998
197	B151	37946	NN	95% ETOH	5/15/09	27.00852	-84.9998
198	B150	37947	NN	95% ETOH	5/15/09	26.50490	-85.0078
199	B149	37948	RB	10% Form	5/15/09	26.01222	-84.9964
199	B149	37949	LB	95% ETOH	5/15/09	26.01222	-84.9964
199	B149	37950	NN	95% ETOH	5/15/09	26.01222	-84.9964
200	B147	37951	NN	10% Form	5/15/09	26.00940	-84.5087
201	B131	37952	RB	10% Form	5/16/09	26.00872	-83.9990
201	B131	37953	LB	95% ETOH	5/16/09	26.00872	-83.9990
201	B131	37954	NN	95% ETOH	5/16/09	26.00872	-83.9990
202	B130	37955	NN	95% ETOH	5/16/09	25.50448	-84.0048
203	B129	37956	RB	10% Form	5/16/09	25.01102	-84.0073
203	B129	37957	LB	95% ETOH	5/16/09	25.01102	-84.0073
203	B129	37958	NN	95% ETOH	5/16/09	25.01102	-84.0073
204	B128	37959	NN	95% ETOH	5/16/09	24.50390	-84.0038
205	B125	37960	RB	10% Form	5/16/09	24.51115	-83.5080
205	B125	37961	LB	95% ETOH	5/16/09	24.51115	-83.5080
205	B125	37962	NN	95% ETOH	5/16/09	24.51115	-83.5080
206	B126	37963	RB	10% Form	5/16/09	24.01020	-83.4943
206	B126	37964	LB	95% ETOH	5/16/09	24.01020	-83.4943
206	B126	37965	NN	95% ETOH	5/16/09	24.01020	-83.4943
207	B127	37966	RB	10% Form	5/17/09	24.00917	-84.0110
207	B127	37967	LB	95% ETOH	5/17/09	24.00917	-84.0110
207	B127	37968	NN	95% ETOH	5/17/09	24.00917	-84.0110
208	B263	37969	RB	10% Form	5/17/09	24.51143	-84.5002
208	B263	37970	LB	95% ETOH	5/17/09	24.51143	-84.5002
208	B263	37971	NN	95% ETOH	5/17/09	24.51143	-84.5002
209	B262	37972	RB	10% Form	5/17/09	25.01473	-84.5020
209	B262	37973	LB	95% ETOH	5/17/09	25.01473	-84.5020
209	B262	37974	NN	95% ETOH	5/17/09	25.01473	-84.5020
210	B007	37975	RB	10% Form	5/17/09	25.01397	-84.9970
210	B007	37976	LB	95% ETOH	5/17/09	25.01397	-84.9970
210	B007	37977	NN	95% ETOH	5/17/09	25.01397	-84.9970
211	B072	37978	NN	95% ETOH	5/17/09	24.51205	-85.0050
212	B266	37979	RB	10% Form	5/18/09	24.67818	-85.5008
212	B266	37980	LB	95% ETOH	5/18/09	24.67818	-85.5008
212	B266	37981	NN	95% ETOH	5/18/09	24.67818	-85.5008
213	B261	37982	NN	95% ETOH	5/18/09	25.00623	-85.5018
214	B008	37983	RB	10% Form	5/18/09	25.00457	-86.0062
214	B008	37984	LB	95% ETOH	5/18/09	25.00457	-86.0062
214	B008	37985	NN	95% ETOH	5/18/09	25.00457	-86.0062
215	B074	37986	NN	95% ETOH	5/18/09	25.49207	-85.9989
216	B270	37987	NN	95% ETOH	5/18/09	25.49357	-86.4599
217	B006	37988	RB	10% Form	5/19/09	25.99928	-86.0048
217	B006	37989	LB	95% ETOH	5/19/09	25.99928	-86.0048
217	B006	37990	NN	95% ETOH	5/19/09	25.99928	-86.0048
218	B013	37991	RB	10% Form	5/20/09	25.99088	-88.9966
218	B013	37992	LB	95% ETOH	5/20/09	25.99088	-88.9966
218	B013	37993	NN	95% ETOH	5/20/09	25.99088	-88.9966
219	B291	37994	NN	95% ETOH	5/20/09	26.00203	-89.4965
220	B014	37995	RB	10% Form	5/20/09	26.00518	-89.9931
220	B014	37996	LB	95% ETOH	5/20/09	26.00518	-89.9931
221	B062	37997	NN	95% ETOH	5/21/09	26.49505	-90.0058
222	B059	37998	NN	95% ETOH	5/21/09	26.49563	-91.0098
223	B019	37999	RB	10% Form	5/21/09	26.00018	-91.0008
223	B019	38000	LB	95% ETOH	5/21/09	26.00018	-91.0008
223	B019	38001	NN	95% ETOH	5/21/09	26.00018	-91.0008

Table 5 continued

P-Sta#	S-Sta#	Smp#	Gear	Preservative	Date	Lat	Lon
224	B299	38002	NN	95% ETOH	5/21/09	25.99628	-91.5090
225	B020	38003	RB	10% Form	5/21/09	25.99935	-92.0018
225	B020	38004	LB	95% ETOH	5/21/09	25.99935	-92.0018
225	B020	38005	NN	95% ETOH	5/21/09	25.99935	-92.0018
226	B058	38006	NN	95% ETOH	5/22/09	26.49952	-92.0057
227	B021	38007	RB	10% Form	5/22/09	27.00397	-91.9896
227	B021	38008	LB	95% ETOH	5/22/09	27.00397	-91.9896
227	B021	38009	NN	95% ETOH	5/22/09	27.00397	-91.9896
228	B304	38010	NN	95% ETOH	5/22/09	26.99418	-92.5112
229	B024	38011	RB	10% Form	5/22/09	27.00157	-92.9935
229	B024	38012	LB	95% ETOH	5/22/09	27.00157	-92.9935
229	B024	38013	NN	95% ETOH	5/22/09	27.00157	-92.9935
230	B055	38014	NN	95% ETOH	5/23/09	26.49997	-93.0122
231	B025	38015	RB	10% Form	5/23/09	26.27712	-93.0108
231	B025	38016	LB	95% ETOH	5/23/09	26.27712	-93.0108
231	B025	38017	NN	95% ETOH	5/23/09	26.27712	-93.0108
232	B307	38018	NN	95% ETOH	5/23/09	26.01228	-93.5107
233	B026	38019	RB	10% Form	5/23/09	26.01660	-94.0006
233	B026	38020	LB	95% ETOH	5/23/09	26.01660	-94.0006
233	B026	38021	NN	95% ETOH	5/23/09	26.01660	-94.0006
234	B054	38022	NN	95% ETOH	5/23/09	26.49172	-94.0029
235	B027	38023	RB	10% Form	5/23/09	26.99768	-93.9998
235	B027	38024	LB	95% ETOH	5/23/09	26.99768	-93.9998
235	B027	38025	NN	95% ETOH	5/23/09	26.99768	-93.9998
236	B312	38026	NN	95% ETOH	5/23/09	26.99130	-94.5003
237	B028	38027	RB	10% Form	5/24/09	27.00760	-95.0083
237	B028	38028	LB	95% ETOH	5/24/09	27.00760	-95.0083
237	B028	38029	NN	95% ETOH	5/24/09	27.00760	-95.0083
238	B223	38030	RB	10% Form	5/24/09	28.00485	-94.9895
238	B223	38031	LB	95% ETOH	5/24/09	28.00485	-94.9895
238	B223	38032	NN	95% ETOH	5/24/09	28.00485	-94.9895
239	B217	38033	NN	95% ETOH	5/24/09	28.00680	-94.4895
240	B216	38034	RB	10% Form	5/24/09	27.99830	-93.9952
240	B216	38035	LB	95% ETOH	5/24/09	27.99830	-93.9952
240	B216	38036	NN	95% ETOH	5/24/09	27.99830	-93.9952
241	B209	38037	NN	95% ETOH	5/24/09	27.99838	-93.4877
242	B023	38038	RB	10% Form	5/24/09	28.00067	-93.0083
242	B023	38039	LB	95% ETOH	5/24/09	28.00067	-93.0083
242	B023	38040	NN	95% ETOH	5/24/09	28.00067	-93.0083
243	B202	38041	NN	95% ETOH	5/25/09	28.01095	-92.4961
244	B022	38042	RB	10% Form	5/25/09	28.00605	-91.9894
244	B022	38043	LB	95% ETOH	5/25/09	28.00605	-91.9894
244	B022	38044	NN	95% ETOH	5/25/09	28.00605	-91.9894
245	B195	38045	NN	95% ETOH	5/25/09	28.00268	-91.4941
246	B017	38046	RB	10% Form	5/25/09	28.00253	-90.9878
246	B017	38047	LB	95% ETOH	5/25/09	28.00253	-90.9878
246	B017	38048	NN	95% ETOH	5/25/09	28.00253	-90.9878
247	B018	38049	RB	10% Form	5/26/09	27.00353	-90.9862
247	B018	38050	LB	95% ETOH	5/26/09	27.00353	-90.9862
248	B296	38051	NN	95% ETOH	5/26/09	27.00027	-90.4949
249	B015	38052	RB	10% Form	5/26/09	27.00128	-89.9878
249	B015	38053	LB	95% ETOH	5/26/09	27.00128	-89.9878
249	B015	38054	NN	95% ETOH	5/26/09	27.00128	-89.9878
250	B016	38055	RB	10% Form	5/26/09	27.99145	-89.9914
250	B016	38056	LB	95% ETOH	5/26/09	27.99145	-89.9914
250	B016	38057	NN	95% ETOH	5/26/09	27.99145	-89.9914
251	B185	38058	NN	95% ETOH	5/27/09	28.00165	-89.5059
252	B083	38059	RB	10% Form	5/27/09	28.00758	-89.0058

Table 5 continued

P-Sta #	S-Sta #	Smp #	Gear	Preservative	Date	Lat	Lon
252	B083	38060	LB	95% ETOH	5/27/09	28.00758	-89.0058
252	B083	38061	NN	95% ETOH	5/27/09	28.00758	-89.0058
253	B012	38062	RB	10% Form	5/27/09	27.01162	-89.0057
253	B012	38063	LB	95% ETOH	5/27/09	27.01162	-89.0057
253	B012	38064	NN	95% ETOH	5/27/09	27.01162	-89.0057
254	B063	38065	NN	95% ETOH	5/27/09	26.50200	-88.9875
255	B001	38066	RB	10% Form	5/29/09	28.99923	-87.9834
255	B001	38067	LB	95% ETOH	5/29/09	28.99923	-87.9834
255	B001	38068	NN	95% ETOH	5/29/09	28.99923	-87.9834
256	B082	38069	RB	10% Form	5/29/09	27.99548	-87.9875
256	B082	38070	LB	95% ETOH	5/29/09	27.99548	-87.9875
256	B082	38071	NN	95% ETOH	5/29/09	27.99548	-87.9875
257	B011	38072	RB	10% Form	5/29/09	27.00132	-88.0061
257	B011	38073	LB	95% ETOH	5/29/09	27.00132	-88.0061
257	B011	38074	NN	95% ETOH	5/29/09	27.00132	-88.0061
258	B010	38075	RB	10% Form	5/29/09	26.01235	-87.9980
258	B010	38076	LB	95% ETOH	5/29/09	26.01235	-87.9980
258	B010	38077	NN	95% ETOH	5/29/09	26.01235	-87.9980
259	B009	38078	RB	10% Form	5/30/09	26.29678	-86.9963
259	B009	38079	LB	95% ETOH	5/30/09	26.29678	-86.9963
259	B009	38080	NN	95% ETOH	5/30/09	26.29678	-86.9963
260	B076	38081	NN	95% ETOH	5/30/09	26.49775	-87.0035
261	B004	38082	RB	10% Form	5/30/09	27.00622	-86.9909
261	B004	38083	LB	95% ETOH	5/30/09	27.00622	-86.9909
261	B004	38084	NN	95% ETOH	5/30/09	27.00622	-86.9909
262	B005	38085	RB	10% Form	5/30/09	26.99858	-85.9896
262	B005	38086	LB	95% ETOH	5/30/09	26.99858	-85.9896
262	B005	38087	NN	95% ETOH	5/30/09	26.99858	-85.9896
263	B078	38088	NN	95% ETOH	5/30/09	27.49613	-86.0083
264	B163	38089	RB	10% Form	5/31/09	27.99738	-86.0004
264	B163	38090	LB	95% ETOH	5/31/09	27.99738	-86.0004
264	B163	38091	NN	95% ETOH	5/31/09	27.99738	-86.0004
265	B003	38092	RB	10% Form	5/31/09	28.00097	-87.0070
265	B003	38093	LB	95% ETOH	5/31/09	28.00097	-87.0070
265	B003	38094	NN	95% ETOH	5/31/09	28.00097	-87.0070
266	B080	38095	NN	95% ETOH	5/31/09	28.48873	-86.9997
267	B170	38096	NN	95% ETOH	5/31/09	28.98890	-86.5084
268	B002	38097	RB	10% Form	5/31/09	28.99858	-87.0047
268	B002	38098	LB	10% Form	5/31/09	28.99858	-87.0047
268	B002	38099	NN	95% ETOH	5/31/09	28.99858	-87.0047
269	B176	38100	NN	95% ETOH	6/1/09	29.48863	-88.0387

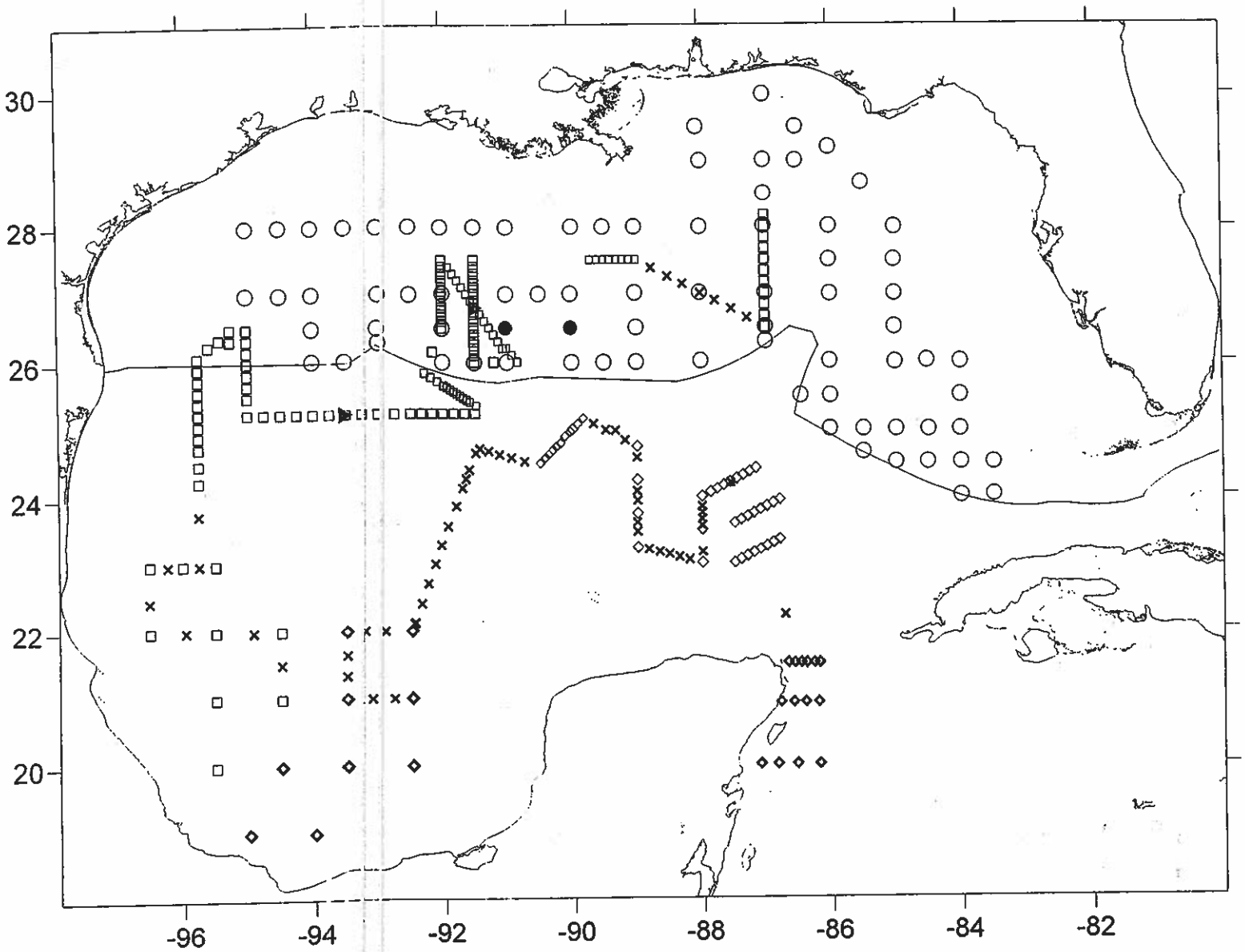

Figure 1. SEAMAP plankton stations completed during the SEAMAP Spring Plankton Survey aboard the NOAA Ship *Gordon Gunter,* cruise GU-09-02 (53) 29 March - 1 June 2009. The 2 stations that did not have associated CTD casts are marked by filled circles. X indicates the locations of XBT drops and the filled triangles are the locations where the 2 drifter buoys were released. Diamonds indicate samples from Leg 1, squares indicate samples from Leg 2, circles indicate samples from Leg 3.

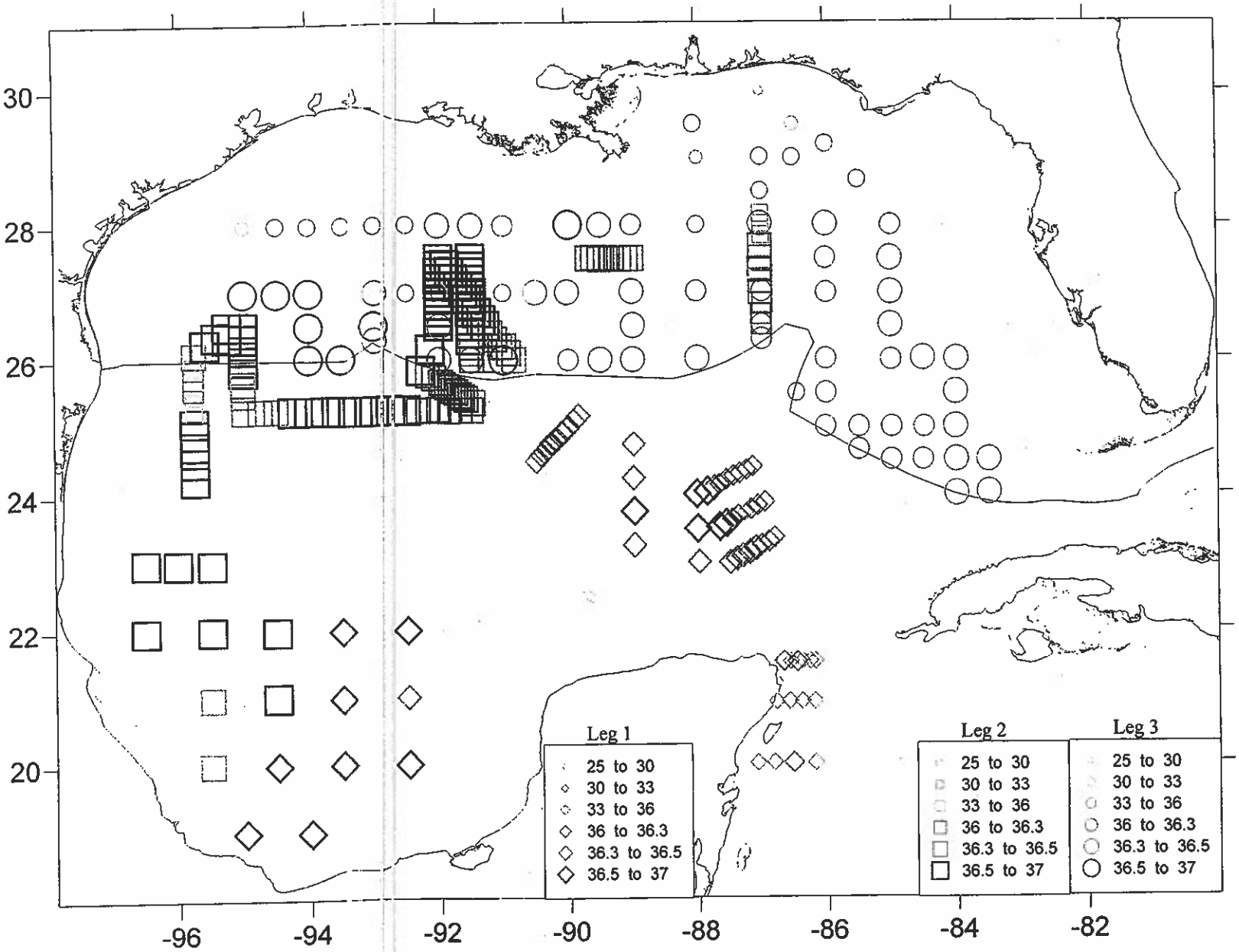

Figure 2. Salinity (PSU) near the surface (≤ 6 m depth) at plankton stations during the SEAMAP Spring Plankton Survey aboard the NOAA Ship *Gordon Gunter* cruise GU-09-02 (53), 29 March -1 June 2009.

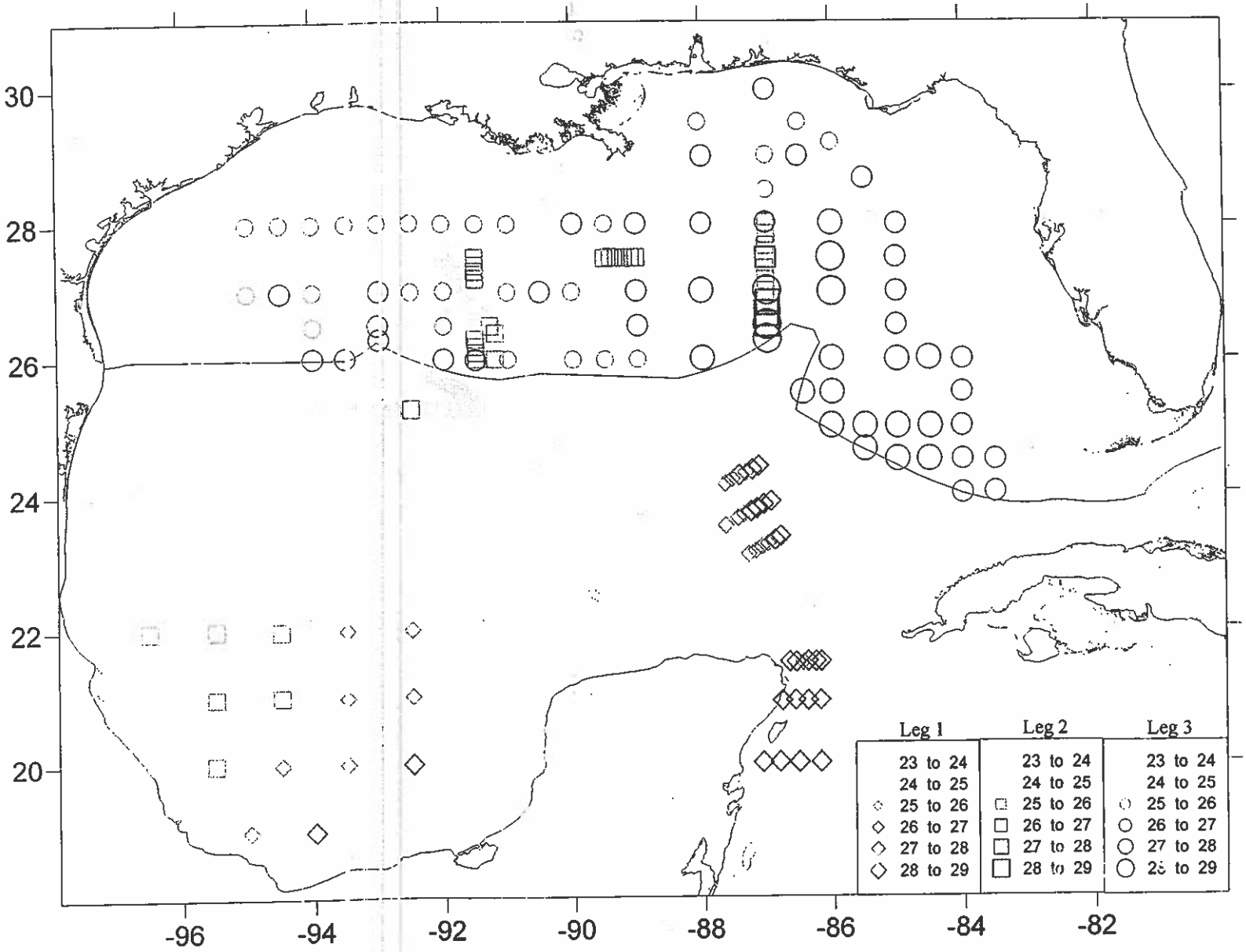

Figure 3. Sea temperature (° C) near the surface (≤ 6 m depth) at plankton stations during the SEAMAP Spring Plankton Survey aboard the NOAA Ship *Gordon Gunter* cruise GU-09-02 (53), 29 March -1 June 2009.

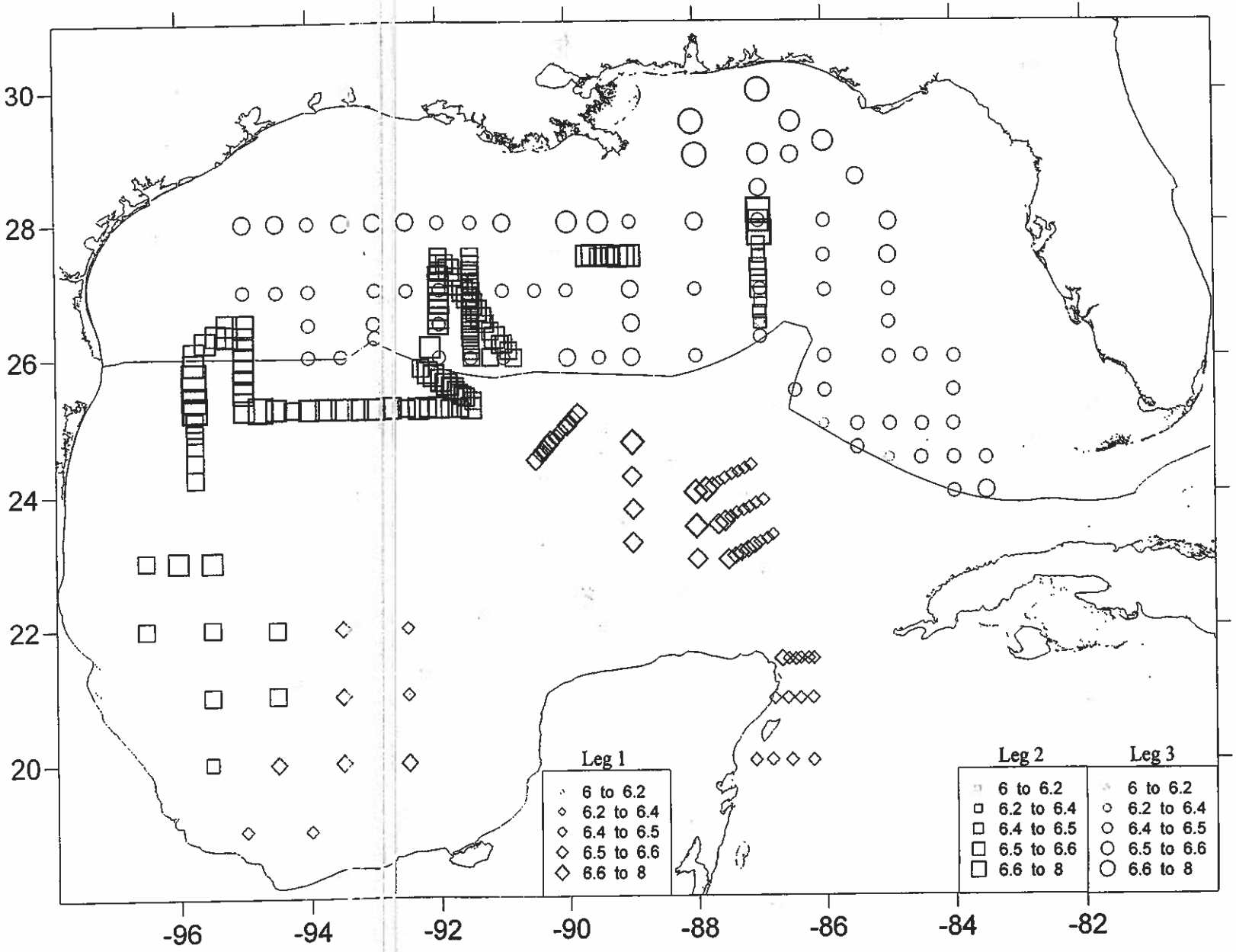

Figure 4. Dissolved oxygen (mg/L) near the surface (≤ 6 m depth) at plankton stations during the SEAMAP Spring Plankton Survey aboard the NOAA Ship *Gordon Gunter* cruise GU-09-02 (53), 29 March -1 June 2009.

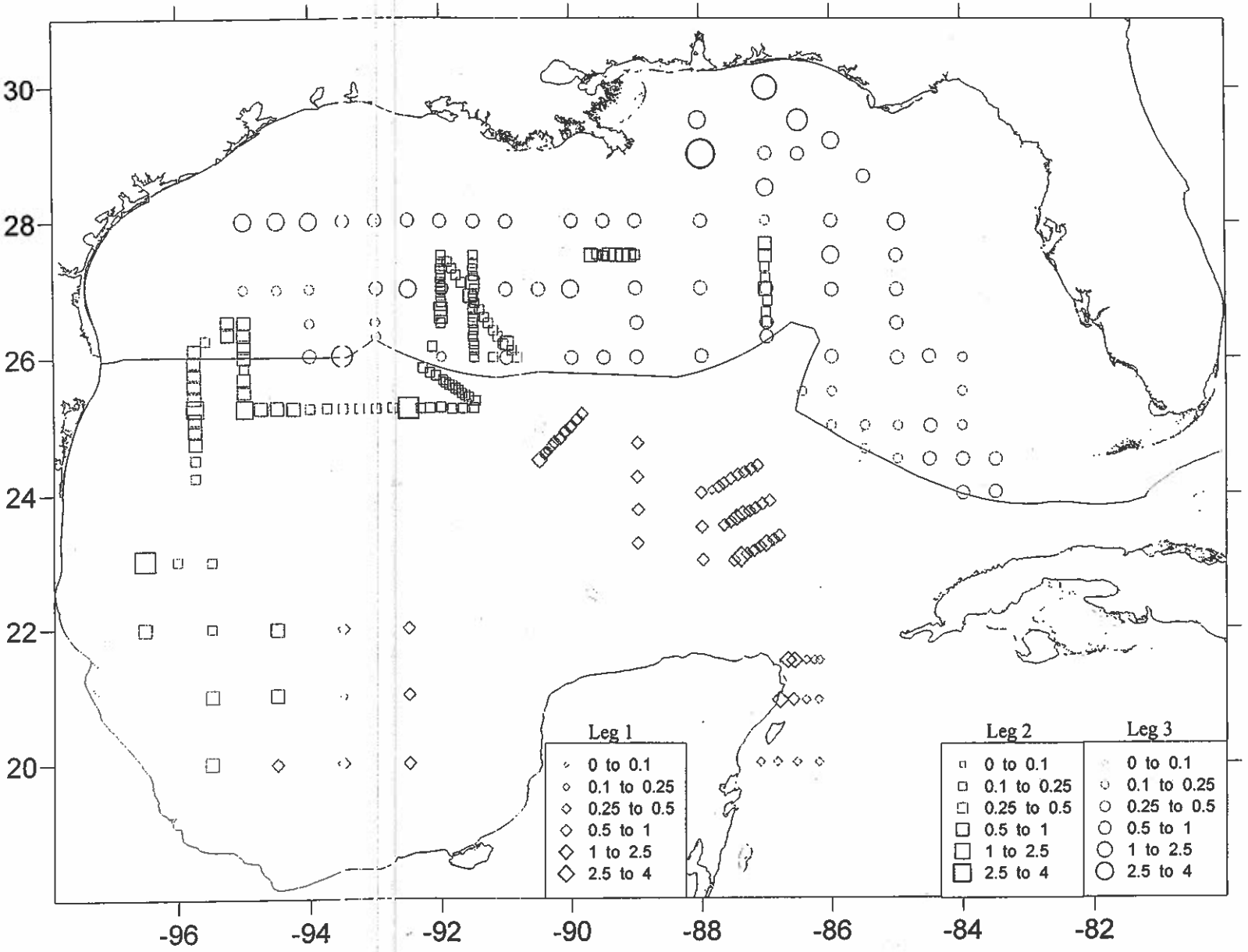

Figure 5. Chlorophyll *a* concentrations (µg/L) near the surface (≤ 6 m depth) at plankton stations during the SEAMAP Spring Plankton Survey aboard the NOAA Ship *Gordon Gunter* cruise GU-09-02 (53), 29 March -1 June 2009.

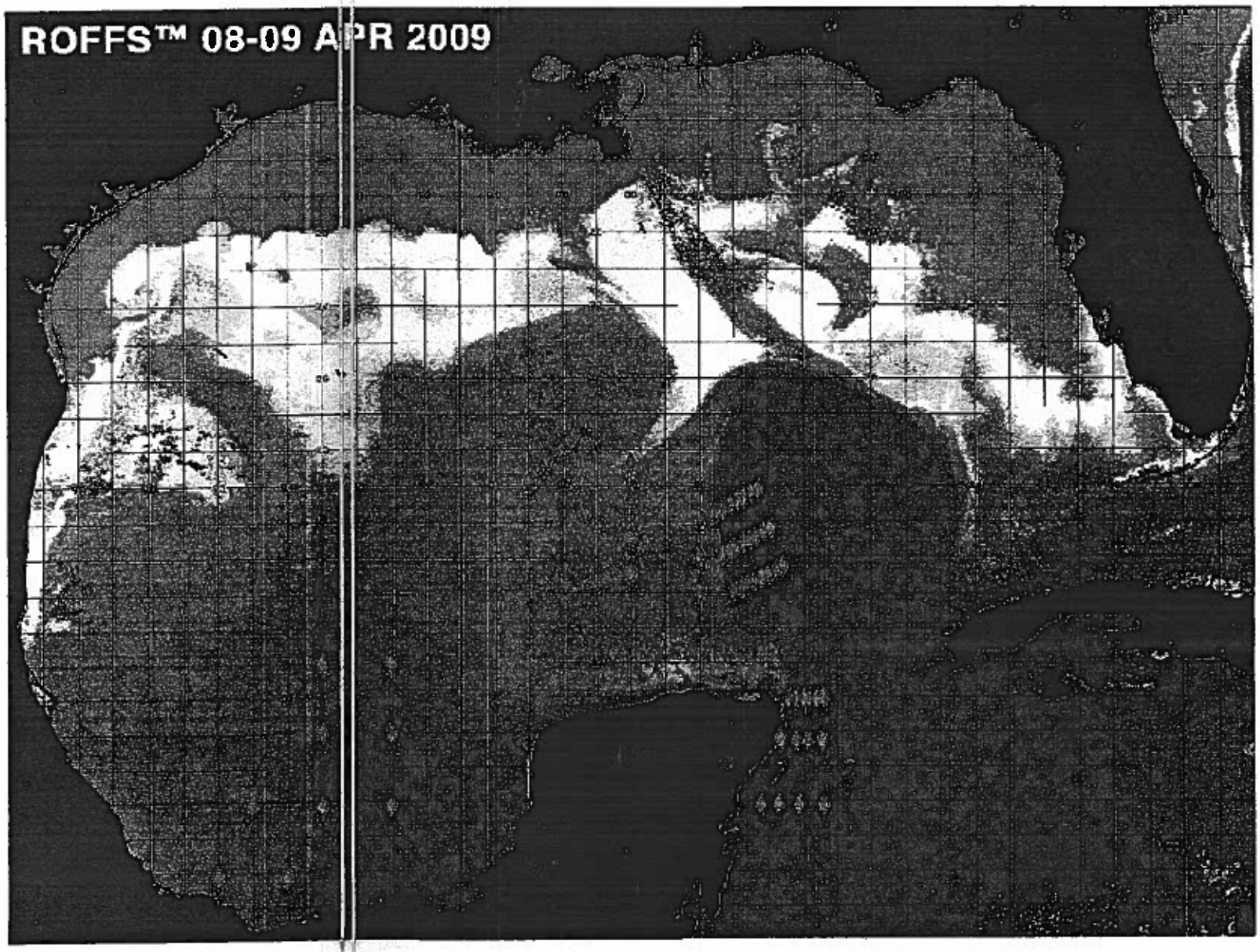

Figure 6. Positions and station numbers of Leg 1 stations (29 March - 16 April 2009) plotted on the satellite sea surface temperature composite of April 8-9, 2009. Proximity of stations did not allow labeling of each station.

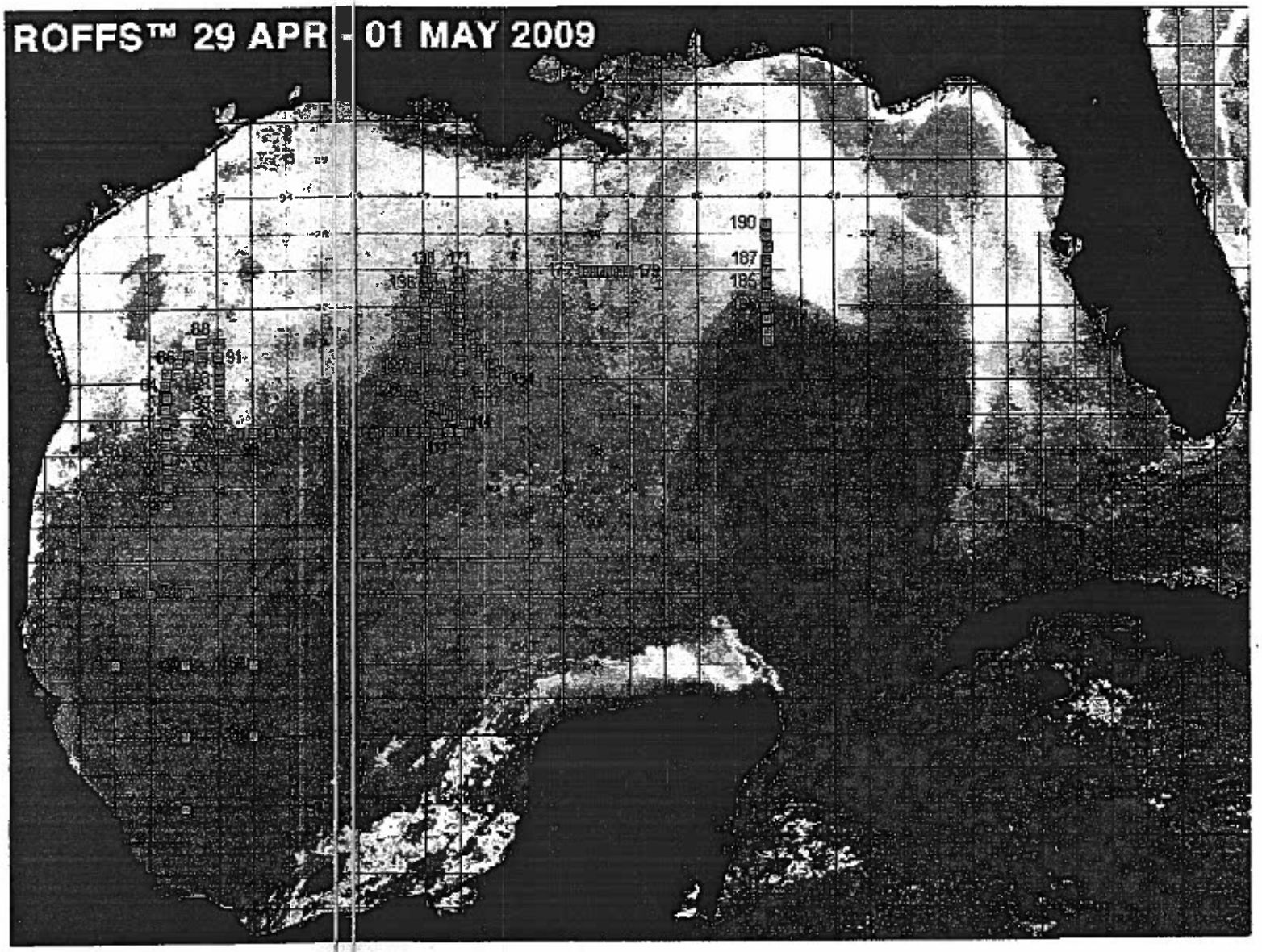

Figure 7. Positions and station numbers of Leg 2 (20 April - 8 May 2009) stations plotted on the satellite sea surface temperature composite of April 29-May 1, 2009. Proximity of stations did not allow labeling of each station.

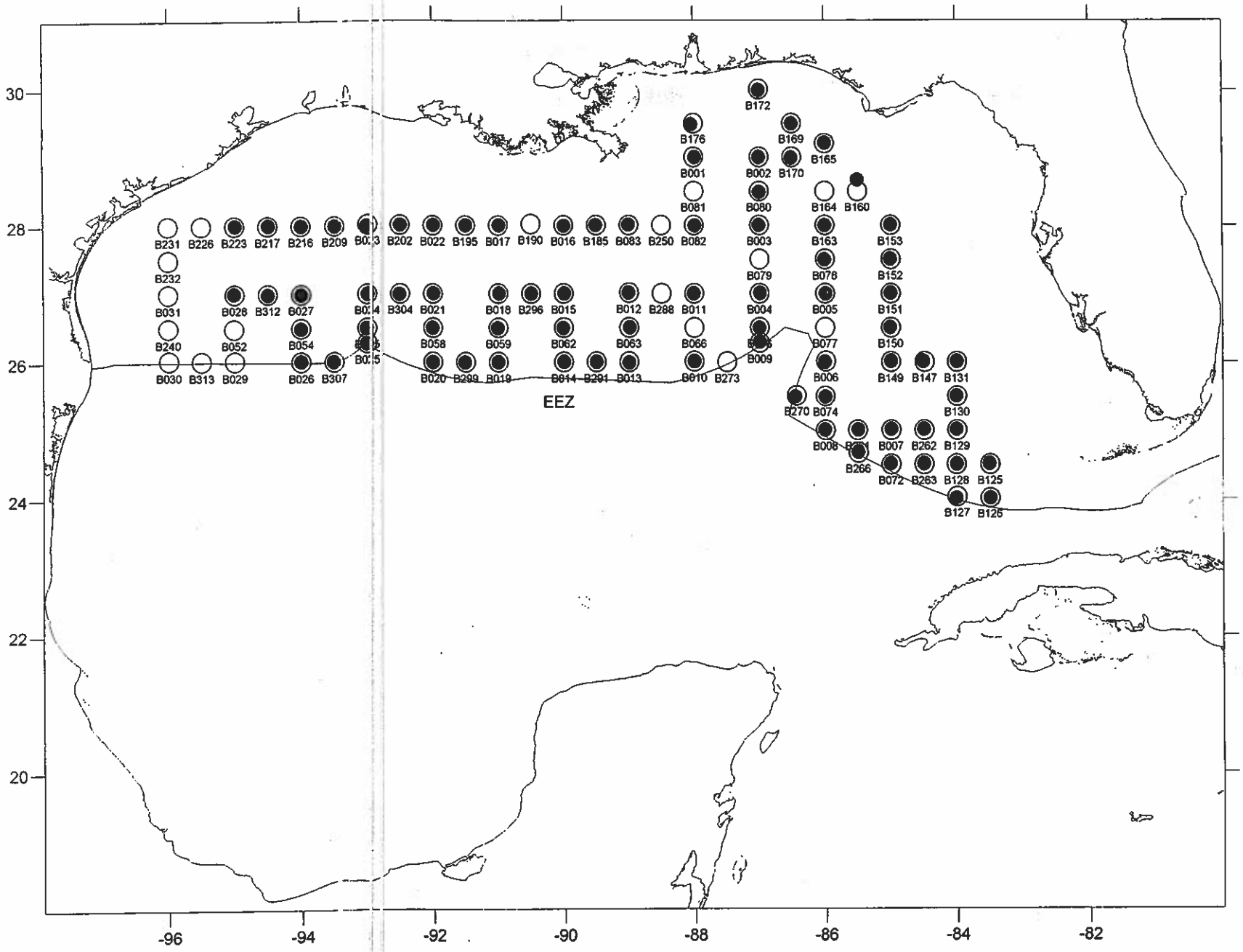

Figure 8. Positions of standard Spring SEAMAP plankton stations (open circles) with the stations sampled on Leg 3 (13 May - 1 June 2009) marked by filled circles.

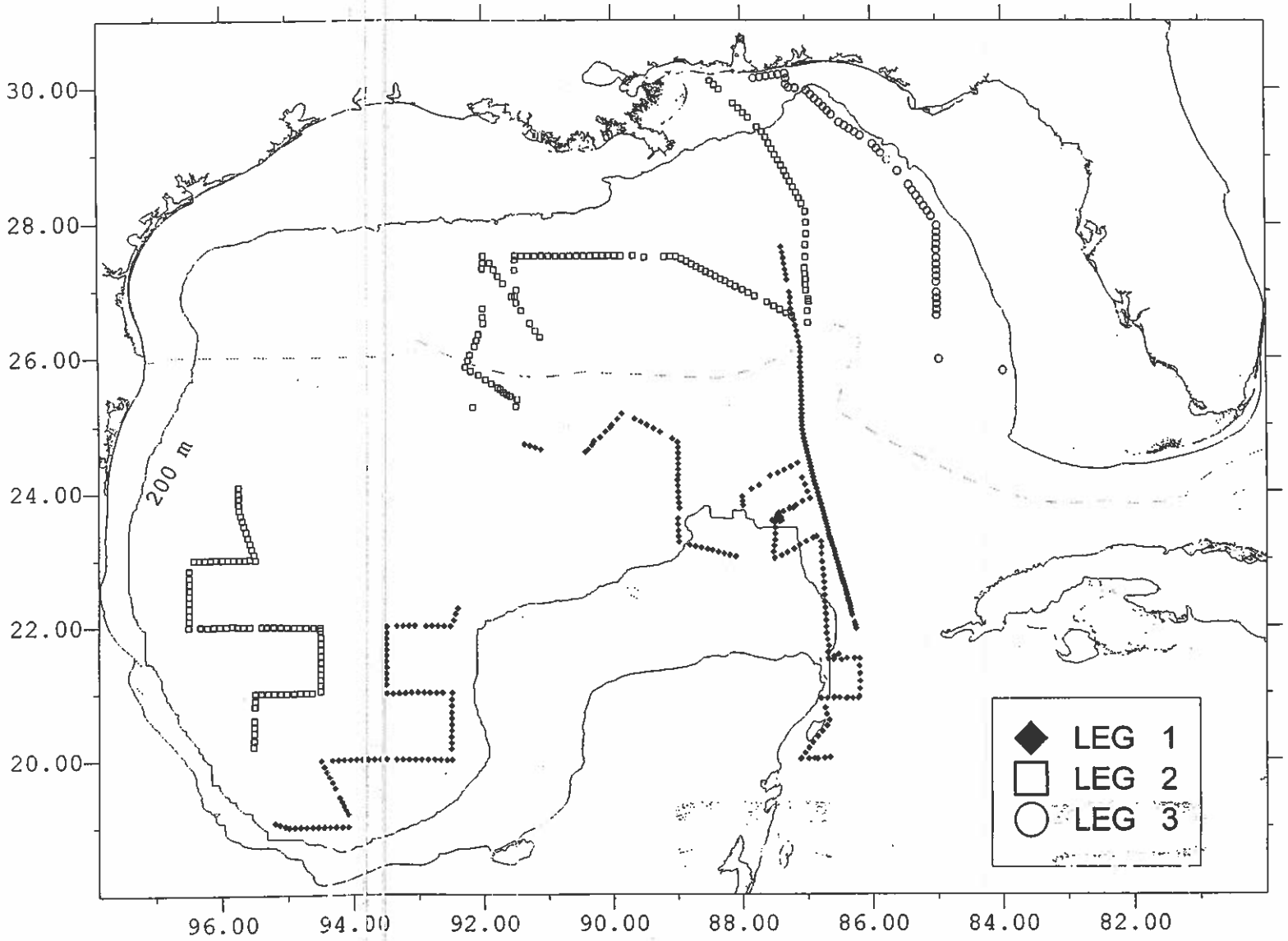

Figure 9. Locations of CUFES samples taken during the SEAMAP Spring Plankton Survey aboard the NOAA Ship *Gordon Gunter* cruise GU-09-02 (53), 29 March -1 June 2009.

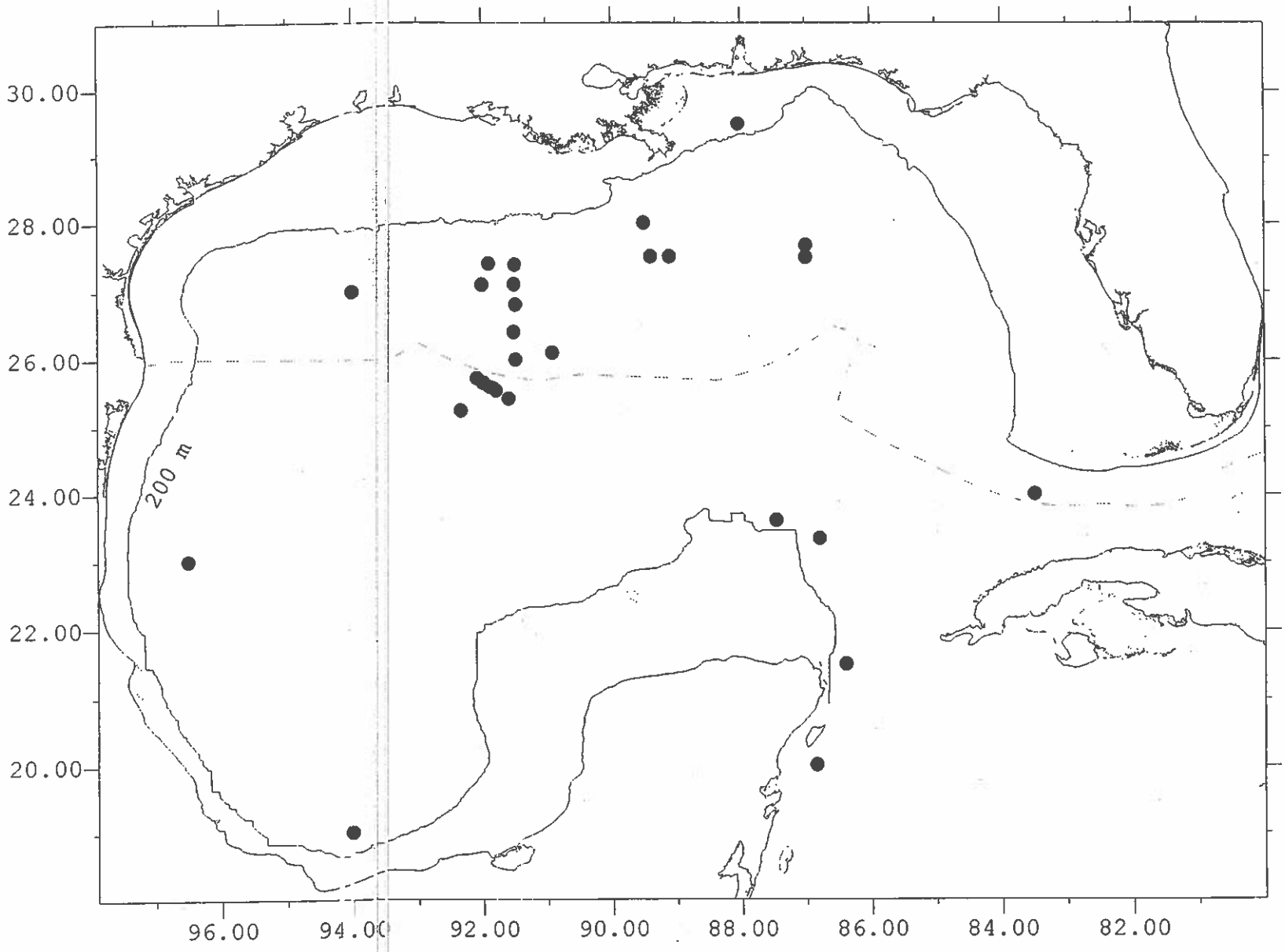

Figure 10. Locations of plastics collected during the SEAMAP Spring Plankton Survey aboard the NOAA Ship *Gordon Gunter* cruise GU-09-02 (53), 29 March -1 June 2009.