

CRUISE REPORT

Cruise Number: MF04-11

Vessel: NOAA Ship *Miller Freeman*

Area of Operations: Bering Sea

Itinerary: Depart Kodiak, Alaska: 24 September 2004
 Arrive Dutch Harbor, Alaska: 4 October 2004

Participating Organizations: NOAA/PMEL/FOCI

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Sarah Thornton	F	Canada	University of Alaska
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Cruise Objectives: The primary objective of the cruise was the recovery and deployment of moorings in the Bering Sea. The second objective was physical oceanographic property sampling at and near the mooring locations.

Summary of Operations and Samples Collected:

CTD Casts	12
Moorings Recovered	9
Moorings Deployed	3
Salinity Samples	11
Chlorophyll Samples	33
Bongo tows	11
CalVET casts	12
Nutrient Samples	32
Scripps underwater camera	1

Cruise Summary:

On September 24th NOAA Ship *MILLER FREEMAN* departed the U.S. Coast Guard Base in Kodiak, Alaska en route to the Bering Sea.

We arrived at our first site, Bering Sea site 2, on September 27th. We completed a CTD, bongo, and triplicate CalVETs prior to beginning mooring operations. We recovered the surface mooring and then the subsurface ADCP mooring. Next, we deployed two subsurface moorings – one with an ADCP and a HARP sensor. After mooring operations, a CTD, triplicate CalVETs, and a bongo were completed.

On September 28th we arrived at Bering Sea site 4. We completed a CTD, bongo, and triplicate CalVETs prior to beginning mooring operations. We recovered a subsurface mooring. The weather conditions deteriorated and while setting up for the mooring deployment a person working on deck sustained a hand injury. Operations were called off and we proceeded to St. Paul Island to seek shelter from the weather. We ceased operations for approximately 38 hours.

On September 30th, we began mooring operations in the Pribilof Islands area and completed the mooring deployment and post mooring biological sampling at site 4. Releases at two mooring sites in the Pribilofs, 04PIP-2A and 04PI-7A, did not reply. We believe these moorings may have been inadvertently moved by a fishing boat or tug. A search will be conducted next year for these moorings when sufficient time can be allocated.

NOAA Ship *MILLER FREEMAN* then proceeded to Samalga Pass where we searched for a mooring we were unable to locate last year. The mooring has a Benthos 865A release which has proved unreliable in PMEL/FOCI mooring operations. This year we were able to locate the mooring. However due to strong tidal currents tilting the release, the release tilt sensor prohibited the release from accepting a release command. The two windows of opportunity we had were too brief to safely recover the mooring. We will return next year when sufficient time can be allocated for this recovery.

NOAA Ship *MILLER FREEMAN* then proceeded to the Alaska Stream mooring 03GSP-9A. This mooring also has a Benthos 865A release and no response was received from the release during last year's recovery attempt. Initially we did not hear anything from the release. At this point it was decided to deploy the Scripps moored underwater camera. As we resumed our search for 03GSP-9A we received a reply indicating the release was approximately 9-10 miles away. Amidst erratic replies were some replies that appeared to be consistent. Due to the pre-programmed burn-wire on the Scripps mooring, we had to break off search operations and return to the camera site. We allowed one hour for locating the Scripps mooring. Weather conditions were steadily declining. The surface indicator never worked, but after 58 minutes had passed, a crew member spotted the camera mooring. The camera was safely recovered and pictures were successfully obtained every 2 minutes during the 4000+ meter deployment. We then resumed search operations for 03GSP-9A. Weather conditions continued to decline. Operations were eventually halted due to the erraticness of the replies compounded by the declining weather and lack of time. We believe that the release on this mooring may be at the original deployment site

and that the Benthos release is sending erroneous ranges. We will return next year when sufficient time can be allocated for this recovery.

The ship headed back to Dutch Harbor.

Summary of Cruise:

Days lost to weather – 1.5

Days lost to equipment failure – 0

Acknowledgments:

Captain John Herring and his crew are a pleasure to work with. Special thanks to the deck crew for their efforts during trying weather conditions. Also thanks to Aaron “eagle-eye” Vincient for spotting the camera buoy.

Attachments:

[Table 1: Cruise Summary MF04-11](#)

[Figure 1: Station Map](#)

Table 1: Cruise Summary MF04-11

Date	Time	Button	Notes	TRIMBLE-LAT		TRIMBLE-LON		EK500-DEPTH	Corrected Depth
9/27/2004	14:10:16	CTD at Depth	CTD 001	56	53.3495	164	2.2875	64	70
9/27/2004	14:29:43	Bongo at Depth	BON 001	56	53.4886	164	2.1049	65	71
9/27/2004	15:06:28	Calvet Depth	CAL 001	56	53.2362	164	2.9704	65	71
9/27/2004	15:18:47	Calvet Depth	CAL 002	56	53.2287	164	3.1386	65	71
9/27/2004	15:33:48	Calvet Depth	CAL 003	56	53.1935	164	3.3418	64.1	70
9/27/2004	17:17:31	Mooring Recover Mooring	04BSM-2A	56	52.4513	164	3.2597	66.1	72
9/27/2004	20:09:55	Recover	04BSP-2A	56	51.739	164	3.5259	65.1	71
9/27/2004	22:11:24	Mooring Deploy	04BS-2C	56	52.5164	164	3.4214	65	71
9/27/2004	23:07:31	Mooring Deploy	04BSP-2B	56	51.6144	164	3.6515	66.2	72
9/27/2004	23:26:12	CTD at Depth	CTD 002	56	52.3902	164	3.8661	65.1	71
9/27/2004	23:42:46	Calvet Depth	CAL 004	56	52.4016	164	4.0951	63.9	70
9/27/2004	23:57:36	Calvet Depth	CAL 005	56	52.2176	164	3.8756	65	71
9/28/2004	0:09:44	Calvet Depth	CAL 006	56	52.0315	164	3.9026	65.1	71
9/28/2004	0:30:08	Bongo at Depth	BON 002	56	52.297	164	3.7804	66.2	72
9/28/2004	16:21:30	CTD at Depth	CTD 003	57	50.7803	168	51.2699	62.1	68
9/28/2004	16:43:57	Bongo at Depth	BON 003	57	50.7966	168	50.8287	64.1	70
9/28/2004	17:10:33	Calvet Depth	CAL 007	57	51.3972	168	50.2544	65	71
9/28/2004	17:25:07	Calvet Depth	CAL 008	57	51.735	168	50.1469	65.1	71
9/28/2004	17:45:26	Calvet Depth	CAL 009	57	51.6577	168	51.3484	85.9	92
9/28/2004	18:05:51	Mooring Recover Mooring	04BS-4A	57	51.1157	168	52.3695	63.9	70
9/28/2004	18:39:33	Recover	04BS-4A	57	51.318	168	51.7409	64	70
9/30/2004	11:43:00	CTD at Depth	CTD 004	57	7.8012	170	33.9033	58.1	64
9/30/2004	12:01:46	Bongo at Depth	BON 004	57	8.3797	170	34.7782	60.1	66
9/30/2004	14:10:56	CTD at Depth	CTD 005	57	7.8049	171	12.4837	93.1	99
9/30/2004	14:28:31	Bongo at Depth	BON 005	57	7.56	171	12.8613	95.1	101
9/30/2004	18:05:39	Mooring Recover Mooring	04PIP-3A	57	7.6792	171	12.277	93.1	99
9/30/2004	20:52:34	Recover	04PIP-5A	57	7.6954	170	34.1962	58.1	64
10/1/2004	0:45:48	CTD at Depth	CTD 006	57	25.0476	169	41.4771	60.6	67
10/1/2004	0:58:06	Bongo at Depth	BON 006	57	25.0199	169	41.7955	60.6	67
10/1/2004	1:33:22	Mooring Recover	04PIP-6A	57	25.1817	169	40.5485	61.7	68
10/1/2004	6:10:29	Mooring Deploy	04BS-4B	57	51.1762	168	52.2034	65	71
10/1/2004	6:10:43	Mooring Deploy	04BS-4B	57	51.1794	168	52.206	65	71
10/1/2004	6:32:32	CTD at Depth	CTD 007	57	51.5053	168	51.5505	65.1	71
10/1/2004	6:46:08	Calvet Depth	CAL 010	57	51.5116	168	51.2152	64.1	70
10/1/2004	7:00:26	Calvet Depth	CAL 011	57	51.4536	168	50.9033	65	71

Date	Time	Button	Notes	TRIMBLE-LAT		TRIMBLE-LON		EK500-DEPTH	Corrected Depth
10/1/2004	7:13:35	Calvet Depth	CAL 012	57	51.4451	168	51.4787	65	71
10/1/2004	7:31:52	Bongo at Depth	BON 007	57	51.4751	168	51.1931	65	71
10/1/2004	15:39:22	CTD at Depth	CTD 008	56	54.5403	169	34.9889	60.1	66
10/1/2004	15:50:59	Bongo at Depth Mooring	BON 008	56	54.7805	169	34.9375	62	68
10/1/2004	17:07:52	Recover	04PIP-1A	56	54.6714	169	35.7501	64	70
10/1/2004	19:47:24	CTD at Depth	CTD 009	56	35.1112	170	5.2623	95	101
10/1/2004	20:00:48	Bongo at Depth	BON 009	56	35.1054	170	5.5052	95	101
10/2/2004	1:16:29	CTD at Depth Mooring	CTD 010	56	17.0156	169	42.5198	224.9	231
10/2/2004	5:16:56	Recover	04PIP-4A	56	37.9544	168	52.5025	96	102
10/2/2004	6:14:33	CTD at Depth	CTD 011	56	37.7319	168	53.0072	96.9	103
10/2/2004	6:29:37	Bongo at Depth	BON 010	56	37.7452	168	52.6936	97	103
10/2/2004	9:13:29	CTD at Depth	CTD 012	56	14.083	168	35.6093	190	196
10/2/2004	9:29:42	Bongo at Depth Mooring	BON 011	56	14.2838	168	35.2513	186	192
10/2/2004	10:02:57	Recover	04PI-8A	56	13.8569	168	34.994	192.1	198

Figure 1: Station Map

