FINAL CRUISE INSTRUCTIONS
ECO-FOCI

NOAA Ship *MILLER FREEMAN*, Cruise MF-05-02 Leg1
February 18 – 20, 2005
Chief Scientist – William J. Floering, NOAA/PMEL

1.0 FINAL CRUISE INSTRUCTIONS

1.1 Cruise Title – EDD Experimental Surface Mooring Recovery

1.2 Cruise Numbers:

1.2.1 Cruise Number – MF-05-02 Leg1

1.2.2 Eco-FOCI Number – 1MF05

1.3 Cruise Dates:

1.3.1 Departure – Depart from Kodiak, Alaska, on Friday, February 18, 2005.

1.3.2 Arrival – Arrive in Seward, Alaska, on Sunday, February 20, 2005.

1.4 Operating Area – Gulf of Alaska, Kodiak to Seward, Alaska.

2.0 CRUISE OVERVIEW

2.1 Cruise Objectives – To recover PMEL's Engineering Development Division's (EDD) experimental surface mooring deployed south of Seward, Alaska. To search for and recover missing GLOBEC mooring 04GBP-12A. To conduct bongo tows in the area of the moorings, if time allows.

2.2 Applicability – These instructions, with ***FOCI Standard Operating Instructions for NOAA Ship MILLER FREEMAN***, dated October 6, 2003, present complete information for this cruise.

2.3 Participating Organization

NOAA – Pacific Marine Environmental Laboratory (PMEL)
7600 Sand Point Way N.E.
Seattle, Washington 98115-6439

2.4 Personnel

2.4.1 Chief Scientist

Name	Gender	Affiliation	E-mail Address
William J. Floering	M	PMEL	William.Floering@noaa.gov

2.5 Administration

2.5.1 Ship Operations

Marine Operations Center, Pacific
1801 Fairview Avenue East, Seattle, Washington 98102-3767
Telephone: (206) 553-4548
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Commander Mark P. Ablondi, NOAA
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E-mail: Larry.Mordock@noaa.gov

2.5.2 Scientific Operations

Dr. Phyllis J. Stabeno, PMEL
Telephone: (206) 526-4148
E-mail: Phyllis.Stabeno@noaa.gov

3.0 OPERATIONS

3.1 Data To Be Collected – The standard suite of SCS sensors, navigational trackline, and ADCP data.

3.1.1 Scientific Computer System (SCS) – The ship's SCS shall operate throughout the cruise, acquiring and logging data from navigation, meteorological, oceanographic, and fisheries sensors. See ***FOCI Standard Operating Instructions for NOAA Ship MILLER FREEMAN*** (SOI 5.2) for specific requirements.

3.2 Staging Plan – An empty wooden box for shipping recovered mooring chain, two acoustic release deck units, and tools will be loaded onto **NOAA ship *MILLER FREEMAN*** when the ship is in port in Seattle, Washington, in January 2005.

3.3 **De-staging Plan** – The recovered mooring equipment will remain on board until the March 3, 2005, arrival in Dutch Harbor, Alaska. All mooring equipment will be shipped to Seattle, Washington, from Dutch Harbor, Alaska.

3.4 **Cruise Plan** – To recover PMEL's EDD experimental surface mooring deployed south of Seward, Alaska. To search for and recover missing GLOBEC mooring 04GBP-12A. To conduct bongo tows in the area of the moorings, if time allows. See Section 9.2 MF-05-02 Leg 1 Cruise Chartlet.

3.5 **Station Locations**:

3.5.1 **EDD Experimental Surface Mooring**

Latitude			Longitude		
59°	17.726'	N	148°	58.099'	W

3.5.2 **GLOBEC Subsurface Mooring 04GBP-12A**

Latitude			Longitude		
58°	41.017'	N	148°	50.848'	W

3.6 **Station Operations** – The following are operations to be conducted on this cruise. The procedures for these operations are listed in the ***FOCI Standard Operating Instructions for NOAA Ship MILLER FREEMAN*** (SOI). Operations not addressed in the SOI and changes to standard procedures are addressed below.

- MARMAP Bongo Tows (SOI 3.2.2),
- SIMRAD EK 500 Scientific Echosounder Monitoring (SOI 3.2.12),
- Possible dragging operations to recover 04GBP-12A.

3.7 **Underway Operations** – The following are underway operations to be conducted on this cruise. The procedures for these operations are listed in the ***FOCI Standard Operating Instructions for NOAA Ship MILLER FREEMAN*** (SOI). Operations not addressed in the SOI and changes to standard procedures are addressed below.

- Radiometer Operations (SOI 3.2.14),
- Scientific Computer System (SCS) data acquisition (SOI 5.2),
- Thermosalinograph monitoring (SOI 5.3).

3.8 **Applicable Restrictions** – None.

3.9 **Small Boat Operations** – Weather permitting, the small boat may be needed for mooring operations to recover the surface mooring.

4.0 FACILITIES

4.1 Equipment and Capabilities Provided by Ship

- Manual wire-angle indicator,
- Oceanographic winch with slip rings and 3-conductor cable terminated for the SBE SEACAT, for net tow operations,
- Sea-Bird Electronics' SBE-19 SEACAT system,
- Meter block for plankton tows,
- Wire speed indicators and readout for quarterdeck, Rowe, and Marco winches,
- For meteorological observations: 2 anemometers (one R. M. Young system interfaced to the SCS), calibrated air thermometer (wet-and dry-bulb) and a calibrated barometer and/or barograph,
- Freezer space for storage of biological and chemical samples (blast and storage freezers, indicate desired temperatures),
- SIMRAD EQ-50 echosounder,
- JRC JFV-200R color sounder recorder,
- RD Instruments' ADCP written to Iomega Zip drive,
- Use of Pentium PC in DataPlot for data analysis,
- Scientific Computer System (SCS),
- Electrical connection between Rowe winch and DataPlot,
- Removable stern platform in place,
- Laboratory space with exhaust hood, sink, lab tables and storage space,
- Sea-water hoses and nozzles to wash nets (quarterdeck and aft deck),
- Adequate deck lighting for night-time operations,
- Navigational equipment including GPS and radar,
- Safety harnesses for working on quarterdeck and fantail, and
- Ship's crane(s) used for loading and/or deploying.

4.2 Equipment and Capabilities Provided by Scientists – See Section 9.1 MF-05-02 Leg 1 Equipment Inventory for weights and dimensions.

- Sea-Bird Electronics' SBE-19 SEACAT system,
- PMEL PC with SEASOFT software for CTD data collection and processing,
- 60-cm Bongo sampling arrays,
- Surface moorings (EDD experimental platform),
- Subsurface mooring,
- Miscellaneous scientific sampling and processing equipment,
- Sorting tables and baskets for processing trawl catches,
- Scientific ultra-cold freezer, and
- Cruise Operations Database (COD).

5.0 DISPOSITION OF DATA AND REPORTS

5.1 The following data products will be included in the cruise data package:

- **NOAA Form 77-13d, *Deck Log – Weather Observation Sheets***,
- Electronic Marine Operations Abstracts,
- SCS backup – recordable compact diskette (CD-RW),

- Calibration Sheets for all ship's instruments used, and
- Ultra-cold Freezer Temperature Daily Log (SOI 5.4).

5.2 **Pre- and Post-cruise Meetings** – Cruise meetings may be held in accordance with ***FOCI Standard Operating Instructions for NOAA Ship MILLER FREEMAN*** (SOI 5.5).

6.0 ADDITIONAL PROJECTS

6.1 **Definition** – Ancillary and piggyback projects are secondary to the objectives of the cruise and should be treated as additional investigations. The difference between the two types of secondary projects is that an ancillary project does not have representation aboard and is accomplished by the ship's force.

6.2 **Ancillary Projects** – Any ancillary work done during this project will be accomplished with the concurrence of the Chief Scientist and on a not-to-interfere basis with the programs described in these instructions and in accordance with the ***NOAA Fleet Standing Ancillary Instructions***.

6.3 **Piggyback Projects** – None.

7.0 HAZARDOUS MATERIALS – None.

8.0 MISCELLANEOUS

8.1 **Communications** – Specific information on how to contact the **NOAA Ship *MILLER FREEMAN*** and all other fleet vessels can be found at:

http://www.moc.noaa.gov/phone.htm

8.2 **Important Telephone and Facsimile Numbers and E-mail Addresses**

8.2.1 **Pacific Marine Environmental Laboratory (PMEL)**:

FOCI – Ocean Environmental Research Division (OERD2):
- (206) 526-4700 (voice)
- (206) 526-6485 (fax)

Administration:
- (206) 526-6810 (voice)
- (206) 526-6815 (fax)

E-Mail: FirstName.LastName@noaa.gov

8.2.2 **Alaska Fisheries Science Center (AFSC)**:

FOCI – Resource Assessment and Conservation Engineering (RACE):
- (206) 526-4171 (voice)
- (206) 526-6723 (fax)

E-Mail: FirstName.LastName@noaa.gov

8.2.3 **NOAA Ship *MILLER FREEMAN*** – Telephone methods listed in order of increasing expense:

Homeport – Seattle, Washington:
- (206) 553-4589
- (206) 553-4581
- (206) 553-8344

United States Coast Guard – Kodiak, Alaska
- (907) 487-9752
- (907) 487-9753
- (907) 487-4397
- (907) 487-4398

Cellular:
- (206) 790-7594

Iridium:
- (808) 659-5684

INMARSAT Mini-M:
- 011-872-761-267-346 (voice/PBX)
- 011-872-761-267-347 (voice)
- 011-872-761-267-348 (fax)

INMARSAT B:
- 011-872-330-394-120 (voice)
- 011-872-330-394-121 (fax)

E-Mail: NOAA.Ship.Miller.Freeman@noaa.gov (mention the person's name in SUBJECT field)

8.2.4 **Marine Operations Center, Pacific (MOP)**:

Operations Division (MOP1)
- (206) 553-4548 (voice)
- (206) 553-1109 (facsimile)

E-Mail: FirstName.LastName@noaa.gov

E-Mail to Radio Room: Radio.Room@noaa.gov

9.0 APPENDICES

9.1 MF-05-02 Leg 1 Equipment Inventory

Item	Quantity	Weight	
Wooden box w/ mooring dragging gear (4'x4')	1	500	lbs
Acoustic deck units	2	60	lbs
Recovered surface mooring	1	1,800	lbs
Recovered mooring gear	1	2,200	lbs
Mooring gear from GB-12	1	900	lbs

9.2 MF-05-02 Leg 1 Cruise Chartlet