

FINAL CRUISE INSTRUCTIONS

FOCI

NOAA Ship *MILLER FREEMAN*, Cruise MF-04-13
November 12 – November 16, 2004
Chief Scientist – William J. Floering, NOAA/PMEL/AFSC

1.0 FINAL CRUISE INSTRUCTIONS

1.1 **Cruise Title** – U-Tow Set Up, Testing and Training.

1.2 **Cruise Numbers**

1.2.1 **Cruise Number** – MF-04-13

1.2.2 **FOCI Number** – Not applicable.

1.3 **Cruise Dates:**

1.3.1 **Departure** – Depart Friday, November 12, 2004, from Astoria, Oregon.

1.3.2 **Arrival** – Arrive Tuesday, November 16, 2004, in Seattle, Washington.

1.4 **Operating Area** – Transit from Astoria, Oregon, to Puget Sound, Washington, with operations in Puget Sound.

2.0 CRUISE OVERVIEW

2.1 **Cruise Objectives** – To set up, test and train on the newly acquired U-Tow towed vehicle.

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 Organizations**

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

NOAA – Alaska Fisheries Science Center (AFSC)
7600 Sand Point Way N.E., Seattle, Washington 98115-0070

EnviroTech, LLC
1517 Technology Drive, Suite 101, Chesapeake, Virginia 23320
Tel: (757) 549-8474

2.4 Personnel

2.4.1 Chief Scientist

Name	Gender	Affiliation	E-mail Address	Boarding
William J. Floering (206) 526-6522	Male	PMEL	William.Floering@noaa.gov	Astoria, OR

2.4.2 Participating Scientists – Two to four Alaska Fisheries Science Center personnel are yet to be name.

Name	Gender	Affiliation	E-mail Address	Boarding
William J. Floering	Male	PMEL	William.Floering@noaa.gov	Astoria, OR
Mark Rawlinson	Male	EnviroTech	Mark@n-virotech.com	Astoria, OR
Sigrid A. Salo	Female	PMEL	Sigrid.A.Salo@noaa.gov	Astoria, OR
Peter Proctor	Male	PMEL	Peter.Proctor@noaa.gov	Seattle, WA
Earl Roskie	Male	PMEL	Earl.Roskie@noaa.gov	Seattle, WA
Carol L. DeWitt	Female	PMEL	Carol.DeWitt@noaa.gov	Seattle, WA
Carol Ladd	Female	PMEL	Carol.Ladd@noaa.gov	Seattle, WA
TBN		AFSC		Seattle, WA
TBN		AFSC		Seattle, WA
TBN		AFSC		Seattle, WA
TBN		AFSC		Seattle, WA

2.5 Administration

2.5.1 Ship Operations

Marine Operations Center, Pacific
1801 Fairview Avenue East, Seattle, Washington 98102-3767
Telephone: (206) 553-4548
Fax: (206) 553-1109

Commander Mark P. Ablondi, NOAA
Chief, Operations Division, Pacific (MOP1)
Telephone: (206) 553-8705
Cellular: (206) 390-7527
E-mail: Mark.Ablondi@noaa.gov

Larry Mordock
Deputy Chief, Operations Division (MOP1x1)
Telephone – Work: (206) 553-4764
Home: (206) 365-3567
Cellular: (206) 465-9316
E-mail: Larry.Mordock@noaa.gov

2.5.2

Scientific Operations

Dr. Phyllis J. Stabeno, PMEL
Telephone: (206) 526-6453
E-mail: Phyllis.Stabeno@noaa.gov

Dr. Jeffrey M. Napp, AFSC
Telephone: (206) 526-4148
E-mail: Jeff.Napp@noaa.gov

3.0 OPERATIONS

3.1 Data To Be Collected – Sensor data will be collected from the U-Tow towed vehicle. The newly modified aft Rowe winch, conductive wire, slip rings and connections to data plot will be tested.

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 – The U-Tow system, sensors, tools, and associated equipment will be loaded aboard **NOAA Ship MILLER FREEMAN** dockside in Astoria, Oregon, upon completion of the Northwest Fisheries Science Center's Pacific Coast Observation System (PaCOS) cruise on or about Thursday, November 11, 2004.

3.3 De-staging Plan – All PMEL equipment will be offloaded dockside at the Marine Operations Center – Pacific, in Seattle, Washington, on Wednesday, November 17, 2004.

3.4 Cruise Plan – William Floering, Mark Rawlinson, and Sigrid Salo will board **NOAA Ship MILLER FREEMAN** in Astoria, Oregon, at the conclusion of the Northwest Fisheries Science Center's Pacific Coast Observation System (PaCOS) cruise. During the transit to Puget Sound, Washington, the U-Tow will be assembled, connected to the conductive wire winch, and tested on deck. If deck testing is successful, a test tow to 200 meters will be completed before arriving at Shilshole Bay, Washington.

Upon arriving in Puget Sound, arrangements will be made to embark scientific personnel at Shilshole Bay for a series of test tows and training tows over a 2-3 day period. Operations will not require 24-hour staffing, it is anticipated that personnel transfers will take place in the mornings and evenings, leaving the days open for testing and training. The exact schedule for embarking and disembarking scientific personnel will depend on proximity to a suitable towing location and the completion of testing and training dives. CTD casts may be taken for comparison with the U-Tow sensors.

3.5 Station Locations – There are no specified sampling stations for this cruise but for a portion of the testing a water depth of 240 meters is requested. Tows may last 20 minutes to 3 hours at vessel speeds of 5 to 11 knots. We would like to meet our depth and duration tow criteria as well as minimizing transit time to embark and disembark various teams of participating scientists. A towing path will be worked out with the command during the transit from Astoria, Oregon, to Puget Sound, Washington. If necessary we may schedule the first maximum system depth tow – 250 meters maximum – during the Astoria to Puget Sound transit.

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:

- CTD/Water Sample Operations (SOI 3.2.1) and
- Chlorophyll Sampling Operations (SOI 3.2.10)

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),
- Fluorometer monitoring (SOI 5.3), and
- Thermosalinograph monitoring (SOI 5.3).

3.8 Applicable Restrictions – None.

3.9 Small Boat Operations – The small boat will be needed for embarking and disembarking several teams of scientific personnel at the beginning and end of each day.

4.0 FACILITIES

4.1 Equipment and Capabilities Provided by Ship

- Oceanographic winch with slip rings and 3-conductor cable terminated for CTD,
- Oceanographic winch with slip rings and multi-conductor cable terminated for U-Tow,
- Sea-Bird Electronics' SBE 911*plus* CTD system with stand, each CTD system should include underwater CTD, weights, and pinger. There should be one deck unit and tape recorder for the two systems,
- 10-liter Niskin sampling bottles for use with rosette (10 plus 4 spares),
- Conductivity and temperature sensor package to provide dual sensors on the CTD (primary),
- AUTOSAL salinometer, for CTD field corrections,
- 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,
- SIMRAD EQ-50 echosounder,
- JRC JFV-200R color sounder recorder,
- Bench space in Dataplot computer rack for the U-Tow deck unit,
- Use of Pentium PC in DataPlot for data analysis,
- Scientific Computer System (SCS),
- Electrical connection between Rowe winch and DataPlot,
- 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,
- Ship's crane(s) used for loading and/or deploying, and
- Slip lines for U-Tow deployment and recovery off the stern.

4.2 Equipment and Capabilities Provided by Scientists

- Sea-Bird Electronics' SBE 911*plus* CTD system,
- EnviroTech U-Tow system,
- PMEL PC with SEASOFT software for CTD data collection and processing,
- Fluorometer and light meter to be mounted on CTD,
- CTD stand modified for attachment of fluorometer,
- Conductivity and temperature sensor package to provide dual sensors on the CTD (backup),
- CTD rosette sampler,
- Miscellaneous scientific sampling and processing equipment, and
- Scientific ultra-cold freezer.

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,
- CTD Cast Information/Rosette Log, and
- Autosal Log sheet.

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 **HAZARDOUS MATERIALS** – None.

7.0 MISCELLANEOUS

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

<http://www.pmc.noaa.gov/phone.htm>

7.2 Important Telephone and Facsimile Numbers and E-mail Addresses

7.2.1 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

7.2.2 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

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

Homeport – Seattle, Washington:

- (206) 553-4589
- (206) 553-4581
- (206) 553-8344

Cellular:

- (206) 660-7167

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)

7.2.4 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

8.0 APPENDICES

8.1 Equipment Inventory – U-Tow System approximately 250-lbs.