NOAA *Ocean Exploration*

MAPPING DATA REPORT

CRUISE EX-14-02 Leg II

Exploration Mapping: Gulf of Mexico

March 19 – April 4, 2014

Galveston, TX to Pascagoula, MS

Report Contributors:
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July 7, 2014

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1. Introduction

NOAA Ship *Okeanos Explorer*

Commissioned in August 2008, the NOAA Ship *Okeanos Explorer* is the nation's only federal vessel dedicated to ocean exploration. With 95% of the world's oceans left unexplored, the ship's combination of scientific and technological tools uniquely positions it to systematically explore new areas of our largely unknown ocean. These exploration cruises are explicitly designed in collaboration with the broad science community to provide a foundation of publicly accessible baseline data and information to support science and management needs. This baseline information often leads to further, more detailed, investigations by other parties.

The unique combination of mission capabilities including a high-resolution multibeam sonar, deep water remotely operated vehicles, telepresence technology, and integrated data management system quicken the scientific discovery and dissemination process. These systems enable us to identify new targets in real time, dive on those targets shortly after initial detection, and then send this information back to shore for immediate near-real-time collaboration with scientists and experts at Exploration Command Centers around the world. The integrated data management system provide for the quick dissemination of information-rich products to the scientific community. This ensures that discoveries are immediately available to experts in relevant disciplines for research and analysis.

Through the operation and maintenance of the mission capabilities, NOAA's Office of Ocean Exploration and Research (OER) provides the nation with unparalleled capacity to discover and investigate new oceanic regions and phenomena, conduct baseline research required to document discoveries, and seamlessly disseminate data and information-rich products to a multitude of users. OER strives to develop technological solutions and innovative applications to critical problems in undersea exploration and to provide resources for developing, testing, and transitioning solutions to meet these needs.

***Okeanos Explorer* Management – a unique partnership within NOAA**

The *Okeanos Explorer* combines the capabilities of a NOAA research ship with shore-based high speed networks and infrastructure to conduct systematic telepresence-enabled exploration of the world ocean. The ship is operated, managed and maintained by NOAA's Office of Marine and Aviation Operations, which includes commissioned officers of the NOAA Corps and civilian wage mariners. OER owns and is responsible for operating and managing the cutting-edge ocean exploration systems on the vessel (ROV, mapping and telepresence) and ashore including Exploration Command Centers and terrestrial high speed networks. The ship and shore-based infrastructure combine to be the only federal program dedicated to systematic telepresence-enabled exploration of the planet's largely unknown ocean.

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2. Report Purpose

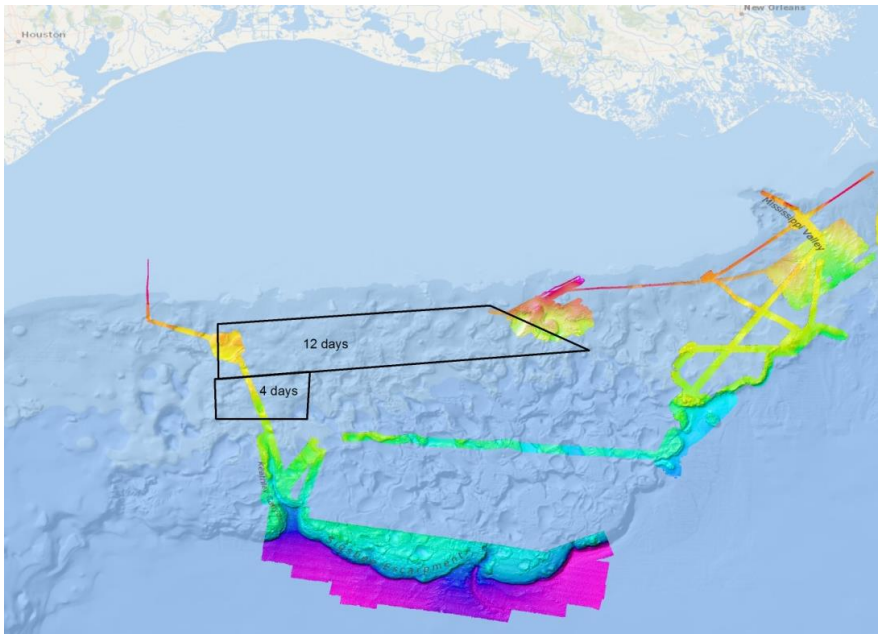
The purpose of this report is to briefly describe the mapping data collection and processing methods, and to report the major results of the cruise. For a detailed description of *Okeanos Explorer* mapping capabilities, see the appendices section 'Kongsberg EM 302 Multibeam Sonar Description and Operational Specifications' and the ship's readiness report, which can be obtained by contacting the ships operations officer (ops.explorer@noaa.gov).

This report focuses on exploration expedition EX-14-02 Leg II during which areas of Gulf of Mexico were mapped.

3. Cruise Objectives

The cruise objectives of expedition EX-14-02 Leg II were defined in EX-14-02 Leg II Project Instructions. EX-14-02 Leg II operations focused on mapping an area southeast of Flower Garden Banks National Marine Sanctuary in the northwestern Gulf of Mexico (Figure 1). The mapping area was selected with guidance from the Gulf of Mexico Fisheries Management Council, NOAA National Centers for Coastal Ocean Science (NCCOS, Brian Kinlan and Peter Etnoyer), NOAA Deep Sea Coral Research and Technology Program (Tom Hourigan), NOS National Marine Sanctuary Program, NMFS Southeast Fisheries Science Center (SEFSC), and the Cooperative Institute for Ocean Exploration, Research, and Technology (CIOERT, John Reed and Shirley Pomponi).

Mapping data collected during this expedition will provide the scientific community with high-resolution base maps enabling study of habitats in the area. The maps and data will be used to improve the scientific community's current understanding of ecological connections between mid-water and deepwater biological habitats.



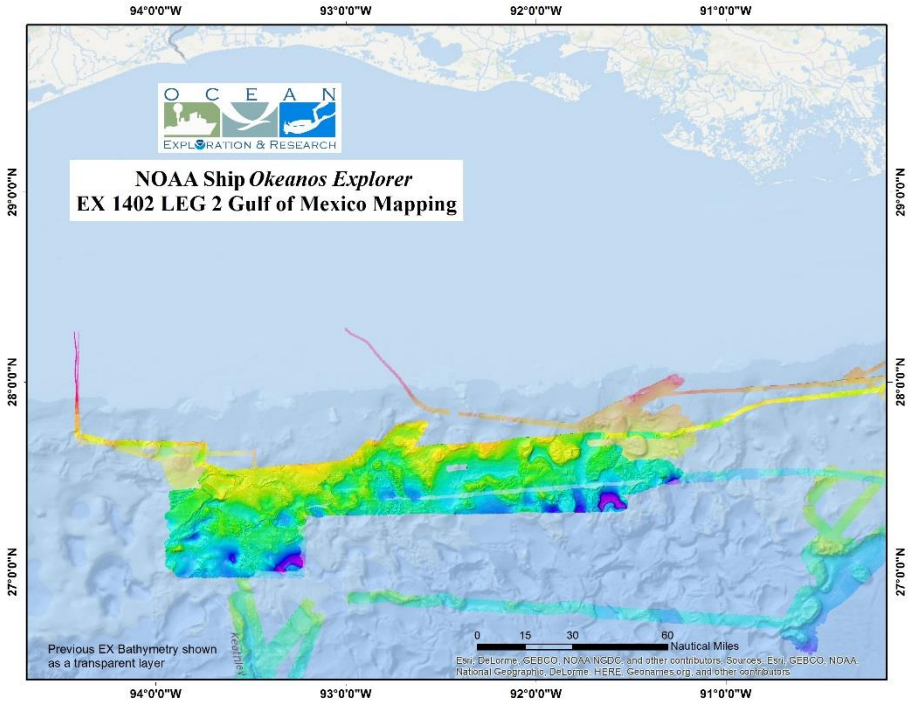


Figure 1. Top map shows the priority areas for EX-14-02 Leg II along with expected time to be spent at each site. Previous mapping coverage in vicinity of work areas is also shown. The bottom map is an overview of EX-14-04 Leg II. Previous EX bathymetry is shown as a transparent layer. Images created in ESRI ArcGIS.

The EX-14-02 Leg II mission objectives (as per EX-14-02 Leg II project instructions, March 11, 2014) are listed below:

a. Safe transit mapping

The objective of transit exploration was to collect ancillary mapping data during safe transits to-and-from the priority mapping area. Continuous data collection (24 hours per day) occurred for the following: EM302 multibeam bathymetry, bottom backscatter, and water column backscatter; EK 60 singlebeam bathymetry and water column; and Knudsen sub-bottom profiler data. Data collection ceased in depths shallower than 50 m.

The safety fairway transit route from Galveston, TX to the priority mapping area was approximately 130 NM (240 km), which took approximately 14 hours at typical transit speeds (~ 9-10 knots). The safety fairway route from the priority mapping area to Pascagoula, MS was approximately 310 NM (574 km), which took approximately 32 hours at transit speeds (~ 9-10 knots).

b. Focused priority area mapping

The remaining approximate 17 days of the expedition were dedicated to focused exploration mapping operations within the priority mapping boxes (Figure 1). These operations included:

1. Continuous data collection for the following data types: EM302 multibeam

bathymetry, bottom backscatter, and water column backscatter; EK 60 singlebeam bathymetry and water column; and Knudsen sub-bottom profiler data. XBT casts were collected at regular intervals no longer than 6 hours apart, conditions permitting.

c. Science objectives

1. Identify and explore the diversity of benthic habitats in the region (e.g. seeps or gaseous bubble plumes, hard-bottom) by building upon mapping coverage obtained during EX1202 Leg 3 and EX1203.

d. *Telepresence* (VSAT 5 mb/sec ship to shore; T1 shore to ship)

1. Testing and refining ship-to-shore communications and operations procedures;

2. Testing and refining operating procedures and products;

3. Maintaining a single live stream video from ship to shore.

4. Participating Personnel

NAME	ROLE	AFFILIATION
CDR Ricardo Ramos	Commanding Officer	NOAA Corps
LT Emily Rose	Field Operations Officer	NOAA Corps
Lindsay McKenna	Expedition Coordinator / Mapping Team Lead	NOAA OER / ERT Inc.
Erin Weller	Mapping Watch Leader	NOAA AHB
Tyanne Faulkes	Mapping Watch Leader	NOAA AHB/PHB
Jacklyn James	Mapping Watch Leader	NOAA OMAO
Kevin Parine	Mapping Watch Stander	NOAA OER / UCAR
Marah Dahn	Mapping Watch Stander	NOAA OER / UCAR
Shannon Penna	Mapping Watch Stander	NOAA OER / UCAR

5. Summary of Major Findings

Bathymetry collected during EX-14-02 Leg II, gridded to 50 m resolution, is shown in Figure 2. Additionally, the location of 102 XBT casts deployed over the course of the expedition are shown as points on the map. Seafloor elevations range from -100 m to -1500 m. Several salt dome and basin features were observed. Data gaps exist around two oil rigs.

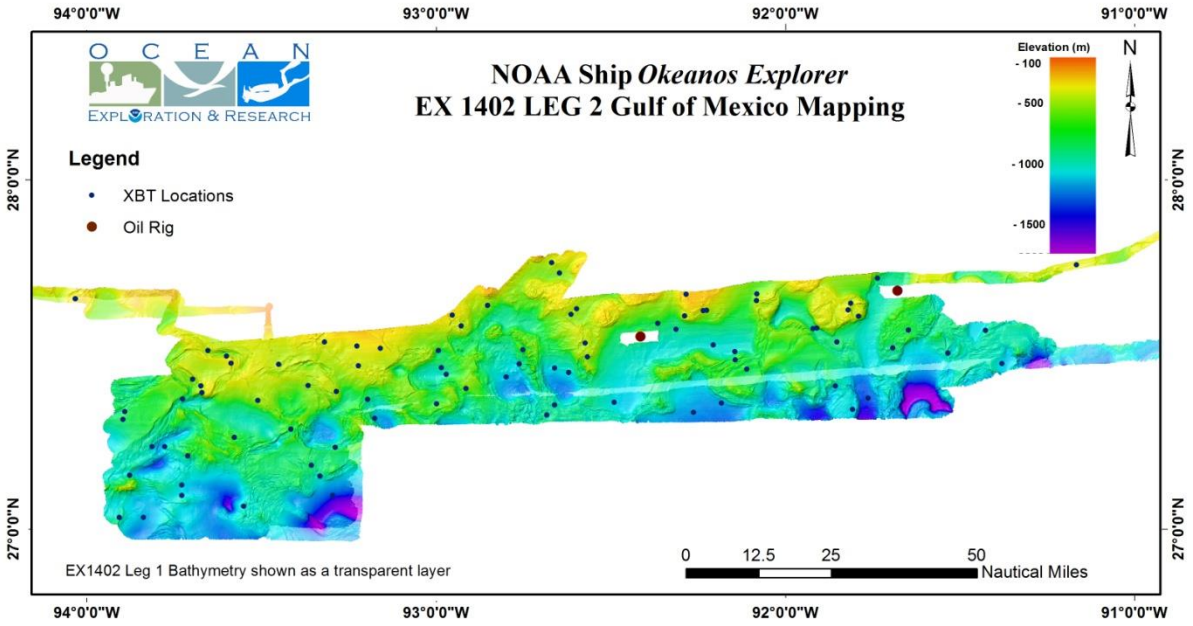


Figure 2. Bathymetry data acquired during EX-14-02 Leg II showing XBT cast locations and the oil rig locations which hindered collection of data.

During EX-14-02 Leg II mapping operations the EM302 water column backscatter detected approximately 695 water column anomaly targets presumed to be gaseous bubble plumes rising from the seafloor. The EK60 detected 15 distinct targets, also presumed to be gaseous bubble plumes. Figures 5 and 6 show the location of the bubble plumes draped over both bathymetry and backscatter.

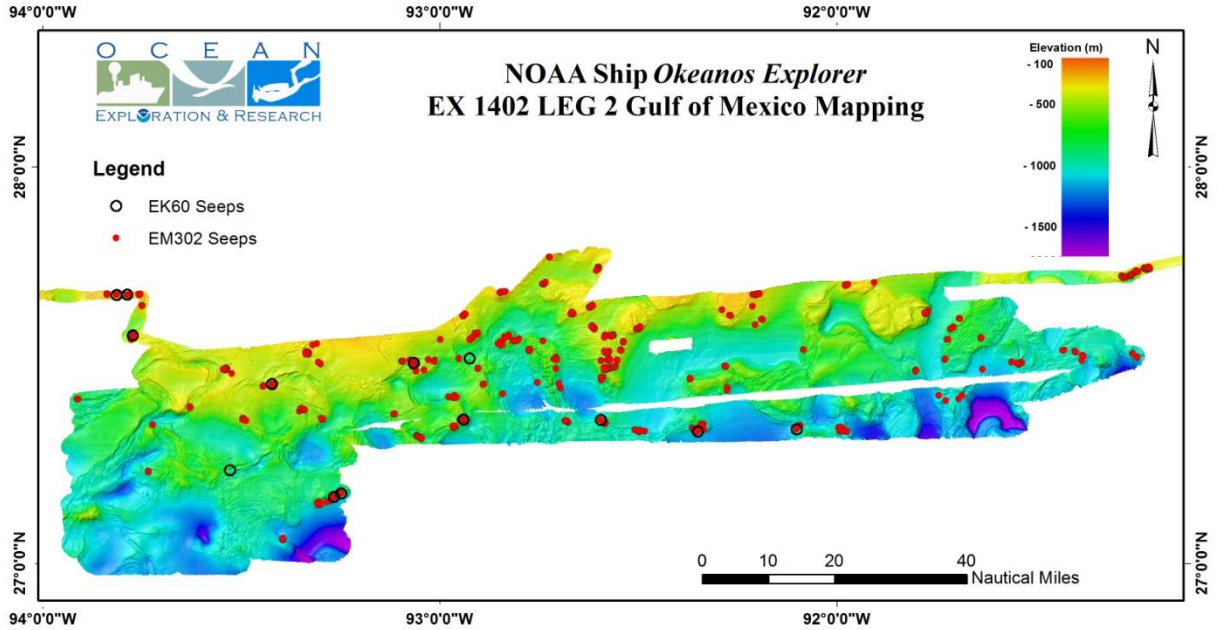


Figure 3. Compilation of possible gaseous bubble plumes in the priority mapping area detected by EM 302 and EK 60 water column backscatter data.
EX1402L2Mapping Data

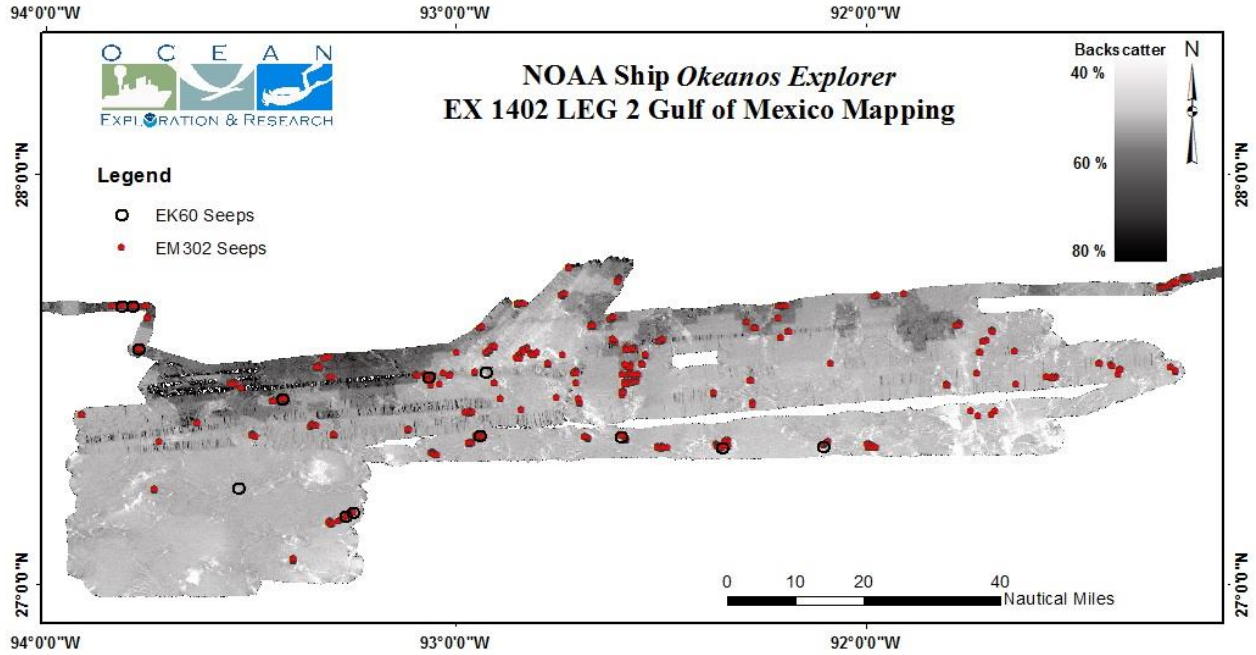


Figure 4. Backscatter of the mapping area with probable gaseous bubble plumes locations.

A table of the water column targets detected during this expedition is provided in Appendix B.

Subbottom profile penetration into the seafloor was good throughout the cruise. Penetration into the seafloor ranged from 20-80 m. Figure 7 shows an example of a basin like feature at water depth of 900 to 1000 m, the feature has sloped sides and layered sediments in the middle.

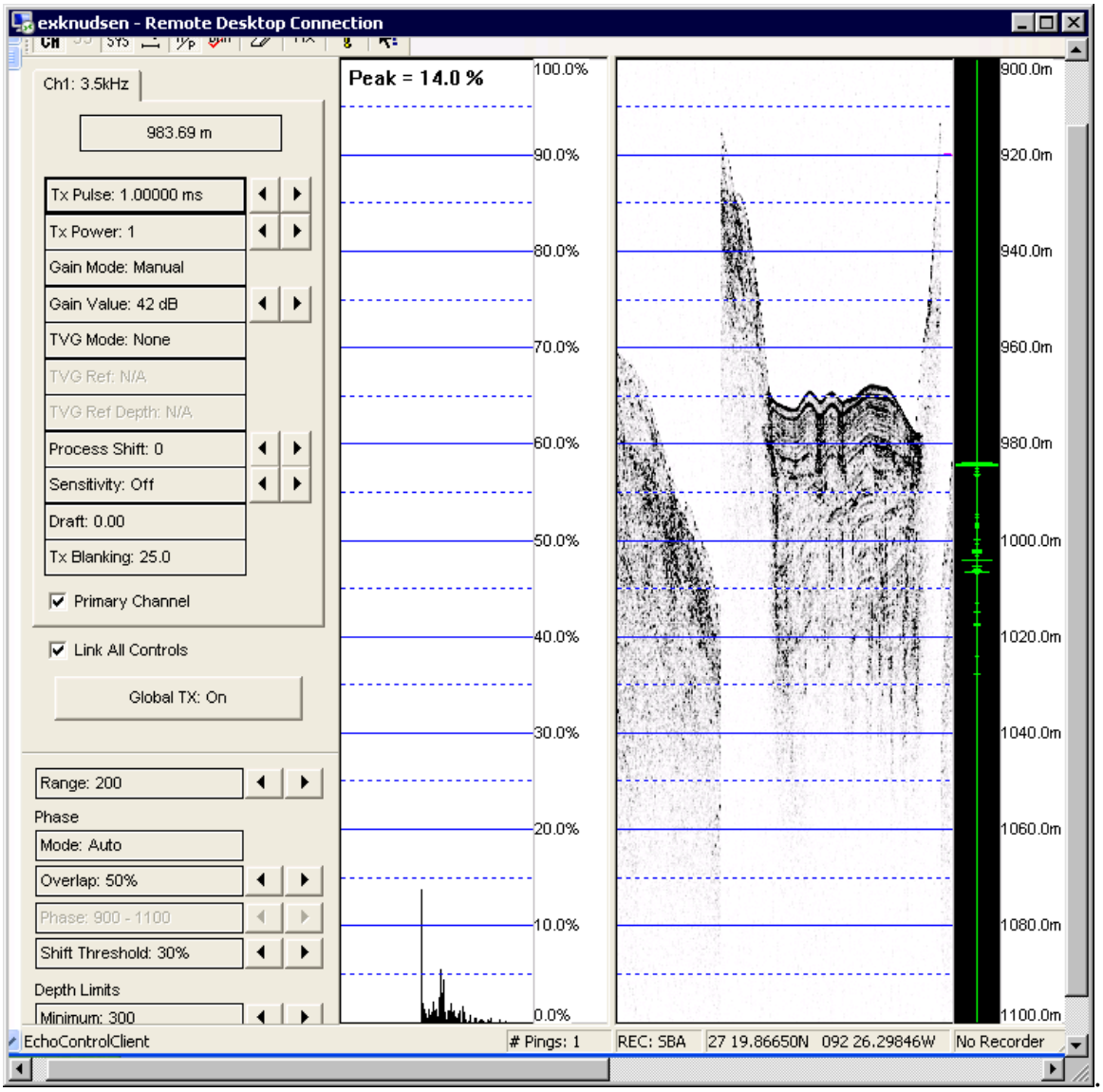
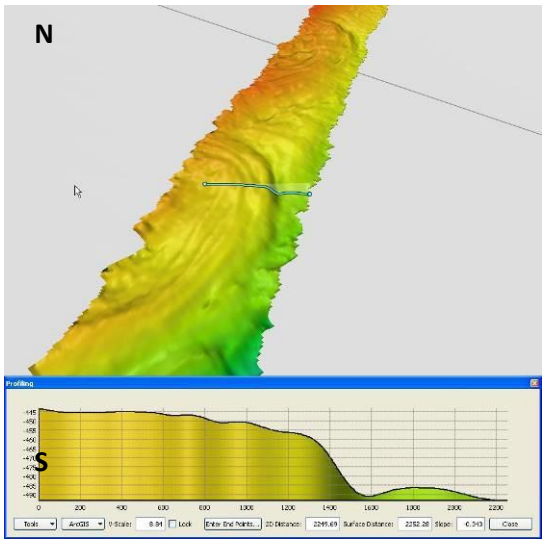


Figure 5. Subbottom profile of a basin feature.

a. Curray Basin

The Curray Basin was identified in 1990 (Bryant et al, 1990), and was the only named basin mapped during EX-14-02 Leg II.

A



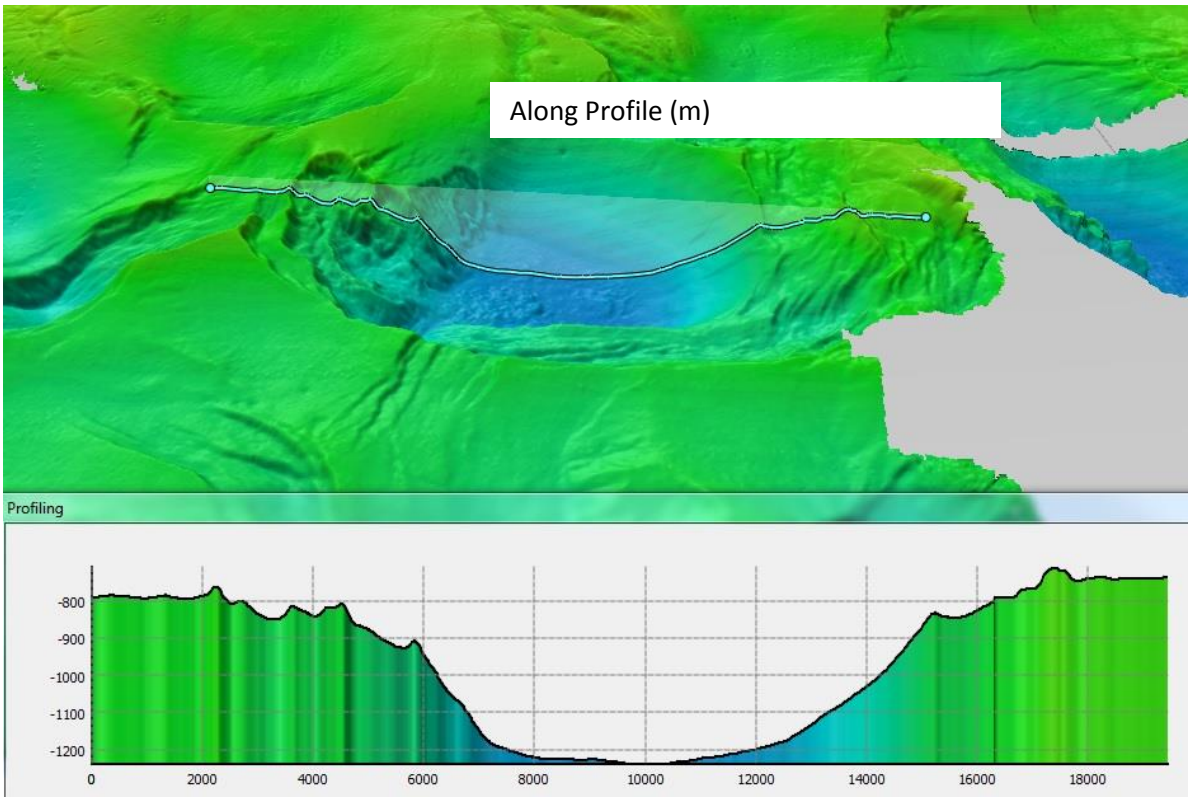


Figure 6. Virtual-view direction using QPS/Fledermaus created by a UCAR mapping intern. Profile axis shown in meters.

6. Mapping Statistics

Dates	03/19/14-04/04/14
Weather delays	0 day
Total non-mapping days	1 days
Total survey mapping days	13days
Total transit mapping days	3 days
Line kilometers of survey	5195.8 km
Square kilometers mapped	17,000 sq km
Number of bathymetric multibeam files	313
Data volume of raw multibeam data files	44.7 GB
Number of water column multibeam files	313
Data volume of water column multibeam files	100 GB
Number of XBT casts	102
Number of CTD casts	0
Beginning draft	14’3’’ (fwd) 13’11’’ (aft)
Ending draft	14’6’’ (fwd) 14’11.5’’
Average ship speed for survey	8.15 kts

7. Mapping Sonar Setup

The NOAA Ship *Okeanos Explorer* is equipped with a 30 kHz Kongsberg EM 302 multibeam sonar capable of mapping the seafloor in 0 to 8000 meters of water. The system generates a 150° beam fan containing up to 432 soundings per ping in waters deeper than 3000 meters. In waters shallower than 3000 meters, the system is operated in multiping, or dual swath mode, and obtains up to 864 soundings per ping, by generating two swaths per ping cycle. Appendix D contains a detailed description of sonar system functionality and technical specifications, including calculated crosstrack and alongtrack data resolutions.

Raw multibeam bathymetry data files were acquired by SIS, and were imported into CARIS. In CARIS, attitude and navigation data stored in each file were checked, and erroneous soundings were removed using CARIS Subset Editor. Once per day, cleaned, gridded bathymetric data were exported to ASCII text files (y,x,z) at 50 meter cell size in WGS84 datum. The ASCII files were then used to create Fledermaus SD objects. These SD objects were then exported to geotiff and Google Earth KMZ, which were copied to the shoreside FTP on a daily basis for shoreside scientist participation.

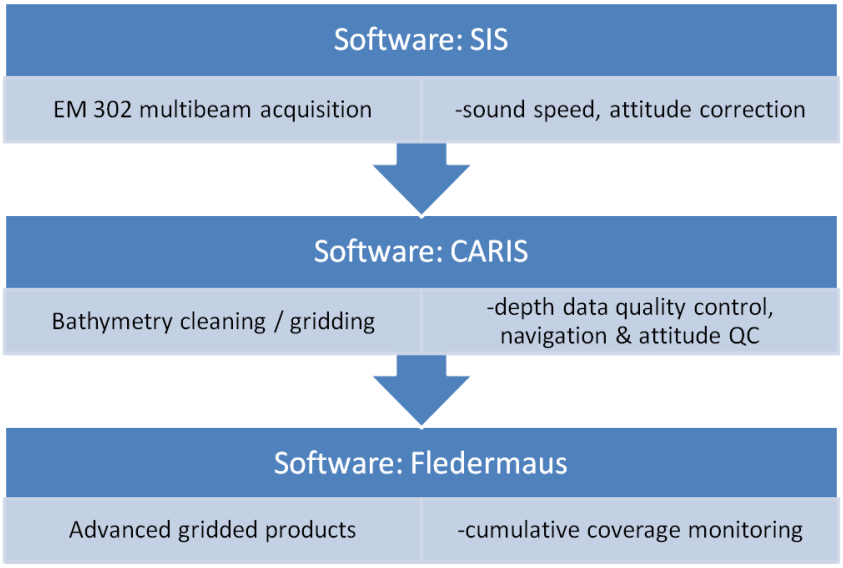


Figure 7. Shipboard multibeam data flow.

The ship is also equipped with a Kongsberg EK 60 singlebeam fisheries sonar. The transducer operates at 18 kHz and transmits a 7° beam fan. Data was monitored in realtime but was not processed. The power was set to 2000 W, and pulse duration was set to 4096 kHz.

Additionally, the ship is equipped with a Knudsen 3260 subbottom profiler. The transducers produce a 3.5 kHz chirp signal. Data was monitored in realtime but was not processed. The subbottom profiler was run during all survey operations in > 500 m of water, weather and seafloor terrain permitting.

8. Data Acquisition and Processing Summary

Tables listing all sonar files collected during the cruise are provided in Appendix C.

EM302 Multibeam

Multibeam sonar (EM 302) data were acquired using Kongsberg Seafloor Information System (SIS ver. 3.9.2). SIS system accounts for all the static offsets and biases during real time acquisition. The motion data from the POS MV 320 (Ver. 4.0.2.0) was directly fed into SIS during data acquisition to account for ship motion (i.e. heave, roll, pitch). Yaw data was provided by the TSS gyro-compasses located on the bridge. Also the real time sound speed near the sonar head (dually measured by Reson Sound Speed sensor and a CTD sensor installed in proximity to the EM 302 receiver) was fed into SIS and the most updated acquired sound speed profile was used in real time to correct soundings for sound speed corrections during data acquisition. Unless there are problems observed in the data, there is no requirement to apply these corrections during post processing.

Water column backscatter was collected at all times, and data files were recorded and separated into bottom bathymetry and backscatter *.wcd files. The along direction tilt of the multibeam was frequently adjusted between -8 to 8 degrees over an 84 hour period between March 24 and March 30 due to rough seas. Adjustments to the along direction tilt increased the quality of the bathymetry data in rough weather. Adjusting the tilt angle the sonar resulted in higher quality bathymetry data, however it resulted in poor quality seafloor backscatter data. The poor quality backscatter is visible in Figure 6, in the northwest portion of the survey area.

CARIS HIPS/SIPS v. 7.1.2 SP 2 was used to edit and quality control the bathymetric data from the EM 302 multibeam. Edited data was exported to ASCII text files and then imported to QPS Fledermaus Ver. 7.3.4c Build 371 for further processing, visualization, and product generation.

The QPS Fledermaus FMGT (7.3.4c Build 371) software package was used for processing EM 302 backscatter data. Bottom backscatter was processed separately from water column backscatter processing. Bubble plumes that were observed and noted real time by watch-standers using the data acquisition software helped detect bubble plumes during post-processing analysis of the water column backscatter in QPS. ‘Fan view’ and ‘Stacked view’ were used in the QPS water column tool to identify the possible bubble plumes. The locations of the bubble plumes detected in each line were then exported into a text file. Some of the characteristic examples of the bubble plume shape and structure observed in the water column backscatter fan view and stacked view are shown in Figure 10.

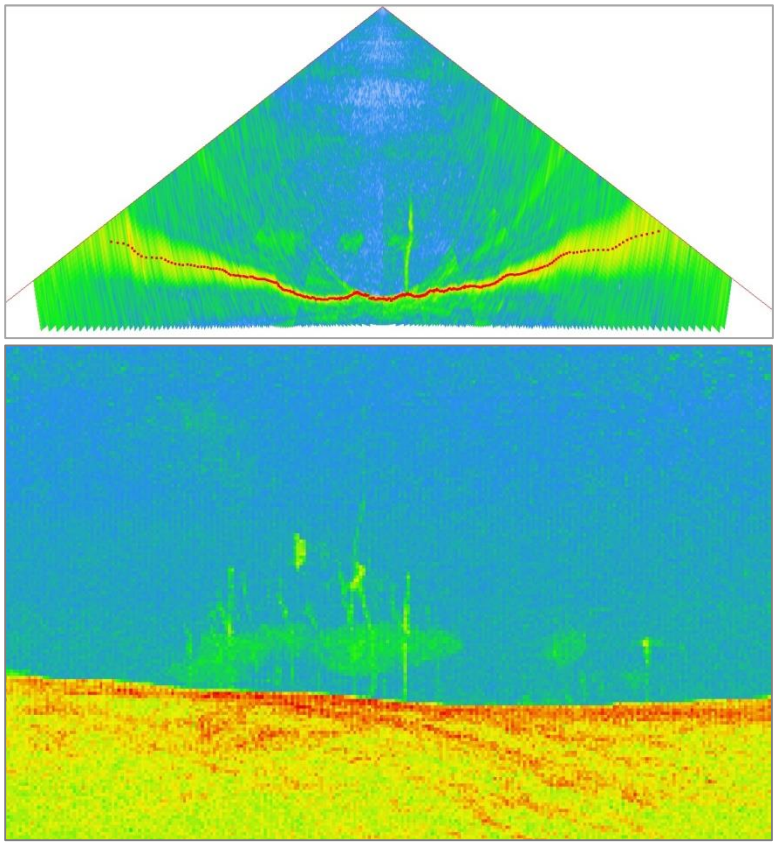


Figure 8. Screen grabs of stacked view (top) and fan view (bottom) during water column processing in QPS Inc. FMMidwater showing bubble plumes observed in the priority mapping area.

Splitbeam EK60

EK 60 data was collected using Kongsberg GPT firm ware version 2.2.1 in the *.raw data file format. The EK60 was periodically turned off when weather was too rough for the sonar to find the seafloor. The track line for which EK 60 data were successfully collected are shown in Figure 9. Bubble plume targets in the EK 60 were visually identified by watch-standers during data collection (Figure 10).

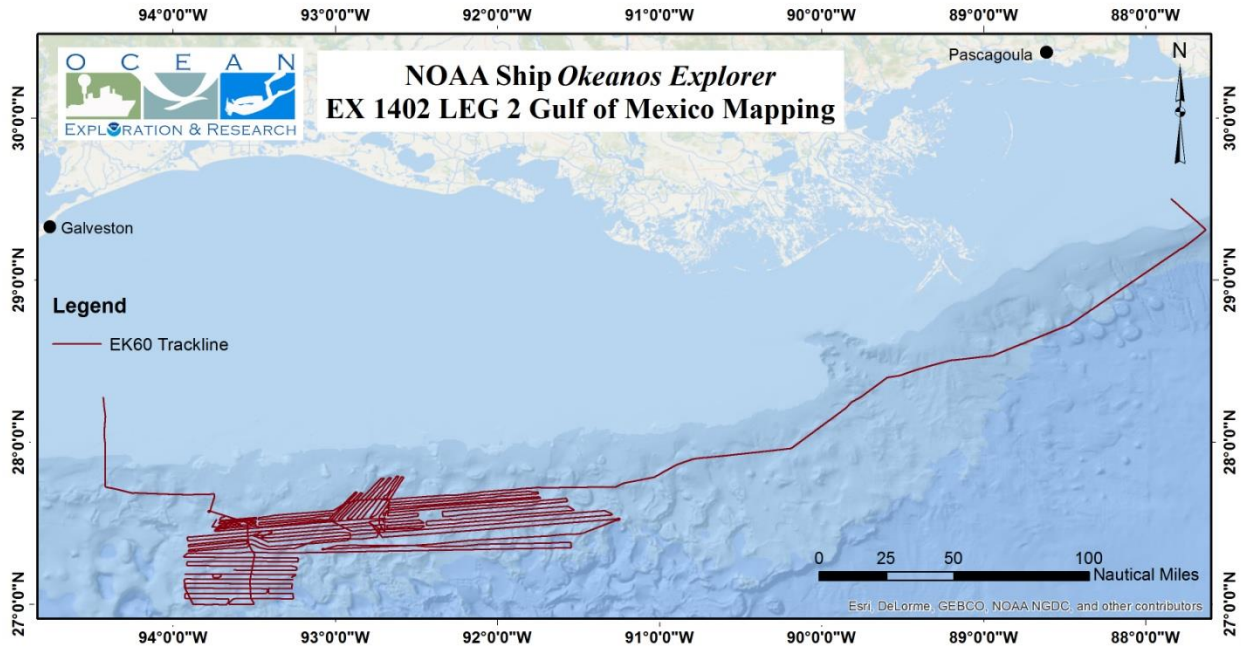


Figure 9. EK60 tracklines

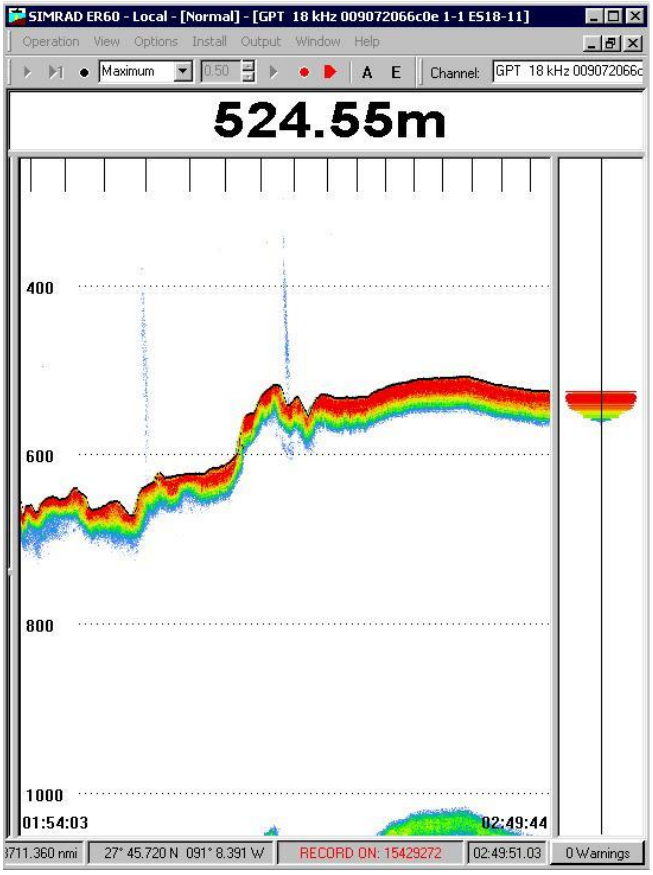


Figure 10. Screen shot of EK 60 data collection showing two distinct potential bubble plume targets.

Knudsen Subbottom Profiles

Subbottom profiler (SBP) data was collected using Knudsen Chirp 3260 v.272. Data in SGY, and KEB file format were collected 24 hours a day. As of writing of this report Knudsen data were not post-processed.

Sound Velocity

Expendable bathythermographs were collected every three to six hours to correct multibeam data for changes in sound speed in the water column, and were applied in real time using SIS. Sound speed at the sonar head was determined using a Reson SVP-70 probe and the thermosalinograph (TSG). Data from these two systems was monitored for consistency throughout the cruise, and whichever was performing better was applied in realtime using SIS.

Crosslines

Crossline analysis was conducted using surface differencing in Caris near 27.1 N, 93.5 W, in water depths 744 to 1105 m. Two 50 m grid reference surfaces were computed, the first surface using multibeam line 0012, run in the N/S direction. The second surface was computed using main scheme lines 0022, 0027, 0040, and 0043 oriented E/W, Figure 13. The two surfaces were differenced, and statistics were computed based on the differences. The attribute value bin sized used for the differencing was 1 m. The depths from two lines matched within 2% of water depth, with a mean difference of less than 0.05% of the water depth over 24,509 pings. The largest differences between the two surfaces appear to be in the outerbeams, which could suggest sound speed refraction.

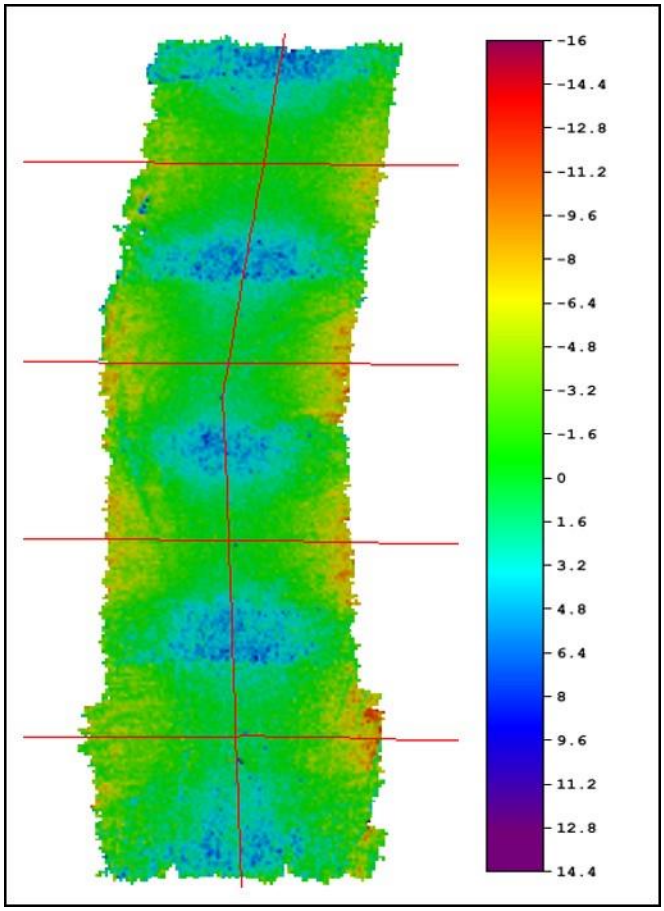


Figure 11. Cross line analysis difference surface. The colorbar shows differences in meters.

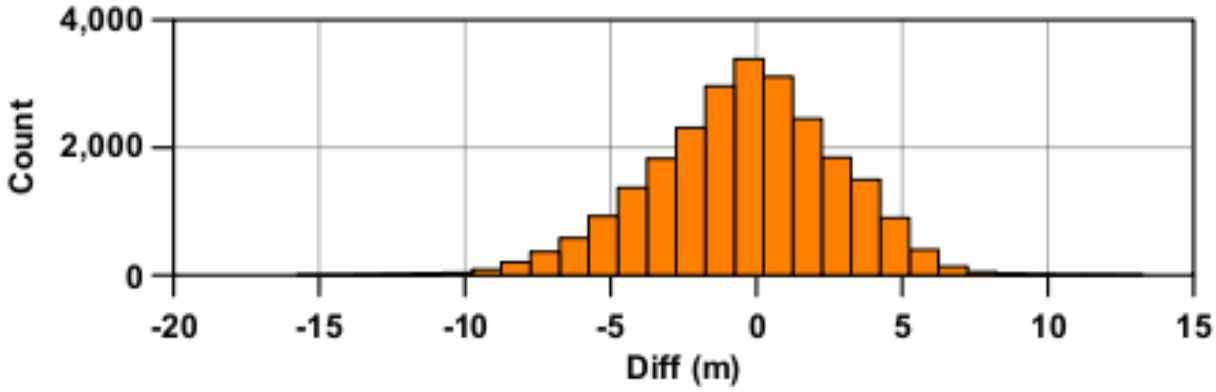


Figure 12. Difference histogram. The water depth of the cross-line analysis ranged from 774 m to 1105 m. Statistics of the differencing are shown in Table 1.

Table 1. Differencing statistics.

Differencing Statistics	
Minimum (m)	-15.36
Maximum (m)	12.85
Mean (m)	-0.44
Standard Deviation (m)	3.14
Total Count	24,509

Trouble Shooting and Survey Delays

During the cruise the ship's VSAT performed intermittently. The ship had to be stopped periodically throughout the cruise for aloft work to service the satellite receiver. The cruise was shortened by 1 full day so an MTN representative could board the ship on 3 April and help with VSAT trouble-shooting and sea-trails in preparation for the following ROV cruise. Approximately 5 hours of surveying was lost due over the duration of the cruise for 1-hour aloft work and roll tests. In all a total of approximately 29 survey hours were lost due to VSAT issues.

Approximately two hours of surveying were lost when the POS-MV lost heading and the position accuracy was too low to collect high quality data. The POS-MV issues eventually resolved themselves after maneuvering in a series of "Figure 8s". Multibeam files that corresponded to heading losses were not processed.

9. Data Archival Procedures

Through data partnerships with the National Coastal Data Development Center and the National Geophysical Data Center (NGDC), all mapping data collected by *Okeanos Explorer* are archived and publically available within 90 days of the end of each cruise via the NGDC online archives. Data can be accessed via the following websites (last accessed 07/2/2014):

- the NGDC Bathymetry Data Viewer at http://maps.ngdc.noaa.gov/viewers/multibeam/
- the NGDC Multibeam Survey List at http://www.ngdc.noaa.gov/nndc/struts/results?op_0=l&v_0=&op_1=l&v_1=&t=101378&s=300&d=21&d=411&d=79

The complete EX-14-02 Leg 2 *Okeanos Explorer* data management plan is provided in the Appendix D of this report.

10. Cruise Calendar

Mon	Tue	Wed	Thu	Fri	Sat	Sun
		19 Mar The ship departed Pier 21 in Galveston, TX at 0950. Mapping operations began.	20 Mar Underway in the NW Gulf of Mexico mapping priority boxes.	21 Mar Underway in the NW Gulf of Mexico mapping priority boxes. POSMV lost signal and heading input for nearly 3 hours.	22 Mar Underway in the NW Gulf of Mexico mapping priority boxes.	23 Mar Underway in the NW Gulf of Mexico mapping priority boxes.
24 Mar Mapping in the NW Gulf of Mexico. Weather was poor.	25 Mar Mapping in the NW Gulf of Mexico. Weather remained.	26 Mar Mapping in the NW Gulf of Mexico. Weather remained poor.	27 Mar Mapping in the NW Gulf of Mexico. Weather remained poor.	28 Mar Mapping in the NW Gulf of Mexico. Weather remained.	29 Mar Mapping in the NW Gulf of Mexico. Weather improved slightly.	30 Mar Mapping in the NW Gulf of Mexico. Weather improved slightly.
31 Mar Mapping in the NW Gulf of Mexico. Weather is good.	1 Apr Mapping in the NW Gulf of Mexico. Began transit to Pascagoula.	2 Apr Mapping during transit to Pascagoula, MS.	3 Apr Arrived to Pascagoula, MS. Moored at Singing River Island. Ceased mapping operations one day early to repair and test the VSAT in preparation for upcoming ROV cruise.	4 Apr Ship alongside in Pascagoula, MS. Preparations for ROV cruise.		

11. References

Bryant, William R., et al. "Physiographic and bathymetric characteristics of the continental slope, northwest Gulf of Mexico." *Geo-Marine Letters* 10.4 (1990): 182-199.

Lobecker, E., Rose, E., James, J., Mapping Systems Readiness Report 2014, NOAA Ship *Okeanos Explorer*, January 2014.

Office of Ocean Exploration and Research, EX1402, Gulf of Mexico Exploration, Data Management Plan, 2014.

Office of Ocean Exploration and Research, EX-14-02 Leg II, Gulf of Mexico Exploration, Project Instructions, March 2014.

12. Appendices

Appendix A - EX-14-02 Leg II Data Management Plan

Data Management Plan

Okeanos Explorer (EX1402L2): Gulf of Mexico Mapping and Exploration

OCEAN EXPLORATION & RESEARCH

Data Management Objectives

On this mapping cruise, data management objectives are to ensure that the mapping survey data is received, documented, and archived within 45-60 days of the end of cruise.

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1. General Description of Data to be Managed

1.1 Name of the Dataset of Data Collection Project

Okeanos Explorer (EX1402L2): Gulf of Mexico Mapping and Exploration

EX-14-02 Leg 2 will be primarily focused on mapping the area to the south and southeast of Flower Garden Banks NMS in the western Gulf of Mexico. Objectives are: 1. Collect deep water multibeam bathymetry sonar data; 2. collect ancillary sonar data (single beam and sub-bottom profile); 3. XBT operations; 4. train new personnel in all data collection and processing procedures; 5. test new or modified mission hardware and software; 6. maintain single live stream video from ship to shore.

1.2 If this mission is part of a series of missions, what is the series name?

Okeanos Explorer

1.2 Keywords that could be used to characterize the data.

expedition, exploration, explorer, marine education, noaa, ocean, ocean discovery, ocean education, ocean exploration, ocean exploration and research, ocean literacy, ocean research, OER, science, scientific mission, scientific research, sea, stewardship, systematic exploration, technology, transformational research, undersea, underwater, Davisville, mapping survey, multibeam, multibeam backscatter, multibeam sonar, multi-beam sonar, noaa fleet, okeanos, okeanos explorer, R337, Rhode Island, scientific computing system, SCS, single beam sonar, singlebeam sonar, single-beam sonar, sub-bottom profile, water column backscatter, oceans, Galveston, TX, Pascagoula, MS, continental shelf break, Flower Garden Banks National Marine Sanctuary, FGBNMS, Claypile Bank, NASA Maritime Aerosol Network

1.4 Summary description of the data to be generated.

Transit mapping operations will collect bathymetry, sub-bottom profiles, water column backscatter, and seafloor backscatter over the continental shelf and Claypile Bank in accordance with request from the scientific community. Survey mapping operations will collect continuous bathymetry, sub-bottom profiles, water column backscatter, and seafloor backscatter over the area to the south of Flower Garden Banks NMS, also in accordance with the scientific community. Data will provide details about biological habitats in the area and improve understanding of the ecological connection between mid-water and deepwater biological communities. During EX-14-02 Leg 2, multibeam, single beam, and sub-bottom profile data will be collected 24 hours a day and XBT casts will be conducted at an interval defined by prevailing oceanographic conditions, but not to exceed 6 hours.

1.5 Anticipated temporal coverage of the data.

Cruise Dates: 3/19/2014 to 4/4/2014

1.6 Anticipated geographic coverage of the data.

Okeanos Explorer (EX1402L2): Gulf of Mexico Mapping and Exploration

19

Latitude Boundaries: 30.3 to 26.6

Longitude Boundaries: -94.67 to -88.5

1.7 What platforms will be employed during this mission?

NOAA Ship Okeanos Explorer

1.8 What data types will you be creating or capturing?

Data Management Plan, Quick Look Report, Bottom Backscatter, CTD (processed), CTD (product), CTD (raw), EK60 Singlebeam Data, Mapping Summary, Multibeam (image), Multibeam (processed), Multibeam (product), Multibeam (raw), SCS Output (compressed), SCS Output (native), Sub-Bottom Profile data, Water Column Backscatter, XBT (raw), Cruise Plan, Cruise Summary

1.8 What data types will you be submitting for archive?

Data Management Plan, Quick Look Report, Bottom Backscatter, CTD (processed), CTD (product), CTD (raw), EK60 Singlebeam Data, Mapping Summary, Multibeam (image), Multibeam (processed), Multibeam (product), Multibeam (raw), SCS Output (compressed), SCS Output (native), Sub-Bottom Profile data, Water Column Backscatter, XBT (raw), Cruise Plan, Cruise Summary

1.9 What volume of data is anticipated to be collected in the Project Time Frame?

160 GB

2. Points of Contact

2.1 Who is the overall point of contact for the data collection?

Lindsay McKenna, Physical Scientist, NOAA Office of Ocean Exploration and Research

2.2 Who is responsible for verifying the quality of the data?

Lindsay McKenna, Physical Scientist, NOAA Office of Ocean Exploration and Research; lindsay.mckenna@noaa.gov

2.3 Who is responsible for data documentation and metadata activities?

OER Data Management Coordinator, National Coastal Data Development Center, Stennis Space Center, MS 228-688-2936, oer.info.mgmt@noaa.gov

2.4 Who is responsible for data storage and data disaster recovery activities?

NOAA National Data Centers (National Geophysical Data Center, National Oceanographic Data Center, NOAA Central Library)

3. Data Stewardship

3.1 What quality control procedures will be employed?

Quality control procedures for the data from the Kongsberg EM302 is handled at UNH CCOM/JHC. Raw (level-0) bathymetry files are cleaned/edited into new data files (level-1) and converted to a variety of products (level-2). Data from sensors monitored through the SCS are archived in their native format and are not quality controlled. Data from CTD casts and XBT firings are archived in their native format and are not quality controlled. CTDs are processed into profiles for display only on the Okeanos Atlas.

4. Data Documentation

4.1 Which metadata repository will be used to document this data collection?

Okeanos Explorer (EX1402L2): Gulf of Mexico Mapping and Exploration

An ISO format collection-level metadata record will be generated during pre-cruise planning and published in an OER catalog and Web Accessible Folder (WAF) hosted at NCDDC for public discovery and access. The record will be harvested by data.gov.

4.2 What additional metadata or other documentation is necessary to fully describe the data and ensure its long-term usefulness?

Additional metadata includes: Multibeam metadata to file level; Scientific Computing System (SCS) metadata; MAchine Readable Catalog (MARC) metadata for Library items.

4.3 What standards will be used to represent data and metadata elements in this data collection?

ISO 19115-2 Geographic Information with Extensions for Imagery and Gridded Data will be the metadata standard employed; a NetCDF-4 standard for oceanographic data will be employed for the SCS data; the Library of Congress standard, MAchine Readable Catalog (MARC), will be employed for NOAA Central Library records.

5. Data Sharing

5.1 What date will the data be made available to the public?

All data from this mission is expected to be documented, archived and accessible within 60-90 days post-mission through the NOAA National Data Centers and public access GIS map applications. Meteorological and Oceanographic (METOC) sensor data from the SCS, and CTD data are converted in a post-mission model into archive ready compressed NetCDF-4 format and stored within the NCDDC THREDDS open-access server.

5.2 If the data are not to be made publicly available, under what authority are the data restricted?

Not Applicable

5.2a Access Constraints Statement?

No data access constraints, unless data are protected under the National Historic Preservation Act of 1966.

5.2b Use Constraints Statement?

Data use shall be credited to NOAA Office of Ocean Exploration and Research.

6. Initial Data Storage and Protection

6.1 Where and how will the data be stored initially (prior to archive submission)?

Data are recorded and stored on NOAA shipboard systems compliant with NOAA IT procedures. Data are moved from ship to shore using a variety of standard, documented data custody transfer procedures. Data are transferred to NOAA Data Centers using digital and physical data transfer models depending upon the data volume.

6.2 Discuss data back-up, disaster recovery, contingency planning and off-site storage relevant to this data collection.

Data management standard operating procedures minimizing accidental or malicious modification or deletion are in place aboard the Okeanos Explorer and will be enforced.

6.3 Describe how the data will be protected from unauthorized access, how permissions will be managed and what process will be followed in the event of unauthorized access.

Account access to mission systems are maintained and controlled by the Program. Data access prior to public accessiblity is documented through the use of Data Request forms and standard operating procedures.

7. Long-Term Archiving and Preservation

7.1 In what NOAA Data Center(s) will the data be archived and preserved?

Okeanos Explorer (EX1402L2): Gulf of Mexico Mapping and Exploration

Data from this mission will be preserved and stewarded through the NOAA National Data Centers. Refer to the Okeanos Explorer FY14 Data Management Plan at NOAA's EDMC DMP Repository (EX_FY14_DMP_Final.pdf) for detailed descriptions of the processes, procedures, and partners involved in this collaborative effort.

7.1a If you do not plan to archive in the NOAA Data Centers, what is your long-term strategy for maintaining, curating, and archiving the data?

Not Applicable

7.2 What transformations or procedures will be necessary to prepare data for preservation or sharing?

SCS data shall be delivered in its native format as well as an archive-ready, documented, and compressed NetCDF-4 format to NODC; multibeam data and metadata will be compressed and delivered in a bagit format to NGDC.

Appendix B – Categorical Exclusion

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
OCEANIC AND ATMOSPHERIC RESEARCH
Office of Ocean Exploration and Research
Silver Spring, MD 20910

March 1, 2014

MEMORANDUM FOR: The Record

FROM: John McDonough FOR
Acting Director NOAA Office of Ocean Exploration
and Research (OER)

SUBJECT: Categorical Exclusion for NOAA Ship *Okeanos Explorer*
Cruise EX-14-02 LEG 2

NAO 216-6, Environmental Review Procedures, requires all proposed projects to be reviewed with respect to environmental consequences on the human environment. This memorandum addresses the NOAA Ship *Okeanos Explorer's* scientific sensors possible effect on the human environment.

This project is part of the NOAA Office of Ocean Exploration and Research's "Science Program" and entails multi-disciplinary ocean mapping and exploration activities designed to increase knowledge of the marine environment. This project is entitled "EX-14-02 LEG 2 Exploration, Gulf of Mexico (Mapping)" and will be led by Lindsay McKenna, Physical Scientist for the *Okeanos Explorer* program within OER. NOAA Ship *Okeanos Explorer* will depart Galveston, Texas on March 19, 2014, and arrive in port in Pascagoula, Mississippi on April 4, 2014, and will conduct sonar mapping operations at all times during the cruise. Focused priority area mapping will occur in the northwestern Gulf of Mexico, in U.S. federal waters, south and southeast of the Flower Garden Banks National Marine Sanctuary. Transit mapping will occur along safety fairways from Galveston to the priority mapping area and from the priority mapping area to Pascagoula. Acoustic instruments that will be operational during the project are a 30 kHz multibeam echosounder (Kongsberg EM 302), an 18 kHz singlebeam echosounder (Kongsberg EK 60), and a 3.5 kHz sub-bottom profiler (Knudsen Chirp 3260). Additionally, expendable bathythermographs (XBTs) will be deployed at regular intervals in association with multibeam data collection.

As expected for ocean research with limited duration or presence in the marine environment, this project will not have the potential for significant impacts. Knowledgeable experts who are aware of the sensitivities of the marine environment will conduct the at-sea portions of this project.

Appendix C - EM302 description and operational specs

EM 302 : Ideal for Ocean Exploration
There are several features of the *Okeanos Explorer's* 30 kHz multibeam that make it an excellent tool for ocean exploration. The following is a brief description of these features.

Depth Range
The system is designed to map the seafloor in water depths of 10 to 7000 meters. This leaves only the deepest parts of the deeper ocean trenches out of the EM 302's reach. Moreover, operational experience on the *Okeanos Explorer* has shown consistent EM 302 bottom detection at depth ranges in excess of 8000m. The optimal depth for EM 302 has been found to be > 150 m.

High Density Data
In multibeam data, the denser the data, the finer resolution maps you can produce. The system can operate in dual swath, or multi-ping mode, which results in increased along track data density. This is achieved by detecting two swaths per ping cycle, resulting in up to 864 beams per ping.

The *Okeanos Explorer* mapping team typically operates the multibeam in high density equidistant ping mode, which results in up to 864 soundings on the seafloor per ping.

Full Suite of Data Types Collected
The system collects seafloor backscatter data, which provides information about the character of the seafloor in terms of bottom type.

The system also collects water column backscatter data, which has the ability to detect gaseous plumes in the water column.

FM chirp mode is utilized in water depths greater than 1000 meters, and allows for the detection of the bottom further out from nadir than with previous 30 kHz systems.

Multibeam Primer
The area of the seafloor covered, or ensonified, by a single beam within a pulse of sound, or ping, is called the beam footprint. This beam footprint is defined in terms of the across track and along track values. Both of these values are dependent on water depth and the beam width at which the sound pulse is transmitted and received. The across track beam width value is also dependent on the receive angle, or "listening" angle, of the system, and the angle from nadir which it is received from. The receive angle for the receive transducer on the *Okeanos Explorer* EM302 is 1°, which is the smallest possible angle currently available for the EM302 system. The further out from nadir a sounding occurs, the larger the footprint will be. For example, as seen in Table 1 below, in 2000 meters of water, a beam footprint will have a radius of 18 meters at nadir but 25 meters by the time it hits the seafloor at an angle 140 degrees out from nadir.

Calculated acrosstrack acoustic beam footprint for EM 302 (high density ping mode, 432 soundings/profile)				
Water depth (m)	**Angle from nadir**			
50	1 deg RX center	90 deg	120 deg	140 deg
100	1	0.5	1	1
200	2	1	2	3
400	4	2	3	5
1000	7	4	6	10
2000	18	9	16	25
4000	35	19	32	-
6000	70	37	-	-
7000	105	56	-	-

Table 1. Calculated across track EM 302 beam footprint. Reference: Kongsberg Product description, Kongsberg document 302675 Rev B, Date 14/06/06, p. 17.

Calculated acrosstrack sounding density for EM 302 (high density ping mode, 432 soundings/profile)			
Water depth (m)	**Swath Width**		
50	90 deg	120 deg	140 deg
100	0.2	0.4	0.9
200	0.5	0.8	1.7
400	0.9	1.6	3.5
1000	1.9	3.2	6.9
2000	4.6	8.1	17.4
4000	9.3	16.2	-

Table 2. Calculated across track EM 302 sounding density. Reference: Kongsberg Product description, Kongsberg document 302675 Rev B, Date 14/06/06, p. 17.

Acrosstrack sounding density describes the spacing between individual soundings on the seafloor in the acrosstrack direction. The maximum swath of the EM 302 is 150 degrees. At this swath, the sounding density will be the least dense, since the beams will be spread out over a larger horizontal distance over the seafloor. As the swath angle (width) is decreased, the sounding density will increase, as the same number of beams are now spread out over a smaller horizontal distance over the seafloor.

Calculated ping rate and alongtrack resolution for EM 302					
140 deg swath, one profile per ping					
			Alongtrack distance between profiles (m)		
Water depth (m)	**Swath Width (m)**	**Ping Rate (pings/second)**	**@4 kts**	**@8 kts**	**@12 kts**
50	275	3.2	0.7	1.2	1.9
100	550	1.8	1.1	2.2	3.3
200	1100	1	2.1	4.2	6.3
400	2200	0.5	4.1	8.2	12.2
1000	5500	0.2	10	20	30
2000	8000	0.1	15.2	30.5	45.7
4000	8000	0.06	19.2	38.5	57.7
6000	8000	0.04	24.5	49	73.4

Table 3. Calculated ping rate and along track EM 302 sounding density, one profile per ping. Reference: Kongsberg Product description, Kongsberg document 302675 Rev B, Date 14/06/06, p. 15.

Calculated ping rate and alongtrack resolution for EM 302					
140 deg swath, two profiles per ping					
			Alongtrack distance between profiles (m)		
Water depth (m)	**Swath Width (m)**	**Ping Rate**	**@4 kts**	**@8 kts**	**@12 kts**
50	275	3.2	0.3	0.6	0.9
100	550	1.8	0.6	1.1	1.7
200	1100	1	1.1	2.1	3.2
400	2200	0.5	2	4.1	6.1
1000	5500	0.2	5	10	15
2000	8000	0.1	7.6	15.2	22.8

Table 4. Calculated ping rate and along track EM 302 sounding density, two profiles per ping. Reference: Kongsberg Product description, Kongsberg document 302675 Rev B, Date 14/06/06, p. 15.

Reference: Kongsberg Product Description: EM 302 multibeam echosounder.

Appendix D - Bubble plume locations detected by EM 302 in the priority mapping area

Note several of the bubble plumes are likely duplicates from overlapping swaths.

Longitude (W)	Latitude (N)	Depth	Longitude (W)	Latitude (N)	Depth
93.53828881	27.49330402	-602.64	92.93649644	27.62930878	-474.33
93.53933375	27.49220118	-605.60	92.84836528	27.68300290	-337.27
93.53812796	27.49221111	-610.03	92.84882674	27.68347692	-342.47
93.54184636	27.48968681	-580.49	92.84865385	27.68344652	-340.52
93.54226940	27.48808099	-579.01	92.84884929	27.68362002	-340.52
93.39442620	27.05889415	-1158.87	92.84844753	27.68326440	-343.12
93.39443948	27.06039378	-1158.87	92.84870464	27.68366101	-345.72
93.39445277	27.06189341	-1158.87	92.84848483	27.68370342	-345.72
93.39546852	27.06021881	-1175.23	92.84819178	27.68374933	-342.47
93.39620841	27.05878877	-1175.23	92.84691041	27.68449258	-331.42
93.39629971	27.06253707	-1167.05	92.83870379	27.68572564	-337.85
93.39625254	27.06060045	-1161.60	92.83820253	27.68547110	-343.93
93.39679590	27.06210202	-1183.41	92.83533095	27.68530811	-362.17
93.30960897	27.15290531	-898.26	92.92327227	27.56370551	-643.05
93.30807690	27.14997600	-910.21	92.92366973	27.56404055	-639.40
93.30570549	27.15198425	-946.04	92.92478237	27.56547551	-635.76
93.30552744	27.15560553	-919.76	92.91748980	27.57032957	-627.25
93.30457530	27.15173497	-931.71	92.91617034	27.56952043	-633.33
93.30380337	27.14758218	-934.10	92.91549928	27.57286951	-647.91
93.30006055	27.14930625	-934.10	92.91091220	27.58060829	-633.16
93.30000496	27.15070848	-955.60	92.90494417	27.57839057	-649.52
93.28476548	27.15558678	-938.87	92.90596696	27.58160710	-641.34
93.27704027	27.15819339	-962.76	92.90518547	27.58142940	-641.34
93.27533765	27.15825450	-957.99	92.72473786	27.77248212	-498.61
93.27342069	27.15917351	-924.54	92.72409554	27.77234964	-494.79
93.26597171	27.16828242	-986.65	92.74160081	27.70469203	-594.11
93.26606149	27.16813161	-977.10	92.74123877	27.70480046	-575.69
93.26641659	27.16779220	-974.71	92.73889520	27.70380186	-552.66
93.24872682	27.17761986	-979.49	92.74029421	27.70536068	-571.08
93.24883735	27.17748356	-974.71	92.73915486	27.70550727	-566.48
93.73417823	27.23084833	-879.29	92.73639584	27.70793373	-543.45
93.73440001	27.23220671	-885.74	92.73498635	27.70800135	-555.73
93.73480487	27.23229029	-890.04	92.73415953	27.70922970	-540.38
93.73500654	27.23136366	-883.59	92.82615143	27.57661591	-711.36
93.05894477	27.32178684	-814.79	92.82559057	27.57209116	-764.75
93.05810544	27.32277714	-846.95	92.82908055	27.57368704	-717.64
93.05774471	27.32133318	-816.94	92.83684958	27.57131628	-690.95
93.05639385	27.32063538	-838.38	92.83725273	27.56691371	-736.49
93.05523591	27.32168512	-853.39	92.84734842	27.55961154	-736.49
93.05423439	27.32133789	-846.95	92.84286618	27.55258500	-692.52
93.05371662	27.31928960	-866.25	92.84440349	27.55169952	-716.40
93.05286441	27.31815593	-857.68	92.84763092	27.55141997	-755.28
93.05188147	27.31774684	-851.24	92.85278131	27.55474454	-731.68
93.04764991	27.31707322	-868.40	92.84659125	27.55029261	-735.84
93.04715361	27.31478305	-861.96	92.81583424	27.56169069	-738.98
93.04576615	27.31564942	-859.82	92.81587148	27.56205817	-737.56
92.50848832	27.33677383	-966.39	92.81401086	27.56155758	-736.13
92.50706105	27.33491214	-971.88	92.81341424	27.56120044	-738.98
92.49809812	27.33118136	-942.59	92.80623168	27.56083900	-776.07
92.49728936	27.33621272	-988.35	92.80071820	27.56655717	-817.44
92.49604035	27.33453253	-971.88	92.59953714	27.74646628	-426.51
92.49554135	27.33559880	-986.52	92.60208023	27.74718921	-419.21
92.49540849	27.33339172	-968.22	92.60094730	27.74665397	-422.34
92.49513536	27.33491386	-995.67	92.60120313	27.74631546	-426.51
92.48424722	27.33343493	-1019.46	92.60187012	27.74662623	-426.51
92.36337297	27.34237673	-926.12	92.60172225	27.74620887	-432.77
92.36262983	27.33970671	-940.76	92.60171754	27.74608064	-430.68
92.36265795	27.33874733	-957.23	92.60186634	27.74571181	-428.60
92.36195000	27.33896074	-964.56	92.60190772	27.74529535	-430.68

92.36139263	27.33896790	-964.56	92.60218879	27.74270082	-428.60
92.36051308	27.33932704	-962.72	92.60230210	27.74186706	-441.11
92.36050645	27.34021818	-948.08	92.60285243	27.74152977	-430.68
92.36013659	27.33830768	-982.86	92.60513756	27.73963377	-444.24
92.35956075	27.33832017	-982.86	92.60519189	27.73894209	-442.15
92.35559844	27.33255795	-982.86	92.77492464	27.53586245	-767.48
92.35444736	27.33174382	-993.84	92.77517543	27.53689213	-770.50
92.35308046	27.33243876	-978.29	92.77419607	27.53585979	-770.50
92.35039871	27.33284788	-995.92	92.77600876	27.53942061	-765.96
92.34556143	27.33943588	-956.26	92.77394554	27.53603007	-752.34
92.33564665	27.33763362	-956.26	92.77432521	27.53862563	-764.45
92.10224638	27.33849999	-1000.33	92.77318284	27.53660828	-765.96
92.10075286	27.34200098	-1020.16	92.77432231	27.53971589	-767.48
92.09804909	27.34508602	-1037.78	92.73963356	27.56076720	-775.05
92.09521493	27.34501857	-995.92	92.66858916	27.63359918	-515.67
92.09190325	27.34877096	-1013.55	92.66731818	27.63470444	-518.94
91.99560335	27.34304054	-1045.63	92.66560083	27.63133500	-508.35
91.99264222	27.33331063	-1031.89	92.66524734	27.63063984	-513.50
91.99151067	27.33396061	-1039.74	92.66598422	27.63086170	-523.79
91.99149356	27.33470672	-1039.74	92.66520357	27.63017198	-522.76
91.99017468	27.34420339	-1047.59	92.66630282	27.63033316	-522.76
91.98896421	27.33393648	-1039.74	92.66579629	27.62984777	-524.82
91.98831551	27.33309645	-1027.97	92.66673481	27.63034364	-524.82
91.98708544	27.33871280	-1049.55	92.66528539	27.62948226	-524.82
91.98434200	27.34103546	-1039.74	92.66690795	27.63008621	-521.73
91.98397532	27.33475330	-1016.20	92.66575134	27.62891765	-535.11
91.97608047	27.33295869	-1041.70	92.67083546	27.62959567	-521.73
91.97554604	27.33291382	-1029.93	92.69963260	27.45375771	-913.98
92.33559506	27.35155113	-913.20	92.36997715	27.46499051	-789.87
92.34035105	27.35135113	-889.34	92.36911955	27.46669854	-767.59
92.34222575	27.34961179	-898.01	91.72736100	27.51389877	-834.22
92.58291968	27.35497067	-946.68	91.72707861	27.51590088	-823.77
92.58285641	27.35420201	-950.71	91.43041225	27.53754091	-954.10
92.58370637	27.35362641	-964.84	91.42724043	27.53822181	-939.95
92.58425897	27.35122754	-954.75	91.40014701	27.53558621	-944.00
92.58552634	27.35502286	-972.92	91.39822776	27.53223142	-946.02
92.58713221	27.35748618	-960.81	91.39770676	27.53358265	-946.02
92.59471640	27.36224575	-948.70	92.27870456	27.49727764	-814.14
92.67737295	27.35574494	-914.38	92.27979580	27.49653157	-802.64
92.67762265	27.35692176	-908.33	92.28077553	27.49732469	-784.58
92.67798610	27.35666922	-914.38	92.28176592	27.49843709	-791.15
92.67839200	27.35688748	-910.34	92.08394279	27.53917399	-776.44
92.67976730	27.35913837	-886.12	91.72178048	27.56457592	-803.96
92.68188461	27.36046031	-880.07	91.72042841	27.56491147	-805.51
92.68424061	27.35951255	-916.40	91.63622892	27.56759992	-753.15
92.68439695	27.35998075	-916.40	91.63646533	27.56973541	-816.18
92.95957765	27.34518442	-734.00	91.70573797	27.59624103	-756.80
92.96060332	27.34563391	-737.89	91.71336752	27.59171484	-744.06
92.96513767	27.34368365	-749.57	91.71337098	27.59131003	-759.99
92.96540525	27.34237221	-743.73	91.71386925	27.59149746	-755.21
92.96651626	27.34426800	-769.04	91.69166814	27.61832971	-761.39
92.96676220	27.34633251	-751.52	91.69091678	27.61814270	-760.00
92.96789011	27.34480061	-759.31	91.68944373	27.61734849	-758.61
92.94949456	27.36158552	-741.49	91.76987612	27.63703949	-708.33
92.94874594	27.36234121	-751.83	91.76982999	27.63360877	-727.52
92.94878503	27.36262645	-750.35	91.77690444	27.63165370	-611.67
92.94469885	27.36458187	-765.12	91.77694732	27.63211330	-607.18
92.94306278	27.35923521	-781.37	91.77726032	27.63076083	-576.87
92.94251251	27.36404263	-763.64	91.77721092	27.63021495	-595.95
92.94090148	27.36265514	-754.78	91.77716672	27.62972652	-576.87
92.94029056	27.36434022	-744.44	91.77736431	27.63191007	-594.83
92.93574961	27.36143725	-818.29	91.77730684	27.62988524	-585.85
92.93579064	27.36197484	-813.86	91.77791081	27.63145846	-580.24
92.93504857	27.36183676	-812.39	91.77842091	27.63228774	-582.49
92.93477133	27.36201776	-819.77	92.20556759	27.60161319	-716.70

92.93382860	27.36173593	-806.48	92.20593461	27.60187583	-717.98
92.59489275	27.36219369	-955.83	92.56316828	27.57535300	-598.70
91.74294823	27.42351640	-1127.58	92.56333989	27.57696118	-630.21
91.72497907	27.41079664	-1050.70	92.56350344	27.57595361	-607.57
91.69282497	27.41543527	-1071.20	92.56494390	27.57544796	-616.43
91.68442144	27.42407623	-994.32	92.56506002	27.57485589	-604.61
91.24227625	27.51950060	-1061.38	92.56581092	27.57514256	-613.47
91.24320791	27.52098669	-1059.09	92.56643841	27.57473676	-618.40
91.25461959	27.52985013	-967.60	92.56744051	27.57542655	-615.44
91.25510832	27.52957271	-967.60	92.56883998	27.57253264	-605.60
91.37797843	27.52296314	-1007.02	92.56886905	27.57279283	-608.55
91.38009713	27.52401532	-991.13	92.57110478	27.57476366	-604.61
91.38128042	27.52468419	-979.22	92.58389410	27.57638300	-571.13
91.38187357	27.51133183	-1007.02	92.58472462	27.57125539	-558.33
91.53403958	27.50577679	-951.41	92.58497986	27.57102639	-551.44
91.53568766	27.50728058	-953.39	92.58530880	27.57042378	-557.35
91.54086738	27.50343437	-959.35	92.50485648	27.59154038	-530.46
91.54138069	27.50208853	-953.39	92.50412886	27.59229498	-540.20
91.54150857	27.50333193	-947.44	92.50326430	27.59224816	-536.95
91.54397634	27.50517441	-919.63	92.50161998	27.59140313	-533.71
91.54595498	27.50432988	-943.46	92.50086507	27.59189501	-535.87
91.55894118	27.50775090	-983.19	92.49681503	27.59329706	-539.12
91.63223580	27.48980275	-1125.38	92.49659751	27.59402376	-535.87
91.79990762	27.48544267	-900.31	92.49505001	27.59727311	-539.12
91.80120805	27.48743505	-902.56	92.18996842	27.61655982	-701.64
91.80115033	27.48455528	-909.31	92.18918045	27.61648952	-689.87
92.27539537	27.44388633	-793.35	92.18829000	27.61576792	-723.71
92.27659166	27.43697113	-750.52	92.18692629	27.61550782	-701.64
92.90410982	27.49223011	-724.98	92.26745033	27.62521055	-481.16
92.90425512	27.49187997	-721.58	92.26860209	27.62573141	-485.06
92.90449604	27.49271437	-726.68	92.26971330	27.62533241	-491.87
93.04005086	27.48735285	-643.29	92.27082575	27.62562495	-485.05
93.05986904	27.48484960	-685.84	92.61035143	27.59282294	-644.32
93.41627798	27.45323247	-614.46	92.61065874	27.59335418	-636.17
93.41654011	27.45313745	-606.14	92.61100604	27.59089365	-602.38
93.41852603	27.45271690	-608.89	92.61536330	27.59532746	-646.65
93.41906407	27.45228245	-606.67	92.61614829	27.59983732	-653.64
93.41938563	27.45260079	-605.55	92.61580800	27.59561269	-653.64
93.41983483	27.45226942	-611.12	92.61754604	27.59796720	-657.14
93.42163365	27.45120992	-630.04	92.28984068	27.63999956	-485.55
93.42205230	27.45207079	-628.93	92.28956920	27.63967590	-481.76
93.42200049	27.45225478	-624.48	92.21219522	27.64819020	-515.11
93.42289715	27.45214508	-627.82	92.66354743	27.62939673	-515.28
93.42327213	27.45056772	-634.50	92.66586169	27.62998019	-521.51
93.42342372	27.45088145	-637.83	92.66618683	27.63122491	-520.26
93.42372877	27.45061241	-630.04	92.53813203	27.55986110	-570.18
93.91143031	27.41479010	-850.21	92.53786662	27.55940842	-574.54
93.91226272	27.41464391	-855.04	92.53762469	27.55816565	-569.09
93.91353149	27.41467311	-855.04	92.53665202	27.55872514	-563.64
93.35350956	27.38379927	-667.63	92.54315407	27.53734368	-634.82
93.35059150	27.38738348	-683.88	92.54503915	27.53872872	-626.62
93.35115111	27.39038265	-664.68	92.54484599	27.53736938	-637.16
93.34882079	27.38776701	-680.93	92.57305912	27.53482866	-611.91
93.34923945	27.38981716	-672.06	92.57380027	27.53154418	-620.18
93.34899725	27.39166082	-667.63	92.58136194	27.53149205	-646.02
93.34336633	27.38769587	-673.54	92.58111265	27.53039108	-642.92
93.34278278	27.38726839	-669.11	92.58193680	27.53056574	-639.82
93.34182328	27.38631359	-675.02	92.58600909	27.53548624	-609.85
93.34025256	27.38804624	-672.06	92.70712388	27.52030657	-755.28
92.97772688	27.41975954	-822.46	92.70805644	27.51767954	-743.03
92.96710387	27.41842079	-786.20	92.70835848	27.51712646	-736.22
92.96566755	27.41921816	-784.29	92.70596091	27.51568232	-751.19
92.96541063	27.42061174	-770.94	92.70573498	27.51466581	-759.36
92.96492965	27.42017875	-772.84	92.59448374	27.51104315	-627.10
92.96469815	27.42043345	-769.03	92.59334028	27.51168096	-628.20

92.96373556	27.41842863	-772.84	92.57769057	27.51347775	-608.63
92.96362160	27.42376902	-786.20	92.57691138	27.51304277	-614.03
92.96202428	27.41929463	-797.65	92.57639620	27.51286504	-611.87
92.95808489	27.41955358	-811.01	92.57599621	27.51213392	-619.44
92.84109847	27.42752050	-914.25	92.57574269	27.51391941	-612.95
92.69650613	27.44198634	-958.14	92.57547437	27.51185082	-621.60
92.69605813	27.44256192	-958.14	92.57479502	27.51163489	-621.60
92.70749611	27.49144982	-762.25	92.57357635	27.51452812	-620.52
93.44572831	27.44716663	-635.93	92.57357512	27.51517995	-621.60
93.44514990	27.44740017	-633.65	92.57199894	27.51494266	-627.00
93.44497641	27.44688332	-632.51	92.57039958	27.51194677	-617.27
93.44415716	27.44836398	-623.41	92.55372852	27.51284371	-620.52
93.44362970	27.44802704	-632.51	92.55321465	27.51320869	-615.25
93.41991476	27.45247323	-611.46	92.55731260	27.49716816	-638.60
93.41958739	27.45263601	-612.64	92.55958233	27.49470589	-656.81
93.41879958	27.45280967	-606.74	92.56144803	27.49499598	-659.24
93.11411257	27.37726582	-747.14	92.56281924	27.49408313	-661.67
93.11550948	27.37641503	-759.84	92.56918716	27.49448292	-630.10
93.11591975	27.37744042	-768.91	92.56910766	27.49399303	-628.89
93.29489612	27.36313822	-793.91	92.56902320	27.49347253	-624.03
93.29530797	27.36366369	-793.91	92.56950876	27.49200541	-605.82
93.29646796	27.36464571	-785.35	92.56999257	27.49416761	-637.39
93.29674925	27.36442863	-780.22	92.57545049	27.49117313	-685.95
93.29660216	27.36334661	-788.78	92.57654525	27.49082104	-688.38
93.29913632	27.36558790	-783.64	92.57673143	27.49217210	-696.87
93.62958718	27.39352784	-606.11	92.57787523	27.49146251	-695.66
93.62966853	27.39499140	-612.67	92.57967281	27.49236841	-693.23
93.63011453	27.39357451	-610.05	92.57982121	27.49325577	-692.02
93.63007557	27.39301438	-606.11	92.58033625	27.49259462	-692.02
93.72352690	27.34913404	-874.50	92.58130324	27.49096313	-689.59
93.49671839	27.36560205	-647.22	92.58149716	27.48902073	-695.66
93.49700196	27.36291069	-640.86	92.58389003	27.49459859	-651.95
93.49450219	27.36570190	-631.31	92.58369655	27.49138949	-671.38
93.49358838	27.36426277	-639.27	92.58618313	27.49454711	-632.53
93.49462374	27.36226851	-651.99	92.58584278	27.48822053	-689.59
93.48777257	27.35978690	-657.96	92.58883198	27.46985805	-794.00
92.71348733	27.51552957	-719.17	92.58977023	27.46946779	-798.44
92.70778678	27.51722992	-743.84	92.59037610	27.46993331	-804.35
92.70749414	27.51795737	-743.84	92.59024758	27.46630589	-813.23
92.95212937	27.51656813	-768.25	92.59255293	27.46970352	-807.31
92.95232709	27.51694250	-784.92	92.59365584	27.46204988	-816.18
93.06012262	27.50345627	-677.42	92.59447133	27.46877084	-801.40
93.06020238	27.50386900	-678.81	92.75435355	27.45655230	-941.86
93.06045076	27.50321569	-676.04	92.88916343	27.45213922	-763.18
93.06064259	27.50205134	-681.58	92.89127842	27.45174734	-756.70
93.06327336	27.50567535	-685.73	93.01460651	27.51017567	-670.29
93.06396306	27.50825652	-678.81	93.01339604	27.51193832	-662.73
93.06407749	27.50896721	-674.65	93.01491024	27.50974363	-666.51
93.06463164	27.50915679	-669.11	93.02895802	27.51411141	-645.09
93.06549218	27.50486075	-691.28	93.30068921	27.50309508	-570.86
93.06530814	27.50325793	-688.50	93.30162100	27.50411294	-579.27
93.06643967	27.50423428	-689.89	93.30636223	27.50742299	-591.90
93.06645348	27.50432318	-687.12	93.33105176	27.53241570	-529.18
93.06641798	27.50309262	-676.04	93.33159096	27.53008544	-532.22
93.06701644	27.50457313	-688.50	93.33146241	27.52817263	-557.57
93.06727225	27.50548040	-698.20	93.33127678	27.52715212	-556.56
93.06767517	27.50556633	-685.73	93.33427146	27.53310484	-518.03
93.06791210	27.50548547	-685.73	93.33439236	27.53415667	-520.06
93.06889376	27.50258677	-684.35	93.33426668	27.53121403	-534.25
93.06865024	27.50116707	-677.42	93.33478053	27.53234954	-524.11
93.07031286	27.50498652	-682.96	93.33494747	27.53389314	-516.00
93.06996200	27.50117057	-667.72	93.33515314	27.53342190	-521.07
93.06939037	27.49755666	-624.78	93.33517201	27.52819117	-536.28
93.53663868	27.49021085	-616.02	93.33593437	27.53416772	-518.03
93.53699535	27.49088663	-608.70	93.33528825	27.52784720	-538.31

93.53780062	27.49147925	-618.11	93.33643456	27.53430533	-522.09
93.53815052	27.49202790	-614.97	93.33569885	27.52905948	-542.36
93.53879325	27.49089435	-622.29	93.33684667	27.53238603	-531.21
93.53905422	27.49205927	-611.83	93.33752168	27.53408767	-524.11
93.53921049	27.49220618	-611.83	93.33774290	27.52807724	-541.35
93.53942233	27.49179745	-604.51	93.33884521	27.52976120	-531.21
93.53899898	27.48763439	-595.10	93.32084317	27.55074474	-483.20
93.53955924	27.48832455	-600.33	93.31025656	27.55455079	-466.28
93.53959972	27.48786668	-600.33	92.62400236	27.64636589	-517.66
93.54101299	27.49197104	-606.61	92.62385264	27.64588386	-518.59
93.54268627	27.48958590	-588.83	92.62293562	27.64609712	-528.85
93.54289172	27.49001139	-588.83	92.62086980	27.64551253	-522.32
93.54332182	27.48866027	-577.32	92.61796098	27.65069559	-539.11
93.54393639	27.49019168	-589.87	92.61718809	27.64985342	-540.05
93.54620373	27.48970332	-555.36	92.61671719	27.65027688	-540.05
93.52450290	27.47886708	-513.17	92.61626578	27.65097201	-541.91
93.09616521	27.50963800	-605.87	92.61466013	27.65050827	-540.05
93.09616196	27.51070255	-604.63	92.21129693	27.67799986	-371.39
93.09606899	27.51064151	-613.27	92.21132657	27.67826738	-376.13
93.09599056	27.51082208	-604.63	92.21085837	27.67833310	-376.73
93.09577032	27.50956279	-607.10	92.20537761	27.67822731	-379.10
93.09578583	27.51019415	-608.33	92.20468198	27.67797138	-392.79
93.09533880	27.51056985	-610.80	92.20400060	27.67716771	-388.35
93.09492138	27.51083599	-610.80	92.20344709	27.67750802	-392.16
93.09490119	27.50971746	-618.21	92.20125457	27.67890246	-397.23
93.09447865	27.51091413	-597.23	92.20132627	27.67960609	-402.31
93.09334813	27.51027424	-603.40	92.19618908	27.67972138	-407.39
93.09272529	27.51050194	-602.17	92.19577627	27.67967061	-406.12
93.07459698	27.51352704	-650.29	92.19575757	27.68017814	-406.12
92.99843894	27.56485229	-633.80	92.19556831	27.67965584	-404.85
92.94179031	27.62387505	-473.10	91.97877380	27.70233402	-448.84
92.94181999	27.62410485	-482.06	91.97830722	27.70187017	-453.95
92.94239104	27.62471152	-467.72	91.97805983	27.70110911	-453.09
92.94224595	27.62458896	-468.62	91.97574499	27.70177922	-449.69
92.94119393	27.62415376	-480.27	91.97138750	27.70407052	-436.06
92.93645660	27.62902098	-466.75	91.90596794	27.70837350	-486.31

Longitude (W)	Latitude (N)	Depth	Longitude (W)	Latitude (N)	Depth
93.83994732	27.68012452	-357.36	90.97971703	27.81588286	-549.56
93.83845912	27.67812066	-343.10	90.98013705	27.81719500	-543.73
93.83739875	27.67976061	-346.85	91.28187903	27.72569937	-647.94
93.81522583	27.67768875	-301.81	91.28197450	27.72365994	-659.09
93.81514310	27.67793225	-322.08	91.28090976	27.72318226	-643.76
93.81470294	27.67772722	-319.83	91.28001724	27.72296584	-640.98
93.78800066	27.67794911	-323.58	91.28004687	27.72233068	-650.73
93.78775319	27.67841359	-325.83	91.27956773	27.72140222	-646.55
93.78728127	27.67737730	-319.83	91.27915424	27.72237440	-652.12
93.78712181	27.67831705	-326.58	91.27871957	27.72033960	-645.16
93.78637699	27.67798281	-322.08	91.27680606	27.72199051	-653.52
93.78577323	27.67764695	-325.08	91.27213246	27.72186433	-647.94
93.78541080	27.67767325	-325.83	91.27211674	27.72249989	-636.80
93.75828900	27.67865365	-303.13	91.27128280	27.72228747	-632.62
93.75797173	27.67765050	-308.30	91.27080110	27.72366215	-636.80
93.75781924	27.67842007	-302.48	91.26207517	27.72602894	-635.40
93.75781807	27.67817687	-307.01	91.26060663	27.72529573	-639.58
93.75749136	27.67754819	-296.02	91.26078956	27.72562581	-638.19
93.75496785	27.67936471	-298.60	91.26127185	27.72649602	-639.58
93.75021702	27.65063067	-421.46	91.26049964	27.72644174	-634.01
93.75056639	27.65073293	-415.83	91.26043792	27.72740249	-636.80
93.75107878	27.65058331	-427.10	91.25834517	27.72462269	-631.22
93.75112564	27.64937824	-416.96	91.25965225	27.72707049	-629.83
93.77177462	27.57781674	-568.55	91.25977712	27.72812106	-632.62
93.77183700	27.57713706	-568.55	91.25916879	27.72800559	-631.22
93.77166611	27.57695917	-582.80	91.25797874	27.72761007	-632.62

93.77266052	27.57422518	-565.96	91.25736638	27.72730463	-631.22
93.77101208	27.57319184	-555.60	91.25463947	27.73151656	-622.86
93.77337278	27.57319252	-575.03	91.25408355	27.73151860	-617.29
93.77377373	27.57289232	-563.37	91.25107313	27.73268657	-606.14
93.77385071	27.56990077	-546.54	91.24569721	27.73489542	-614.97
93.77483318	27.57016317	-547.83	91.24666033	27.73577986	-608.04
93.77718994	27.56510445	-539.69	91.24705607	27.73634995	-604.57
93.77735371	27.56509233	-540.92	91.24564029	27.73477181	-609.19
93.77769841	27.56507639	-540.92	91.24653358	27.73791860	-601.10
93.77568507	27.57389579	-560.05	91.24574841	27.73745659	-603.41
93.77342524	27.57300328	-562.62	91.24522463	27.73809485	-601.10
93.77296111	27.57412461	-575.50	91.23996014	27.73591545	-608.04
93.77150510	27.57558083	-556.18	91.22654849	27.74330563	-515.79
93.77218011	27.57356353	-558.76	91.22536929	27.74442534	-510.78
94.25972591	27.68734698	-328.39	91.22466254	27.74578972	-505.77
94.25957415	27.68697401	-336.34	91.22238491	27.74584357	-545.83
94.25941852	27.68690059	-331.04	91.22210707	27.74604223	-529.81
94.25832307	27.68795329	-342.96	91.22063763	27.74407242	-565.86
94.25843780	27.68707029	-333.69	91.22085600	27.74504267	-554.85
94.25874377	27.68610267	-331.70	91.22025204	27.74342797	-559.85
94.25810996	27.68810703	-341.63	91.21920777	27.74059375	-572.87
94.25800798	27.68659507	-336.34	91.21948693	27.74231358	-571.87
94.25755737	27.68641360	-327.73	91.21900466	27.74420252	-560.86
94.03774080	27.67874983	-437.20	91.21910932	27.74511488	-545.83
94.03766049	27.67843129	-440.71	91.21884133	27.74574617	-537.82
94.03506730	27.67747724	-452.43	91.21846018	27.74546665	-538.82
94.03055551	27.67781798	-451.26	91.21759496	27.74492311	-541.83
91.21101247	27.74291404	-539.01	91.21744532	27.74636980	-541.83
90.98184501	27.81501466	-549.56	91.21521842	27.74496277	-543.83
90.98129948	27.81557078	-548.59	91.21394519	27.74716042	-530.81
90.98121847	27.81613852	-548.59	91.21380161	27.74694003	-530.81
90.98036420	27.81570947	-550.53			

Bubble plume Locations detected by EK60

Longitude (W)	Latitude (N)	Depth
93.26709209	27.16820989	-651.14
93.24908672	27.17657962	-669.68
93.52882935	27.23516817	-442.59
92.10205761	27.33769467	-659.79
92.35065361	27.33275119	-583.97
92.59495785	27.36197439	-664.27
92.94058495	27.36254056	-529.94
93.42324217	27.45196645	-456.95
93.06630790	27.50549933	-454.77
92.92564205	27.51676984	-430.65

Appendix E- Tables of data files collected

Table of Multibeam EM 302 files collected. File Name format:
Line Number _ Date_Time_CruiseID_MB.all

EX1402L1 MB ACQUISITION / FIELD PROCESSING LOG														
MB LINE FILENAME	SVP FILE APPLIED	JULIAN DAY	DATE (UTC)	SOG (kt)	HDG	MIN LONG (dec min)	MAX LONG (dec min)	MIN LAT (dec min)	MAX LAT (dec min)	MIN TIME	MAX TIME	Level 01	Level 02 (kmz, xyz, sd, tif, asc)	Notes
0001_20140319_224237_EX1402L2_MB	EX1402L2_XBT001_140319/EX1402L2_XBT002_140319	78	03/19/14	10.1328	179.181	094-25.96428766W	094-24.94470353W	28-03.42284222N	28-16.81540295N	2014-03-19 22:42:37.084	2014-03-20 00:01:56.604	0001_20140319_224237_EX1402L2_MB	EX1402L2_MB_FNL_01_50m_WGS84	
0002_20140320_000156_EX1402L2_MB	EX1402L2_XBT002_140319	79	03/20/14	10.0434	179.633	094-25.96245534W	094-24.22755518W	27-43.29845826N	28-03.42473986N	2014-03-20 00:01:57.104	2014-03-20 02:01:02.633	0002_20140320_000156_EX1402L2_MB	EX1402L2_MB_FNL_01_50m_WGS84	
0003_20140320_020053_EX1402L2_MB	EX1402L2_XBT002_140319	79	03/20/14	7.8946	128.066	094-25.75281122W	094-24.40193832W	27-42.86001148N	27-43.90172094N	2014-03-20 02:00:43.143	2014-03-20 02:02:32.145	0003_20140320_020053_EX1402L2_MB	EX1402L2_MB_FNL_01_50m_WGS84	
0004_20140320_020232_EX1402L2_MB	EX1402L2_XBT002_140319/EX1402L2_XBT003_140320	79	03/20/14	8.6743	098.971	094-25.10057097W	094-05.61895971W	27-39.98238022N	27-44.02115170N	2014-03-20 02:02:22.635	2014-03-20 04:02:33.661	0004_20140320_020232_EX1402L2_MB	EX1402L2_MB_FNL_01_50m_WGS84	
0005_20140320_040233_EX1402L2_MB	EX1402L2_XBT003_140320/EX1402L2_XBT004_140320	79	03/20/14	8.4356	090.928	094-05.71939692W	093-46.66164609W	27-39.48880917N	27-41.64982148N	2014-03-20 04:02:24.162	2014-03-20 06:02:42.191	0005_20140320_040233_EX1402L2_MB	EX1402L2_MB_FNL_01_50m_WGS84	
0006_20140320_060232_EX1402L2_MB	EX1402L2_XBT004_140320	79	03/20/14	8.8912	090.138	093-46.67641121W	093-44.59267945W	27-40.08608673N	27-41.34132840N	2014-03-20 06:02:23.190	2014-03-20 06:13:25.197	0006_20140320_060232_EX1402L2_MB	EX1402L2_MB_FNL_01_50m_WGS84	
0007_20140320_061325_EX1402L2_MB	EX1402L2_XBT004_140320	79	03/20/14	8.6985	193.081	093-47.44456886W	093-43.95937430W	27-33.69194649N	27-41.11364299N	2014-03-20 06:13:16.197	2014-03-20 07:00:48.209	0007_20140320_061325_EX1402L2_MB	EX1402L2_MB_FNL_01_50m_WGS84	
0008_20140320_070038_EX1402L2_MB	EX1402L2_XBT004_140320	79	03/20/14	8.688	turn	093-48.04605422W	093-46.02661520W	27-33.26384732N	27-35.54602302N	2014-03-20 07:00:28.710	2014-03-20 07:08:33.711	0008_20140320_070038_EX1402L2_MB	EX1402L2_MB_FNL_01_50m_WGS84	
0009_20140320_070824_EX1402L2_MB	EX1402L2_XBT004_140320/EX1402L2_XBT005_140320	79	03/20/14	8.8775	109.771	093-46.89269018W	093-32.07773766W	27-29.38226338N	27-35.52022617N	2014-03-20 07:08:14.711	2014-03-20 08:38:40.233	0009_20140320_070824_EX1402L2_MB	EX1402L2_MB_FNL_01_50m_WGS84	
0010_20140320_083859_EX1402L2_MB	EX1402L2_XBT005_140320	79	03/20/14	8.4149	145.233	093-32.79216675W	093-32.20497210W	27-29.85059794N	27-30.25462256N	2014-03-20 08:39:00.232	2014-03-20 08:39:06.732	0010_20140320_083859_EX1402L2_MB	EX1402L2_MB_FNL_01_50m_WGS84	
0011_20140320_083926_EX1402L2_MB	EX1402L2_XBT005_140320	79	03/20/14	8.7834	175.29	093-33.55548748W	093-28.56740974W	27-12.77097817N	27-30.31572164N	2014-03-20 08:39:26.233	2014-03-20 10:39:35.760	0011_20140320_083926_EX1402L2_MB	EX1402L2_MB_FNL_01_50m_WGS84	
0012_20140320_103926_EX1402L2_MB	EX1402L2_XBT005_140320/EX1402L2_XBT006_140320	79	03/20/14	8.8831	181.033	093-33.02984569W	093-29.57408856W	27-01.22875026N	27-13.11403435N	2014-03-20 10:39:16.263	2014-03-20 11:55:19.781	0012_20140320_103926_EX1402L2_MB	EX1402L2_MB_FNL_01_50m_WGS84	
0013_20140320_115520_EX1402L2_MB	EX1402L2_XBT006_140320	79	03/20/14	8.5429	turn	093-32.07025025W	093-28.62135142W	26-58.75271315N	27-02.32916612N	2014-03-20 11:55:10.280	2014-03-20 12:10:36.785	0013_20140320_115520_EX1402L2_MB	EX1402L2_MB_FNL_01_50m_WGS84	
0014_20140320_121037_EX1402L2_MB	EX1402L2_XBT006_140320	79	03/20/14	8.7077	273.868	093-40.94133516W	093-29.54303540W	26-58.23961225N	27-01.58899174N	2014-03-20 12:10:27.284	2014-03-20 13:08:39.796	0014_20140320_121037_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0015_20140320_130840_EX1402L2_MB	EX1402L2_XBT006_140320	79	03/20/14	8.381	055.022	093-40.87657489W	093-36.79660202W	26-59.50231039N	27-03.53809790N	2014-03-20 13:08:30.298	2014-03-20 13:28:57.300	0015_20140320_130840_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0016_20140320_132848_EX1402L2_MB	EX1402L2_XBT006_140320/EX1402L2_XBT007_140320	79	03/20/14	8.2646	090.401	093-36.98340574W	093-18.40080652W	27-00.06813257N	27-03.83915514N	2014-03-20 13:28:38.299	2014-03-20 15:28:57.330	0016_20140320_132848_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0017_20140320_152847_EX1402L2_MB	EX1402L2_XBT007_140320	79	03/20/14	8.3773	089.725	093-18.40634473W	093-15.62914037W	27-00.24317232N	27-03.73115145N	2014-03-20 15:28:38.331	2014-03-20 15:45:51.834	0017_20140320_152847_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0018_20140320_154542_EX1402L2_MB	EX1402L2_XBT007_140320	79	03/20/14	8.5189	turn	093-17.49705383W	093-13.48230533W	27-00.47625155N	27-05.34138516N	2014-03-20 15:45:32.834	2014-03-20 16:00:40.342	0018_20140320_154542_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0019_20140320_160040_EX1402L2_MB	EX1402L2_XBT007_140320	79	03/20/14	8.474	270.51	093-24.32964429W	093-15.77624843W	27-02.10132258N	27-05.62194655N	2014-03-20 16:00:31.340	2014-03-20 16:54:18.855	0019_20140320_160040_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0020_20140320_165409_EX1402L2_MB	EX1402L2_XBT007_140320	79	03/20/14	8.2298	turn	093-26.19812154W	093-22.80029389W	27-02.67587664N	27-06.99455977N	2014-03-20 16:53:59.855	2014-03-20 17:09:47.356	0020_20140320_165409_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0021_20140320_170947_EX1402L2_MB	EX1402L2_XBT007_140320/EX1402L2_XBT008_140320	79	03/20/14	8.2212	088.757	093-24.69677502W	093-14.33610068W	27-04.06812283N	27-07.41342171N	2014-03-20 17:09:37.856	2014-03-20 18:06:21.373	0021_20140320_170947_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0022_20140320_180612_EX1402L2_MB	EX1402L2_XBT008_140320	79	03/20/14	8.6114	275.756	093-33.69395649W	093-14.11851193W	27-05.86667974N	27-09.09661472N	2014-03-20 18:06:02.370	2014-03-20 20:06:20.401	0022_20140320_180612_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0023_20140320_200610_EX1402L2_MB	EX1402L2_XBT008_140320/EX1402L2_XBT009_140320	79	03/20/14	8.5755	270.622	093-52.94244726W	093-33.63949570W	27-05.89608279N	27-09.10903874N	2014-03-20 20:06:00.901	2014-03-20 22:06:21.931	0023_20140320_200610_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0024_20140320_220612_EX1402L2_MB	EX1402L2_XBT009_140320	79	03/20/14	8.8853	270.46	093-55.22380821W	093-52.86860790W	27-06.58601450N	27-08.76432212N	2014-03-20 22:06:02.430	2014-03-20 22:19:49.933	0024_20140320_220612_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0025_20140320_223746_EX1402L2_MB	EX1402L2_XBT009_140320	79	03/20/14	3.3278	turn	N/A	N/A	N/A	N/A	3/20/2014 10:37:48 PM	3/20/2014 11:09:35 PM	0025_20140320_223746_EX1402L2_MB	N/A	1

EX1402L1 MB ACQUISITION / FIELD PROCESSING LOG														
MB LINE FILENAME	SVP FILE APPLIED	JULIAN DAY	DATE (UTC)	SOG (kt)	HDG	MIN LONG (dec min)	MAX LONG (dec min)	MIN LAT (dec min)	MAX LAT (dec min)	MIN TIME	MAX TIME	Level 01	Level 02 (kmz, xyz, sd, tif, asc)	Notes
0026_20140320_230924_EX1402L2_MB	EX1402L2_XBT009_140320	79	03/20/14	8.2454	090.674	093-55.14494973W	093-47.08276320W	27-04.38208193N	27-07.35893686N	2014-03-20 23:09:15.444	2014-03-21 00:00:02.456	0026_20140320_230924_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0027_20140321_000002_EX1402L2_MB	EX1402L2_XBT009_140320/EX1402L2_XBT010_140321	80	03/21/14	8.4673	090.944	093-47.24565051W	093-28.11414970W	27-04.04345699N	27-07.42244236N	2014-03-21 00:00:02.956	2014-03-21 02:00:03.487	0027_20140321_000002_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0028_20140321_020004_EX1402L2_MB	EX1402L2_XBT010_140321	80	03/21/14	8.51	090.655	093-28.26701599W	093-25.60172404W	27-04.16119638N	27-07.07845798N	2014-03-21 01:59:54.486	2014-03-21 02:15:59.990	0028_20140321_020004_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0029_20140321_021550_EX1402L2_MB	EX1402L2_XBT010_140321	80	03/21/14	8.3749	turn	093-26.92070841W	093-23.24871357W	27-02.85407912N	27-07.11572659N	2014-03-21 02:15:41.489	2014-03-21 02:32:23.496	0029_20140321_021550_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0030_20140321_023223_EX1402L2_MB	EX1402L2_XBT010_140321/EX1402L2_XBT011_140321	80	03/21/14	8.492	269.955	093-44.87653420W	093-25.28458846W	27-02.20196949N	27-05.61125516N	2014-03-21 02:32:13.996	2014-03-21 04:32:25.527	0030_20140321_023223_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0031_20140321_043226_EX1402L2_MB	EX1402L2_XBT011_140321	80	03/21/14	8.8363	270.688	093-55.19562556W	093-44.75100488W	27-02.35858292N	27-05.48569490N	2014-03-21 04:32:16.526	2014-03-21 05:35:21.042	0031_20140321_043226_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0032_20140321_053511_EX1402L2_MB	EX1402L2_XBT011_140321	80	03/21/14	8.23	turn	093-57.10009258W	093-54.05160531W	27-00.97338068N	27-05.29355579N	2014-03-21 05:35:02.043	2014-03-21 05:51:20.043	0032_20140321_053511_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0033_20140321_055120_EX1402L2_MB	EX1402L2_XBT011_140321/EX1402L2_XBT012_140321/EX14	80	03/21/14	8.4486	091.076	093-55.61746115W	093-39.81651473W	27-00.37215658N	27-03.58013811N	2014-03-21 05:51:10.543	2014-03-21 07:30:02.568	0033_20140321_055120_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0034_20140321_073002_EX1402L2_MB	EX1402L2_XBT013_140321	80	03/21/14	9.1088	turn	093-41.54950350W	093-37.65812886W	26-58.37262211N	27-03.52918039N	2014-03-21 07:29:53.068	2014-03-21 07:48:47.575	0034_20140321_073002_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0035_20140321_074848_EX1402L2_MB	EX1402L2_XBT013_140321	80	03/21/14	8.5375	270.738	093-52.34954939W	093-40.50703774W	26-58.20627986N	27-01.45047117N	2014-03-21 07:48:38.574	2014-03-21 09:01:53.092	0035_20140321_074848_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0036_20140321_090153_EX1402L2_MB	EX1402L2_XBT013_140321	80	03/21/14	8.4932	329.777	093-54.76760546W	093-51.25000671W	26-58.25664629N	27-01.96045747N	2014-03-21 09:01:44.091	2014-03-21 09:15:21.096	0036_20140321_090153_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0037_20140321_091521_EX1402L2_MB	EX1402L2_XBT013_140321	80	03/21/14	8.6123	343.387	093-57.23672926W	093-51.91677832W	27-00.88225289N	27-08.74173956N	2014-03-21 09:15:11.596	2014-03-21 10:09:19.604	0037_20140321_091521_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0038_20140321_100919_EX1402L2_MB	EX1402L2_XBT013_140321	80	03/21/14	8.1141	turn	093-57.39275828W	093-54.32475836W	27-08.05217569N	27-10.61521529N	2014-03-21 10:09:10.144	2014-03-21 10:15:36.138	0038_20140321_100919_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0039_20140321_101536_EX1402L2_MB	EX1402L2_XBT014_140321	80	03/21/14	8.5654	090.627	093-55.47638634W	093-36.07030926W	27-07.66677333N	27-11.02659670N	2014-03-21 10:15:26.608	2014-03-21 12:15:36.137	0039_20140321_101536_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0040_20140321_121536_EX1402L2_MB	EX1402L2_XBT015_140321	80	03/21/14	8.3926	090.479	093-36-09.37373W	093-17-14.66091W	27-07-39.57366N	27-10-40.26060N	2014-03-21 12:15:26.638	2014-03-21 14:15:45.667	0040_20140321_121536_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0041_20140321_141536_EX1402L2_MB	EX1402L2_XBT015_140321	80	03/21/14	8.2728	089.495	093-17-19.95222W	093-15-27.85823W	27-07-33.60477N	27-10-35.54476N	2014-03-21 14:15:26.666	2014-03-21 14:25:55.668	0041_20140321_141536_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0042_20140321_154032_EX1402L2_MB	EX1402L2_XBT015_140321	80	03/21/14	6.6116	turn	093-17-20.51202W	093-13-30.69776W	27-08-26.02202N	27-12-04.47233N	2014-03-21 15:40:32.189	2014-03-21 16:02:04.694	0042_20140321_154032_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0043_20140321_160204_EX1402L2_MB	EX1402L2_XBT016_140321	80	03/21/14	8.5072	270.454	093-34-15.62797W	093-15-03.79497W	27-09-42.83070N	27-12-15.68406N	2014-03-21 16:01:55.194	2014-03-21 18:02:06.222	0043_20140321_160204_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0044_20140321_180206_EX1402L2_MB	EX1402L2_XBT016_140321	80	03/21/14	8.5768	270.568	093-45-23.48619W	093-34-08.96005W	27-09-36.66421N	27-12-29.49596N	2014-03-21 18:01:57.222	2014-03-21 19:08:42.639	0044_20140321_180206_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0045_20140321_190842_EX1402L2_MB	Did Not Process	80	03/21/14	N/A	turn	N/A	N/A	N/A	N/A	N/A	N/A	0045_20140321_190842_EX1402L2_MB	N/A	2
0046_20140321_194702_EX1402L2_MB	EX1402L2_XBT016_140321	80	03/21/14	8.3915	270.736	093-46-38.86876W	093-42-40.97572W	27-09-26.63458N	27-12-48.42426N	2014-03-21 19:47:02.646	2014-03-21 20:10:41.654	0046_20140321_194702_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0047_20140321_201042_EX1402L2_MB	EX1402L2_XBT016_140321	80	03/21/14	8.4011	270.69	093-55-37.38285W	093-46-23.09796W	27-09-27.26657N	27-12-44.87445N	2014-03-21 20:10:32.153	2014-03-21 21:08:17.166	0047_20140321_201042_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0048_20140321_223032_EX1402L2_MB	EX1402L2_XBT016_140321/EX1402L2_XBT017_140321	80	03/21/14	8.527	090.335	093-55-49.91261W	093-41-10.81386W	27-10-54.56176N	27-14-15.96429N	2014-03-21 22:30:32.687	2014-03-22 00:00:00.707	0048_20140321_223032_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0049_20140322_000000_EX1402L2_MB	EX1402L2_XBT017_140321	81	03/22/14	8.702	090.53	093-41-21.14340W	093-21-40.19405W	27-11-18.35812N	27-13-46.98552N	2014-03-22 00:00:01.207	2014-03-22 02:00:02.235	0049_20140322_000000_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0050_20140322_020002_EX1402L2_MB	EX1402L2_XBT017_140321	81	03/22/14	8.7856	090.431	093-21-49.31302W	093-14-59.32562W	27-11-19.63820N	27-13-41.59046N	2014-03-22 01:59:52.735	2014-03-22 02:40:34.745	0050_20140322_020002_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	

EX1402L1 MB ACQUISITION / FIELD PROCESSING LOG															
MB LINE FILENAME	SVP FILE APPLIED	JULIAN DAY	DATE (UTC)	SOG (kt)	HDG	MIN LONG (dec min)	MAX LONG (dec min)	MIN LAT (dec min)	MAX LAT (dec min)	MIN TIME	MAX TIME	Level 01	Level 02 (kmz, xyz, sd, tif, asc)	Notes
0051_20140322_024035_EX1402L2_MB	EX1402L2_XBT017_140321	81	03/22/14	4.4576	turn	093-15-28.66W	093-13-04.01W	27-11-20.67N	27-15-03.97N	3/22/2014 2:40:26 AM	3/22/2014 2:58:00 AM	0051_20140322_024035_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0052_20140322_025759_EX1402L2_MB	EX1402L2_XBT018_140322	81	03/22/14	8.5276	270.885	093-34-27.43395W	093-15-07.96832W	27-12-49.66227N	27-15-30.43991N	2014-03-22 02:57:50.252	2014-03-22 04:57:58.782	0052_20140322_025759_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0053_20140322_045759_EX1402L2_MB	EX1402L2_XBT020_140322	81	03/22/14	8.5913	270.634	093-53-44.17049W	093-34-24.72858W	27-12-38.58151N	27-15-50.75493N	2014-03-22 04:57:49.782	2014-03-22 06:58:01.811	0053_20140322_045759_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0054_20140322_065802_EX1402L2_MB	EX1402L2_XBT020_140322	81	03/22/14	8.615	270.658	093-54-22.97W	093-53-42.42W	27-12-50.02N	27-15-36.93N	2014-03-22 06:57:52.310	2014-03-22 07:02:16.812	0054_20140322_065802_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0055_20140322_070207_EX1402L2_MB	EX1402L2_XBT020_140322	81	03/22/14	8.5377	turn	093-56-30.10W	093-53-18.91W	27-12-48.63N	27-16-54.72N	2014-03-22 07:01:58.311	2014-03-22 07:15:22.316	0055_20140322_070207_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0056_20140322_071522_EX1402L2_MB	EX1402L2_XBT020_140322	81	03/22/14	8.8164	090.092	093-54-50.20W	093-34-49.02W	27-14-13.35N	27-17-22.07N	2014-03-22 07:15:12.816	2014-03-22 09:15:22.842	0056_20140322_071522_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0057_20140322_091523_EX1402L2_MB	EX1402L2_XBT020_140322	81	03/22/14	8.8301	090.472	093-34-55.55W	093-15-01.81W	27-14-10.47N	27-17-26.25N	2014-03-22 09:15:13.842	2014-03-22 11:15:22.871	0057_20140322_091523_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0058_20140322_111523_EX1402L2_MB	EX1402L2_XBT021_140322	81	03/22/14	8.6745	turn	093-15-03.91W	093-12-24.31W	27-14-30.65N	27-18-09.01N	2014-03-22 11:15:13.871	2014-03-22 11:34:02.879	0058_20140322_111523_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0059_20140322_113403_EX1402L2_MB	EX1402L2_XBT021_140322	81	03/22/14	8.3106	270.526	093-32-54.86W	093-14-08.98W	27-15-22.84N	27-18-45.26N	2014-03-22 11:33:53.378	2014-03-22 13:34:13.407	0059_20140322_113403_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0060_20140322_133404_EX1402L2_MB	EX1402L2_XBT021_140322	81	03/22/14	8.4751	270.971	093-51-56.27W	093-32-54.09W	27-15-37.21N	27-18-38.86N	2014-03-22 13:33:54.907	2014-03-22 15:34:14.937	0060_20140322_133404_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0061_20140322_153405_EX1402L2_MB	EX1402L2_XBT021_140322	81	03/22/14	8.6068	270.929	093-55-52.99W	093-51-57.60W	27-16-11.06N	27-18-34.63N	2014-03-22 15:34:05.436	2014-03-22 15:58:19.945	0061_20140322_153405_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0062_20140322_155810_EX1402L2_MB	EX1402L2_XBT022_140322	81	03/22/14	8.3401	turn	093-57-15.30W	093-53-47.50W	27-16-17.45N	27-20-01.67N	2014-03-22 15:58:00.942	2014-03-22 16:18:38.946	0062_20140322_155810_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0063_20140322_161839_EX1402L2_MB	EX1402L2_XBT023_140322	81	03/22/14	8.5445	089.772	093-53-49.13W	093-34-34.26W	27-17-38.84N	27-20-11.71N	2014-03-22 16:18:29.946	2014-03-22 18:18:49.475	0063_20140322_161839_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0064_20140322_181840_EX1402L2_MB	EX1402L2_XBT023_140322	81	03/22/14	8.6249	090.346	093-34-40.16W	093-15-15.10W	27-17-14.85N	27-20-23.16N	2014-03-22 18:18:30.975	2014-03-22 20:18:40.505	0064_20140322_181840_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0065_20140322_201840_EX1402L2_MB	EX1402L2_XBT023_140322/EX1402L2_XBT024_140322	81	03/22/14	8.6412	088.903	093-15-16.71W	092-55-49.87W	27-17-17.77N	27-20-38.80N	2014-03-22 20:18:31.005	2014-03-22 22:18:38.035	0065_20140322_201840_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0066_20140322_221838_EX1402L2_MB	EX1402L2_XBT024_140322/EX1402L2_XBT025_140322	81	03/22/14	8.7465	088.698	092-55-54.00W	092-39-16.17W	27-17-49.27N	27-21-00.86N	2014-03-22 22:18:28.534	2014-03-23 00:00:00.559	0066_20140322_221838_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0067_20140323_000000_EX1402L2_MB	EX1402L2_XBT025_140322	82	03/23/14	8.0376	088.638	092-39-15.01W	092-21-11.00W	27-18-14.01N	27-21-28.73N	2014-03-23 00:00:01.059	2014-03-23 02:00:03.590	0067_20140323_000000_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0068_20140323_020003_EX1402L2_MB	EX1402L2_XBT025_140322/EX1402L2_XBT026_140323	82	03/23/14	8.2603	088.357	092-21-15.08W	092-02-37.99W	27-18-22.13N	27-21-54.88N	2014-03-23 01:59:54.590	2014-03-23 04:00:01.621	0068_20140323_020003_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0069_20140323_040001_EX1402L2_MB	EX1402L2_XBT026_140323/EX1402L2_XBT027_140323	82	03/23/14	8.1667	088.349	092-02-42.83W	091-44-17.17W	27-18-38.54N	27-22-24.14N	2014-03-23 03:59:52.141	2014-03-23 06:00:00.152	0069_20140323_040001_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0070_20140323_060000_EX1402L2_MB	EX1402L2_XBT027_140323	82	03/23/14	7.8741	088.128	091-44-21.87W	091-32-55.44W	27-18-49.74N	27-22-44.55N	2014-03-23 05:59:50.651	2014-03-23 07:17:02.171	0070_20140323_060000_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0071_20140323_071702_EX1402L2_MB	EX1402L2_XBT027_140323	82	03/23/14	8.9172	turn	091-34-50.00W	091-30-53.93W	27-19-25.48N	27-24-04.08N	2014-03-23 07:16:52.670	2014-03-23 07:32:19.676	0071_20140323_071702_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0072_20140323_073219_EX1402L2_MB	EX1402L2_XBT028_140323	82	03/23/14	7.5935	267.76	091-50-13.40W	091-33-04.68W	27-20-43.40N	27-24-37.61N	2014-03-23 07:32:10.676	2014-03-23 09:32:15.706	0072_20140323_073219_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0073_20140323_093215_EX1402L2_MB	EX1402L2_XBT028_140323	82	03/23/14	8.7124	268.301	092-06-56.98W	091-50-03.90W	27-20-28.84N	27-24-02.03N	2014-03-23 09:32:06.206	2014-03-23 11:15:06.233	0073_20140323_093215_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0074_20140323_111506_EX1402L2_MB	EX1402L2_XBT029_140323	82	03/23/14	7.3888	266.339	092-23-22.44W	092-06-52.93W	27-19-45.43N	27-23-13.91N	2014-03-23 11:14:56.733	2014-03-23 13:13:50.264	0074_20140323_111506_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0075_20140323_131350_EX1402L2_MB	EX1402L2_XBT029_140323	82	03/23/14	8.3194	269.791	092-41-59.03W	092-23-12.49W	27-19-43.02N	27-23-14.79N	2014-03-23 13:13:40.762	2014-03-23 15:13:57.791	0075_20140323_131350_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	

EX1402L1 MB ACQUISITION / FIELD PROCESSING LOG														
MB LINE FILENAME	SVP FILE APPLIED	JULIAN DAY	DATE (UTC)	SOG (kt)	HDG	MIN LONG (dec min)	MAX LONG (dec min)	MIN LAT (dec min)	MAX LAT (dec min)	MIN TIME	MAX TIME	Level 01	Level 02 (kmz, xyz, sd, tif, asc)	Notes
0076_20140323_151348_ EX1402L2_MB	EX1402L2_XBT030_140323	82	03/23/14	8.5241	266.982	093-01-07.38W	092-41-54.85W	27-19-19.07N	27-22-56.30N	2014-03-23 15:13:38.293	2014-03-23 17:14:00.322	0076_20140323_151348 _EX1402L2_MB	EX1402L2_MB_FNL_ 02_50m_WGS84	
0077_20140323_171351_ EX1402L2_MB	EX1402L2_XBT030_140323	82	03/23/14	8.5841	271.266	093-03-32.98W	093-01-02.20W	27-19-13.78N	27-21-30.27N	2014-03-23 17:13:41.821	2014-03-23 17:29:06.825	0077_20140323_171351 _EX1402L2_MB	EX1402L2_MB_FNL_ 02_50m_WGS84	
0078_20140323_172857_ EX1402L2_MB	EX1402L2_XBT030_140323	82	03/23/14	7.803	254.968	093-05-56.20W	093-03-20.51W	27-19-07.28N	27-21-36.61N	2014-03-23 17:28:47.327	2014-03-23 17:47:52.329	0078_20140323_172857 _EX1402L2_MB	EX1402L2_MB_FNL_ 02_50m_WGS84	
0079_20140323_174743_ EX1402L2_MB	EX1402L2_XBT030_140323	82	03/23/14	8.1032	072.663	093-04-12.17W	092-59-04.08W	27-19-11.36N	27-22-44.02N	2014-03-23 17:47:33.329	2014-03-23 18:19:34.336	0079_20140323_174743 _EX1402L2_MB	EX1402L2_MB_FNL_ 02_50m_WGS84	
0080_20140323_181934_ EX1402L2_MB	EX1402L2_XBT030_140323/ EX1402L2_XBT031_140323	82	03/23/14	8.1314	089.625	092-59-20.57W	092-40-54.92W	27-20-21.12N	27-23-16.62N	2014-03-23 18:19:24.837	2014-03-23 20:19:35.866	0080_20140323_181934 _EX1402L2_MB	EX1402L2_MB_FNL_ 02_50m_WGS84	
0081_20140323_201936_ EX1402L2_MB	EX1402L2_XBT031_140323/ EX1402L2_XBT032_140323	82	03/23/14	8.7887	087.407	092-40-58.21W	092-21-04.35W	27-20-06.87N	27-23-36.63N	2014-03-23 20:19:26.367	2014-03-23 22:19:32.397	0081_20140323_201936 _EX1402L2_MB	EX1402L2_MB_FNL_ 02_50m_WGS84	
0082_20140323_221932_ EX1402L2_MB	EX1402L2_XBT032_140323	82	03/23/14	8.484	084.055	092-21-24.83W	092-05-14.01W	27-21-05.95N	27-24-58.10N	2014-03-23 22:19:22.896	2014-03-24 00:00:07.921	0082_20140323_221932 _EX1402L2_MB	EX1402L2_MB_FNL_ 02_50m_WGS84	
0083_20140324_000008_ EX1402L2_MB	EX1402L2_XBT032_140323/ EX1402L2_XBT033_140324	83	03/24/14	8.525	085.837	092-05-25.29W	091-46-01.51W	27-22-21.77N	27-26-34.25N	2014-03-24 00:00:08.422	2014-03-24 02:00:09.452	0083_20140324_000008 _EX1402L2_MB	EX1402L2_MB_FNL_ 02_50m_WGS84	
0084_20140324_020009_ EX1402L2_MB	EX1402L2_XBT033_140324	83	03/24/14	8.5533	083.243	091-46-24.58W	091-26-34.61W	27-23-16.94N	27-27-58.48N	2014-03-24 01:59:59.952	2014-03-24 04:00:08.481	0084_20140324_020009 _EX1402L2_MB	EX1402L2_MB_FNL_ 02_50m_WGS84	
0085_20140324_040008_ EX1402L2_MB	EX1402L2_XBT033_140324/ EX1402L2_XBT034_140324	83	03/24/14	8.4431	066.85	091-27-46.94W	091-14-16.39W	27-25-26.70N	27-32-32.47N	2014-03-24 03:59:58.981	2014-03-24 05:23:49.002	0085_20140324_040008 _EX1402L2_MB	EX1402L2_MB_FNL_ 02_50m_WGS84	
0086_20140324_052339_ EX1402L2_MB	EX1402L2_XBT034_140324	83	03/24/14	8.6291	turn	091-16-10.20W	091-13-20.91W	27-29-56.53N	27-33-02.26N	2014-03-24 05:23:30.502	2014-03-24 05:30:52.006	0086_20140324_052339 _EX1402L2_MB	EX1402L2_MB_FNL_ 02_50m_WGS84	
0087_20140324_053052_ EX1402L2_MB	EX1402L2_XBT034_140324	83	03/24/14	8.8458	263.663	091-35-17.19W	091-14-47.84W	27-28-31.48N	27-33-02.58N	2014-03-24 05:30:42.507	2014-03-24 07:30:55.036	0087_20140324_053052 _EX1402L2_MB	EX1402L2_MB_FNL_ 02_50m_WGS84	
0088_20140324_073055_ EX1402L2_MB	EX1402L2_XBT035_140324	83	03/24/14	8.5642	264.359	091-54-21.35W	091-34-55.46W	27-27-19.07N	27-31-26.21N	2014-03-24 07:30:45.535	2014-03-24 09:30:54.064	0088_20140324_073055 _EX1402L2_MB	EX1402L2_MB_FNL_ 02_50m_WGS84	
0089_20140324_093054_ EX1402L2_MB	EX1402L2_XBT036_140324	83	03/24/14	8.3516	264.522	092-13-09.19W	091-54-17.79W	27-25-53.79N	27-29-35.36N	2014-03-24 09:30:45.065	2014-03-24 11:30:53.593	0089_20140324_093054 _EX1402L2_MB	EX1402L2_MB_FNL_ 02_50m_WGS84	
0090_20140324_113053_ EX1402L2_MB	EX1402L2_XBT036_140324	83	03/24/14	8.2399	264.642	092-31-38.04W	092-12-51.88W	27-24-11.68N	27-28-06.86N	2014-03-24 11:30:44.593	2014-03-24 13:30:54.147	0090_20140324_113053 _EX1402L2_MB	EX1402L2_MB_FNL_ 02_50m_WGS84	
0091_20140324_133054_ EX1402L2_MB	EX1402L2_XBT036_140324	83	03/24/14	8.2804	266.758	092-43-49.19W	092-31-19.17W	27-23-13.25N	27-26-50.73N	2014-03-24 13:30:45.144	2014-03-24 14:44:59.639	0091_20140324_133054 _EX1402L2_MB	EX1402L2_MB_FNL_ 02_50m_WGS84	
0092_20140324_144450_ EX1402L2_MB	EX1402L2_XBT036_140324	83	03/24/14	8.0682	315.644	092-48-29.72W	092-41-40.66W	27-24-24.23N	27-31-31.12N	2014-03-24 14:44:40.641	2014-03-24 15:40:54.153	0092_20140324_144450 _EX1402L2_MB	EX1402L2_MB_FNL_ 02_50m_WGS84	
0093_20140324_154054_ EX1402L2_MB	EX1402L2_XBT037_1403214	83	03/24/14	8.3152	264.75	093-07-09.73W	092-48-21.11W	27-27-29.33N	27-31-15.30N	2014-03-24 15:40:44.653	2014-03-24 17:40:53.183	0093_20140324_154054 _EX1402L2_MB	EX1402L2_MB_FNL_ 02_50m_WGS84	
0094_20140324_174053_ EX1402L2_MB	EX1402L2_XBT037_140324/ EX1402L2_XBT038_140324	83	03/24/14	8.2664	264.977	093-24-56.59W	093-06-53.53W	27-26-15.28N	27-29-29.89N	2014-03-24 17:40:44.184	2014-03-24 19:36:14.214	0094_20140324_174053 _EX1402L2_MB	EX1402L2_MB_FNL_ 02_50m_WGS84	
0095_20140324_194054_ EX1402L2_MB	EX1402L2_XBT038_140324/ EX1402L2_XBT039_140324	83	03/24/14	8.076	265.087	093-43-44.35W	093-25-20.98W	27-24-35.17N	27-28-01.27N	2014-03-24 19:40:45.210	2014-03-24 21:41:04.240	0095_20140324_194054 _EX1402L2_MB	EX1402L2_MB_FNL_ 02_50m_WGS84	
0096_20140324_214054_ EX1402L2_MB	EX1402L2_XBT039_140324	83	03/24/14	7.9725	265.266	093-54-20.97W	093-43-31.90W	27-23-40.75N	27-26-40.50N	2014-03-24 21:40:45.240	2014-03-24 22:52:51.261	0096_20140324_214054 _EX1402L2_MB	EX1402L2_MB_FNL_ 02_50m_WGS84	
0097_20140324_225241_ EX1402L2_MB	EX1402L2_XBT039_140324	83	03/24/14	8.0456	turn	093-55-56.54W	093-53-19.32W	27-22-21.86N	27-25-52.78N	2014-03-24 22:52:32.257	2014-03-24 23:07:01.758	0097_20140324_225241 _EX1402L2_MB	EX1402L2_MB_FNL_ 02_50m_WGS84	
0098_20140324_230702_ EX1402L2_MB	EX1402L2_XBT039_140324	83	03/24/14	7.2006	085.279	093-54-16.38W	093-46-58.39W	27-22-21.19N	27-25-00.21N	2014-03-24 23:06:52.757	2014-03-25 00:00:04.773	0098_20140324_230702 _EX1402L2_MB	EX1402L2_MB_FNL_ 02_50m_WGS84	
0099_20140325_000004_ EX1402L2_MB	EX1402L2_XBT039_140324/EX 1402L2_XBT040_140325	84	03/25/14	6.8306	084.876	093-47-15.91W	093-31-41.87W	27-23-02.92N	27-26-01.49N	2014-03-25 00:00:05.273	2014-03-25 02:00:14.797	0099_20140325_000004 _EX1402L2_MB	EX1402L2_MB_FNL_ 02_50m_WGS84	
0100_20140325_020005_ EX1402L2_MB	EX1402L2_XBT040_140325	84	03/25/14	7.0962	085.183	093-31-58.01W	093-30-33.44W	27-24-31.77N	27-26-12.30N	2014-03-25 01:59:55.798	2014-03-25 02:09:20.802	0100_20140325_020005 _EX1402L2_MB	EX1402L2_MB_FNL_ 02_50m_WGS84	

EX1402L1 MB ACQUISITION / FIELD PROCESSING LOG														
MB LINE FILENAME	SVP FILE APPLIED	JULIAN DAY	DATE (UTC)	SOG (kt)	HDG	MIN LONG (dec min)	MAX LONG (dec min)	MIN LAT (dec min)	MAX LAT (dec min)	MIN TIME	MAX TIME	Level 01	Level 02 (kmz, xyz, sd, tif, asc)	Notes
0101_20140325_020920_EX1402L2_MB	EX1402L2_XBT040_140325	84	03/25/14	7.4682	114.211	093-30-39.39W	093-24-24.89W	27-22-04.94N	27-26-12.03N	2014-03-25 02:09:11.801	2014-03-25 02:56:05.309	0101_20140325_020920_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0102_20140325_025555_EX1402L2_MB	EX1402L2_XBT040_140325/EX1402L2_XBT041_140325	84	03/25/14	7.1633	084.652	093-24-47.99W	093-08-31.95W	27-22-01.20N	27-25-16.63N	2014-03-25 02:55:46.313	2014-03-25 04:55:54.839	0102_20140325_025555_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0103_20140325_045555_EX1402L2_MB	EX1402L2_XBT041_140325	84	03/25/14	7.1675	084.725	093-08-47.07W	092-52-22.21W	27-23-23.68N	27-26-44.45N	2014-03-25 04:55:45.838	2014-03-25 06:55:55.869	0103_20140325_045555_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0104_20140325_065556_EX1402L2_MB	EX1402L2_XBT041_140325/EX1402L2_XBT042_140325	84	03/25/14	6.9791	084.422	092-52-53.03W	092-42-01.71W	27-24-37.94N	27-27-42.51N	2014-03-25 06:55:46.869	2014-03-25 08:15:15.383	0104_20140325_065556_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0105_20140325_081511_EX1402L2_MB	EX1402L2_XBT042_140325	84	03/25/14	7.2209	084.934	092-42-37.04W	092-42-00.47W	27-25-37.17N	27-27-42.50N	2014-03-25 08:15:02.383	2014-03-25 08:15:24.885	0105_20140325_081511_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0106	Does Not Exist											0106 DNE		3
0107_20140325_081515_EX1402L2_MB	EX1402L2_XBT042_140325	84	03/25/14	6.8555	turn	092-42-59.82W	092-40-07.52W	27-25-32.77N	27-30-32.92N	2014-03-25 08:15:05.886	2014-03-25 08:46:37.892	0107_20140325_081515_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0108_20140325_084638_EX1402L2_MB	EX1402L2_XBT043_140325	84	03/25/14	8.5431	263.456	093-01-09.04W	092-41-49.73W	27-26-26.59N	27-30-34.89N	2014-03-25 08:46:28.394	2014-03-25 10:46:35.425	0108_20140325_084638_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0109_20140325_104635_EX1402L2_MB	EX1402L2_XBT043_140325	84	03/25/14	8.5157	265.021	093-20-15.62W	093-01-04.26W	27-25-20.48N	27-28-41.75N	2014-03-25 10:46:26.424	2014-03-25 12:46:35.948	0109_20140325_104635_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0110_20140325_124636_EX1402L2_MB	EX1402L2_XBT043_140325	84	03/25/14	8.5771	264.84	093-28-17.85W	093-20-05.67W	27-24-39.04N	27-26-55.97N	2014-03-25 12:46:26.447	2014-03-25 13:36:45.459	0110_20140325_124636_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0111_20140325_133645_EX1402L2_MB	EX1402L2_XBT043_140325	84	03/25/14	8.2117	turn	093-30-57.99W	093-28-05.94W	27-24-30.74N	27-26-27.04N	2014-03-25 13:36:36.459	2014-03-25 13:53:02.457	0111_20140325_133645_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0112_20140325_135302_EX1402L2_MB	EX1402L2_XBT043_140325	84	03/25/14	6.7887	turn	093-30-16.88W	093-26-28.54W	27-24-56.91N	27-27-51.13N	2014-03-25 13:52:53.457	2014-03-25 14:23:16.965	0112_20140325_135302_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0113_20140325_142317_EX1402L2_MB	EX1402L2_XBT043_140325	84	03/25/14	6.5003	089.961	093-26-39.26W	093-23-37.62W	27-26-09.31N	27-28-08.15N	2014-03-25 14:23:07.965	2014-03-25 14:47:13.475	0113_20140325_142317_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0114_20140325_144713_EX1402L2_MB	EX1402L2_XBT043_140325	84	03/25/14	8.0926	turn	093-28-15.64W	093-22-35.41W	27-23-47.94N	27-27-40.53N	2014-03-25 14:47:03.973	2014-03-25 15:23:58.982	0114_20140325_144713_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0115_20140325_152350_EX1402L2_MB	EX1402L2_XBT044_140325	84	03/25/14	7.0479	086.518	093-27-06.00W	093-11-07.65W	27-23-32.29N	27-26-17.88N	2014-03-25 15:23:40.477	2014-03-25 17:23:50.006	0115_20140325_152350_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0116_20140325_172350_EX1402L2_MB	EX1402L2_XBT45_140325	84	03/25/14	6.8971	086.167	093-11-29.58W	092-55-47.92W	27-24-37.55N	27-27-43.76N	2014-03-25 17:23:41.005	2014-03-25 19:24:00.032	0116_20140325_172350_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0117_20140325_192350_EX1402L2_MB	EX1402L2_XBT45_140325	84	03/25/14	6.9685	093.215	092-55-48.28W	092-54-35.42W	27-25-25.97N	27-27-31.04N	2014-03-25 19:23:40.532	2014-03-25 19:32:02.036	0117_20140325_192350_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0118_20140325_193152_EX1402L2_MB	EX1402L2_XBT45_140325	84	03/25/14	8.7684	199.408	092-56-16.42W	092-53-26.53W	27-22-31.36N	27-27-20.81N	2014-03-25 19:31:42.535	2014-03-25 19:57:11.046	0118_20140325_193152_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0119_20140325_195711_EX1402L2_MB	EX1402L2_XBT45_140325/EX1402L2_XBT46_140325	84	03/25/14	8.1033	264.802	093-14-12.15W	092-55-46.35W	27-21-02.85N	27-24-36.76N	2014-03-25 19:57:01.545	2014-03-25 21:57:11.069	0119_20140325_195711_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0120_20140325_215711_EX1402L2_MB	EX1402L2_XBT46_140325	84	03/25/14	8.28	276.216	093-30-47.19W	093-14-01.65W	27-20-14.77N	27-24-32.86N	2014-03-25 21:57:02.068	2014-03-25 23:46:37.095	0120_20140325_215711_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0121_20140325_234637_EX1402L2_MB	EX1402L2_XBT46_140325	84	03/25/14	8.2879	276.61	093-32-47.36W	093-30-00.65W	27-22-49.14N	27-24-49.73N	2014-03-25 23:46:28.094	2014-03-26 00:01:52.601	0121_20140325_234637_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0122_20140326_000152_EX1402L2_MB	EX1402L2_XBT46_140325/EX1402L2_XBT47_140326	85	03/26/14	8.3648	265.967	093-43-16.43W	093-32-42.13W	27-22-09.25N	27-24-50.01N	2014-03-26 00:01:53.099	2014-03-26 01:08:20.143	0122_20140326_000152_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0123_20140326_010820_EX1402L2_MB	EX1402L2_XBT47_140326	85	03/26/14	8.5001	263.581	093-54-32.16W	093-42-57.75W	27-20-56.91N	27-24-12.75N	2014-03-26 01:08:11.139	2014-03-26 02:19:05.140	0123_20140326_010820_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0124_20140326_021855_EX1402L2_MB	EX1402L2_XBT47_140326	85	03/26/14	7.1102	turn	093-55-38.56W	093-53-06.85W	27-20-21.70N	27-22-50.20N	2014-03-26 02:18:45.625	2014-03-26 02:27:10.140	0124_20140326_021855_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0125_20140326_022710_EX1402L2_MB	EX1402L2_XBT47_140326/EX1402L2_XBT48_140326	85	03/26/14	7.0613	083.957	093-54-02.32W	093-38-09.35W	27-20-18.38N	27-23-38.58N	2014-03-26 02:27:00.628	2014-03-26 04:27:09.154	0125_20140326_022710_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	

EX1402L1 MB ACQUISITION / FIELD PROCESSING LOG														
MB LINE FILENAME	SVP FILE APPLIED	JULIAN DAY	DATE (UTC)	SOG (kt)	HDG	MIN LONG (dec min)	MAX LONG (dec min)	MIN LAT (dec min)	MAX LAT (dec min)	MIN TIME	MAX TIME	Level 01	Level 02 (kmz, xyz, sd, tif, asc)	Notes
0126_20140326_042709_EX1402L2_MB	EX1402L2_XBT48_140326	85	03/26/14	7.4994	083.964	093-38-21.64W	093-33-02.37W	27-21-59.77N	27-24-17.96N	2014-03-26 04:27:00.155	2014-03-26 05:04:19.663	0126_20140326_042709_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0127_20140326_050410_EX1402L2_MB	EX1402L2_XBT48_140326	85	03/26/14	8.3596	turn	093-33-50.33W	093-31-32.09W	27-21-27.58N	27-24-19.21N	2014-03-26 05:04:00.660	2014-03-26 05:14:17.668	0127_20140326_050410_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0128_20140326_051418_EX1402L2_MB	EX1402L2_XBT48_140326	85	03/26/14	8.2417	263.653	093-51-26.28W	093-32-34.02W	27-19-20.20N	27-23-17.65N	2014-03-26 05:14:08.168	2014-03-26 07:14:20.692	0128_20140326_051418_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0129_20140326_071421_EX1402L2_MB	EX1402L2_XBT48_140326	85	03/26/14	8.2154	263.956	093-54-01.47W	093-51-11.03W	27-19-02.56N	27-21-31.72N	2014-03-26 07:14:11.194	2014-03-26 07:31:15.695	0129_20140326_071421_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0130_20140326_073106_EX1402L2_MB	EX1402L2_XBT48_140326	85	03/26/14	6.5223	turn	093-55-25.56W	093-53-06.98W	27-18-32.17N	27-21-13.22N	2014-03-26 07:30:57.196	2014-03-26 07:41:09.695	0130_20140326_073106_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0131_20140326_074110_EX1402L2_MB	EX1402L2_XBT48_140326 / EX1402L2_XBT49_140326	85	03/26/14	7.2206	085.85	093-53-57.51W	093-37-41.04W	27-18-28.86N	27-21-47.71N	2014-03-26 07:41:00.695	2014-03-26 09:41:20.722	0131_20140326_074110_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0132_20140326_094110_EX1402L2_MB	EX1402L2_XBT49_140326	85	03/26/14	7.6042	086.184	093-37-46.77W	093-32-16.45W	27-19-37.41N	27-22-01.81N	2014-03-26 09:41:01.721	2014-03-26 10:16:51.729	0132_20140326_094110_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0133_20140326_101651_EX1402L2_MB	EX1402L2_XBT49_140326 / EX1402L2_XBT50_140326	85	03/26/14	8.1114	091.747	093-33-20.96W	093-15-24.74W	27-19-05.92N	27-23-10.20N	2014-03-26 10:16:42.729	2014-03-26 12:16:51.258	0133_20140326_101651_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0134_20140326_121651_EX1402L2_MB	EX1402L2_XBT50_140326	85	03/26/14	7.9616	074.053	093-15-35.68W	093-03-24.74W	27-19-28.76N	27-24-41.40N	2014-03-26 12:16:41.759	2014-03-26 13:41:03.775	0134_20140326_121651_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0135_20140326_134103_EX1402L2_MB	EX1402L2_XBT51_140326	85	03/26/14	6.8315	087.008	093-03-41.39W	092-48-01.53W	27-22-42.53N	27-25-46.18N	2014-03-26 13:40:54.276	2014-03-26 15:41:01.802	0135_20140326_134103_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0136_20140326_154101_EX1402L2_MB	EX1402L2_XBT51_140326	85	03/26/14	6.1212	081.547	092-48-28.21W	092-43-54.31W	27-22-55.44N	27-26-13.45N	2014-03-26 15:40:52.306	2014-03-26 16:12:52.310	0136_20140326_154101_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0137_20140326_161242_EX1402L2_MB	EX1402L2_XBT51_140326	85	03/26/14	6.9984	025.251	092-45-39.22W	092-41-56.08W	27-24-36.12N	27-29-10.90N	2014-03-26 16:12:32.811	2014-03-26 16:48:07.822	0137_20140326_161242_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0138_20140326_164758_EX1402L2_MB	EX1402L2_XBT51_140326	85	03/26/14	8.661	turn	092-44-07.05W	092-41-45.90W	27-26-49.13N	27-28-35.78N	2014-03-26 16:47:48.820	2014-03-26 16:52:02.820	0138_20140326_164758_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0139_20140326_165153_EX1402L2_MB	EX1402L2_XBT51_140326	85	03/26/14	7.7248	287.2	092-43-53.81W	092-42-29.89W	27-26-30.17N	27-28-30.12N	2014-03-26 16:51:43.322	2014-03-26 16:54:04.821	0139_20140326_165153_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0140_20140326_165404_EX1402L2_MB	EX1402L2_XBT51_140326	85	03/26/14	8.5783	306.713	092-48-41.17W	092-42-38.71W	27-26-50.04N	27-31-06.08N	2014-03-26 16:53:55.821	2014-03-26 17:27:34.328	0140_20140326_165404_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0141_20140326_172725_EX1402L2_MB	EX1402L2_XBT51_140326	85	03/26/14	6.381	062.899	092-48-24.18W	092-46-30.01W	27-29-25.75N	27-31-38.07N	2014-03-26 17:27:15.330	2014-03-26 17:30:15.827	0141_20140326_172725_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0142_20140326_173016_EX1402L2_MB	EX1402L2_XBT52_140326	85	03/26/14	6.377	081.923	092-47-27.50W	092-41-47.81W	27-29-29.53N	27-32-11.75N	2014-03-26 17:30:06.330	2014-03-26 18:14:54.839	0142_20140326_173016_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0143_20140326_181445_EX1402L2_MB	EX1402L2_XBT52_140326	85	03/26/14	6.0181	046.903	092-42-25.78W	092-40-59.26W	27-30-23.66N	27-32-02.20N	2014-03-26 18:14:35.835	2014-03-26 18:18:28.334	0143_20140326_181445_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0144_20140326_181819_EX1402L2_MB	EX1402L2_XBT52_140326	85	03/26/14	6.9642	turn	092-42-48.76W	092-40-38.25W	27-31-13.13N	27-32-09.74N	2014-03-26 18:18:09.837	2014-03-26 18:23:03.843	0144_20140326_181819_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0145_20140326_182304_EX1402L2_MB	EX1402L2_XBT52_140326	85	03/26/14	7.4933	265.49	092-58-30.99W	092-40-50.65W	27-29-41.42N	27-32-56.54N	2014-03-26 18:22:54.841	2014-03-26 20:23:04.359	0145_20140326_182304_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0146_20140326_202304_EX1402L2_MB	EX1402L2_XBT52_140326/EX1402L2_XBT53_140326	85	03/26/14	7.6302	264.483	093-15-35.11W	092-58-12.32W	27-28-28.52N	27-31-48.68N	2014-03-26 20:22:55.361	2014-03-26 22:23:02.385	0146_20140326_202304_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0147_20140326_222302_EX1402L2_MB	EX1402L2_XBT53_140326/EX1402L2_XBT54_140326	85	03/26/14	7.7605	264.836	093-29-37.79W	093-15-17.58W	27-27-19.11N	27-30-10.06N	2014-03-26 22:22:52.886	2014-03-27 00:00:01.907	0147_20140326_222302_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0148_20140327_000002_EX1402L2_MB	EX1402L2_XBT54_140326	86	03/27/14	8.5301	265.229	093-43-57.25W	093-29-20.22W	27-25-59.35N	27-28-55.76N	2014-03-26 23:59:52.407	2014-03-27 01:29:57.429	0148_20140327_000002_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0149_20140327_012957_EX1402L2_MB	EX1402L2_XBT54_140326	86	03/27/14	7.933	331.931	093-45-35.03W	093-43-24.52W	27-25-59.83N	27-28-22.51N	2014-03-27 01:29:48.427	2014-03-27 01:40:34.934	0149_20140327_012957_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0150_20140327_014025_EX1402L2_MB	EX1402L2_XBT54_140326	86	03/27/14	6.2862	turn	093-44-40.44W	093-42-45.88W	27-26-29.99N	27-28-22.02N	2014-03-27 01:40:15.930	2014-03-27 01:51:16.435	0150_20140327_014025_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	

EX1402L1 MB ACQUISITION / FIELD PROCESSING LOG														
MB LINE FILENAME	SVP FILE APPLIED	JULIAN DAY	DATE (UTC)	SOG (kt)	HDG	MIN LONG (dec min)	MAX LONG (dec min)	MIN LAT (dec min)	MAX LAT (dec min)	MIN TIME	MAX TIME	Level 01	Level 02 (kmz, xyz, sd, tif, asc)	Notes
0151_20140327_015106_EX1402L2_MB	EX1402L2_XBT54_140326	86	03/27/14	7.9556	287.145	093-45-36.94W	093-42-07.16W	27-26-00.57N	27-28-15.49N	2014-03-27 01:50:56.933	2014-03-27 02:08:38.935	0151_20140327_015106_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0152_20140327_020839_EX1402L2_MB	EX1402L2_XBT54_140326	86	03/27/14	6.7422	066.23	093-44-25.49W	093-37-59.61W	27-26-44.18N	27-30-21.40N	2014-03-27 02:08:29.436	2014-03-27 03:04:26.951	0152_20140327_020839_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0153_20140327_030417_EX1402L2_MB	EX1402L2_XBT54_140326	86	03/27/14	8.3704	244.787	093-44-56.85W	093-37-23.62W	27-26-54.88N	27-30-40.48N	2014-03-27 03:04:07.952	2014-03-27 03:52:40.957	0153_20140327_030417_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0154_20140327_035231_EX1402L2_MB	EX1402L2_XBT54_140326	86	03/27/14	6.8289	070.699	093-44-11.12W	093-43-11.21W	27-26-54.98N	27-28-22.54N	2014-03-27 03:52:21.461	2014-03-27 04:00:15.959	0154_20140327_035231_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0155_20140327_040016_EX1402L2_MB	EX1402L2_XBT54_140326 /EX1402L2_XBT55_140327	86	03/27/14	6.2092	085.317	093-43-14.94W	093-29-41.16W	27-27-17.43N	27-29-24.97N	2014-03-27 04:00:06.462	2014-03-27 05:56:51.484	0155_20140327_040016_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0156_20140327_055642_EX1402L2_MB	EX1402L2_XBT55_140327	86	03/27/14	7.7537	turn	093-29-56.36W	093-28-42.50W	27-28-23.17N	27-30-11.50N	2014-03-27 05:56:32.486	2014-03-27 06:04:21.991	0156_20140327_055642_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0157_20140327_060422_EX1402L2_MB	EX1402L2_XBT55_140327	86	03/27/14	8.1225	264.971	093-43-01.20W	093-29-29.39W	27-27-46.39N	27-30-17.63N	2014-03-27 06:04:12.491	2014-03-27 07:32:48.508	0157_20140327_060422_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0158_20140327_073239_EX1402L2_MB	EX1402L2_XBT55_140327	86	03/27/14	7.4037	012.82	093-43-53.62W	093-42-38.81W	27-27-45.49N	27-29-37.65N	2014-03-27 07:32:29.012	2014-03-27 07:41:25.508	0158_20140327_073239_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0159_20140327_074125_EX1402L2_MB	EX1402L2_XBT55_140327	86	03/27/14	5.7745	083.67	093-42-49.68W	093-40-01.51W	27-28-36.96N	27-29-55.16N	2014-03-27 07:41:16.010	2014-03-27 08:07:22.516	0159_20140327_074125_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0160_20140327_081815_EX1402L2_MB	EX1402L2_XBT55_140327 / EX1402L2_XBT56_140327	86	03/27/14	5.8928	086.299	093-38-35.72W	093-35-10.23W	27-29-04.40N	27-30-24.01N	2014-03-27 08:18:15.522	2014-03-27 08:48:47.529	0160_20140327_081815_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0161_20140327_090707_EX1402L2_MB	EX1402L2_XBT56_140327	86	03/27/14	6.1424	084.851	093-32-57.23W	093-29-50.57W	27-29-27.29N	27-30-42.46N	2014-03-27 09:07:07.530	2014-03-27 09:33:50.038	0161_20140327_090707_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0162_20140327_093352_EX1402L2_MB	EX1402L2_XBT56_140327	86	03/27/14	6.8458	turn	093-29-54.55W	093-28-41.04W	27-29-42.63N	27-31-32.06N	2014-03-27 09:33:42.536	2014-03-27 09:42:25.538	0162_20140327_093352_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0163_20140327_094225_EX1402L2_MB	EX1402L2_XBT56_140327	86	03/27/14	8.0985	265.687	093-42-27.16W	093-29-26.23W	27-29-06.87N	27-31-34.30N	2014-03-27 09:42:16.537	2014-03-27 11:06:58.557	0163_20140327_094225_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0164_20140327_110658_EX1402L2_MB	EX1402L2_XBT56_140327/EX1402L2_XBT57_140327	86	03/27/14	6.3226	082.284	093-43-49.14W	093-30-01.28W	27-29-06.19N	27-31-53.89N	2014-03-27 11:06:49.058	2014-03-27 13:07:08.588	0164_20140327_110658_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0165_20140327_130659_EX1402L2_MB	EX1402L2_XBT57_140327	86	03/27/14	6.0096	082.619	093-30-01.86W	093-29-12.50W	27-30-55.94N	27-31-56.65N	2014-03-27 13:06:50.084	2014-03-27 13:13:25.090	0165_20140327_130659_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0166_20140327_131325_EX1402L2_MB	EX1402L2_XBT57_140327	86	03/27/14	7.4141	turn	093-29-49.31W	093-28-35.13W	27-31-04.16N	27-32-32.52N	2014-03-27 13:13:16.085	2014-03-27 13:18:49.587	0166_20140327_131325_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0167_20140327_131840_EX1402L2_MB	EX1402L2_XBT57_140327	86	03/27/14	8.0993	265.389	093-42-53.50W	093-29-17.76W	27-30-08.17N	27-32-45.14N	2014-03-27 13:18:30.088	2014-03-27 14:46:30.146	0167_20140327_131840_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0168_20140327_144630_EX1402L2_MB	EX1402L2_XBT57_140327	86	03/27/14	6.6114	turn	093-43-35.20W	093-39-56.13W	27-30-22.95N	27-33-01.81N	2014-03-27 14:46:21.145	2014-03-27 15:11:30.141	0168_20140327_144630_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0169_20140327_151120_EX1402L2_MB	EX1402L2_XBT57_140327	86	03/27/14	7.3364	turn	093-41-22.62W	093-39-56.56W	27-31-18.12N	27-32-43.09N	2014-03-27 15:11:21.140	2014-03-27 15:14:18.615	0169_20140327_151120_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0170_20140327_151419_EX1402L2_MB	EX1402L2_XBT57_140327	86	03/27/14	8.4029	270.909	093-43-26.33W	093-40-49.05W	27-31-04.61N	27-32-47.75N	2014-03-27 15:14:09.142	2014-03-27 15:29:56.143	0170_20140327_151419_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0171_20140327_152946_EX1402L2_MB	EX1402L2_XBT57_140327	86	03/27/14	7.657	187.689	093-46-33.16W	093-42-42.99W	27-27-35.41N	27-32-40.67N	2014-03-27 15:29:36.619	2014-03-27 16:12:46.143	0171_20140327_152946_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0172_20140327_161236_EX1402L2_MB	EX1402L2_XBT57_140327	86	03/27/14	7.2346	089.624	093-44-03.78W	093-27-39.21W	27-27-40.69N	27-29-41.15N	2014-03-27 16:12:26.631	2014-03-27 18:12:36.154	0172_20140327_161236_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0173_20140327_181236_EX1402L2_MB	EX1402L2_XBT57_140327	86	03/27/14	7.5122	084.143	093-27-50.21W	093-10-55.42W	27-27-51.73N	27-30-39.52N	2014-03-27 18:12:26.658	2014-03-27 20:12:36.684	0173_20140327_181236_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0174_20140327_201236_EX1402L2_MB	EX1402L2_XBT57_140327	86	03/27/14	7.4562	083.608	093-10-59.49W	093-02-57.15W	27-29-43.74N	27-31-36.36N	2014-03-27 20:12:27.189	2014-03-27 21:10:56.201	0174_20140327_201236_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0175_20140327_211046_EX1402L2_MB	EX1402L2_XBT57_140327/EX1402L2_XBT58_140327	86	03/27/14	8.7486	041.237	093-03-10.27W	092-52-48.51W	27-30-24.38N	27-41-08.67N	2014-03-27 21:10:37.202	2014-03-27 22:40:12.220	0175_20140327_211046_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	

EX1402L1 MB ACQUISITION / FIELD PROCESSING LOG														
MB LINE FILENAME	SVP FILE APPLIED	JULIAN DAY	DATE (UTC)	SOG (kt)	HDG	MIN LONG (dec min)	MAX LONG (dec min)	MIN LAT (dec min)	MAX LAT (dec min)	MIN TIME	MAX TIME	Level 01	Level 02 (kmz, xyz, sd, tif, asc)	Notes
0176_20140327_224012_EX1402L2_MB	EX1402L2_XBT58_140327	86	03/27/14	7.1702	turn	092-53-41.32W	092-51-31.20W	27-40-23.24N	27-41-57.78N	2014-03-27 22:40:02.722	2014-03-27 22:53:15.728	0176_20140327_224012_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0177_20140327_225316_EX1402L2_MB	EX1402L2_XBT58_140327	86	03/27/14	7.9174	220.262	092-59-28.28W	092-51-43.22W	27-33-41.22N	27-41-36.23N	2014-03-27 22:53:16.228	2014-03-28 00:04:54.744	0177_20140327_225316_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0178_20140328_000455_EX1402L2_MB	EX1402L2_XBT58_140327	87	03/28/14	8.3049	219.612	093-02-14.23W	092-58-18.84W	27-30-52.59N	27-34-26.81N	2014-03-28 00:04:55.243	2014-03-28 00:31:21.749	0178_20140328_000455_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0179_20140328_003112_EX1402L2_MB	EX1402L2_XBT58_140327	87	03/28/14	7.7668	turn	093-02-17.08W	092-59-42.16W	27-30-14.72N	27-31-56.79N	2014-03-28 00:31:02.251	2014-03-28 00:42:23.249	0179_20140328_003112_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0180_20140328_004223_EX1402L2_MB	EX1402L2_XBT58_140327	87	03/28/14	8.8574	040.582	093-00-50.15W	092-50-32.59W	27-30-42.37N	27-41-22.52N	2014-03-28 00:42:13.751	2014-03-28 02:09:39.274	0180_20140328_004223_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0181_20140328_020929_EX1402L2_MB	EX1402L2_XBT58_140327	87	03/28/14	6.622	turn	092-51-07.04W	092-49-20.60W	27-40-35.13N	27-41-37.84N	2014-03-28 02:09:20.272	2014-03-28 02:18:42.279	0181_20140328_020929_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0182_20140328_021842_EX1402L2_MB	EX1402L2_XBT58_140327/EX1402L2_XBT59_140328	87	03/28/14	7.6884	219.695	092-59-42.17W	092-49-31.00W	27-31-03.81N	27-41-05.59N	2014-03-28 02:18:32.780	2014-03-28 03:54:15.302	0182_20140328_021842_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0183_20140328_035405_EX1402L2_MB	EX1402L2_XBT59_140328	87	03/28/14	7.3328	turn	092-59-43.04W	092-57-24.98W	27-30-07.52N	27-31-56.29N	2014-03-28 03:53:55.800	2014-03-28 04:02:06.300	0183_20140328_035405_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0184_20140328_040206_EX1402L2_MB	EX1402L2_XBT59_140328	87	03/28/14	8.8357	040.787	092-58-38.22W	092-44-28.50W	27-30-36.55N	27-44-56.90N	2014-03-28 04:01:57.298	2014-03-28 06:02:13.831	0184_20140328_040206_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0185_20140328_060204_EX1402L2_MB	EX1402L2_XBT59_140328	87	03/28/14	8.5442	040.431	092-45-28.35W	092-42-52.55W	27-44-07.13N	27-46-38.10N	2014-03-28 06:01:54.827	2014-03-28 06:17:44.335	0185_20140328_060204_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0186_20140328_061734_EX1402L2_MB	EX1402L2_XBT59_140328	87	03/28/14	7.7255	turn	092-43-53.77W	092-41-15.64W	27-45-43.46N	27-47-01.26N	2014-03-28 06:17:24.834	2014-03-28 06:28:45.837	0186_20140328_061734_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0187_20140328_062846_EX1402L2_MB	EX1402L2_XBT59_140328	87	03/28/14	7.7635	219.272	092-53-46.41W	092-41-21.60W	27-33-57.92N	27-46-39.01N	2014-03-28 06:28:46.337	2014-03-28 08:28:47.867	0187_20140328_062846_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0188_20140328_082848_EX1402L2_MB	EX1402L2_XBT59_140328	87	03/28/14	7.356	219.977	092-56-20.80W	092-52-18.18W	27-31-19.60N	27-34-55.91N	2014-03-28 08:28:48.368	2014-03-28 08:56:45.875	0188_20140328_082848_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0189_20140328_085646_EX1402L2_MB	EX1402L2_XBT59_140328	87	03/28/14	7.5004	turn	092-56-43.22W	092-53-11.51W	27-30-39.75N	27-32-31.67N	2014-03-28 08:56:46.375	2014-03-28 09:12:12.881	0189_20140328_085646_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0190_20140328_091213_EX1402L2_MB	EX1402L2_XBT59_140328	87	03/28/14	8.1974	039.401	092-54-40.11W	092-41-34.40W	27-31-20.82N	27-44-55.91N	2014-03-28 09:12:13.381	2014-03-28 11:12:13.406	0190_20140328_091213_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0191_20140328_111213_EX1402L2_MB	EX1402L2_XBT59_140328	87	03/28/14	8.0266	038.497	092-42-53.24W	092-39-55.73W	27-44-03.37N	27-46-47.43N	2014-03-28 11:12:13.906	2014-03-28 11:29:34.910	0191_20140328_111213_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0192_20140328_112935_EX1402L2_MB	EX1402L2_XBT59_140328	87	03/28/14	7.0869	turn	092-41-12.27W	092-38-33.49W	27-45-48.19N	27-47-28.94N	2014-03-28 11:29:35.411	2014-03-28 11:41:48.415	0192_20140328_112935_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0193_20140328_114148_EX1402L2_MB	EX1402L2_XBT60_140328	87	03/28/14	8.3848	217.255	092-51-40.01W	092-38-44.66W	27-32-37.49N	27-47-05.72N	2014-03-28 11:41:48.915	2014-03-28 13:41:48.943	0193_20140328_114148_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0194_20140328_134149_EX1402L2_MB	EX1402L2_XBT60_140328	87	03/28/14	8.546	217.218	092-52-44.29W	092-49-53.74W	27-31-24.86N	27-33-48.16N	2014-03-28 13:41:49.443	2014-03-28 13:52:08.447	0194_20140328_134149_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0195_20140328_135208_EX1402L2_MB	EX1402L2_XBT60_140328	87	03/28/14	8.1875	turn	092-53-08.86W	092-50-48.07W	27-30-29.02N	27-32-47.26N	2014-03-28 13:52:08.949	2014-03-28 13:59:20.448	0195_20140328_135208_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0196_20140328_135920_EX1402L2_MB	EX1402L2_XBT60_140328	87	03/28/14	7.8711	turn	092-52-04.89W	092-50-14.51W	27-30-20.95N	27-32-30.63N	2014-03-28 13:59:20.948	2014-03-28 14:06:33.448	0196_20140328_135920_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0197_20140328_140633_EX1402L2_MB	EX1402L2_XBT60_140328	87	03/28/14	7.7024	039.271	092-51-33.61W	092-49-40.18W	27-30-28.75N	27-32-04.87N	2014-03-28 14:06:33.948	2014-03-28 14:07:32.948	0197_20140328_140633_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0198_20140328_140733_EX1402L2_MB	EX1402L2_XBT60_140328	87	03/28/14	8.4841	036.31	092-51-31.24W	092-38-24.61W	27-30-40.14N	27-45-27.84N	2014-03-28 14:07:33.448	2014-03-28 16:07:31.982	0198_20140328_140733_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0199_20140328_160732_EX1402L2_MB	EX1402L2_XBT60_140328	87	03/28/14	8.2367	035.678	092-40-01.04W	092-36-42.87W	27-44-24.74N	27-47-47.20N	2014-03-28 16:07:32.481	2014-03-28 16:28:44.985	0199_20140328_160732_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0200_20140328_162845_EX1402L2_MB	EX1402L2_XBT60_140328	87	03/28/14	7.5558	turn	092-37-42.59W	092-36-27.19W	27-46-35.56N	27-47-58.37N	2014-03-28 16:28:45.485	2014-03-28 16:33:38.491	0200_20140328_162845_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	

EX1402L1 MB ACQUISITION / FIELD PROCESSING LOG														
MB LINE FILENAME	SVP FILE APPLIED	JULIAN DAY	DATE (UTC)	SOG (kt)	HDG	MIN LONG (dec min)	MAX LONG (dec min)	MIN LAT (dec min)	MAX LAT (dec min)	MIN TIME	MAX TIME	Level 01	Level 02 (kmz, xyz, sd, tif, asc)	Notes
0201_20140328_163338_EX1402L2_MB	EX1402L2_XBT60_140328	87	03/28/14	6.3166	172.204	092-37-22.34W	092-35-54.40W	27-46-50.48N	27-47-45.61N	2014-03-28 16:33:38.991	2014-03-28 16:35:03.488	0201_20140328_163338_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0202_20140328_163503_EX1402L2_MB	EX1402L2_XBT61_140328	87	03/28/14	7.8203	211.934	092-43-13.56W	092-36-00.08W	27-38-46.22N	27-47-36.71N	2014-03-28 16:35:03.988	2014-03-28 17:47:42.006	0202_20140328_163503_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0203_20140328_174742_EX1402L2_MB	EX1402L2_XBT61_140328	87	03/28/14	7.455	turn	092-42-51.66W	092-40-55.07W	27-38-10.62N	27-40-03.30N	2014-03-28 17:47:42.507	2014-03-28 17:55:06.003	0203_20140328_174742_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0204_20140328_175506_EX1402L2_MB	EX1402L2_XBT61_140328	87	03/28/14	7.6567	034.9	092-42-04.13W	092-40-17.90W	27-38-24.61N	27-39-50.31N	2014-03-28 17:55:06.503	2014-03-28 17:56:57.506	0204_20140328_175506_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0205_20140328_175657_EX1402L2_MB	EX1402L2_XBT61_140328	87	03/28/14	8.4601	031.893	092-41-55.82W	092-34-52.84W	27-38-50.19N	27-47-28.62N	2014-03-28 17:56:58.006	2014-03-28 19:02:14.525	0205_20140328_175657_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0206_20140328_190214_EX1402L2_MB	EX1402L2_XBT61_140328	87	03/28/14	7.0386	turn	092-35-59.11W	092-34-03.91W	27-46-16.35N	27-47-48.11N	2014-03-28 19:02:15.025	2014-03-28 19:10:30.527	0206_20140328_190214_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0207_20140328_191030_EX1402L2_MB	EX1402L2_XBT61_140328	87	03/28/14	8.3154	209.701	092-40-40.65W	092-34-08.94W	27-38-23.88N	27-47-12.68N	2014-03-28 19:10:31.027	2014-03-28 20:17:05.541	0207_20140328_191030_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0208_20140328_201705_EX1402L2_MB	EX1402L2_XBT61_140328	87	03/28/14	8.3024	223.67	092-48-21.57W	092-39-12.89W	27-31-34.43N	27-39-42.93N	2014-03-28 20:17:06.041	2014-03-28 21:30:39.560	0208_20140328_201705_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0209_20140328_213040_EX1402L2_MB	EX1402L2_XBT61_140328	87	03/28/14	8.0254	050.835	092-48-20.01W	092-42-38.86W	27-30-59.10N	27-35-15.78N	2014-03-28 21:30:40.060	2014-03-28 22:03:09.067	0209_20140328_213040_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0210_20140328_220309_EX1402L2_MB	EX1402L2_XBT61_140328	87	03/28/14	8.3663	035.281	092-44-45.35W	092-40-04.28W	27-33-56.95N	27-38-41.26N	2014-03-28 22:03:09.570	2014-03-28 22:35:07.572	0210_20140328_220309_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0211_20140328_223507_EX1402L2_MB	EX1402L2_XBT61_140328	87	03/28/14	7.337	turn	092-41-15.02W	092-39-07.47W	27-37-16.75N	27-39-01.20N	2014-03-28 22:35:08.072	2014-03-28 22:42:46.581	0211_20140328_223507_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0212_20140328_224246_EX1402L2_MB	EX1402L2_XBT61_140328	87	03/28/14	8.4409	212.364	092-44-40.32W	092-39-05.60W	27-32-05.52N	27-38-16.49N	2014-03-28 22:42:47.081	2014-03-28 23:27:55.089	0212_20140328_224246_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0213_20140328_232755_EX1402L2_MB	EX1402L2_XBT61_140328	87	03/28/14	7.9617	167.513	092-45-07.39W	092-41-31.30W	27-27-38.56N	27-33-05.99N	2014-03-28 23:27:55.589	2014-03-29 00:04:01.096	0213_20140328_232755_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0214_20140329_000401_EX1402L2_MB	EX1402L2_XBT61_140328	88	03/29/14	7.8332	135.826	092-43-35.35W	092-40-31.88W	27-25-12.49N	27-28-39.57N	2014-03-29 00:04:01.597	2014-03-29 00:19:47.103	0214_20140329_000401_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0215_20140329_001947_EX1402L2_MB	EX1402L2_XBT61_140328/EX1402L2_XBT62_140329	88	03/29/14	8.4958	085.252	092-41-27.59W	092-22-04.65W	27-24-54.21N	27-29-22.43N	2014-03-29 00:19:47.603	2014-03-29 02:19:45.631	0215_20140329_001947_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0216_20140329_021945_EX1402L2_MB	EX1402L2_XBT62_140329 / EX1402L2_XBT63_140329	88	03/29/14	8.5759	084.716	092-22-08.72W	092-02-46.55W	27-26-57.96N	27-30-36.74N	2014-03-29 02:19:46.147	2014-03-29 04:19:47.661	0216_20140329_021945_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0217_20140329_041947_EX1402L2_MB	EX1402L2_XBT63_140329	88	03/29/14	8.7341	084.569	092-03-01.85W	091-43-15.97W	27-28-29.91N	27-32-21.03N	2014-03-29 04:19:48.159	2014-03-29 06:19:45.687	0217_20140329_041947_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0218_20140329_061946_EX1402L2_MB	EX1402L2_XBT63_140329 / EX1402L2_XBT64_140329	88	03/29/14	8.6928	084.417	091-43-22.56W	091-23-47.05W	27-29-50.00N	27-33-46.49N	2014-03-29 06:19:46.188	2014-03-29 08:19:48.711	0218_20140329_061946_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0219_20140329_081948_EX1402L2_MB	EX1402L2_XBT64_140329	88	03/29/14	8.4264	084.283	091-23-52.69W	091-18-05.46W	27-31-11.83N	27-34-19.05N	2014-03-29 08:19:49.211	2014-03-29 08:55:54.221	0219_20140329_081948_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0220_20140329_085554_EX1402L2_MB	EX1402L2_XBT64_140329	88	03/29/14	9.5623	turn	091-20-41.74W	091-16-21.41W	27-31-39.04N	27-35-47.97N	2014-03-29 08:55:54.720	2014-03-29 09:18:36.228	0220_20140329_085554_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0221_20140329_091836_EX1402L2_MB	EX1402L2_XBT64_140329 / EX1402L2_XBT65_140329	88	03/29/14	8.4863	264.304	091-39-34.90W	091-20-31.32W	27-31-56.82N	27-35-56.18N	2014-03-29 09:18:36.728	2014-03-29 11:18:32.256	0221_20140329_091836_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0222_20140329_111832_EX1402L2_MB	EX1402L2_XBT66_140329	88	03/29/14	8.5203	262.736	091-58-32.56W	091-39-29.31W	27-30-00.66N	27-34-13.10N	2014-03-29 11:18:32.756	2014-03-29 13:18:34.286	0222_20140329_111832_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0223_20140329_131834_EX1402L2_MB	EX1402L2_XBT66_140329	88	03/29/14	8.6484	265.939	092-08-49.43W	091-58-32.49W	27-29-13.49N	27-32-12.66N	2014-03-29 13:18:34.786	2014-03-29 14:21:39.800	0223_20140329_131834_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0224_20140329_153533_EX1402L2_MB	EX1402L2_XBT67_140329	88	03/29/14	8.3606	264.426	092-26-07.60W	092-08-04.25W	27-27-39.14N	27-32-02.00N	2014-03-29 15:35:33.318	2014-03-29 17:29:59.843	0224_20140329_153533_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0225_20140329_173000_EX1402L2_MB	EX1402L2_XBT67_140329	88	03/29/14	7.8039	turn	092-27-57.02W	092-24-44.76W	27-27-46.87N	27-30-25.36N	2014-03-29 17:30:00.343	2014-03-29 17:34:39.350	0225_20140329_173000_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	

EX1402L1 MB ACQUISITION / FIELD PROCESSING LOG														
MB LINE FILENAME	SVP FILE APPLIED	JULIAN DAY	DATE (UTC)	SOG (kt)	HDG	MIN LONG (dec min)	MAX LONG (dec min)	MIN LAT (dec min)	MAX LAT (dec min)	MIN TIME	MAX TIME	Level 01	Level 02 (kmz, xyz, sd, tif, asc)	Notes
0226_20140329_173439_EX1402L2_MB	EX1402L2_XBT67_140329	88	03/29/14	8.1023	turn	092-27-58.34W	092-24-45.65W	27-29-27.61N	27-30-36.64N	2014-03-29 17:34:39.848	2014-03-29 17:41:01.845	0226_20140329_173439_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0227_20140329_174102_EX1402L2_MB	EX1402L2_XBT67_140329	88	03/29/14	7.3656	069.126	092-27-31.48W	092-25-17.68W	27-29-23.30N	27-31-59.74N	2014-03-29 17:41:02.345	2014-03-29 17:46:59.345	0227_20140329_174102_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0228_20140329_174659_EX1402L2_MB	EX1402L2_XBT67_140329	88	03/29/14	7.5604	085.098	092-25-54.31W	092-16-47.58W	27-29-25.92N	27-32-39.82N	2014-03-29 17:46:59.847	2014-03-29 18:44:19.860	0228_20140329_174659_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0229_20140329_184420_EX1402L2_MB	EX1402L2_XBT67_140329/EX1402L2_XBT68_140329	88	03/29/14	7.187	084.925	092-18-49.42W	092-01-35.53W	27-29-47.60N	27-33-29.19N	2014-03-29 18:44:20.360	2014-03-29 20:44:18.888	0229_20140329_184420_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0230_20140329_204419_EX1402L2_MB	EX1402L2_XBT68_140329	88	03/29/14	8.3134	084.589	092-02-00.76W	091-42-56.61W	27-31-26.85N	27-35-12.89N	2014-03-29 20:44:19.387	2014-03-29 22:44:19.415	0230_20140329_204419_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0231_20140329_224419_EX1402L2_MB	EX1402L2_XBT68_140329/EX1402L2_XBT69_140329	88	03/29/14	8.2188	084.475	091-43-23.46W	091-31-50.11W	27-32-47.89N	27-35-53.73N	2014-03-29 22:44:19.915	2014-03-29 23:56:57.432	0231_20140329_224419_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0232_20140329_235657_EX1402L2_MB	EX1402L2_XBT69_140329	89	03/30/14	7.6973	036.705	091-32-58.80W	091-30-35.72W	27-33-37.77N	27-35-56.03N	2014-03-29 23:56:57.933	2014-03-30 00:00:01.936	0232_20140329_235657_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0233_20140330_000002_EX1402L2_MB	EX1402L2_XBT69_140329	89	03/30/14	8.7746	turn	091-34-36.19W	091-30-44.12W	27-34-11.37N	27-37-19.56N	2014-03-30 00:00:02.435	2014-03-30 00:19:28.439	0233_20140330_000002_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0234_20140330_001928_EX1402L2_MB	EX1402L2_XBT69_140329	89	03/30/14	8.4493	264.327	091-53-31.73W	091-34-30.87W	27-33-36.98N	27-37-22.52N	2014-03-30 00:19:28.939	2014-03-30 02:19:25.966	0234_20140330_001928_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0235_20140330_021926_EX1402L2_MB	EX1402L2_XBT69_140329/EX1402L2_XBT71_140330	89	03/30/14	8.7021	264.288	092-12-55.76W	091-53-19.18W	27-31-52.75N	27-35-42.67N	2014-03-30 02:19:26.466	2014-03-30 04:19:28.994	0235_20140330_021926_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0236_20140330_041929_EX1402L2_MB	EX1402L2_XBT71_140330	89	03/30/14	8.8047	263.07	092-20-01.45W	092-12-56.66W	27-31-01.42N	27-34-21.20N	2014-03-30 04:19:29.494	2014-03-30 05:02:22.506	0236_20140330_041929_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0237_20140330_050222_EX1402L2_MB	EX1402L2_XBT71_140330	89	03/30/14	6.8228	turn	092-21-50.21W	092-18-43.36W	27-31-17.69N	27-35-24.84N	2014-03-30 05:02:23.006	2014-03-30 05:23:57.007	0237_20140330_050222_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0238_20140330_052357_EX1402L2_MB	EX1402L2_XBT71_140330/EX1402L2_XBT72_140330	89	03/30/14	8.4931	084.63	092-20-05.24W	092-00-38.96W	27-33-10.52N	27-37-00.27N	2014-03-30 05:23:57.506	2014-03-30 07:24:00.533	0238_20140330_052357_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0239_20140330_072400_EX1402L2_MB	EX1402L2_XBT72_140330/EX1402L2_XBT73_140330	89	03/30/14	8.4018	084.426	092-00-59.21W	091-41-54.13W	27-34-45.99N	27-38-26.55N	2014-03-30 07:24:01.033	2014-03-30 09:23:58.563	0239_20140330_072400_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0240_20140330_092358_EX1402L2_MB	EX1402L2_XBT73_140330	89	03/30/14	8.7246	083.396	091-42-08.87W	091-35-48.07W	27-36-10.33N	27-38-56.67N	2014-03-30 09:23:59.061	2014-03-30 10:01:19.569	0240_20140330_092358_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0241_20140330_100120_EX1402L2_MB	EX1402L2_XBT73_140330	89	03/30/14	9.015	turn	091-36-04.51W	091-32-34.50W	27-36-40.30N	27-40-22.57N	2014-03-30 10:01:20.071	2014-03-30 10:20:37.076	0241_20140330_100120_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0242_20140330_102037_EX1402L2_MB	EX1402L2_XBT73_140330, EX1402L2_XBT74_140330	89	03/30/14	8.5975	263.214	091-54-02.29W	091-34-43.58W	27-36-28.72N	27-40-23.76N	2014-03-30 10:20:37.576	2014-03-30 12:20:36.602	0242_20140330_102037_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0243_20140330_122037_EX1402L2_MB	EX1402L2_XBT74_140330	89	03/30/14	8.4751	265.455	092-13-03.74W	091-53-52.72W	27-34-57.44N	27-38-12.90N	2014-03-30 12:20:37.102	2014-03-30 14:20:38.143	0243_20140330_122037_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0244_20140330_142038_EX1402L2_MB	EX1402L2_XBT75_140330	89	03/30/14	8.6171	264.622	092-23-30.35W	092-12-52.75W	27-34-06.65N	27-37-06.13N	2014-03-30 14:20:38.628	2014-03-30 15:25:00.643	0244_20140330_142038_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0245_20140330_152500_EX1402L2_MB	EX1402L2_XBT75_140330	89	03/30/14	8.3759	264.738	092-42-02.18W	092-23-09.15W	27-32-37.53N	27-36-18.64N	2014-03-30 15:25:01.143	2014-03-30 17:23:52.169	0245_20140330_152500_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0246_20140330_172352_EX1402L2_MB	EX1402L2_XBT75_140330	89	03/30/14	7.9111	turn	092-43-26.00W	092-41-04.34W	27-31-47.83N	27-34-40.58N	2014-03-30 17:23:52.669	2014-03-30 17:33:48.671	0246_20140330_172352_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0247_20140330_173349_EX1402L2_MB	EX1402L2_XBT75_140330	89	03/30/14	6.7185	071.307	092-42-18.06W	092-41-01.16W	27-31-42.80N	27-33-46.97N	2014-03-30 17:33:49.172	2014-03-30 17:36:36.669	0247_20140330_173349_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0248_20140330_173637_EX1402L2_MB	EX1402L2_XBT75_140330	89	03/30/14	7.6832	012.152	092-42-36.66W	092-40-08.08W	27-32-00.05N	27-34-30.80N	2014-03-30 17:36:37.170	2014-03-30 17:48:45.678	0248_20140330_173637_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0249_20140330_174846_EX1402L2_MB	EX1402L2_XBT75_140330	89	03/30/14	7.7113	turn	092-42-19.34W	092-40-17.15W	27-33-34.50N	27-35-26.60N	2014-03-30 17:48:46.178	2014-03-30 17:51:00.173	0249_20140330_174846_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0250_20140330_175100_EX1402L2_MB	EX1402L2_XBT75_140330	89	03/30/14	8.239	083.322	092-41-08.93W	092-22-40.91W	27-33-36.05N	27-37-07.61N	2014-03-30 17:51:00.673	2014-03-30 19:50:58.700	0250_20140330_175100_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	

EX1402L1 MB ACQUISITION / FIELD PROCESSING LOG

MB LINE FILENAME	SVP FILE APPLIED	JULIAN DAY	DATE (UTC)	SOG (kt)	HDG	MIN LONG (dec min)	MAX LONG (dec min)	MIN LAT (dec min)	MAX LAT (dec min)	MIN TIME	MAX TIME	Level 01	Level 02 (kmz, xyz, sd, tif, asc)	Notes
0251_20140330_195058_EX1402L2_MB	EX1402L2_XBT75_140330/EX1402L2_XBT76_140330	89	03/30/14	8.5661	084.895	092-22-42.41W	092-03-25.64W	27-35-26.96N	27-38-27.33N	2014-03-30 19:50:59.199	2014-03-30 21:50:58.726	0251_20140330_195058_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0252_20140330_215058_EX1402L2_MB	EX1402L2_XBT76_140330/EX1402L2_XBT77_140330	89	03/30/14	8.6353	084.665	092-03-30.42W	091-44-39.06W	27-36-50.91N	27-40-09.10N	2014-03-30 21:50:59.226	2014-03-30 23:46:47.752	0252_20140330_215058_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0253_20140330_234647_EX1402L2_MB	EX1402L2_XBT77_140330	89	03/30/14	8.5593	turn	091-45-18.14W	091-42-55.79W	27-38-03.99N	27-40-46.37N	2014-03-30 23:46:48.252	2014-03-30 23:57:24.256	0253_20140330_234647_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0254_20140330_235724_EX1402L2_MB	EX1402L2_XBT77_140330	89	03/30/14	8.6514	264.389	091-45-24.74W	091-44-51.85W	27-38-39.69N	27-40-47.32N	2014-03-30 23:57:24.756	2014-03-31 00:00:10.262	0254_20140330_235724_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0255_20140331_000010_EX1402L2_MB	EX1402L2_XBT77_140330	90	03/31/14	8.5362	264.742	092-04-42.39W	091-45-18.48W	27-37-18.35N	27-40-40.46N	2014-03-31 00:00:10.758	2014-03-31 02:00:09.789	0255_20140331_000010_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0256_20140331_020010_EX1402L2_MB	EX1402L2_XBT77_140330/EX1402L2_XBT79_140331	90	03/31/14	8.6699	264.83	092-24-09.98W	092-04-32.59W	27-35-42.28N	27-39-14.86N	2014-03-31 02:00:10.286	2014-03-31 04:00:11.811	0256_20140331_020010_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0257_20140331_040011_EX1402L2_MB	EX1402L2_XBT79_140331	90	03/31/14	8.1895	264.979	092-40-04.79W	092-23-59.95W	27-34-39.02N	27-37-51.17N	2014-03-31 04:00:12.311	2014-03-31 05:44:00.334	0257_20140331_040011_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0258_20140331_054400_EX1402L2_MB	EX1402L2_XBT79_140331	90	03/31/14	8.1658	turn	092-42-02.01W	092-39-40.97W	27-34-33.18N	27-37-24.44N	2014-03-31 05:44:00.834	2014-03-31 05:59:52.336	0258_20140331_054400_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0259_20140331_055952_EX1402L2_MB	EX1402L2_XBT79_140331/EX1402L2_XBT80_140331	90	03/31/14	8.5165	84.89	092-40-15.77W	092-20-59.74W	27-35-38.21N	27-38-56.67N	2014-03-31 05:59:52.836	2014-03-31 07:59:52.862	0259_20140331_055952_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0260_20140331_075953_EX1402L2_MB	EX1402L2_XBT80_140331/EX1402L2_XBT81_140331	90	03/31/14	8.8998	084.563	092-21-07.24W	092-00-55.69W	27-37-04.81N	27-40-27.57N	2014-03-31 07:59:53.362	2014-03-31 09:59:53.889	0260_20140331_075953_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0261_20140331_095953_EX1402L2_MB	EX1402L2_XBT81_140331	90	03/31/14	8.6274	084.488	092-01-14.32W	091-45-28.57W	27-38-36.98N	27-41-50.50N	2014-03-31 09:59:54.389	2014-03-31 11:36:35.908	0261_20140331_095953_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0262_20140331_113636_EX1402L2_MB	EX1402L2_XBT81_140331	90	03/31/14	8.8192	turn	091-46-09.03W	091-43-41.55W	27-39-38.46N	27-42-33.01N	2014-03-31 11:36:36.408	2014-03-31 11:46:40.413	0262_20140331_113636_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0263_20140331_114640_EX1402L2_MB	EX1402L2_XBT81_140331	90	03/31/14	8.5742	265.782	092-04-52.01W	091-45-30.70W	27-39-35.96N	27-42-43.75N	2014-03-31 11:46:40.913	2014-03-31 13:46:37.440	0263_20140331_114640_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0264_20140331_134637_EX1402L2_MB	EX1402L2_XBT82_140331	90	03/31/14	8.7337	264.159	092-24-26.70W	092-04-39.26W	27-38-00.55N	27-41-22.83N	2014-03-31 13:46:37.940	2014-03-31 15:46:37.964	0264_20140331_134637_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0265_20140331_154638_EX1402L2_MB	EX1402L2_XBT83_140331	90	03/31/14	8.2374	265.012	092-39-51.60W	092-24-11.78W	27-36-39.05N	27-39-22.52N	2014-03-31 15:46:38.465	2014-03-31 17:27:03.987	0265_20140331_154638_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0266_20140331_172704_EX1402L2_MB	EX1402L2_XBT83_140331	90	03/31/14	7.4447	234.525	092-41-08.83W	092-39-15.02W	27-36-37.00N	27-38-24.17N	2014-03-31 17:27:04.487	2014-03-31 17:31:01.989	0266_20140331_172704_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0267_20140331_173102_EX1402L2_MB	EX1402L2_XBT83_140331	90	03/31/14	9.2247	184.808	092-41-50.98W	092-39-02.38W	27-32-48.69N	27-37-26.83N	2014-03-31 17:31:02.488	2014-03-31 18:00:15.495	0267_20140331_173102_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0268_20140331_180016_EX1402L2_MB	EX1402L2_XBT83_140331	90	03/31/14	8.291	117.038	092-41-44.48W	092-39-33.30W	27-31-39.07N	27-33-37.31N	2014-03-31 18:00:15.995	2014-03-31 18:03:14.995	0268_20140331_180016_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0269_20140331_180315_EX1402L2_MB	EX1402L2_XBT83_140331	90	03/31/14	8.8083	084.213	092-40-21.07W	092-29-40.54W	27-31-34.60N	27-34-36.25N	2014-03-31 18:03:15.495	2014-03-31 19:07:41.010	0269_20140331_180315_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0270_20140331_190741_EX1402L2_MB	EX1402L2_XBT83_140331	90	03/31/14	8.089	137.915	092-30-31.99W	092-28-16.82W	27-32-31.81N	27-34-30.37N	2014-03-31 19:07:41.511	2014-03-31 19:11:01.511	0270_20140331_190741_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0271_20140331_191101_EX1402L2_MB	EX1402L2_XBT83_140331	90	03/31/14	8.0467	turn	092-30-36.61W	092-28-21.68W	27-32-40.29N	27-33-20.39N	2014-03-31 19:11:02.011	2014-03-31 19:15:26.513	0271_20140331_191101_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0272_20140331_191527_EX1402L2_MB	EX1402L2_XBT83_140331	90	03/31/14	8.1503	229.9	092-30-30.48W	092-28-17.62W	27-31-34.61N	27-33-30.85N	2014-03-31 19:15:27.014	2014-03-31 19:17:49.513	0272_20140331_191527_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0273_20140331_191749_EX1402L2_MB	EX1402L2_XBT83_140331/EX1402L2_XBT84_140331	90	03/31/14	8.2163	263.411	092-42-23.64W	092-29-29.97W	27-30-15.10N	27-33-35.66N	2014-03-31 19:17:50.013	2014-03-31 20:39:14.532	0273_20140331_191749_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0274_20140331_203914_EX1402L2_MB	EX1402L2_XBT84_140331	90	03/31/14	8.156	141.577	092-43-33.32W	092-41-11.07W	27-29-15.07N	27-32-13.88N	2014-03-31 20:39:15.032	2014-03-31 20:52:03.032	0274_20140331_203914_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0275_20140331_205203_EX1402L2_MB	EX1402L2_XBT84_140331	90	03/31/14	8.865	086.721	092-41-24.56W	092-28-07.46W	27-29-11.74N	27-32-13.10N	2014-03-31 20:52:03.532	2014-03-31 22:08:34.052	0275_20140331_205203_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	

EX1402L1 MB ACQUISITION / FIELD PROCESSING LOG														
MB LINE FILENAME	SVP FILE APPLIED	JULIAN DAY	DATE (UTC)	SOG (kt)	HDG	MIN LONG (dec min)	MAX LONG (dec min)	MIN LAT (dec min)	MAX LAT (dec min)	MIN TIME	MAX TIME	Level 01	Level 02 (kmz, xyz, sd, tif, asc)	Notes
0276_20140331_220834_EX1402L2_MB	EX1402L2_XBT84_140331	90	03/31/14	8.3701	turn	092-29-23.55W	092-26-10.12W	27-28-50.75N	27-31-55.12N	2014-03-31 22:08:34.552	2014-03-31 22:22:12.555	0276_20140331_220834_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0277_20140331_222212_EX1402L2_MB	EX1402L2_XBT84_140331/EX1402L2_XBT85_140331	90	03/31/14	8.7171	265.309	092-41-12.03W	092-27-30.66W	27-27-55.28N	27-31-12.46N	2014-03-31 22:22:13.055	2014-03-31 23:42:46.075	0277_20140331_222212_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0278_20140331_234246_EX1402L2_MB	EX1402L2_XBT85_140331	90	03/31/14	8.1896	turn	092-42-19.28W	092-39-29.42W	27-26-36.75N	27-30-01.25N	2014-03-31 23:42:46.575	2014-03-31 23:52:40.075	0278_20140331_234246_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0279_20140331_235240_EX1402L2_MB	EX1402L2_XBT85_140331	90	03/31/14	8.7197	085.137	092-40-38.29W	092-38-09.32W	27-26-33.63N	27-29-23.40N	2014-03-31 23:52:40.575	2014-04-01 00:06:51.079	0279_20140331_235240_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0280_20140401_000651_EX1402L2_MB	EX1402L2_XBT85_140331	91	04/01/14	8.6845	084.954	092-38-07.82W	092-27-27.88W	27-26-51.43N	27-30-11.96N	2014-04-01 00:06:51.579	2014-04-01 01:12:22.594	0280_20140401_000651_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0281_20140401_011222_EX1402L2_MB	EX1402L2_XBT85_140331	91	04/01/14	8.6606	turn	092-29-05.51W	092-25-47.25W	27-26-54.04N	27-30-20.00N	2014-04-01 01:12:23.094	2014-04-01 01:25:08.098	0281_20140401_011222_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0282_20140401_012508_EX1402L2_MB	EX1402L2_XBT85_140331/EX1402L2_XBT86_140401	91	04/01/14	9.9373	267.756	092-50-51.06W	092-27-53.55W	27-25-57.27N	27-29-17.24N	2014-04-01 01:25:08.598	2014-04-01 03:25:09.627	0282_20140401_012508_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0283_20140401_032509_EX1402L2_MB	EX1402L2_XBT86_140401	91	04/01/14	9.6333	289.831	093-02-59.15W	092-50-44.94W	27-25-57.17N	27-32-16.82N	2014-04-01 03:25:10.141	2014-04-01 04:39:45.143	0283_20140401_032509_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0284_20140401_043945_EX1402L2_MB	EX1402L2_XBT86_140401/EX1402L2_XBT87_140401	91	04/01/14	8.634	265.692	093-22-21.23W	093-02-56.34W	27-29-11.66N	27-32-12.67N	2014-04-01 04:39:45.643	2014-04-01 06:39:43.672	0284_20140401_043945_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0285_20140401_063944_EX1402L2_MB	EX1402L2_XBT87_140401	91	04/01/14	8.6207	264.594	093-27-59.22W	093-22-11.18W	27-28-40.21N	27-30-43.62N	2014-04-01 06:39:44.172	2014-04-01 07:14:50.680	0285_20140401_063944_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0286_20140401_071450_EX1402L2_MB	EX1402L2_XBT87_140401	91	04/01/14	8.3234	turn	093-29-09.37W	093-27-20.42W	27-28-39.73N	27-30-59.98N	2014-04-01 07:14:51.180	2014-04-01 07:23:53.681	0286_20140401_071450_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0287_20140401_072354_EX1402L2_MB	EX1402L2_XBT87_140401/EX1402L2_XBT88_140401	91	04/01/14	8.6698	084.55	093-27-57.80W	093-08-24.90W	27-29-25.29N	27-32-32.72N	2014-04-01 07:23:54.181	2014-04-01 09:23:53.212	0287_20140401_072354_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0288_20140401_092353_EX1402L2_MB	EX1402L2_XBT88_140401	91	04/01/14	8.7201	081.85	093-08-32.00W	093-02-27.53W	27-31-10.81N	27-33-29.95N	2014-04-01 09:23:53.711	2014-04-01 10:00:38.717	0288_20140401_092353_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0289_20140401_100038_EX1402L2_MB	EX1402L2_XBT88_140401	91	04/01/14	8.9878	268.215	093-18-52.52W	092-59-53.49W	27-31-20.93N	27-34-25.73N	2014-04-01 10:00:39.217	2014-04-01 12:00:37.245	0289_20140401_100038_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0290_20140401_120037_EX1402L2_MB	EX1402L2_XBT88_140401/EX1402L2_XBT89_140401	91	04/01/14	8.9261	263.84	093-28-26.68W	093-18-48.22W	27-30-25.66N	27-32-53.92N	2014-04-01 12:00:37.746	2014-04-01 12:57:58.262	0290_20140401_120037_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0291_20140401_125758_EX1402L2_MB	EX1402L2_XBT89_140401	91	04/01/14	8.6191	turn	093-29-22.84W	093-27-37.01W	27-30-33.47N	27-32-41.84N	2014-04-01 12:57:58.762	2014-04-01 13:04:25.763	0291_20140401_125758_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0292_20140401_130425_EX1402L2_MB	EX1402L2_XBT89_140401	91	04/01/14	8.9832	083.772	093-28-24.60W	093-08-08.03W	27-31-11.48N	27-34-32.24N	2014-04-01 13:04:26.260	2014-04-01 15:04:25.286	0292_20140401_130425_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0293_20140401_150425_EX1402L2_MB	EX1402L2_XBT89_140401	91	04/01/14	8.8155	079.166	093-08-14.77W	092-58-56.00W	27-33-12.22N	27-35-59.75N	2014-04-01 15:04:25.786	2014-04-01 15:59:36.803	0293_20140401_150425_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0294_20140401_155937_EX1402L2_MB	EX1402L2_XBT90_140401	91	04/01/14	9.4131	079.495	092-59-47.57W	092-38-55.43W	27-34-53.30N	27-39-48.32N	2014-04-01 15:59:37.304	2014-04-01 17:59:36.329	0294_20140401_155937_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0295_20140401_175936_EX1402L2_MB	EX1402L2_XBT90_140401	91	04/01/14	8.8536	084.94	092-39-10.30W	092-19-06.22W	27-38-00.72N	27-41-04.76N	2014-04-01 17:59:36.829	2014-04-01 19:59:35.358	0295_20140401_175936_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0296_20140401_195935_EX1402L2_MB	EX1402L2_XBT90_140401/EX1402L2_XBT91_140401	91	04/01/14	8.8047	084.02	092-19-15.62W	091-59-27.33W	27-39-30.26N	27-42-43.39N	2014-04-01 19:59:35.860	2014-04-01 21:59:35.886	0296_20140401_195935_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0297_20140401_215935_EX1402L2_MB	EX1402L2_XBT91_140401	91	04/01/14	8.6942	084.375	091-59-29.59W	091-44-42.18W	27-41-13.89N	27-44-07.73N	2014-04-01 21:59:36.386	2014-04-01 23:30:06.408	0297_20140401_215935_EX1402L2_MB	EX1402L2_MB_FNL_02_50m_WGS84	
0298_20140401_233006_EX1402L2_MB	EX1402L2_XBT91_140401/EX1402L2_XBT92_140401	91	04/01/14	9.2633	090.589	091-44-51.41W	091-39-33.11W	27-41-52.79N	27-44-12.97N	2014-04-01 23:30:06.908	2014-04-02 00:00:00.914	0298_20140401_233006_EX1402L2_MB	EX1402L2_MB_FNL_03_50m_WGS84	
0299_20140402_000001_EX1402L2_MB	EX1402L2_XBT92_140401	92	04/02/14	10.527	088.426	091-39-36.32W	091-17-10.87W	27-41-58.61N	27-44-20.89N	2014-04-02 00:00:01.412	2014-04-02 01:53:10.943	0299_20140402_000001_EX1402L2_MB	EX1402L2_MB_FNL_03_50m_WGS84	
0300_20140402_015311_EX1402L2_MB	EX1402L2_XBT92_140401/EX1402L2_XBT93_140402	92	04/02/14	7.6206	068.674	091-17-14.20W	091-12-37.50W	27-42-22.54N	27-45-32.43N	2014-04-02 01:53:11.440	2014-04-02 02:27:01.949	0300_20140402_015311_EX1402L2_MB	EX1402L2_MB_FNL_03_50m_WGS84	

EX1402L1 MB ACQUISITION / FIELD PROCESSING LOG														
MB LINE FILENAME	SVP FILE APPLIED	JULIAN DAY	DATE (UTC)	SOG (kt)	HDG	MIN LONG (dec min)	MAX LONG (dec min)	MIN LAT (dec min)	MAX LAT (dec min)	MIN TIME	MAX TIME	Level 01	Level 02 (kmz, xyz, sd, tif, asc)	Notes
0301_20140402_022702_EX1402L2_MB	EX1402L2_XBT93_140402	92	04/02/14	10.612	067.382	091-12-50.80W	090-50-34.95W	27-44-00.92N	27-53-04.41N	2014-04-02 02:27:02.448	2014-04-02 04:27:01.980	0301_20140402_022702_EX1402L2_MB	EX1402L2_MB_FNL_03_50m_WGS84	
0302_20140402_042702_EX1402L2_MB	EX1402L2_XBT93_140402/EX1402L2_XBT94_140402	92	04/02/14	9.969	080.001	090-50-56.51W	090-28-34.19W	27-52-05.20N	27-56-24.59N	2014-04-02 04:27:02.480	2014-04-02 06:27:03.506	0302_20140402_042702_EX1402L2_MB	EX1402L2_MB_FNL_03_50m_WGS84	
0303_20140402_062703_EX1402L2_MB	EX1402L2_XBT94_140402	92	04/02/14	8.6105	078.338	090-28-42.81W	090-09-15.85W	27-54-59.99N	27-59-19.22N	2014-04-02 06:27:04.008	2014-04-02 08:27:04.036	0303_20140402_062703_EX1402L2_MB	EX1402L2_MB_FNL_03_50m_WGS84	
0304_20140402_082704_EX1402L2_MB	EX1402L2_XBT94_140402/EX1402L2_XBT95_140402	92	04/02/14	8.7756	048.829	090-10-14.16W	089-54-08.96W	27-58-13.04N	28-10-27.41N	2014-04-02 08:27:04.536	2014-04-02 10:27:02.564	0304_20140402_082704_EX1402L2_MB	EX1402L2_MB_FNL_03_50m_WGS84	
0305_20140402_102702_EX1402L2_MB	EX1402L2_XBT95_140402/EX1402L2_XBT96_140402	92	04/02/14	8.4848	048.66	089-54-54.77W	089-39-07.23W	28-09-37.28N	28-21-33.71N	2014-04-02 10:27:03.064	2014-04-02 12:27:02.592	0305_20140402_102702_EX1402L2_MB	EX1402L2_MB_FNL_03_50m_WGS84	
0306_20140402_122702_EX1402L2_MB	EX1402L2_XBT96_140402	92	04/02/14	8.2952	064.968	089-40-29.85W	089-22-42.37W	28-20-05.53N	28-28-04.69N	2014-04-02 12:27:03.092	2014-04-02 14:27:03.620	0306_20140402_122702_EX1402L2_MB	EX1402L2_MB_FNL_03_50m_WGS84	
0307_20140402_142703_EX1402L2_MB	EX1402L2_XBT96_140402/EX1402L2_XBT97_140402	92	04/02/14	8.5042	075.341	089-23-08.37W	089-04-06.19W	28-26-32.06N	28-32-06.72N	2014-04-02 14:27:04.140	2014-04-02 16:27:02.150	0307_20140402_142703_EX1402L2_MB	EX1402L2_MB_FNL_03_50m_WGS84	
0308_20140402_162702_EX1402L2_MB	EX1402L2_XBT97_140402	92	04/02/14	8.358	070.257	089-04-20.87W	088-45-43.40W	28-30-04.39N	28-37-25.67N	2014-04-02 16:27:02.650	2014-04-02 18:27:04.177	0308_20140402_162702_EX1402L2_MB	EX1402L2_MB_FNL_03_50m_WGS84	
0309_20140402_182704_EX1402L2_MB	EX1402L2_XBT97_140402/EX1402L2_XBT98_140402	92	04/02/14	8.1439	063.253	088-46-55.84W	088-28-58.86W	28-34-36.87N	28-44-26.26N	2014-04-02 18:27:04.676	2014-04-02 20:27:02.205	0309_20140402_182704_EX1402L2_MB	EX1402L2_MB_FNL_03_50m_WGS84	
0310_20140402_202702_EX1402L2_MB	EX1402L2_XBT98_140402/EX1402L2_XBT99_140402	92	04/02/14	8.5764	050.959	088-30-09.19W	088-13-00.55W	28-41-27.31N	28-54-23.31N	2014-04-02 20:27:02.705	2014-04-02 22:27:03.732	0310_20140402_202702_EX1402L2_MB	EX1402L2_MB_FNL_03_50m_WGS84	
0311_20140402_222704_EX1402L2_MB	EX1402L2_XBT99_140402	92	04/02/14	8.4644	049.794	088-14-52.37W	088-01-08.71W	28-51-54.16N	29-02-28.36N	2014-04-02 22:27:04.232	2014-04-03 00:00:24.754	0311_20140402_222704_EX1402L2_MB	EX1402L2_MB_FNL_03_50m_WGS84	
0312_20140403_000025_EX1402L2_MB	EX1402L2_XBT99_140402/EX1402L2_XBT100_140403	93	04/03/14	7.9514	049.666	088-03-07.40W	087-47-06.33W	29-00-01.69N	29-11-58.41N	2014-04-03 00:00:25.254	2014-04-03 02:00:25.283	0312_20140403_000025_EX1402L2_MB	EX1402L2_MB_FNL_03_50m_WGS84	
0313_20140403_020025_EX1402L2_MB	EX1402L2_XBT100_140403/EX1402L2_XBT101_140403	93	04/03/14	8.0046	025.615	087-48-31.71W	087-37-17.85W	29-10-04.24N	29-22-03.96N	2014-04-03 02:00:25.783	2014-04-03 04:00:24.313	0313_20140403_020025_EX1402L2_MB	EX1402L2_MB_FNL_03_50m_WGS84	
0314_20140403_040024_EX1402L2_MB	EX1402L2_XBT101_140403/EX1402L2_XBT102_140403	93	04/03/14	7.3256	312.519	087-50-38.32W	087-41-05.95W	29-21-46.40N	29-30-08.65N	2014-04-03 04:00:24.813	2014-04-03 05:35:00.336	0314_20140403_040024_EX1402L2_MB	EX1402L2_MB_FNL_03_50m_WGS84	
Notes														
1 Logged during heavy seas simulation- lots of manuevering. Did not proces or including in bathy surface.														
2 Lost positioning. Line 0045 is turn line to resurvey holiday from losing position. Did not process or include in surface.														
3 Line 0106 inadvertantly skipped														

EK 60 files Name format Cruise ID_EK60_Date_Time.raw

EX1402L2_EK60-D20140319-T224347.raw	EX1402L2_EK60-D20140325-T031035.raw	EX1402L2_EK60-D20140329-T152956.raw
EX1402L2_EK60-D20140319-T233127.raw	EX1402L2_EK60-D20140325-T031035.raw	EX1402L2_EK60-D20140329-T163331.raw
EX1402L2_EK60-D20140320-T001915.raw	EX1402L2_EK60-D20140325-T040846.raw	EX1402L2_EK60-D20140329-T174112.raw
EX1402L2_EK60-D20140320-T010751.raw	EX1402L2_EK60-D20140325-T045939.raw	EX1402L2_EK60-D20140329-T184749.raw
EX1402L2_EK60-D20140320-T015830.raw	EX1402L2_EK60-D20140325-T055332.raw	EX1402L2_EK60-D20140329-T195447.raw
EX1402L2_EK60-D20140320-T025250.raw	EX1402L2_EK60-D20140325-T064937.raw	EX1402L2_EK60-D20140329-T205253.raw
EX1402L2_EK60-D20140320-T034944.raw	EX1402L2_EK60-D20140325-T075139.raw	EX1402L2_EK60-D20140329-T214531.raw
EX1402L2_EK60-D20140320-T044550.raw	EX1402L2_EK60-D20140325-T085038.raw	EX1402L2_EK60-D20140329-T224453.raw
EX1402L2_EK60-D20140320-T054011.raw	EX1402L2_EK60-D20140325-T094830.raw	EX1402L2_EK60-D20140329-T233935.raw
EX1402L2_EK60-D20140320-T063351.raw	EX1402L2_EK60-D20140325-T104032.raw	EX1402L2_EK60-D20140330-T003607.raw
EX1402L2_EK60-D20140320-T072858.raw	EX1402L2_EK60-D20140325-T113429.raw	EX1402L2_EK60-D20140330-T013145.raw
EX1402L2_EK60-D20140320-T082509.raw	EX1402L2_EK60-D20140325-T123325.raw	EX1402L2_EK60-D20140330-T022846.raw
EX1402L2_EK60-D20140320-T092531.raw	EX1402L2_EK60-D20140325-T133334.raw	EX1402L2_EK60-D20140330-T032125.raw
EX1402L2_EK60-D20140320-T102132.raw	EX1402L2_EK60-D20140325-T143036.raw	EX1402L2_EK60-D20140330-T041915.raw
EX1402L2_EK60-D20140320-T111731.raw	EX1402L2_EK60-D20140325-T153018.raw	EX1402L2_EK60-D20140330-T052008.raw
EX1402L2_EK60-D20140320-T122550.raw	EX1402L2_EK60-D20140325-T162728.raw	EX1402L2_EK60-D20140330-T061518.raw
EX1402L2_EK60-D20140320-T134610.raw	EX1402L2_EK60-D20140325-T172423.raw	EX1402L2_EK60-D20140330-T070845.raw
EX1402L2_EK60-D20140320-T145502.raw	EX1402L2_EK60-D20140325-T182024.raw	EX1402L2_EK60-D20140330-T080518.raw
EX1402L2_EK60-D20140320-T161058.raw	EX1402L2_EK60-D20140325-T191631.raw	EX1402L2_EK60-D20140330-T090243.raw
EX1402L2_EK60-D20140320-T173054.raw	EX1402L2_EK60-D20140325-T200914.raw	EX1402L2_EK60-D20140330-T095910.raw
EX1402L2_EK60-D20140320-T185053.raw	EX1402L2_EK60-D20140325-T210002.raw	EX1402L2_EK60-D20140330-T105540.raw
EX1402L2_EK60-D20140320-T194834.raw	EX1402L2_EK60-D20140325-T215310.raw	EX1402L2_EK60-D20140330-T115417.raw
EX1402L2_EK60-D20140320-T210212.raw	EX1402L2_EK60-D20140325-T224529.raw	EX1402L2_EK60-D20140330-T125118.raw
EX1402L2_EK60-D20140320-T220350.raw	EX1402L2_EK60-D20140325-T233807.raw	EX1402L2_EK60-D20140330-T134701.raw
EX1402L2_EK60-D20140320-T224605.raw	EX1402L2_EK60-D20140326-T003623.raw	EX1402L2_EK60-D20140330-T144017.raw
EX1402L2_EK60-D20140320-T234543.raw	EX1402L2_EK60-D20140326-T013009.raw	EX1402L2_EK60-D20140330-T153447.raw
EX1402L2_EK60-D20140321-T005819.raw	EX1402L2_EK60-D20140326-T022430.raw	EX1402L2_EK60-D20140330-T162926.raw
EX1402L2_EK60-D20140321-T020717.raw	EX1402L2_EK60-D20140326-T032021.raw	EX1402L2_EK60-D20140330-T172647.raw
EX1402L2_EK60-D20140321-T031502.raw	EX1402L2_EK60-D20140326-T041459.raw	EX1402L2_EK60-D20140330-T182042.raw
EX1402L2_EK60-D20140321-T043047.raw	EX1402L2_EK60-D20140326-T051241.raw	EX1402L2_EK60-D20140330-T191443.raw
EX1402L2_EK60-D20140321-T054149.raw	EX1402L2_EK60-D20140326-T060612.raw	EX1402L2_EK60-D20140330-T201636.raw
EX1402L2_EK60-D20140321-T065158.raw	EX1402L2_EK60-D20140326-T070108.raw	EX1402L2_EK60-D20140330-T211527.raw
EX1402L2_EK60-D20140321-T080623.raw	EX1402L2_EK60-D20140326-T075422.raw	EX1402L2_EK60-D20140330-T221310.raw
EX1402L2_EK60-D20140321-T092136.raw	EX1402L2_EK60-D20140326-T084625.raw	EX1402L2_EK60-D20140330-T230610.raw
EX1402L2_EK60-D20140321-T102259.raw	EX1402L2_EK60-D20140326-T094031.raw	EX1402L2_EK60-D20140330-T235925.raw
EX1402L2_EK60-D20140321-T113532.raw	EX1402L2_EK60-D20140326-T103355.raw	EX1402L2_EK60-D20140331-T005618.raw
EX1402L2_EK60-D20140321-T124437.raw	EX1402L2_EK60-D20140326-T112725.raw	EX1402L2_EK60-D20140331-T015400.raw
EX1402L2_EK60-D20140321-T133947.raw	EX1402L2_EK60-D20140326-T122000.raw	EX1402L2_EK60-D20140331-T024742.raw
EX1402L2_EK60-D20140321-T154103.raw	EX1402L2_EK60-D20140326-T131322.raw	EX1402L2_EK60-D20140331-T034218.raw
EX1402L2_EK60-D20140321-T164102.raw	EX1402L2_EK60-D20140326-T140700.raw	EX1402L2_EK60-D20140331-T043415.raw
EX1402L2_EK60-D20140321-T173621.raw	EX1402L2_EK60-D20140326-T150047.raw	EX1402L2_EK60-D20140331-T053355.raw

EX1402L2_EK60-D20140321-T183405.raw	EX1402L2_EK60-D20140326-T160153.raw	EX1402L2_EK60-D20140331-T063210.raw
EX1402L2_EK60-D20140321-T194011.raw	EX1402L2_EK60-D20140326-T170015.raw	EX1402L2_EK60-D20140331-T072940.raw
EX1402L2_EK60-D20140321-T205155.raw	EX1402L2_EK60-D20140326-T175625.raw	EX1402L2_EK60-D20140331-T081837.raw
EX1402L2_EK60-D20140322-T002257.raw	EX1402L2_EK60-D20140326-T185043.raw	EX1402L2_EK60-D20140331-T091423.raw
EX1402L2_EK60-D20140322-T011727.raw	EX1402L2_EK60-D20140326-T194618.raw	EX1402L2_EK60-D20140331-T100908.raw
EX1402L2_EK60-D20140322-T021230.raw	EX1402L2_EK60-D20140326-T203935.raw	EX1402L2_EK60-D20140331-T110225.raw
EX1402L2_EK60-D20140322-T030707.raw	EX1402L2_EK60-D20140326-T213936.raw	EX1402L2_EK60-D20140331-T115648.raw
EX1402L2_EK60-D20140322-T040620.raw	EX1402L2_EK60-D20140326-T223537.raw	EX1402L2_EK60-D20140331-T125424.raw
EX1402L2_EK60-D20140322-T050158.raw	EX1402L2_EK60-D20140326-T233357.raw	EX1402L2_EK60-D20140331-T135205.raw
EX1402L2_EK60-D20140322-T055446.raw	EX1402L2_EK60-D20140327-T003225.raw	EX1402L2_EK60-D20140331-T144409.raw
EX1402L2_EK60-D20140322-T065626.raw	EX1402L2_EK60-D20140327-T012940.raw	EX1402L2_EK60-D20140331-T153848.raw
EX1402L2_EK60-D20140322-T075729.raw	EX1402L2_EK60-D20140327-T022510.raw	EX1402L2_EK60-D20140331-T163153.raw
EX1402L2_EK60-D20140322-T085855.raw	EX1402L2_EK60-D20140327-T031921.raw	EX1402L2_EK60-D20140331-T172829.raw
EX1402L2_EK60-D20140322-T095425.raw	EX1402L2_EK60-D20140327-T041503.raw	EX1402L2_EK60-D20140331-T182014.raw
EX1402L2_EK60-D20140322-T105834.raw	EX1402L2_EK60-D20140327-T050900.raw	EX1402L2_EK60-D20140331-T191629.raw
EX1402L2_EK60-D20140322-T115815.raw	EX1402L2_EK60-D20140327-T060156.raw	EX1402L2_EK60-D20140331-T201400.raw
EX1402L2_EK60-D20140322-T130130.raw	EX1402L2_EK60-D20140327-T065756.raw	EX1402L2_EK60-D20140331-T210713.raw
EX1402L2_EK60-D20140322-T140002.raw	EX1402L2_EK60-D20140327-T075342.raw	EX1402L2_EK60-D20140331-T220317.raw
EX1402L2_EK60-D20140322-T145845.raw	EX1402L2_EK60-D20140327-T081813.raw	EX1402L2_EK60-D20140331-T225817.raw
EX1402L2_EK60-D20140322-T155437.raw	EX1402L2_EK60-D20140327-T090714.raw	EX1402L2_EK60-D20140331-T235659.raw
EX1402L2_EK60-D20140322-T164938.raw	EX1402L2_EK60-D20140327-T100023.raw	EX1402L2_EK60-D20140401-T005541.raw
EX1402L2_EK60-D20140322-T174359.raw	EX1402L2_EK60-D20140327-T105716.raw	EX1402L2_EK60-D20140401-T015432.raw
EX1402L2_EK60-D20140322-T184029.raw	EX1402L2_EK60-D20140327-T115140.raw	EX1402L2_EK60-D20140401-T025610.raw
EX1402L2_EK60-D20140322-T193517.raw	EX1402L2_EK60-D20140327-T124407.raw	EX1402L2_EK60-D20140401-T035509.raw
EX1402L2_EK60-D20140322-T203523.raw	EX1402L2_EK60-D20140327-T133730.raw	EX1402L2_EK60-D20140401-T044945.raw
EX1402L2_EK60-D20140322-T213625.raw	EX1402L2_EK60-D20140327-T143631.raw	EX1402L2_EK60-D20140401-T054154.raw
EX1402L2_EK60-D20140322-T223545.raw	EX1402L2_EK60-D20140327-T153626.raw	EX1402L2_EK60-D20140401-T063639.raw
EX1402L2_EK60-D20140322-T233812.raw	EX1402L2_EK60-D20140327-T163008.raw	EX1402L2_EK60-D20140401-T073251.raw
EX1402L2_EK60-D20140323-T003613.raw	EX1402L2_EK60-D20140327-T180254.raw	EX1402L2_EK60-D20140401-T082900.raw
EX1402L2_EK60-D20140323-T014245.raw	EX1402L2_EK60-D20140327-T185537.raw	EX1402L2_EK60-D20140401-T091921.raw
EX1402L2_EK60-D20140323-T030136.raw	EX1402L2_EK60-D20140327-T195017.raw	EX1402L2_EK60-D20140401-T101713.raw
EX1402L2_EK60-D20140323-T041452.raw	EX1402L2_EK60-D20140327-T204226.raw	EX1402L2_EK60-D20140401-T111212.raw
EX1402L2_EK60-D20140323-T053137.raw	EX1402L2_EK60-D20140327-T213612.raw	EX1402L2_EK60-D20140401-T120507.raw
EX1402L2_EK60-D20140323-T065110.raw	EX1402L2_EK60-D20140327-T222953.raw	EX1402L2_EK60-D20140401-T125905.raw
EX1402L2_EK60-D20140323-T080316.raw	EX1402L2_EK60-D20140327-T232110.raw	EX1402L2_EK60-D20140401-T135052.raw
EX1402L2_EK60-D20140323-T091625.raw	EX1402L2_EK60-D20140328-T001733.raw	EX1402L2_EK60-D20140401-T144425.raw
EX1402L2_EK60-D20140323-T103105.raw	EX1402L2_EK60-D20140328-T011554.raw	EX1402L2_EK60-D20140401-T153647.raw
EX1402L2_EK60-D20140323-T114351.raw	EX1402L2_EK60-D20140328-T020809.raw	EX1402L2_EK60-D20140401-T162958.raw
EX1402L2_EK60-D20140323-T125712.raw	EX1402L2_EK60-D20140328-T030324.raw	EX1402L2_EK60-D20140401-T172421.raw
EX1402L2_EK60-D20140323-T140347.raw	EX1402L2_EK60-D20140328-T040132.raw	EX1402L2_EK60-D20140401-T181732.raw
EX1402L2_EK60-D20140323-T150636.raw	EX1402L2_EK60-D20140328-T050431.raw	EX1402L2_EK60-D20140401-T191731.raw
EX1402L2_EK60-D20140323-T160700.raw	EX1402L2_EK60-D20140328-T055915.raw	EX1402L2_EK60-D20140401-T201058.raw
EX1402L2_EK60-D20140323-T170328.raw	EX1402L2_EK60-D20140328-T065139.raw	EX1402L2_EK60-D20140401-T210555.raw

EX1402L2_EK60-D20140323-T175609.raw	EX1402L2_EK60-D20140328-T074850.raw	EX1402L2_EK60-D20140401-T215938.raw
EX1402L2_EK60-D20140323-T184922.raw	EX1402L2_EK60-D20140328-T084016.raw	EX1402L2_EK60-D20140401-T225652.raw
EX1402L2_EK60-D20140323-T194715.raw	EX1402L2_EK60-D20140328-T094102.raw	EX1402L2_EK60-D20140401-T235153.raw
EX1402L2_EK60-D20140323-T205154.raw	EX1402L2_EK60-D20140328-T103654.raw	EX1402L2_EK60-D20140402-T004815.raw
EX1402L2_EK60-D20140323-T215814.raw	EX1402L2_EK60-D20140328-T113401.raw	EX1402L2_EK60-D20140402-T013941.raw
EX1402L2_EK60-D20140323-T230535.raw	EX1402L2_EK60-D20140328-T123155.raw	EX1402L2_EK60-D20140402-T023531.raw
EX1402L2_EK60-D20140324-T000414.raw	EX1402L2_EK60-D20140328-T132459.raw	EX1402L2_EK60-D20140402-T032735.raw
EX1402L2_EK60-D20140324-T010630.raw	EX1402L2_EK60-D20140328-T141904.raw	EX1402L2_EK60-D20140402-T042330.raw
EX1402L2_EK60-D20140324-T021600.raw	EX1402L2_EK60-D20140328-T151207.raw	EX1402L2_EK60-D20140402-T051714.raw
EX1402L2_EK60-D20140324-T033343.raw	EX1402L2_EK60-D20140328-T160457.raw	EX1402L2_EK60-D20140402-T060933.raw
EX1402L2_EK60-D20140324-T044344.raw	EX1402L2_EK60-D20140328-T165926.raw	EX1402L2_EK60-D20140402-T070440.raw
EX1402L2_EK60-D20140324-T055928.raw	EX1402L2_EK60-D20140328-T175544.raw	EX1402L2_EK60-D20140402-T080356.raw
EX1402L2_EK60-D20140324-T070641.raw	EX1402L2_EK60-D20140328-T184928.raw	EX1402L2_EK60-D20140402-T085652.raw
EX1402L2_EK60-D20140324-T081504.raw	EX1402L2_EK60-D20140328-T194456.raw	EX1402L2_EK60-D20140402-T094828.raw
EX1402L2_EK60-D20140324-T091608.raw	EX1402L2_EK60-D20140328-T203828.raw	EX1402L2_EK60-D20140402-T104256.raw
EX1402L2_EK60-D20140324-T101217.raw	EX1402L2_EK60-D20140328-T213349.raw	EX1402L2_EK60-D20140402-T113614.raw
EX1402L2_EK60-D20140324-T110726.raw	EX1402L2_EK60-D20140328-T222800.raw	EX1402L2_EK60-D20140402-T122913.raw
EX1402L2_EK60-D20140324-T120241.raw	EX1402L2_EK60-D20140328-T232326.raw	EX1402L2_EK60-D20140402-T132015.raw
EX1402L2_EK60-D20140324-T130019.raw	EX1402L2_EK60-D20140329-T001925.raw	EX1402L2_EK60-D20140402-T141809.raw
EX1402L2_EK60-D20140324-T140558.raw	EX1402L2_EK60-D20140329-T012419.raw	EX1402L2_EK60-D20140402-T151423.raw
EX1402L2_EK60-D20140324-T151321.raw	EX1402L2_EK60-D20140329-T022547.raw	EX1402L2_EK60-D20140402-T160909.raw
EX1402L2_EK60-D20140324-T161009.raw	EX1402L2_EK60-D20140329-T031840.raw	EX1402L2_EK60-D20140402-T170225.raw
EX1402L2_EK60-D20140324-T170410.raw	EX1402L2_EK60-D20140329-T041405.raw	EX1402L2_EK60-D20140402-T180319.raw
EX1402L2_EK60-D20140324-T175623.raw	EX1402L2_EK60-D20140329-T050637.raw	EX1402L2_EK60-D20140402-T192455.raw
EX1402L2_EK60-D20140324-T185618.raw	EX1402L2_EK60-D20140329-T060205.raw	EX1402L2_EK60-D20140402-T204855.raw
EX1402L2_EK60-D20140324-T195117.raw	EX1402L2_EK60-D20140329-T070526.raw	EX1402L2_EK60-D20140402-T221111.raw
EX1402L2_EK60-D20140324-T204935.raw	EX1402L2_EK60-D20140329-T080845.raw	EX1402L2_EK60-D20140402-T233020.raw
EX1402L2_EK60-D20140324-T214545.raw	EX1402L2_EK60-D20140329-T090814.raw	EX1402L2_EK60-D20140403-T004956.raw
EX1402L2_EK60-D20140324-T223849.raw	EX1402L2_EK60-D20140329-T101228.raw	EX1402L2_EK60-D20140403-T020504.raw
EX1402L2_EK60-D20140324-T233348.raw	EX1402L2_EK60-D20140329-T111110.raw	EX1402L2_EK60-D20140403-T030314.raw
EX1402L2_EK60-D20140325-T002620.raw	EX1402L2_EK60-D20140329-T121107.raw	EX1402L2_EK60-D20140403-T035446.raw
EX1402L2_EK60-D20140325-T012202.raw	EX1402L2_EK60-D20140329-T130710.raw	EX1402L2_EK60-D20140403-T044252.raw
EX1402L2_EK60-D20140325-T021653.raw	EX1402L2_EK60-D20140329-T140046.raw	EX1402L2_EK60-D20140403-T053024.raw

List of Knudsen SBP files (SGY Files)

Name of SGY File	Date Collected	Name of SGY File	Date Collected
EX1402L2_SBP_70870_CHP3.5_RAW_000.sgy	3/19/2014	EX1402L2_SBP_70870_CHP3.5_RAW_040.sgy	3/21/2014
EX1402L2_SBP_70870_CHP3.5_RAW_001.sgy	3/19/2014	EX1402L2_SBP_70870_CHP3.5_RAW_041.sgy	3/21/2014
EX1402L2_SBP_70870_CHP3.5_RAW_002.sgy	3/19/2014	EX1402L2_SBP_70870_CHP3.5_RAW_042.sgy	3/21/2014
EX1402L2_SBP_70870_CHP3.5_RAW_003.sgy	3/19/2014	EX1402L2_SBP_70870_CHP3.5_RAW_043.sgy	3/21/2014
EX1402L2_SBP_70870_CHP3.5_RAW_004.sgy	3/19/2014	EX1402L2_SBP_70870_CHP3.5_RAW_044.sgy	3/21/2014
EX1402L2_SBP_70870_CHP3.5_RAW_005.sgy	3/20/2014	EX1402L2_SBP_70870_CHP3.5_RAW_045.sgy	3/21/2014
EX1402L2_SBP_70870_CHP3.5_RAW_006.sgy	3/20/2014	EX1402L2_SBP_70870_CHP3.5_RAW_046.sgy	3/22/2014
EX1402L2_SBP_70870_CHP3.5_RAW_007.sgy	3/20/2014	EX1402L2_SBP_70870_CHP3.5_RAW_047.sgy	3/22/2014
EX1402L2_SBP_70870_CHP3.5_RAW_008.sgy	3/20/2014	EX1402L2_SBP_70870_CHP3.5_RAW_048.sgy	3/22/2014
EX1402L2_SBP_70870_CHP3.5_RAW_009.sgy	3/20/2014	EX1402L2_SBP_70870_CHP3.5_RAW_049.sgy	3/22/2014
EX1402L2_SBP_70870_CHP3.5_RAW_010.sgy	3/20/2014	EX1402L2_SBP_70870_CHP3.5_RAW_050.sgy	3/22/2014
EX1402L2_SBP_70870_CHP3.5_RAW_011.sgy	3/20/2014	EX1402L2_SBP_70870_CHP3.5_RAW_051.sgy	3/22/2014
EX1402L2_SBP_70870_CHP3.5_RAW_012.sgy	3/20/2014	EX1402L2_SBP_70870_CHP3.5_RAW_052.sgy	3/22/2014
EX1402L2_SBP_70870_CHP3.5_RAW_013.sgy	3/20/2014	EX1402L2_SBP_70870_CHP3.5_RAW_053.sgy	3/22/2014
EX1402L2_SBP_70870_CHP3.5_RAW_014.sgy	3/20/2014	EX1402L2_SBP_70870_CHP3.5_RAW_054.sgy	3/22/2014
EX1402L2_SBP_70870_CHP3.5_RAW_015.sgy	3/20/2014	EX1402L2_SBP_70870_CHP3.5_RAW_055.sgy	3/22/2014
EX1402L2_SBP_70870_CHP3.5_RAW_016.sgy	3/20/2014	EX1402L2_SBP_70870_CHP3.5_RAW_056.sgy	3/22/2014
EX1402L2_SBP_70870_CHP3.5_RAW_017.sgy	3/20/2014	EX1402L2_SBP_70870_CHP3.5_RAW_057.sgy	3/22/2014
EX1402L2_SBP_70870_CHP3.5_RAW_018.sgy	3/20/2014	EX1402L2_SBP_70870_CHP3.5_RAW_058.sgy	3/22/2014
EX1402L2_SBP_70870_CHP3.5_RAW_019.sgy	3/20/2014	EX1402L2_SBP_70870_CHP3.5_RAW_059.sgy	3/22/2014
EX1402L2_SBP_70870_CHP3.5_RAW_020.sgy	3/20/2014	EX1402L2_SBP_70870_CHP3.5_RAW_060.sgy	3/22/2014
EX1402L2_SBP_70870_CHP3.5_RAW_021.sgy	3/20/2014	EX1402L2_SBP_70870_CHP3.5_RAW_061.sgy	3/22/2014
EX1402L2_SBP_70870_CHP3.5_RAW_022.sgy	3/20/2014	EX1402L2_SBP_70870_CHP3.5_RAW_062.sgy	3/22/2014
EX1402L2_SBP_70870_CHP3.5_RAW_023.sgy	3/20/2014	EX1402L2_SBP_70870_CHP3.5_RAW_063.sgy	3/22/2014
EX1402L2_SBP_70870_CHP3.5_RAW_024.sgy	3/21/2014	EX1402L2_SBP_70870_CHP3.5_RAW_064.sgy	3/22/2014
EX1402L2_SBP_70870_CHP3.5_RAW_025.sgy	3/21/2014	EX1402L2_SBP_70870_CHP3.5_RAW_065.sgy	3/22/2014
EX1402L2_SBP_70870_CHP3.5_RAW_026.sgy	3/21/2014	EX1402L2_SBP_70870_CHP3.5_RAW_066.sgy	3/22/2014
EX1402L2_SBP_70870_CHP3.5_RAW_027.sgy	3/21/2014	EX1402L2_SBP_70870_CHP3.5_RAW_067.sgy	3/22/2014
EX1402L2_SBP_70870_CHP3.5_RAW_028.sgy	3/21/2014	EX1402L2_SBP_70870_CHP3.5_RAW_068.sgy	3/22/2014
EX1402L2_SBP_70870_CHP3.5_RAW_029.sgy	3/21/2014	EX1402L2_SBP_70870_CHP3.5_RAW_069.sgy	3/22/2014
EX1402L2_SBP_70870_CHP3.5_RAW_030.sgy	3/21/2014	EX1402L2_SBP_70870_CHP3.5_RAW_070.sgy	3/22/2014
EX1402L2_SBP_70870_CHP3.5_RAW_031.sgy	3/21/2014	EX1402L2_SBP_70870_CHP3.5_RAW_071.sgy	3/22/2014
EX1402L2_SBP_70870_CHP3.5_RAW_032.sgy	3/21/2014	EX1402L2_SBP_70870_CHP3.5_RAW_072.sgy	3/22/2014
EX1402L2_SBP_70870_CHP3.5_RAW_033.sgy	3/21/2014	EX1402L2_SBP_70870_CHP3.5_RAW_073.sgy	3/22/2014
EX1402L2_SBP_70870_CHP3.5_RAW_034.sgy	3/21/2014	EX1402L2_SBP_70870_CHP3.5_RAW_074.sgy	3/22/2014
EX1402L2_SBP_70870_CHP3.5_RAW_035.sgy	3/21/2014	EX1402L2_SBP_70870_CHP3.5_RAW_075.sgy	3/22/2014
EX1402L2_SBP_70870_CHP3.5_RAW_036.sgy	3/21/2014	EX1402L2_SBP_70870_CHP3.5_RAW_076.sgy	3/22/2014
EX1402L2_SBP_70870_CHP3.5_RAW_037.sgy	3/21/2014	EX1402L2_SBP_70870_CHP3.5_RAW_077.sgy	3/23/2014
EX1402L2_SBP_70870_CHP3.5_RAW_038.sgy	3/21/2014	EX1402L2_SBP_70870_CHP3.5_RAW_078.sgy	3/23/2014

EX1402L2_SBP_70870_CHP3.5_RAW_039.sgy	3/21/2014	EX1402L2_SBP_70870_CHP3.5_RAW_079.sgy	3/23/2014
EX1402L2_SBP_70870_CHP3.5_RAW_080.sgy	3/23/2014	EX1402L2_SBP_70870_CHP3.5_RAW_120.sgy	3/25/2014
EX1402L2_SBP_70870_CHP3.5_RAW_081.sgy	3/23/2014	EX1402L2_SBP_70870_CHP3.5_RAW_121.sgy	3/25/2014
EX1402L2_SBP_70870_CHP3.5_RAW_082.sgy	3/23/2014	EX1402L2_SBP_70870_CHP3.5_RAW_122.sgy	3/25/2014
EX1402L2_SBP_70870_CHP3.5_RAW_083.sgy	3/23/2014	EX1402L2_SBP_70870_CHP3.5_RAW_123.sgy	3/25/2014
EX1402L2_SBP_70870_CHP3.5_RAW_084.sgy	3/23/2014	EX1402L2_SBP_70870_CHP3.5_RAW_124.sgy	3/25/2014
EX1402L2_SBP_70870_CHP3.5_RAW_085.sgy	3/23/2014	EX1402L2_SBP_70870_CHP3.5_RAW_125.sgy	3/25/2014
EX1402L2_SBP_70870_CHP3.5_RAW_086.sgy	3/23/2014	EX1402L2_SBP_70870_CHP3.5_RAW_126.sgy	3/25/2014
EX1402L2_SBP_70870_CHP3.5_RAW_087.sgy	3/23/2014	EX1402L2_SBP_70870_CHP3.5_RAW_127.sgy	3/25/2014
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EX1402L2_SBP_70870_CHP3.5_RAW_089.sgy	3/23/2014	EX1402L2_SBP_70870_CHP3.5_RAW_129.sgy	3/25/2014
EX1402L2_SBP_70870_CHP3.5_RAW_090.sgy	3/23/2014	EX1402L2_SBP_70870_CHP3.5_RAW_130.sgy	3/25/2014
EX1402L2_SBP_70870_CHP3.5_RAW_091.sgy	3/23/2014	EX1402L2_SBP_70870_CHP3.5_RAW_131.sgy	3/25/2014
EX1402L2_SBP_70870_CHP3.5_RAW_092.sgy	3/23/2014	EX1402L2_SBP_70870_CHP3.5_RAW_132.sgy	3/25/2014
EX1402L2_SBP_70870_CHP3.5_RAW_093.sgy	3/23/2014	EX1402L2_SBP_70870_CHP3.5_RAW_133.sgy	3/25/2014
EX1402L2_SBP_70870_CHP3.5_RAW_094.sgy	3/23/2014	EX1402L2_SBP_70870_CHP3.5_RAW_134.sgy	3/25/2014
EX1402L2_SBP_70870_CHP3.5_RAW_095.sgy	3/23/2014	EX1402L2_SBP_70870_CHP3.5_RAW_135.sgy	3/25/2014
EX1402L2_SBP_70870_CHP3.5_RAW_096.sgy	3/23/2014	EX1402L2_SBP_70870_CHP3.5_RAW_136.sgy	3/25/2014
EX1402L2_SBP_70870_CHP3.5_RAW_097.sgy	3/23/2014	EX1402L2_SBP_70870_CHP3.5_RAW_137.sgy	3/25/2014
EX1402L2_SBP_70870_CHP3.5_RAW_098.sgy	3/23/2014	EX1402L2_SBP_70870_CHP3.5_RAW_138.sgy	3/25/2014
EX1402L2_SBP_70870_CHP3.5_RAW_099.sgy	3/24/2014	EX1402L2_SBP_70870_CHP3.5_RAW_139.sgy	3/25/2014
EX1402L2_SBP_70870_CHP3.5_RAW_100.sgy	3/24/2014	EX1402L2_SBP_70870_CHP3.5_RAW_140.sgy	3/25/2014
EX1402L2_SBP_70870_CHP3.5_RAW_101.sgy	3/24/2014	EX1402L2_SBP_70870_CHP3.5_RAW_141.sgy	3/25/2014
EX1402L2_SBP_70870_CHP3.5_RAW_102.sgy	3/24/2014	EX1402L2_SBP_70870_CHP3.5_RAW_142.sgy	3/25/2014
EX1402L2_SBP_70870_CHP3.5_RAW_103.sgy	3/24/2014	EX1402L2_SBP_70870_CHP3.5_RAW_143.sgy	3/25/2014
EX1402L2_SBP_70870_CHP3.5_RAW_104.sgy	3/24/2014	EX1402L2_SBP_70870_CHP3.5_RAW_144.sgy	3/25/2014
EX1402L2_SBP_70870_CHP3.5_RAW_105.sgy	3/24/2014	EX1402L2_SBP_70870_CHP3.5_RAW_145.sgy	3/25/2014
EX1402L2_SBP_70870_CHP3.5_RAW_106.sgy	3/24/2014	EX1402L2_SBP_70870_CHP3.5_RAW_146.sgy	3/25/2014
EX1402L2_SBP_70870_CHP3.5_RAW_107.sgy	3/24/2014	EX1402L2_SBP_70870_CHP3.5_RAW_147.sgy	3/25/2014
EX1402L2_SBP_70870_CHP3.5_RAW_108.sgy	3/24/2014	EX1402L2_SBP_70870_CHP3.5_RAW_148.sgy	3/25/2014
EX1402L2_SBP_70870_CHP3.5_RAW_109.sgy	3/24/2014	EX1402L2_SBP_70870_CHP3.5_RAW_149.sgy	3/25/2014
EX1402L2_SBP_70870_CHP3.5_RAW_110.sgy	3/24/2014	EX1402L2_SBP_70870_CHP3.5_RAW_150.sgy	3/26/2014
EX1402L2_SBP_70870_CHP3.5_RAW_111.sgy	3/24/2014	EX1402L2_SBP_70870_CHP3.5_RAW_151.sgy	3/26/2014
EX1402L2_SBP_70870_CHP3.5_RAW_112.sgy	3/24/2014	EX1402L2_SBP_70870_CHP3.5_RAW_152.sgy	3/26/2014
EX1402L2_SBP_70870_CHP3.5_RAW_113.sgy	3/24/2014	EX1402L2_SBP_70870_CHP3.5_RAW_153.sgy	3/26/2014
EX1402L2_SBP_70870_CHP3.5_RAW_114.sgy	3/24/2014	EX1402L2_SBP_70870_CHP3.5_RAW_154.sgy	3/26/2014
EX1402L2_SBP_70870_CHP3.5_RAW_115.sgy	3/24/2014	EX1402L2_SBP_70870_CHP3.5_RAW_155.sgy	3/26/2014
EX1402L2_SBP_70870_CHP3.5_RAW_116.sgy	3/24/2014	EX1402L2_SBP_70870_CHP3.5_RAW_156.sgy	3/26/2014
EX1402L2_SBP_70870_CHP3.5_RAW_117.sgy	3/24/2014	EX1402L2_SBP_70870_CHP3.5_RAW_157.sgy	3/26/2014
EX1402L2_SBP_70870_CHP3.5_RAW_118.sgy	3/24/2014	EX1402L2_SBP_70870_CHP3.5_RAW_158.sgy	3/26/2014
EX1402L2_SBP_70870_CHP3.5_RAW_119.sgy	3/24/2014	EX1402L2_SBP_70870_CHP3.5_RAW_159.sgy	3/26/2014
EX1402L2_SBP_70870_CHP3.5_RAW_160.sgy	3/26/2014	EX1402L2_SBP_70870_CHP3.5_RAW_201.sgy	3/27/2014

EX1402L2_SBP_70870_CHP3.5_RAW_162.sgy	3/26/2014	EX1402L2_SBP_70870_CHP3.5_RAW_202.sgy	3/27/2014
EX1402L2_SBP_70870_CHP3.5_RAW_163.sgy	3/26/2014	EX1402L2_SBP_70870_CHP3.5_RAW_203.sgy	3/27/2014
EX1402L2_SBP_70870_CHP3.5_RAW_164.sgy	3/26/2014	EX1402L2_SBP_70870_CHP3.5_RAW_204.sgy	3/27/2014
EX1402L2_SBP_70870_CHP3.5_RAW_165.sgy	3/26/2014	EX1402L2_SBP_70870_CHP3.5_RAW_205.sgy	3/27/2014
EX1402L2_SBP_70870_CHP3.5_RAW_166.sgy	3/26/2014	EX1402L2_SBP_70870_CHP3.5_RAW_206.sgy	3/27/2014
EX1402L2_SBP_70870_CHP3.5_RAW_167.sgy	3/26/2014	EX1402L2_SBP_70870_CHP3.5_RAW_207.sgy	3/27/2014
EX1402L2_SBP_70870_CHP3.5_RAW_168.sgy	3/26/2014	EX1402L2_SBP_70870_CHP3.5_RAW_208.sgy	3/27/2014
EX1402L2_SBP_70870_CHP3.5_RAW_169.sgy	3/26/2014	EX1402L2_SBP_70870_CHP3.5_RAW_209.sgy	3/27/2014
EX1402L2_SBP_70870_CHP3.5_RAW_170.sgy	3/26/2014	EX1402L2_SBP_70870_CHP3.5_RAW_210.sgy	3/27/2014
EX1402L2_SBP_70870_CHP3.5_RAW_171.sgy	3/26/2014	EX1402L2_SBP_70870_CHP3.5_RAW_211.sgy	3/27/2014
EX1402L2_SBP_70870_CHP3.5_RAW_172.sgy	3/26/2014	EX1402L2_SBP_70870_CHP3.5_RAW_212.sgy	3/27/2014
EX1402L2_SBP_70870_CHP3.5_RAW_173.sgy	3/26/2014	EX1402L2_SBP_70870_CHP3.5_RAW_213.sgy	3/27/2014
EX1402L2_SBP_70870_CHP3.5_RAW_174.sgy	3/26/2014	EX1402L2_SBP_70870_CHP3.5_RAW_214.sgy	3/27/2014
EX1402L2_SBP_70870_CHP3.5_RAW_175.sgy	3/26/2014	EX1402L2_SBP_70870_CHP3.5_RAW_215.sgy	3/27/2014
EX1402L2_SBP_70870_CHP3.5_RAW_176.sgy	3/26/2014	EX1402L2_SBP_70870_CHP3.5_RAW_216.sgy	3/27/2014
EX1402L2_SBP_70870_CHP3.5_RAW_177.sgy	3/26/2014	EX1402L2_SBP_70870_CHP3.5_RAW_217.sgy	3/27/2014
EX1402L2_SBP_70870_CHP3.5_RAW_178.sgy	3/27/2014	EX1402L2_SBP_70870_CHP3.5_RAW_218.sgy	3/28/2014
EX1402L2_SBP_70870_CHP3.5_RAW_179.sgy	3/27/2014	EX1402L2_SBP_70870_CHP3.5_RAW_219.sgy	3/28/2014
EX1402L2_SBP_70870_CHP3.5_RAW_180.sgy	3/27/2014	EX1402L2_SBP_70870_CHP3.5_RAW_220.sgy	3/28/2014
EX1402L2_SBP_70870_CHP3.5_RAW_181.sgy	3/27/2014	EX1402L2_SBP_70870_CHP3.5_RAW_221.sgy	3/28/2014
EX1402L2_SBP_70870_CHP3.5_RAW_182.sgy	3/27/2014	EX1402L2_SBP_70870_CHP3.5_RAW_222.sgy	3/28/2014
EX1402L2_SBP_70870_CHP3.5_RAW_183.sgy	3/27/2014	EX1402L2_SBP_70870_CHP3.5_RAW_223.sgy	3/28/2014
EX1402L2_SBP_70870_CHP3.5_RAW_184.sgy	3/27/2014	EX1402L2_SBP_70870_CHP3.5_RAW_224.sgy	3/28/2014
EX1402L2_SBP_70870_CHP3.5_RAW_185.sgy	3/27/2014	EX1402L2_SBP_70870_CHP3.5_RAW_225.sgy	3/28/2014
EX1402L2_SBP_70870_CHP3.5_RAW_186.sgy	3/27/2014	EX1402L2_SBP_70870_CHP3.5_RAW_226.sgy	3/28/2014
EX1402L2_SBP_70870_CHP3.5_RAW_187.sgy	3/27/2014	EX1402L2_SBP_70870_CHP3.5_RAW_227.sgy	3/28/2014
EX1402L2_SBP_70870_CHP3.5_RAW_188.sgy	3/27/2014	EX1402L2_SBP_70870_CHP3.5_RAW_228.sgy	3/28/2014
EX1402L2_SBP_70870_CHP3.5_RAW_189.sgy	3/27/2014	EX1402L2_SBP_70870_CHP3.5_RAW_229.sgy	3/28/2014
EX1402L2_SBP_70870_CHP3.5_RAW_190.sgy	3/27/2014	EX1402L2_SBP_70870_CHP3.5_RAW_230.sgy	3/28/2014
EX1402L2_SBP_70870_CHP3.5_RAW_191.sgy	3/27/2014	EX1402L2_SBP_70870_CHP3.5_RAW_231.sgy	3/28/2014
EX1402L2_SBP_70870_CHP3.5_RAW_192.sgy	3/27/2014	EX1402L2_SBP_70870_CHP3.5_RAW_232.sgy	3/28/2014
EX1402L2_SBP_70870_CHP3.5_RAW_193.sgy	3/27/2014	EX1402L2_SBP_70870_CHP3.5_RAW_233.sgy	3/28/2014
EX1402L2_SBP_70870_CHP3.5_RAW_194.sgy	3/27/2014	EX1402L2_SBP_70870_CHP3.5_RAW_234.sgy	3/29/2014
EX1402L2_SBP_70870_CHP3.5_RAW_195.sgy	3/27/2014	EX1402L2_SBP_70870_CHP3.5_RAW_235.sgy	3/29/2014
EX1402L2_SBP_70870_CHP3.5_RAW_196.sgy	3/27/2014	EX1402L2_SBP_70870_CHP3.5_RAW_236.sgy	3/29/2014
EX1402L2_SBP_70870_CHP3.5_RAW_197.sgy	3/27/2014	EX1402L2_SBP_70870_CHP3.5_RAW_237.sgy	3/29/2014
EX1402L2_SBP_70870_CHP3.5_RAW_198.sgy	3/27/2014	EX1402L2_SBP_70870_CHP3.5_RAW_238.sgy	3/29/2014
EX1402L2_SBP_70870_CHP3.5_RAW_199.sgy	3/27/2014	EX1402L2_SBP_70870_CHP3.5_RAW_239.sgy	3/29/2014
EX1402L2_SBP_70870_CHP3.5_RAW_200.sgy	3/27/2014	EX1402L2_SBP_70870_CHP3.5_RAW_240.sgy	3/29/2014
EX1402L2_SBP_70870_CHP3.5_RAW_241.sgy	3/29/2014	EX1402L2_SBP_70870_CHP3.5_RAW_281.sgy	3/31/2014
EX1402L2_SBP_70870_CHP3.5_RAW_242.sgy	3/29/2014	EX1402L2_SBP_70870_CHP3.5_RAW_282.sgy	3/31/2014
EX1402L2_SBP_70870_CHP3.5_RAW_243.sgy	3/29/2014	EX1402L2_SBP_70870_CHP3.5_RAW_283.sgy	3/31/2014

EX1402L2_SBP_70870_CHP3.5_RAW_244.sgy	3/29/2014	EX1402L2_SBP_70870_CHP3.5_RAW_284.sgy	3/31/2014
EX1402L2_SBP_70870_CHP3.5_RAW_245.sgy	3/29/2014	EX1402L2_SBP_70870_CHP3.5_RAW_285.sgy	3/31/2014
EX1402L2_SBP_70870_CHP3.5_RAW_246.sgy	3/29/2014	EX1402L2_SBP_70870_CHP3.5_RAW_286.sgy	3/31/2014
EX1402L2_SBP_70870_CHP3.5_RAW_247.sgy	3/29/2014	EX1402L2_SBP_70870_CHP3.5_RAW_287.sgy	3/31/2014
EX1402L2_SBP_70870_CHP3.5_RAW_248.sgy	3/30/2014	EX1402L2_SBP_70870_CHP3.5_RAW_288.sgy	3/31/2014
EX1402L2_SBP_70870_CHP3.5_RAW_249.sgy	3/30/2014	EX1402L2_SBP_70870_CHP3.5_RAW_289.sgy	4/1/2014
EX1402L2_SBP_70870_CHP3.5_RAW_250.sgy	3/30/2014	EX1402L2_SBP_70870_CHP3.5_RAW_290.sgy	4/1/2014
EX1402L2_SBP_70870_CHP3.5_RAW_251.sgy	3/30/2014	EX1402L2_SBP_70870_CHP3.5_RAW_291.sgy	4/1/2014
EX1402L2_SBP_70870_CHP3.5_RAW_252.sgy	3/30/2014	EX1402L2_SBP_70870_CHP3.5_RAW_292.sgy	4/1/2014
EX1402L2_SBP_70870_CHP3.5_RAW_253.sgy	3/30/2014	EX1402L2_SBP_70870_CHP3.5_RAW_293.sgy	4/1/2014
EX1402L2_SBP_70870_CHP3.5_RAW_254.sgy	3/30/2014	EX1402L2_SBP_70870_CHP3.5_RAW_294.sgy	4/1/2014
EX1402L2_SBP_70870_CHP3.5_RAW_255.sgy	3/30/2014	EX1402L2_SBP_70870_CHP3.5_RAW_295.sgy	4/1/2014
EX1402L2_SBP_70870_CHP3.5_RAW_256.sgy	3/30/2014	EX1402L2_SBP_70870_CHP3.5_RAW_296.sgy	4/1/2014
EX1402L2_SBP_70870_CHP3.5_RAW_257.sgy	3/30/2014	EX1402L2_SBP_70870_CHP3.5_RAW_297.sgy	4/1/2014
EX1402L2_SBP_70870_CHP3.5_RAW_258.sgy	3/30/2014	EX1402L2_SBP_70870_CHP3.5_RAW_298.sgy	4/1/2014
EX1402L2_SBP_70870_CHP3.5_RAW_259.sgy	3/30/2014	EX1402L2_SBP_70870_CHP3.5_RAW_299.sgy	4/1/2014
EX1402L2_SBP_70870_CHP3.5_RAW_260.sgy	3/30/2014	EX1402L2_SBP_70870_CHP3.5_RAW_300.sgy	4/2/2014
EX1402L2_SBP_70870_CHP3.5_RAW_261.sgy	3/30/2014	EX1402L2_SBP_70870_CHP3.5_RAW_301.sgy	4/2/2014
EX1402L2_SBP_70870_CHP3.5_RAW_262.sgy	3/30/2014	EX1402L2_SBP_70870_CHP3.5_RAW_302.sgy	4/2/2014
EX1402L2_SBP_70870_CHP3.5_RAW_263.sgy	3/30/2014	EX1402L2_SBP_70870_CHP3.5_RAW_303.sgy	4/2/2014
EX1402L2_SBP_70870_CHP3.5_RAW_264.sgy	3/30/2014	EX1402L2_SBP_70870_CHP3.5_RAW_304.sgy	4/2/2014
EX1402L2_SBP_70870_CHP3.5_RAW_265.sgy	3/30/2014	EX1402L2_SBP_70870_CHP3.5_RAW_305.sgy	4/2/2014
EX1402L2_SBP_70870_CHP3.5_RAW_266.sgy	3/30/2014	EX1402L2_SBP_70870_CHP3.5_RAW_306.sgy	4/2/2014
EX1402L2_SBP_70870_CHP3.5_RAW_267.sgy	3/30/2014	EX1402L2_SBP_70870_CHP3.5_RAW_307.sgy	4/2/2014
EX1402L2_SBP_70870_CHP3.5_RAW_268.sgy	3/30/2014	EX1402L2_SBP_70870_CHP3.5_RAW_308.sgy	4/2/2014
EX1402L2_SBP_70870_CHP3.5_RAW_269.sgy	3/30/2014	EX1402L2_SBP_70870_CHP3.5_RAW_309.sgy	4/2/2014
EX1402L2_SBP_70870_CHP3.5_RAW_270.sgy	3/30/2014	EX1402L2_SBP_70870_CHP3.5_RAW_310.sgy	4/2/2014
EX1402L2_SBP_70870_CHP3.5_RAW_271.sgy	3/30/2014	EX1402L2_SBP_70870_CHP3.5_RAW_311.sgy	4/2/2014
EX1402L2_SBP_70870_CHP3.5_RAW_272.sgy	3/31/2014	EX1402L2_SBP_70870_CHP3.5_RAW_312.sgy	4/2/2014
EX1402L2_SBP_70870_CHP3.5_RAW_273.sgy	3/31/2014	EX1402L2_SBP_70870_CHP3.5_RAW_313.sgy	4/2/2014
EX1402L2_SBP_70870_CHP3.5_RAW_274.sgy	3/31/2014	EX1402L2_SBP_70870_CHP3.5_RAW_314.sgy	4/2/2014
EX1402L2_SBP_70870_CHP3.5_RAW_275.sgy	3/31/2014	EX1402L2_SBP_70870_CHP3.5_RAW_315.sgy	4/2/2014
EX1402L2_SBP_70870_CHP3.5_RAW_276.sgy	3/31/2014	EX1402L2_SBP_70870_CHP3.5_RAW_316.sgy	4/2/2014
EX1402L2_SBP_70870_CHP3.5_RAW_277.sgy	3/31/2014	EX1402L2_SBP_70870_CHP3.5_RAW_317.sgy	4/3/2014
EX1402L2_SBP_70870_CHP3.5_RAW_278.sgy	3/31/2014		
EX1402L2_SBP_70870_CHP3.5_RAW_279.sgy	3/31/2014		
EX1402L2_SBP_70870_CHP3.5_RAW_280.sgy	3/31/2014		

List of Knudsen SBP files (KEB Files)

Name of KEB file	Date Collected
EX1402L2_SBP_000.keb	3/19/2014
EX1402L2_SBP_005.keb	3/20/2014
EX1402L2_SBP_009.keb	3/20/2014
EX1402L2_SBP_019.keb	3/21/2014
EX1402L2_SBP_035.keb	3/21/2014
EX1402L2_SBP_041.keb	3/22/2014
EX1402L2_SBP_071.keb	3/23/2014
EX1402L2_SBP_097.keb	3/24/2014
EX1402L2_SBP_118.keb	3/25/2014
EX1402L2_SBP_134.keb	3/26/2014
EX1402L2_SBP_161.keb	3/27/2014
EX1402L2_SBP_177.keb	3/27/2014
EX1402L2_SBP_202.keb	3/28/2014
EX1402L2_SBP_219.keb	3/28/2014
EX1402L2_SBP_229.keb	3/29/2014
EX1402L2_SBP_239.keb	3/30/2014
EX1402L2_SBP_254.keb	3/31/2014
EX1402L2_SBP_272.keb	3/31/2014
EX1402L2_SBP_284.keb	4/1/2014
EX1402L2_SBP_293.keb	4/2/2014
EX1402L2_SBP_300.keb	4/2/2014
EX1402L2_SBP_314.keb	4/3/2014

SVP Log

EX1402 LEG II SVP LOG						
DATE (UTC)	TIME (UTC)	XBT/CTD FILE NAME	LAT (WGS84) (dec min)	LONG (WGS84) (dec min)	PROBE TYPE	NOTES
3/19/2014	22:19:40	EX1402L2_XBT001_140319	27 39.63232N	94 1.95117W	Deep Blue	
3/19/2014	23:22:41	EX1402L2_XBT002_140319	27 39.63232N	94 1.95117W	Deep Blue	
3/20/2014	02:33:16	EX1402L2_XBT003_140320	27 39.63232N	94 1.95117W	Deep Blue	
3/20/2014	04:47:51	EX1402L2_XBT004_140320	27 39.63232N	94 1.95117W	Deep Blue	
3/20/2014	04:40:26	EX1402L2_XBT005_140320	27 39.63232N	94 1.95117W	Deep Blue	
3/20/2014	10:54:15	EX1402L2_XBT006_140320	27 39.63232N	94 1.9517W	Deep Blue	
3/20/2014	14:15:23	EX1402L2_XBT007_140320	27 39.63232N	94 1.95117W	Deep Blue	
3/20/2014	17:53:46	EX1402L2_XBT008_140320	27 5.77832N	93 17.76465W	Deep Blue	
3/20/2014	21:08:23	EX1402L2_XBT009_140320	27 7.60718N	93 43.65918W	Deep Blue	
3/21/2014	00:21:56	EX1402L2_XBT010_140321	27 5.80151N	93 43.69238W	Deep Blue	
3/21/2014	03:17:42	EX1402L2_XBT011_140321	27 3.94507N	93 33.05859W	Deep Blue	
3/21/2014	05:57:24	EX1402L2_XBT012_140321	27 2.01709N	93 54.44141W	Deep Blue	
3/21/2014	06:23:38	EX1402L2_XBT013_140321	27 2.0188N	93 50.28223W	Deep Blue	

EX1402 LEG II SVP LOG						
DATE (UTC)	**TIME (UTC)**	**XBT/CTD FILE NAME**	**LAT (WGS84) (dec min)**	**LONG (WGS84) (dec min)**	**PROBE TYPE**	**NOTES**
3/21/2014	10:32:25	EX1402L2_XBT014_140321	27 9.2666N	93 52.6543W	Deep Blue	
3/21/2014	13:58:34	EX1402L2_XBT015_140321	27 9.13159N	93 19.89844W	Deep Blue	
3/21/2014	16:41:17	EX1402L2_XBT016_140321	27 10.97681N	93 21.37109W	Deep Blue	
3/21/2014	23:51:28	EX1402L2_XBT017_140321	27 12.61963N	93 42.64844W	Deep Blue	
3/22/2014	03:10:20	EX1402L2_XBT018_140322	27 14.04907N	93 17.28711W	Deep Blue	
3/22/2014	06:13:28	EX1402L2_XBT019_140322	27 14.1748N	93 46.60156W	Deep Blue	XBT_19 received a failure notice after the termination of the cast and deployed XBT_20 and applied it to Line 0053
3/22/2014	06:27:10	EX1402L2_XBT020_140322	27 14.19141N	93 48.77051W	Deep Blue	
3/22/2014	09:16:42	EX1402L2_XBT021_140322	27 15.78613N	93 34.64355W	Deep Blue	
3/22/2014	12:42:09	EX1402L2_XBT022_140322	27 17.17285N	93 24.8916W	Deep Blue	
3/22/2014	16:18:35	EX1402L2_XBT023_140322	27 18.86523N	93 53.7998W	Deep Blue	
3/22/2014	20:47:43	EX1402L2_XBT024_140322	27 19.04956N	93 10.54004W	Deep Blue	
3/22/2014	23:49:29	EX1402L2_XBT025_140322	27 19.604N	92 40.96387W	Deep Blue	
3/23/2014	02:37:39	EX1402L2_XBT026_140323	27 20.07861N	92 15.70117W	Deep Blue	
3/23/2014	05:30:44	EX1402L2_XBT027_140323	27 20.57495N	91 48.38574W	Deep Blue	
3/23/2014	09:05:19	EX1402L2_XBT028_140323	27 22.51562N	91 45.70215W	Deep Blue	
3/23/2014	11:39:53	EX1402L2_XBT029_140323	27 21.66284N	92 10.90527W	Deep Blue	
3/23/2014	14:58:52	EX1402L2_XBT030_140323	27 21.36914N	92 39.62793W	Deep Blue	
3/23/2014	18:13:55	EX1402L2_XBT031_140323	27 21.52783N	92 59.87012W	Deep Blue	
3/23/2014	21:29:19	EX1402L2_XBT032_140323	27 21.82202N	92 29.37598W	Deep Blue	
3/24/2014	01:28:54	EX1402L2_XBT033_140324	27 24.64697N	91 51.3291W	Deep Blue	
3/24/2014	04:29:53	EX1402L2_XBT034_140324	27 28.47119N	91 22.75195W	Deep Blue	
3/24/2014	07:11:25	EX1402L2_XBT035_140324	27 30.2312N	91 32.01367W	Deep Blue	
3/24/2014	10:49:50	EX1402L2_XBT036_140324	27 27.49951N	92 6.58984W	Deep Blue	
3/24/2014	15:17:01	EX1402L2_XBT037_140324	27 28.40308N	92 45.70117W	Deep Blue	
3/24/2014	18:21:27	EX1402L2_XBT038_140324	27 28.09302N	93 13.30664W	Deep Blue	
3/24/2014	21:29:11	EX1402L2_XBT039_140324	27 25.78662N	93 41.8291W	Deep Blue	
3/25/2014	00:52:30	EX1402L2_XBT040_140325	27 24.59741N	93 40.40723W	Deep Blue	
3/25/2014	03:52:15	EX1402L2_XBT041_140325	27 23.67212N	93 17.12793W	Deep Blue	
3/25/2014	07:32:21	EX1402L2_XBT042_140325	27 26.14258N	92 47.89551W	Deep Blue	
3/25/2014	10:33:39	EX1402L2_XBT043_140325	27 27.76343N	92 59.04004W	Deep Blue	
3/25/2014	16:04:04	EX1402L2_XBT044_140325	27 24.67017N	93 21.98145W	Deep Blue	
3/25/2014	19:06:01	EX1402L2_XBT045_140325	27 26.58301N	92 58.20898W	Deep Blue	
3/25/2014	21:41:51	EX1402L2_XBT046_140325	27 22.3147N	93 11.71289W	Deep Blue	
3/26/2014	00:50:02	EX1402L2_XBT047_140326	27 23.50342N	93 40.19922W	Deep Blue	

EX1402 LEG II SVP LOG						
DATE (UTC)	**TIME (UTC)**	**XBT/CTD FILE NAME**	**LAT (WGS84) (dec min)**	**LONG (WGS84) (dec min)**	**PROBE TYPE**	**NOTES**
3/26/2014	03:47:12	EX1402L2_XBT048_140326	27 22.36353N	93 43.53027W	Deep Blue	
3/26/2014	07:28:34	EX1402L2_XBT049_140326	27 20.19653N	93 53.4873W	Deep Blue	
3/26/2014	10:33:41	EX1402L2_XBT050_140326	27 22.12183N	93 30.62793W	Deep Blue	
3/26/2014	14:43:27	EX1402L2_XBT051_140326	27 24.20312N	92 54.83691W	Deep Blue	
3/26/2014	17:48:56	EX1402L2_XBT052_140326	27 30.83496N	92 45.07227W	Deep Blue	
3/26/2014	20:31:07	EX1402L2_XBT053_140326	27 30.68799N	92 59.54395W	Deep Blue	
3/26/2014	23:44:08	EX1402L2_XBT054_140326	27 28.35059N	93 27.06152W	Deep Blue	
3/27/2014	05:04:47	EX1402L2_XBT055_140327	27 28.51392N	93 35.25195W	Deep Blue	
3/27/2014	08:41:04	EX1402L2_XBT056_140327	27 29.72803N	93 36.00488W	Deep Blue	
3/27/2014	11:47:34	EX1402L2_XBT057_140327	27 30.72021N	93 39.22168W	Deep Blue	
3/27/2014	22:03:15	EX1402L2_XBT058_140327	27 36.79883N	92 57.1748W	Deep Blue	
3/28/2014	03:18:56	EX1402L2_XBT059_140328	27 34.92773N	92 55.64746W	Deep Blue	
3/28/2014	11:49:55	EX1402L2_XBT060_140328	27 45.80469N	92 40.08398W	Deep Blue	
3/28/2014	17:05:37	EX1402L2_XBT061_140328	27 44.00903N	92 38.76855W	Deep Blue	
3/29/2014	00:45:48	EX1402L2_XBT062_140329	27 26.90601N	92 37.18066W	Deep Blue	
3/29/2014	03:44:18	EX1402L2_XBT063_140329	27 29.09326N	92 8.54688W	Deep Blue	
3/29/2014	06:31:06	EX1402L2_XBT064_140329	27 31.17432N	91 41.45508W	Deep Blue	
3/29/2014	09:49:15	EX1402L2_XBT065_140329	27 34.19165N	91 25.53418W	Deep Blue	
3/29/2014	12:31:05	EX1402L2_XBT066_140329	27 32.18335N	91 51.07227W	Deep Blue	
3/29/2014	15:38:21	EX1402L2_XBT067_140329	27 30.52124N	92 8.62891W	Deep Blue	
3/29/2014	19:34:36	EX1402L2_XBT068_140329	27 31.68115N	92 12.35547W	Deep Blue	
3/29/2014	23:12:46	EX1402L2_XBT069_140329	27 34.19824N	91 38.7627W	Deep Blue	
3/30/2014	02:26:19	EX1402L2_XBT070_140330	27 34.54492N	91 54.56348W	Deep Blue	Was not applied because of spike.
3/30/2014	02:30:23	EX1402L2_XBT071_140330	27 34.48389N	91 55.20605W	Deep Blue	
3/30/2014	05:32:12	EX1402L2_XBT072_140330	27 34.36475N	92 18.70117W	Deep Blue	
3/30/2014	08:50:09	EX1402L2_XBT073_140330	27 36.58032N	91 47.35645W	Deep Blue	
3/30/2014	11:50:22	EX1402L2_XBT074_140330	27 37.65552N	91 49.17871W	Deep Blue	
3/30/2014	15:15:55	EX1402L2_XBT075_140330	27 35.35938N	92 21.89258W	Deep Blue	
3/30/2014	20:24:22	EX1402L2_XBT076_140330	27 36.68579N	92 17.27441W	Deep Blue	
3/30/2014	23:21:41	EX1402L2_XBT077_140330	27 38.83984N	91 48.68164W	Deep Blue	
3/31/2014	02:54:09	EX1402L2_XBT078_140331	27 37.59375N	92 13.49707W	Deep Blue	Terminated and not applied because of spike.
3/31/2014	02:57:32	EX1402L2_XBT079_140331	27 37.55566N	92 14.04492W	Deep Blue	
3/31/2014	06:20:25	EX1402L2_XBT080_140331	27 36.88574N	92 36.80469W	Deep Blue	
3/31/2014	09:36:18	EX1402L2_XBT081_140331	27 39.29663N	92 4.89258W	Deep Blue	
3/31/2014	13:47:12	EX1402L2_XBT082_140331	27 40.41187N	92 4.85645W	Deep Blue	
03/31/2014	17:00:43	EX1402L2_XBT083_140331	27 37.87183N	92 35.80078W	Deep Blue	

EX1402 LEG II SVP LOG						
DATE (UTC)	**TIME (UTC)**	**XBT/CTD FILE NAME**	**LAT (WGS84) (dec min)**	**LONG (WGS84) (dec min)**	**PROBE TYPE**	**NOTES**
3/31/2014	19:46:57	EX1402L2_XBT084_140331	27 31.97925N	92 34.33691W	Deep Blue	
3/31/2014	23:00:43	EX1402L2_XBT085_140331	27 29.64111N	92 33.98633W	Deep Blue	
4/1/2014	02:23:36	EX1402L2_XBT086_140401	27 27.72949N	92 39.58301W	Deep Blue	
4/1/2014	05:20:28	EX1402L2_XBT087_140401	27 31.07349N	93 9.5625W	Deep Blue	
4/1/2014	08:52:05	EX1402L2_XBT088_140401	27 31.45557N	93 13.60547W	Deep Blue	
4/1/2014	12:02:43	EX1402L2_XBT089_140401	27 32.15186N	93 19.17871W	Deep Blue	
4/1/2014	16:48:15	EX1402L2_XBT090_140401	27 38.44946N	92 51.12402W	Deep Blue	
4/1/2014	20:13:16	EX1402L2_XBT091_140401	27 40.3833N	92 16.99023W	Deep Blue	
4/1/2014	23:34:12	EX1402L2_XBT092_140401	27 43.13452N	91 44.10645W	Deep Blue	
4/2/2014	02:41:50	EX1402L2_XBT093_140402	27 45.41357N	91 9.9502W	Deep Blue	
4/2/2014	05:51:11	EX1402L2_XBT094_140402	27 55.09277N	90 34.42676W	Deep Blue	
4/2/2014	08:56:41	EX1402L2_XBT095_140402	28 1.55737N	90 6.04297W	Deep Blue	
4/2/2014	11:47:49	EX1402L2_XBT096_140402	28 17.32886N	89 44.65625W	Deep Blue	
4/2/2014	15:15:33	EX1402L2_XBT097_140402	28 29.42554N	89 15.52637W	Deep Blue	
4/2/2014	18:22:45	EX1402L2_XBT098_140402	28 35.94531N	88 46.97754W	Deep Blue	
4/2/2014	20:47:36	EX1402L2_XBT099_140402	28 44.48901N	88 26.82617W	Deep Blue	
4/2/2014	23:55:51	EX1402L2_XBT100_140402	29 0.93604N	88 2.75879W	Deep Blue	
4/3/2014	02:06:05	EX1402L2_XBT101_140403	29 11.4978N	87 47.23438W	Deep Blue	
4/3/2014	04:53:28	EX1402L2_XBT102_140403	29 26.59717N	87 46.62207W	Deep Blue	

Appendix F – Weather Log

EX1402L2 WEATHER LOG									
LOCAL DATE	**LOCAL TIME**	**UTC TIME**	**UTC DATE**	**WIND DIRECTION (deg)**	**WIND SPEED (kt)**	**WAVE HEIGHT (ft)**	**SWELL DIRECTION (deg)**	**SWELL HEIGHT (ft)**	**NOTES**
3/19/14	1800	2300	3/19/2014	130	8	1-2	170/200	2-3	
3/19/14	2100	0200	3/20/2014	150	8	1-2	160/210	2-4	
3/20/14	0000	0500	3/20/2014	115	5	1-3	160	2-3	
3/20/14	0300	0800	3/20/2014	105	<5	0-1	145	0-2	
3/20/14	0600	1100	3/20/2014	020	3	0-1	145	1-2	
3/20/14	0900	1400	3/20/2014	045	14	0-1	120	1-2	
3/20/14	1200	1700	3/20/2014	060	10	1-2	040	2-3	
3/20/14	1500	2000	3/20/2014	075	5	1-2	130	1-3	
3/20/14	1800	2300	3/20/2014	055	5	1-2	130	2-3	
3/20/14	2100	0200	3/21/2014	060	7	0-1	130	1-3	
3/21/14	0000	0500	3/21/2014	090	10	0-1	150	2-3	
3/21/14	0300	0800	3/21/2014	n/a	n/a	0-1	120	1-2	
3/21/14	0600	1100	3/21/2014	120	12	0-1	120	1-2	
3/21/14	0900	1400	3/21/2014	130	12	1-2	120	1-2	
3/21/14	1200	1700	3/21/2014	125	10	1-2	130	1-3	
3/21/14	1500	2000	3/21/2014	130	15	1-2	130	1-3	
3/21/14	1800	2300	3/21/2014	135	17	2-3	130	2-3	
3/21/14	2100	0200	3/22/2014	140	14	1-2	120	2-3	
3/22/14	0000	0500	3/22/2014	135	12	0-1	120	1-2	
3/22/14	0300	0800	3/22/2014	155	10	0-1	120	1	
3/22/14	0600	1100	3/22/2014	180	9	0-1	120	1-2	
3/22/14	0900	1400	3/22/2014	155	11	0-1	120	1-2	
3/22/14	1200	1700	3/22/2014	160	12	1	130	1-2	
3/22/14	1500	2000	3/22/2014	190	5	1	130	1-2	
3/22/14	1800	2300	3/22/2014	165	7	0-1	130	1-2	
3/22/14	2100	0200	3/23/2014	125	7	0-1	130	1-2	
3/23/14	0000	0500	3/23/2014	120	10	1	130	1	
3/23/14	0300	0800	3/23/2014	145	5	0	160	1	
3/23/14	0600	1100	3/23/2014	230	5	0-1	160	0-1	
3/23/14	0900	1400	3/23/2014	320	2	0-1	160	0-1	
3/23/14	1200	1700	3/23/2014	030	5	1	130	1	
3/23/14	1500	2000	3/23/2014	-	-	1-2	120	1	
3/23/14	1800	2300	3/23/2014	045	10	1-2	040	1-2	
3/23/14	2100	0200	3/24/2014	030	15	1-2	050	1-2	
3/24/14	0000	0500	3/24/2014	030	20	2-3	040	1-3	
3/24/14	0300	0800	3/24/2014	055	20	2-3	020	2-4	
3/24/14	0600	1100	3/24/2014	070	17	2-3	020	2-4	

EX1402L2 WEATHER LOG									
LOCAL DATE	LOCAL TIME	UTC TIME	UTC DATE	WIND DIRECTION (deg)	WIND SPEED (kt)	WAVE HEIGHT (ft)	SWELL DIRECTION (deg)	SWELL HEIGHT (ft)	NOTES
3/24/14	0900	1400	3/24/2014	065	17	2-3	050	3-5	
3/24/14	1200	1700	3/24/2014	070	10	1-3	030/000	2-4	
3/24/14	1500	2000	3/24/2014	045	5	1-3	040/340	3-4	
3/24/14	1800	2300	3/24/2014	045	16	2-3	040	3-4	
3/24/14	2100	0200	3/25/2014	040	20	2-3	040	3-5	
3/25/14	0000	0500	3/25/2014	015	15	1-3	055	2-4	
3/25/14	0300	0800	3/25/2014	005	25	2-4	040/070	4/3	
3/25/14	0600	1100	3/25/2014	040	19	2-4	040	3-4	
3/25/14	0900	1400	3/25/2014	030	22	4-6	030	4-6	
3/25/14	1200	1700	3/25/2014	025	25	2-3	035/070	5/3	
3/25/14	1500	2000	3/25/2014	030	22	3-4	020/065	5-6/3-4	
3/25/14	1800	2300	3/25/2014	045	23	3-4	020/65	4-5	
3/25/14	2100	0200	3/26/2014	050	17	3-4	045/000	4-6	
3/26/14	0000	0500	3/26/2014	065	20	3-4	070	4-6	
3/26/14	0300	0800	3/26/2014	090	23	2-3	070	3-5	
3/26/14	0600	1100	3/26/2014	080	21	2-3	070	3-5	
3/26/14	0900	1400	3/26/2014	107	20	2-4	060/110	4-6	
3/26/14	1200	1700	3/26/2014	075	20	2-4	065/150	4-6	
3/26/14	1500	2000	3/26/2014	110	25	3-4	050/140	4-6	
3/26/14	1800	2300	3/26/2014	125	10	3-4	060/120	6-7	
3/26/14	2100	0200	3/27/2014	130	21	2-4	060/120	4-6	
3/27/14	0000	0500	3/27/2014	140	3	3-4	040/110	5-7	
3/27/14	0300	0800	3/27/2014	140	30	3-4	110	5-7	
3/27/14	0600	1100	3/27/2014	145	16	4-5	110	5-7	
3/27/14	0900	1400	3/27/2014	125	17	1-2	140	5-7	
3/27/14	1200	1700	3/27/2014	140	25	3	070/110	6-8	
3/27/14	1500	2000	3/27/2014	140	20	2-4	120	6-8	
3/27/14	1800	2300	3/27/2014	130	18	2-4	120	6-8	
3/27/14	2100	0200	3/28/2014	140	20	2-4	140	6-8	
3/28/2014	0000	0500	3/28/2014	150	20	2-3	125	4-6	
3/28/2014	0300	0800	3/28/2014	150	25	2-3	130	5-6	
3/28/2014	0600	1100	3/28/2014	170	14	2-3	130	5-6	
3/28/2014	0900	1400	3/28/2014	220	6	1-2	140	5-7	
3/28/2014	1200	1700	3/28/2014	140	15	2-3	130	4-6	
3/28/2014	1500	2000	3/28/2014	150	15	1-3	120	4-6	
3/28/2014	1800	2300	3/28/2014	150	12	1-2	130	4-5	
3/28/2014	2100	0200	3/29/2014	180	14	1-2	130	4-5	
3/29/2014	0000	0500	3/29/2014	160	10	2-3	120	3-5	
3/29/2014	0300	0800	3/29/2014	195	10	1-3	120	3-4	

EX1402L2 WEATHER LOG									
LOCAL DATE	LOCAL TIME	UTC TIME	UTC DATE	WIND DIRECTION (deg)	WIND SPEED (kt)	WAVE HEIGHT (ft)	SWELL DIRECTION (deg)	SWELL HEIGHT (ft)	NOTES
3/29/2014	0600	1100	3/29/2014	325	16	1-3	120	2-4	
3/29/2014	0900	1400	3/29/2014	18.9	17	1-2	300/100	2-4	
3/29/2014	1200	1700	3/29/2014	350	20	1-2	10/065	2-4	
3/29/2014	1500	2000	3/29/2014	000	25	1-3	025	3-4	
3/29/2014	1800	2300	3/29/2014	350	20	2-3	000	3-4	
3/29/2014	2100	0200	3/30/2014	010	19	1-2	320	3-5	
3/30/2014	0000	0500	3/30/2014	040	28	2-3	010/040	2-4	
3/30/2014	0300	0800	3/30/2014	020	25	2-3	010	3-4	
3/30/2014	0600	1100	3/30/2014	050	17	2-3	010	2-4	
3/30/2014	0900	1400	3/30/2014	050	15	1-2	030	2-4	
3/30/2014	1200	1700	3/30/2014	065	15	1-3	050	2-4	
3/30/2014	1500	2000	3/30/2014	095	12	2-3	050	3-5	
3/30/2014	1800	2300	3/30/2014	080	13	2-3	050	3-4	
3/30/2014	2100	0200	3/31/2014	108	13	1-2	050	2-4	
3/31/2014	0000	0500	3/31/2014	115	15	1-2	050	2-4	
3/31/2014	0300	0800	3/31/2014	140	15	1-2	050	2-3	
3/31/2014	0600	1100	3/31/2014	160	18	1-2	050	2-3	
3/31/2014	0900	1400	3/31/2014	129	14	1-2	150	2-3	
3/31/2014	1200	1700	3/31/2014	140	15	2-3	130	2-3	
3/31/2014	1500	2000	3/31/2014	140	15	2-3	140	1-3	
3/31/2014	1800	2300	3/31/2014	30	15	1-2	140	2-3	
3/31/2014	2100	0200	4/1/2014	120	13	1-2	120	2-3	
4/1/2014	0000	0500	4/1/2014	135	15	1-2	130	1-3	
4/1/2014	0300	0800	4/1/2014	140	10	1-2	140	1-3	
4/1/2014	0600	1100	4/1/2014	105	10	1-2	140	1-3	
4/1/2014	0900	1400	4/1/2014	150	15	1-3	130	1-3	
4/1/2014	1200	1700	4/1/2014	145	13	1-2	120	1-2	
4/1/2014	1500	2000	4/1/2014	120	10	1-2	120/080	1-2	
4/1/2014	1800	2300	4/1/2014	130	15	1-2	120	2-3	
4/1/2014	2100	0200	4/2/2014	120	14	1-2	130	2-3	
4/2/2014	0000	0500	4/2/2014	130	15	1-2	120	1-3	
4/2/2014	0300	0800	4/2/2014	130	13	1-2	120	1-3	
4/2/2014	0600	1100	4/2/2014	150	16	1-2	120	1-3	
4/2/2014	0900	1400	4/2/2014	160	17	1-2	120	1-3	
4/2/2014	1200	1700	4/2/2014	090	5	1-2	100	1-3	
4/2/2014	1500	2000	4/2/2014	120	15	1-2	090	1-3	
4/2/2014	1800	2300	4/2/2014	115	19	1-2	120	1-3	
4/2/2014	2100	0200	4/3/2014	127	20	1-2	110	1-3	

Appendix G - Acronyms and abbreviations

BOEM: Bureau of Ocean Energy Management
CCOM: Center for Coastal and Ocean Mapping (UNH)
CIOERT : Cooperative Institute for Ocean Exploration, Research, and Technology
CTD: Conductivity, Temperature, Depth
ERT Inc: Earth Resources Technologies, Inc GSO: Graduate School of Oceanography (URI)
JHC: Joint Hydrographic Center (UNH)
MBES: Multibeam Echo Sounder
NCCOS: National Centers for Coastal Ocean Science
NCDDC: National Coastal Data Development Center
NGDC: National Geophysical Data Center
NMFS: National Marine Sanctuary Program
NOAA: National Oceanic and Atmospheric Administration
OER: Office of Ocean Exploration and Research
OMAO: Office of Marine and Aviation Operations
SCS: Shipboard Computer System
SEFSC: Southeast Fisheries Science Center
SOP: Standard Operating Procedure
SST: Senior Survey Technician
ST: Survey Technician
UCAR: University Corporation for Atmospheric Research
UNH: University of New Hampshire
XBT: Expendable Bathy Thermograph

Appendix H – Software Table

Software	Version	Computer	License	Expiration Date	Agreements	Hot fix	Contract Duration	Warranty Expiration	Contact	Notes
SIS EM 302	3.9.2	Multibeam		N/A	N/A	N/A	No info available	No info available	Email:tony.dahlheim@kongsberg.com	purchased & maintained by OER personel
Velocipy	13.2 (r4476)	CTD		N/A	N/A	N/A	N/A	N/A	Support email:km.support.lynnwood@kongsberg.com	
POS Controller/Applanix	320 MV V4 SN# 2572 Firmware: 4.0.2.0	EX-Hypack		N/A	N/A	N/A	N/A		NOAA Internal - HSTP Caryn Arnold - 206.526.4762 (caryn.arnold@noaa.gov)	
Caris HIPS	7.1.2	MBPROC1		12/31/2014 Yearly update via website	Service pack 2 (7.0): Upgrade Protection & Technical support	5 (7.0)	5 years for both dongles (2014)		Leon Quick at CARIS customer support (leon.quick@caris.com) Downloads: http://support.caris.com	
	7.1.2	MBPROC2								
	build 337507									
Fledermaus (IVS 3D)	7.3.4c build 371	MBPROC2		8/31/2014		N/A	1 year (09/2015	30-Sep-15	support@ivs3d.com, 1.506.454.4487 License # 1601472614 use dongle ID to download	purchased & maintained by OER personel
	7.3.4c build 371	MBPROC3		8/31/2014	1 yr of support w/ dongle	N/A	1 year (09/2015			

Software	Version	Computer	License	Expiration Date	Agreements	Hot fix	Contract Duration	Warranty Expiration	Contact	Notes
Chart Reprojector	2.0.6	Hypack		N/A	N/A	N/A	N/A		NOAA Internal - HSTP Caryn Arnold - 206.526.4762 (caryn.arnold@noaa.gov)	
KAP Converter	4.0.0.10	N/A		N/A	N/A	N/A	N/A		NOAA Internal - HSTP Caryn Arnold - 206.526.4762 (caryn.arnold@noaa.gov)	
MapInfo	10.5 (NOT YET INSTALLED)	MBPROC1 & 2		2012	Upgrade protection & Technical support	Release Build 35	3 years		NOAA Contact - Kyle Ward (official MapInfo contact through HSD) Kyle.Ward@noaa.gov	
Pydro	13.2	MBPROC2		1/1/2010	N/A	N/A	N/A		NOAA Internal - HSTP Caryn Arnold - 206.526.4762 (caryn.arnold@noaa.gov)	
Hypack ROV	11.01.49	EX-Hypack		9/30/2014	Maintenance	N/A	N/A	8/30/2012	Mike Annis (HSTP POC) Michael.J.Annis@noaa.gov www.hypack.com & http://support.hypack.com/support	
Hypack	11.01.49	EXPlanning		2/18/2012	Maintenance	N/A	N/A	2/18/2012		purchased & maintained by OER personnel

Software	Version	Computer	License	Expiration Date	Agreements	Hot fix	Contract Duration	Warranty Expiration	Contact	Notes	
DP Line Conversion Utility (Matlab)	1.0	N/A		N/A	N/A	N/A	N/A	N/A	OER Internal Program - Mashkoor Malik author		
Seasave	7.22	CTD & Hydrophone		N/A	N/A	www.seabird.com	N/A	N/A	1.425.643.9954 Sea-Bird Electronics, Bellingham WA		
SCS	v4.7.0.2430	SCS-A		N/A	N/A	N/A	N/A	N/A	EEB - Tom Stepka 240.472.5351 (cell) 301.713.7678 (work) 703.641.0195 (home); tom.stepka@noaa.gov		
Hydro_MI	8.3	MBPROC1 & 2		N/A	N/A	N/A	N/A		NOAA Internal - HSTP Caryn Arnold - 206.526.4762		
C-NAV	5.1.18	N/A		7/27/2014	3 years	N/A	3 years		CC Technology - 1.337.261.0660 cnav.support@cctechnol.com		
Snagit	9.1.2	MBPROC1 & SURVEY2		N/A	N/A	N/A	N/A		http://www.techsmith.com		
Knudson SBP, Sounder Suite Echo Control Server and Client	Client: V.272 Server: V.2.77	Knudsen SBP		N/A	N/A	N/A	N/A		Technical Operations Manager - Darren Gibson - 613.267.1165	Server= V.273 Part# D409-04185 Client=V 2.71	software updated March 3, 2013 Chirp Firmware 2.85; Client v2.73; Server v2.77

Software	Version	Computer	License	Expiration Date	Agreements	Hot fix	Contract Duration	Warranty Expiration	Contact	Notes
SonarWiz	5.04.0006	EXSCSCL2		10-Apr-14	EMA 05/14/12	N/A	3 Years	7-Feb-14	Cheasapeake Technologies Inc. Eileen Gann (etgann@chesapeaketech.com)	purchased & maintained by OER personel
Geocoder	4.1 Level 1	MBPROC1, 2, 3		9-Dec-09	CCOM		Annual		Expires every December. This license is shared by CCOM and cannot be distributed.	
ESRI ArcMap	10.1 Build 3035	EXSCSCL2		25-Sep-14	Software Updates	N/A	1 year		http://www.esri.com ESRI - Customer Service Nicholas Twohig (ntwohig@esri.com) 909.793.2853 x2947	purchased & maintained by OER personel
Global Mapper	11.01 Build January 11, 2010	EXSCSCL2		13-Jan-11	Support	N/A	1 year		Global Mapper Support - support@globalmapper.com	
SIMRAD ER60	2.2.1	EXEK60							Email:tony.dahlheim@kongsberg.com Support email:km.support.lynnwood@kongsberg.com	