FINAL CRUISE REPORT
FLORIDA SHELF-EDGE EXPEDITION (FLoSEE)
DEEPWATER HORIZON OIL SPILL RESPONSE:
SURVEY OF DEEPWATER AND MESOPHOTIC REEF ECOSYSTEMS IN THE EASTERN GULF OF MEXICO AND SOUTHEASTERN FLORIDA

R/V SEWARD JOHNSON and JOHNSON-SEA-LINK SUBMERSIBLE
July 9 – August 9, 2010

Conducted by:

Harbor Branch Oceanographic Institute, Florida Atlantic University
NOAA Cooperative Institute for Ocean Exploration, Research, and Technology

Prepared by:

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EXECUTIVE SUMMARY

This report finalizes the compilation of field notes, site notes, and sample data from the Florida Shelf-Edge Expedition (FLoSEE), July 9-August 9, 2010, that was conducted by Harbor Branch Oceanographic Institute, Florida Atlantic University (HBOI-FAU) as part of the Year 2 science plan for the Cooperative Institute for Ocean Exploration, Research, and Technology (CIOERT). As a result of British Petroleum's Deepwater Horizon oil spill, our CIOERT cruise plan was expanded to enable CIOERT scientists to assess the impact of the oil spill and provide data to assist NOAA in background ecosystem assessment, damage assessment, and restoration. A total of 43 scientists, technicians and students from the CIOERT (HBOI-FAU, University of North Carolina at Wilmington, University of Miami, and SRI International), NOAA Fisheries, NOAA NCDDC, NOAA OER, NOAA AOML, and Florida State University conducted this 32 day expedition using HBOI's R/V *Seward Johnson* and *Johnson-Sea-Link* II submersible. The areas of operation focused on deepwater coral reefs and shelf-edge mesophotic reefs along the west Florida shelf, Florida Keys, and southeastern Florida.

The CIOERT scientific themes for this research cruise addressed the following: 1) assessment and documentation of deep-water coral reefs, shelf-edge mesophotic reefs, and essential fish habitat; 2) stress responses of corals and other marine invertebrates exposed to oil and chemical dispersants; 3) assessment of zooplankton and linkages between pelagic and benthic ecosystems; 4) chemical analysis of sessile benthic taxa and biomedical resources; and 5) education and outreach.

During the 32 day expedition, a total of 121 collection sites (stations) were sampled using the *Johnson-Sea-Link* II submersible (50 dives), scuba (8 dives), snorkel (1), CTD rosette (40), MOCNESS net (19), plankton net (1), dipnet (1), and hook and line (1). A total of 165 (1-hr) submersible videotapes were recorded which provides documentation of benthic habitats, sample collections, and quantitative video transects. A total of 6,622 digital photographs were taken during submersible dives and in the laboratory documenting each collected specimen and benthic habitats. A total of 698 samples were collected during the expedition and included the following: Cnidaria (coral, gorgonians, zoanthids)- 199, Porifera (sponges)- 181, Chordata (tunicates, fish)- 35, Echinodermata (sea urchins, starfish, crinoids, sea cucumbers)- 35, Arthropoda (crabs, shrimp)- 20, Bryozoa (moss animals)- 13, Mollusca (bivalves, snails)- 12, Algae- 59, rock and sediment- 75. Each specimen was thoroughly documented and all data and samples are archived at HBOI-FAU. This is Harbor Branch Oceanographic Institutes' Technical Report Number 127.

INTRODUCTION

This report finalizes the compilation and submission of field notes, site notes, and sample data from the Florida Shelf-Edge Expedition (FLoSEE) that was conducted by Harbor Branch Oceanographic Institute, Florida Atlantic University (HBOI-FAU) as part of the Year 2 science plan for the Cooperative Institute for Ocean Exploration, Research, and Technology (CIOERT). The expedition was originally scheduled for spring 2011, however, when the Deepwater Horizon oil spill occurred, permission was requested and approved by NOAA/OAR/OER to conduct the expedition in the summer of 2010 to assess the response of benthic and midwater organisms to the oil spill along the west Florida shelf. The objectives of the field work planned to support CIOERT year 2 projects were incorporated and expanded to enable CIOERT scientists to assess the impact of the oil spill and provide data to assist NOAA in background ecosystem assessment, damage assessment, and restoration. Scientists from the Cooperative Institute for Ocean Exploration, Research, and Technology (HBOI-FAU, UNCW, Univeresity of Miami, and SRI International), NOAA Fisheries, NOAA NCDDC, NOAA OER, NOAA AOML, and Florida State University conducted this 32 day expedition, July 9-August 9, 2010, using HBOI's R/V *Seward Johnson* and *Johnson-Sea-Link* II submersible.

Areas of Operation:

The areas of operation focused on deepwater coral reefs and mesophotic reefs along the east, south, and west Florida shelf and slope. This extends from central eastern Florida through the Straits of Florida to the Tortugas,and eastern Gulf of Mexico along the west Florida shelf and slope. In general, we targeted deepwater reefs, shelf-edge reefs (mesophotic reefs), and hard-bottom essential fish habitat. Selection of specific sites within this region depended in part upon the progression of the oil plume, projected trajectories, and collaboration with NOAA, MMS, USGS and other agencies. Using seafloor maps from previously collected acoustic surveys, *Johnson-Sea-Link* submersible dives were planned to cover areas that had not been explored during previous dives, as well as areas that had been visited during previous expeditions to enable temporal comparisons.

Study Sites:

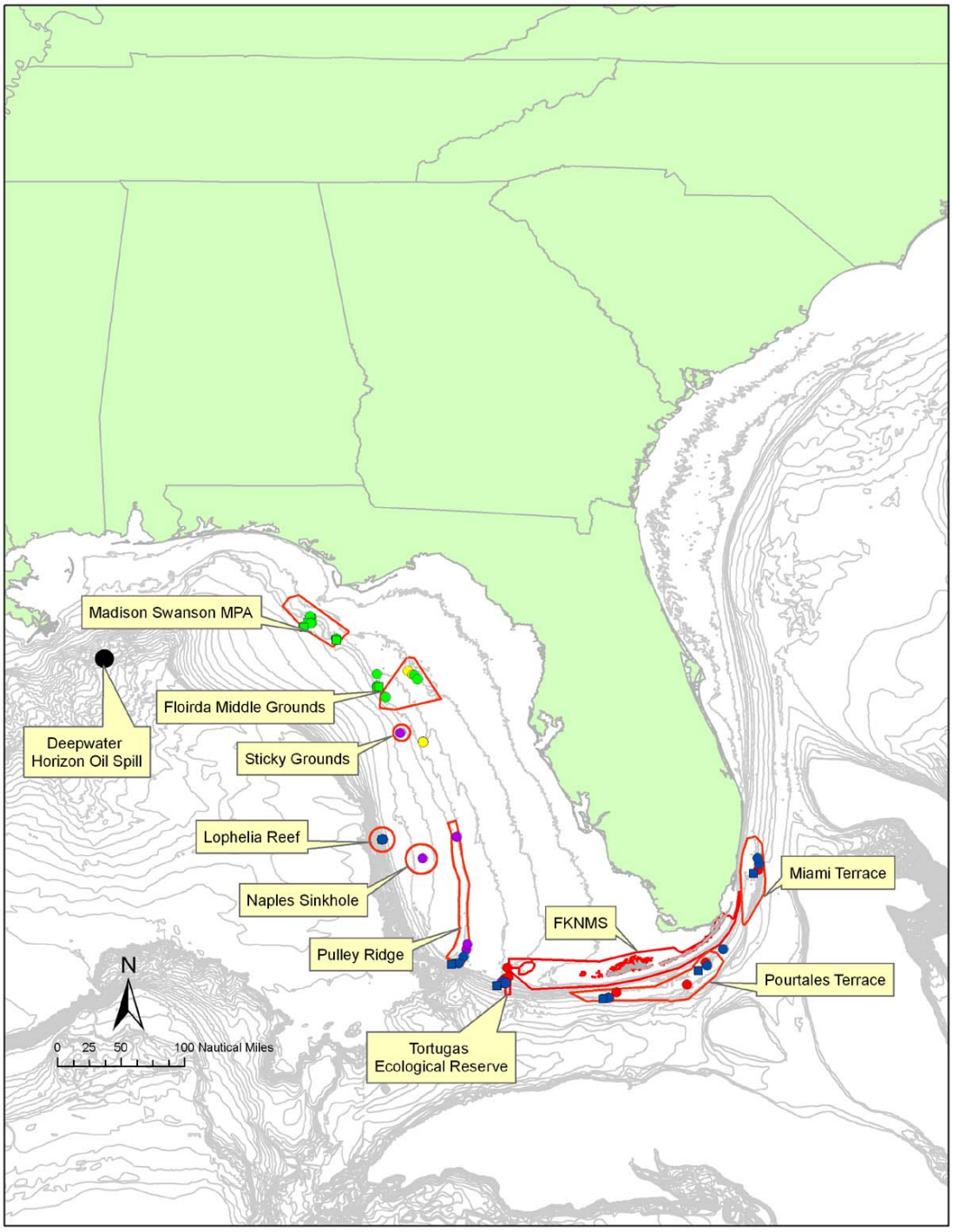

Figure 1. Collection sites using *Johnson-Sea-Link* submersible, scuba, and plankton nets, July 8-August 8, 2010, during HBOI's CIOERT Expedition. Blue dots- Leg 1 sites, Purple- Leg 2, Yellow- media leg, Green- Leg 3, Red- Leg 4.

Itinerary:

Leg 1

7/9/2010: FORT PIERCE, FL, PEPPER PARK REEF
7/10/2010: MIAMI TERRACE
7/11/2010: POURTALES TERRACE
7/12/2010: TORTUGAS BANK AND TORTUGAS ECOLOGICAL RESERVE
7/13/2010: MILLER'S LEDGE (INSIDE AND OUTSIDE TORTUGAS ECOLOGICAL RESERVE)
7/14/2010: POURTALES TERRACE

Leg 2

7/15/2010: PORT: KEY WEST, FL
7/16/2010: MILLER'S LEDGE (INSIDE AND OUTSIDE TORTUGAS ECOLOGICAL RESERVE)
7/17/2010: PULLEY RIDGE SOUTH
7/18/2010: NAPLES SINK HOLE & PULLEY RIDGE NORTH
7/19/2010: WEST FLORIDA LITHOHERM
7/20/2010: STICKY GROUNDS

Media Leg

7/21/2010: PORT: ST. PETERSBURG, FL
7/22/2010: WEST FLORIDA SHELF: THE LEDGES
7/23/2010: PORT: ST. PETERSBURG, FL
7/24/2010: FLORIDA MIDDLE GROUNDS

Leg 3

7/25/2010: PORT: ST. PETERSBURG, FL
7/26/2010: STEAMBOAT LUMPS RESERVE
7/27/2010: MADISON SWANSON FISHERY RESERVE
7/28/2010: MADISON SWANSON FISHERY RESERVE
7/29/2010: MADISON SWANSON FISHERY RESERVE
7/30/2010: TWIN RIDGES
7/31/2010: NW FLORIDA SHELF: SNYDER RIDGE NORTH
8/1/2010: FLORIDA MIDDLE GROUNDS

Leg 4 (Education/outreach)

8/2/2010: PORT: ST. PETERSBURG
8/3/2010: WEST FLORIDA LITHOHERM
8/4/2010: PULLEY RIDGE SOUTH
8/5/2010: MILLER'S LEDGE (INSIDE AND OUTSIDE TORTUGAS ECOLOGICAL RESERVE)
8/6/2010: POURTALES TERRACE
8/7/2010: POURTALES TERRACE
8/8/2010: MIAMI TERRACE
8/9/2010: END OF EXPEDITION: HOMEPORT-HARBOR BRANCH OCEANOGRAPHIC INSTITUTE, FORT PIERCE, FL

Lead CIOERT Scientific Personnel:

Shirley Pomponi, Research Professor, Cooperative Institute for Ocean Exploration, Research, and Technology - biology and systematics of deep, mesophotic, and shallow coral reef sponges throughout the Gulf of Mexico, Florida Keys, southeast US continental shelf, and Caribbean.

Dennis Hanisak, Research Professor, CIOERT Director of Education, Director of Center for Marine Ecosystem Health, and Director of HBOI Education - mesophotic algal communities of the Gulf of Mexico, Florida Keys, southeast US continental shelf, and Caribbean; monitoring reef recovery following major impacts (ship groundings); effects of oil on algal reproduction.

John Reed, Research Professor, Robertson Coral Reef Research and Conservation Program - biology of deep-water coral reefs and taxonomy of reef organisms, including mapping and habitat characterization of shallow, mesophotic, and deep reef environments throughout the Gulf of Mexico, Florida Keys, southeast US continental shelf, and Caribbean.

Tamara Frank, Research Professor - ecology, behavior, and visual physiology of zooplankton and micronekton, predator-prey interactions, effects of light on behavior, vertical migrations in the mesopelagic realm, water column sampling techniques, electrophysiology.

Sara Edge, Assistant Research Professor - use of advanced molecular diagnostics (microarray analysis) to detect and characterize environmental stress responses in corals and to identify the mechanisms behind coral bleaching and disease infection.

Joshua Voss, Assistant Research Professor - coral reef ecology and community dynamics, molecular profiling of bacterial communities and the development of advance molecular technologies to identify environmental drivers and impacts of coral diseases.

Amy Wright, Research Professor - biomedical resources, chemical analysis of benthic sessile taxa, taxonomic vouchers of sessile benthic taxa, crude extracts of macro-organisms, microbial isolation

Support Staff - The lead scientists above were supported by several technicians, graduate students, and summer interns.

Scientific Participants:

Adornato, Lori; SRI International Ocean chemistry
Ash, Craig; CEPEMAR Water sampling
Barbarite, Gabby; HBOI-FAU Plankton
Cohen, Lisa; HBOI-FAU Coral ecology
Cousin, Brian; HBOI-FAU Videography, photography
Cucchiara, Don; Univ. of Miami CTD rosette, ship flow-through sensors
Easley, Regina; Univ. of S. Florida NRDA Water sampling

Edge, Sara; HBOI-FAU Coral genomics
Ferreira, Andre; CEPEMAR Water sampling
Fonseca, Carlos; CEPEMAR Water sampling
Frank, Tammy; HBOI-FAU Plankton
Garceau, Jennifer; HBOI-FAU Natural products
Gardner, Chris; NOAA NMFS Fish ecology
Gordon, Denise; NOAA/NCDDC Data management
Grasela, Jim; HBOI-FAU Sponge cell culture
Grima, Jenny; HBOI-FAU Student, sponge cell culture
Guzman, Esther; HBOI-FAU Natural products
Hanisak, Dennis; HBOI-FAU Coral reefs/algae, water sampling, education
Harter, Stacey; NOAA Fisheries Fish ecology
Janda, Kathleen; HBOI-FAU Microbiology, natural products
Keith, Ryan; NOAA/OER Data management
Kloske, John; SRI International GIS, mapping
Koenig, Chris; FL State Univ. Fish ecology
Maxwell, Walter; Chip Univ. of Miami CTD rosette, ship flow-through sensors
Pitts, Tara; HBOI-FAU Microbiology, natural products
Pomponi, Shirley; HBOI-FAU Chief Scientist, natural products
Reed, John; HBOI-FAU Deep coral reef ecology
Rogers, Stephanie; HBOI-FAU Data management, GIS
Rowan, Dan; HBOI-FAU Student, coral biology
Shepard, Andrew; UNCW Water sampling, outreach
Talas, Brynne; HBOI-FAU Natural products
Voss, Joshua; HBOI-FAU Coral ecology and health, molecular ecology
Winder, Priscilla; HBOI-FAU Natural products
Wood, Sara; HBOI-FAU Natural products chemistry
Wood, Michelle; NOAA/AOML Ocean chemistry, phytoplankton
Wright, Amy; HBOI-FAU Natural products chemistry
Students from FAU (Leg 4): Gabby Barbarite, Kristen Davis, Lindsay Harris, Lucas Jennings, Christopher Malinowski, Lorin West, Hilde Zenil

METHODS

The following tools and research platforms were used for the expedition.
The R/V *Seward Johnson* (RVSJ) is a 204-foot oceanographic and submersible-support research vessel that has full berthing for 40, including 11 ship's crew, 6 submersible crew, 2 marine technicians, and 21 science personnel. Wet lab, dry lab, environmental chamber, machine shop, and portable specialty laboratories are available. Full specifications can be found at: http://wise.fau.edu/hboi/OceanTechnology/rvsj_specs2008.pdf.

The *Johnson-Sea-Link* II (JSL II) is a scientific research submersible capable of carrying 4 persons (2 crew, 2 scientists) to 1000 m. The JSL II has an extensive suite of scientific sampling tools, sensors, video equipment, and a dexterous manipulator arm. Full specifications can be found at: http://wise.fau.edu/hboi/OceanTechnology/OTsubops.php. The JSL II enable scientists

to get an up-close view of the health of mesophotic and deep reefs, the deep sea benthos, and mid-water environments, and allow delicate collection of specimens for petroleum stress and toxicity studies, as well as water samples at precise, documented reef locations. In addition, the JSL was instrumented for subsurface oil detection (simultaneous fluorescence and droplet size measurement).

The RVSJ and JSL II supported the following activities:

- 3-dimensional current profiling down to 1000 m using hull-mounted ADCP
- Submerged oil plume location using low-frequency acoustic backscatter techniques (<30kHz)
- Surface and over the side data collection for measurement of salinity, temperature, chlorophyll fluorescence, dissolved oxygen, and water clarity. Profiling down to 5000 m is possible
- Water sampling using CTD Rosette with 12 l Niskin bottles (to 5000 m) or from JSL II .
- MOCNESS sampling of zooplankton (to 1000 m).
- Support of JSL submersible for benthic and midwater habitat baseline and longer-term health assessments (to 1000 m).

The primary tool used was the *Johnson-Sea-Link* II submersible which was equipped with video and still cameras, CTD, plankton samplers, sediment core tubes, and benthic samplers. Surface operations included CTD rosettes for water sampling, MOCNESS (Multiple Opening/Closing Net and Environmental Sampling System) for sampling of zooplankton; and scuba diving for observations and sampling of shallower reefs (<30m). Chemical sensors on the submersible and CTD rosette casts were used to measure a suite of water quality parameters and to detect the presence of oil. Submersible operations are critical to the study of mesophotic and deepwater reefs. Currents were often very high at shelf edge locations; only one dive had to be aborted because the sub could not maintain position in the strong currents. Technical divers or Remotely Operated Vehicles (ROVs) would be seriously challenged in attempting to observe and sample rugged and delicate live bottom areas in these conditions. The power, weight, and payloads of the *Johnson-Sea-Link* submersibles allowed us to go places that are inaccessible to other technologies.

Techniques employed included the following:

- Video transects, supplemented with still photography, were used as pre-and post impact assessments of the oil spill at critical reefs (as prioritized by NOAA in the Gulf of Mexico, off the Florida Keys, and east Florida continental shelf).
- Samples were collected for analysis of stress response, along with water samples that were provided to NOAA for determination of oil and dispersant levels.
- Taxonomic vouchers were collected as necessary to facilitate accurate quantification of coverage (coral, sponges, and, for mesophotic reefs, algae).

***Johnson-Sea-Link* Submersible Dive Survey Protocol:**

The overall intent was to meet the current guidelines for conducting offshore benthic surveys as described by MMS (MMS Notice to Lessees [NTL] No. 2009-G39 and NTL No. 2009-G40), by Florida DEP (Guidelines for Conducting Offshore Benthic Surveys, DEP Office of

Intergovernmental Programs Offshore Projects Section, 2006; Appendix A), and as applied by Reed 2006, Messing et al. (2006a and b), and Reed, Duncan, and Furman (2008).

1. Submersible Operations
   Color videotapes and digital still images were recorded along the dive tracks with external pan and tilt cameras. Submersible navigation uses an USBL positioning system and calculates the real-time position throughout each dive. Samples were collected with manipulator and stored in separate bins.

2. Quantitative Video/Photographic Surveys
   The purpose of the surveys was to characterize the seafloor habitat types and document the presence or absence of oil deposits on hard- and live-bottom habitat by conducting quantitative video/photographic surveys at selected deep-water and shelf-edge mesophotic sites.

   During the transects the vehicle remained <1 m off the bottom whenever possible. The distance between the video camera and the seafloor cannot exceed a range greater than an observer's ability to discern objects of interest on the seafloor. Continuous video was recorded for the duration of each dive while on the bottom to provide a complete record of in situ observations. Throughout the dive, scientists provided audio descriptions of the habitat and biota. These data were entered into Excel spreadsheets and included date, georeferenced coordinates, time, depth (m), height off bottom (m), sub heading, course over ground (COG), speed (kn), habitat descriptions (habitat type, geomorphology, estimated percent cover), and biota descriptions (species, estimated sizes, and abundance). The video time can also be related back to the vehicle's projected track to verify geographic positioning. Video images were annotated with date, time, and depth. The color video camera was angled down ~45^{o} and was used primarily for general habitat documentation and characterization and had a set of parallel lasers for scale. Depending on the camera's degree of zoom, the field of view may range from 25 cm to ~3 m which can be determined by the scaling lasers.

   A digital still camera was used to take representative photographs of the different habitats encountered, representative benthic species, and any oil deposits. The digital camera was positioned straight down, ~1 m off the bottom, and had parallel lasers for sizing objects and calculating densities. Still images were captured at 10 min intervals while over soft-bottom habitat and continuously over all hard-bottom habitats with potential oil impact.

OBJECTIVES

The CIOERT scientific themes for this research cruise addressed the following.

1. Deep-water Coral and Mesophotic Reef Ecosystems (objectives expanded from CIOERT 2010-5.3.1, Mesophotic Reef Ecosystems)- Assessment and documentation of deep-water coral and shelf-edge mesophotic reefs, and hard-bottom essential fish habitat. Baseline

assessment of non-impacted areas and documentation and quantification of oil impacted areas.

2. Stress Responses of Corals and Other Marine Invertebrates Exposed to Oil and Chemical Dispersants (objectives expanded from CIOERT 2010-5.3.1, Mesophotic Reef Ecosystems). Baseline assessment of non-impacted taxa and analyses of impacted taxa.
3. Quantitative Assessment of Zooplankton (objectives expanded from CIOERT 2010-4.2.1, Linkage between Pelagic and Benthic Ecosystems). Baseline assessment of non-impacted areas and documentation of impacted areas.
4. Chemical Analysis of Sessile Benthic Taxa and Biomedical Resources (objectives expanded from CIOERT 2010-4.3.1, Discovery of Novel Therapeutic Agents from Marine Frontier Habitats). Baseline assessment of non-impacted taxa and documentation of impacted taxa.
5. Education and Outreach (objectives expanded from CIOERT 2010-6-3-1). On site videographer, HBOI-FAU website, daily logs, one leg of cruise with students and educators.

Assessment of Deepwater Coral Reefs and Mesophotic Reefs:
PIs: John Reed, (Lead PI), M. Dennis Hanisak, Ph.D.; Joshua Voss, Ph.D., Shirley Pomponi, Ph.D., Amy Wright, Ph.D., Tammy Frank, Ph.D.

Coral reef and benthic hard-bottom ecosystems support vast amounts of the ocean's biodiversity and exhibit exceptional variation in relative forms, functions, origins, and locations. Given the magnitude, location, and depth of the Deepwater Horizon oil spill, a major concern for offshore impacts is the impact on coral reefs, particularly the deepwater coral and mesophotic reefs found throughout the Gulf of Mexico and along the southeastern US continental shelf. Impacts on these reefs and hard-bottom communities may severely reduce ecological functions, ecosystem services, and quantifiable economic value. These impacts are likely to vary considerably in these understudied, poorly documented coral habitats. Using the extraordinary capabilities of JSL II, pre- and post-assessment and documentation of critical deep and mesophotic coral reefs were made so that impact of these reefs could be quantified and used as baselines for the evaluation of further damage and eventual recovery/restoration.

The purpose was to locate, characterize, and determine the distribution of benthic deepwater and shelf-edge (mesophotic zone) hardbottom and coral communities in the selected study areas, specifically targeting areas that may have been contaminated by oil/dispersant deposits. It involved using video/photographic techniques to ground-truth select sites of interest derived from: 1) multibeam sonar maps acquired previously, 2) available data on currents (surface, midwater, and bottom), and 3) projected oil plumes (surface and bottom). The selected areas were ground-truthed using the *Johnson-Sea-Link* submersible with video and digital still cameras. These data are being analyzed and interpreted in GIS showing benthic habitat polygons and areas of possible oil impact.

Techniques employed included:

- Video transects, supplemented with still photography, are being used as pre-and post impact assessments of the oil spill at critical reefs (to be prioritized by NOAA in the Gulf of Mexico, off the Florida Keys, and east Florida continental shelf).

- Samples were collected for analysis of stress response, along with water samples that were provided to NOAA for determination of oil and dispersant levels.
- Taxonomic vouchers were collected to facilitate accurate quantification of coverage (coral, sponges, and, for mesophotic reefs, algae).

Stress Responses of Corals and Other Marine Invertebrates Exposed to Oil and Chemical Dispersants:
P.I. Sara Edge, Ph.D., Joshua Voss, Ph.D.

Molecular biomarkers are valuable early diagnostic tools to measure detrimental changes in an organism's physiological state due to chemical, physical or biological stress. Gene microarrays provide researchers with a tool that is capable of measuring responses that are sublethal and/or precede major physiological events or death. In the field of ecology, microarrays have been used in a number of areas including the identification of toxicity stress in fish, crustaceans and coral. The cnidarian, stress-focused microarray, developed by Dr. Edge, has been used to study how coral respond to natural and anthropogenic stressors in the lab as well as in the field. Gene expression analysis has also been used to detect coral stress related to heavy metal contamination, exposure to pesticides, herbicides, polyaromatic hydrocarbons (PAHs) and organic compounds bound to sediments.

Techniques employed included:

- Gene microarrays to measure the sub-lethal responses of corals exposed to environmental stressors, as well as oil pollution and chemical dispersants.
- Incorporation of biomarkers of oil toxicity and other contaminants available for several other organisms onto microarrays for the diagnostic analysis of various marine invertebrates likely to be impacted by the oil in the Gulf.
- Transcriptional profiling of severely impacted organisms using transcriptome sequencing technology to identify specific molecular pathways altered upon exposure to crude oil contaminants.

Quantitative Assessment of Zooplankton:
P.I. Tamara Frank, Ph.D.

Plankton are critical components all of the commercially important fisheries in the Gulf of Mexico. Many of the bottom dwelling species, like the golden crab and the rose shrimp, have planktonic larvae, as do valuable pelagic species like grouper and bluefin tuna. These plankton are particularly vulnerable to the effects of oil: not only will they be poisoned by the hydrocarbons contained in the oils, but oil has direct negative effects on their ability to swim and absorb enough oxygen from the water. We conducted a quantitative assessment of zooplankton in the water column, both in shallow waters over mesophotic reef systems, as well as in the deeper slope waters, to determine the distributions and abundances of the predominant zooplankton species, both pre- and post-oil impacts. Pre-impact assessment is being used as a baseline against which to monitor the effects of oil intrusion into these areas, in order to determine if impacts at the plankton level play a role in changes in abundances of commercially important species in the next several years.

Techniques employed included:

- CTD casts to collect water for dissolved oxygen content, and conduct real-time measurements of turbidity, fluorescence, salinity and temperature
- MOCNESS trawls to conduct multilevel simultaneous sampling of water column to enumerate dominant zooplankton species as well as larvae of commercially important species (e.g., bluefin tuna, red rock shrimp)
- JSL to collect coral samples and benthic crustaceans.

Benthic species collected from each site others were examined for reproductive status and, if brooding, to document egg and larvae morphology to aid with identification of samples in zooplankton collections. A critical component of the benthic/pelagic coupling assessment is to determine when the dominant benthic species release larvae into the water column.

- Samples of each dominant coral (n=3) from each site. These have been deposited with the voucher specimen collections in the Harbor Branch Museum.
- Samples of each dominant crustacean (n=3) from each site; samples are retained by the Harbor Branch Museum, or, if permitted, donated to the HBOI-FAU Ocean Discovery Center for public display.

Chemical Analysis of Sessile Benthic Taxa and Biomedical Resources:
P.I. Amy Wright, Ph.D.

The goal of the CIOERT Natural Products Drug Discovery Project is to discover new therapeutic agents from pelagic, midwater and benthic frontier habitats explored by the CI. These frontier habitats represent a rich repository of unstudied biodiversity including marine actinomycetes, fungi, microalgae, sponges, ascidians and cnidarians. The HBOI group has worked in these areas previously and specimens can be compared pre-exposure and post-exposure for effects of oil on microbial communities and natural products chemistry.

Techniques employed included:

- Collect marine invertebrates and sediments.
- Freeze and preserve samples for later chemical fractionation, future microbial isolations and genetic analysis of microbial communities and biosynthetic gene clusters.
- Prepare small extracts for HPLC analysis in the laboratory at HBOI to assess natural products diversity.
- Culture microorganisms living in association with invertebrates and sediments using a variety of culture methods.

Materials have all been analyzed by HPLC for natural products diversity. They are currently being screened in a broad range of biological assays related to human disease, both in the PI's laboratories and through collaborative agreements with researchers having complementary assays. The active components will be purified and the structures defined through spectroscopic methods.

Education and Outreach:
M. D. Hanisak, Ph.D., T. Frank, Ph.D.

Education
The focus of the last 7-day leg was the CIOERT "Ocean Discovery" cruise and was based on the approved Year 2 plan on the *R/V Walton Smith*, now modified for the *R/V Seward Johnson* and *Johnson-Sea-Link* submersible. Research continued on this leg for each theme, with 7 graduate student scientists mentored by Co-Chief Scientists for that leg, Drs. Tammy Frank and Dennis Hanisak. This "Ocean Discovery" cruise was consistent with the research objectives of CIOERT Project 2010-4.2.1 The Linkage between Pelagic and Benthic Ecosystems and CIOERT Project 2010-5.3.1 Mesophotic Reef Ecosystems. Dive and sampling sites were selected in consultation with other CIOERT researchers, based on the results of the previous two legs, from the Gulf of Mexico, around the Florida Keys, and along the east coast of Florida,. Using a wide range of oceanographic sampling gear and technology, including the *JSL*, students collected data and samples to understand and characterize selected benthic and pelagic habitats, working with members of each of the previously identified research teams.

Students were able to conduct a variety of research projects at these stations, including correlating the physical parameters (temperature, salinity, water clarity) to differences in animals distribution patterns between the two stations, examining the presence/absence of vertical migrations in a number of different species,, examining the correlation between the presence of hard bottom communities and zooplankton in the water column, and working on methods to identify the pelagic larval stages of the most abundant benthic species.

Students experienced first-hand the exploration of benthic habitats by hands-on use of the *Johnson-Sea-Link* submersible. In addition, students were trained to use pelagic trawl nets and various sensors such as CTD (temperature, salinity), DO, DOM, and chlorophyll which were used to analyze possible observed differences in zooplankton/benthic abundances.

Following the cruise, students analyzed the samples and data collected during the cruise in a team-taught course (lead instructor, Dr. Tammy Frank) on Oceanographic Exploration of Florida's Continental Shelf and Slope under the auspices of FAU's Department of Biological Sciences.

At the end of the course, students each presented their research in three forms: research poster, oral presentation, and research manuscript at a CIOERT Ocean Discovery Student Research Symposium. Oral presentations were made to CIOERT faculty, graduate students, undergraduates, and other invited guests (see Broader Impacts, below). Posters were presented to high school students in the Marine & Oceanographic Academy (MOA), a marine science-magnet school located on the HBOI-FAU campus initiated in August 2007 by HBOI-FAU and the St. Lucie County School District as a model for partnering a marine research institute with a public school system to improve the scientific literacy of high school students and their teachers. Copies of the posters and student manuscripts will also be posted on the CIOERT website (http://cioert.org/).

Outreach & Dissemination

Brian Cousin, HBOI-FAU's award-winning videographer, participated on all legs to document the cruise with video and still photography and provide material for dissemination during and after the cruise. Drs. Hanisak (Legs 1 and 3) and Frank (Legs 2 and 3) took the lead on writing daily cruise blogs, with active participation from the rest of the scientific party and facilitation by Brian Cousin. Blogs were posted on HBOI-FAU's @sea webpage (http://at-sea.org/about.html) and CIOERT's webpage (http://cioert.org/)and distributed through NOAA's OER Communication network.

RESULTS

Permits for Collections and Operations:

All required permits were in place prior to the cruise and collections.

The following permits were requested and received prior to the expedition:

1. NOAA National Marine Fisheries- Letter of Acknowledgment for collections within the US EEZ. (Received June 20, 2010). Permit Number: F/SER25:KM; Date of Permit: June 21, 2010.
2. Florida Keys National Marine Sanctuary and Tortugas Ecological Reserve- for collections and ship operations within their boundaries. Permit Number: FKNMS-2010-076; Date of Permit: July 7, 2010.
3. South Atlantic and Gulf of Mexico Fisheries Management Councils- acknowledgement of operations within various shelf-edge HAPCs and MPAs.

The requirements of all permits have been completed. The following report was sent to the NOAA's Florida Keys National Marine Sanctuary in compliance with their permits:

Reed, J.K. 2010. Results of the Florida Shelf Edge Expedition by the Cooperative Institute for Ocean Exploration, Research, and Technology. Final Report to the Florida Keys National Marine Sanctuary. 15 p. HBOI Miscellaneous Contribution Number 686.

Summary of Collection Sites, Samples, Photos, Submersible Video, Field Notes Database, and ArcGIS:

Field Notes Database

The original hand-written field notes which describe the collection sites (stations) and collected specimens are compiled in field notebooks which are archived at HBOI-FAU. These describe in detail the particulars of each collection site, including site number (i.e., day-month-year-site; 27-VII-10-1), a sorting code ('milsortcodesite' = year-month-day-site; e.g., 201007271), location, latitude/longitude, collection method, depth (feet), habitat description, physical parameters (bottom temperature, salinity, current, weather conditions), and site notes. The sample data for each collected specimen includes sample number (i.e., site number+sample #; e.g., 27-VII-10-1-001), a sorting code ('milsortcode') that is unique for that specimen ('milsortcode' = year-month-day-site-sample#; e.g., 201007271001), coordinates, depth, habitat, description of the

specimen, and documentation of the specimen (i.e., museum specimen, photo, video, subsamples). These data were later transcribed into an ACCESS database and archived at HBOI-FAU (CDSs) and also backed up on HBOI's computer servers (Manta:\Jreed$\SAVE\ and Whale:\DBMR$\REED\): \BMR FIELDNOTES MASTER- Access 2002.mdb. The digital copies of the shipboard data (weather, ship track, echosounder, ADCP), shipboard CTD data, submersible CTD data, and submersible tracking data are also archived at HBOI-FAU on CDs.

ArcGIS

A second Access database of the site and sample data was also compiled with links to all the additional datasets. For example, in this database, the site data are linked to each sample specimen, which are linked to submersible track data, submersible CTD data, fathometer transect data, submersible logs, and specimen photographs. These data are archived at HBOI's DBMR Museum (CDs) and backed up on HBOI's computer server (Manta:\Jreed$\SAVE\DATA\ and Whale:\DBMR$\REED\): \2010 GOM Oil Cruise Fieldnotes w LINKS.mdb. These data are also compiled in ArcGIS (version 9.3) which shows details maps of all the collection sites, and hot links to each sample, photograph, and other data.

Collection Sites

During the 32 day expedition, a total of 121 collection sites (stations) were sampled using the *Johnson-Sea-Link* II submersible (50 dives), scuba (8 dives), snorkel (1), CTD rosette (40), MOCNESS (19), plankton net (1), dipnet (1), and hook and line (1). Appendix 1 summarizes all collection site data, listing the date, coordinates, and collection method. Appendix 2 details each site with location, habitat description, and physical parameters (i.e., temperature, salinity, current, seas, and weather conditions).

Samples

A total of 698 samples were collected during the expedition and included the following:
Cnidaria (coral, gorgonians, zoanthids)- 199
Porifera (sponges)- 181
Chordata (tunicates, fish)- 35
Echinodermata (sea urchins, starfish, crinoids, sea cucumbers)- 35
Arthropoda (crabs, shrimp)- 20
Bryozoa (moss animals)- 13
Mollusca (bivalves, snails)- 12
Annelida (worms)- 7
Echiura (spoon worms)- 1
Cyanophyta (blue green algae)- 24
Rhodophyta (red algae)- 19
Chlorophyta (green algae)- 12
Phaeophyta (brown algae)- 4
Zooplankton- 197
Water samples- 78 (stations)
Rock/sediment- 75

Museum vouchers were made of most invertebrate, algal, and rock samples and are archived in HBOI's DBMR Museum. Appendix 3 lists all the samples collected including sample number and taxonomy.

Submersible Videotapes

During each submersible dive, Mini-DV videotapes were recorded continuously; these are archived in HBOI's DBMR Museum. A total of 165 (1-hr) submersible videotapes were recorded which provides documentation of benthic habitats, sample collections, and quantitative video transects.

Sample and Habitat Photographs

A total of 6,622 digital photographs were taken during submersible dives and in the laboratory documenting each collected specimen (sample) and collection site.

In situ sample photographs- 1053
Laboratory sample photographs (w/ ruler, sample number)- 900
In situ habitat/fish photographs- 1394
Quantitative *in situ* transect photographs- 2,973
Scuba photographs- 272

Each image was relabeled with site number or sample number. Sample photos were labeled with sample number (milsortcode) and taxonomy (e.g., 201007101001 Leiodermatium Deck .JPG). Each sample photo had a 'deck' photo in the lab and most had an i*n situ* photo from the submersible. An i*n situ* habitat photo label included the site number (milsortcodesite), JSL dive number, and time of photo (e.g., 201007101_JSLII-3771_T08-51-39_001.jpg). A transect photo included site number (milsortcodesite), JSL dive number, time and transect number (e.g., 201007103n_JSLII-3772_T19-05-35_Tr1_001.jpg).

These digital images are archived on DVDs in HBOI's DBMR Museum and are also backed up on HBOI's computer server: Whale:\reed$\2010 GOM Oil Cruise.

Sample Documentation

Each collected specimen is thoroughly documented with site information, habitat, sample description, and taxonomy. Appendix 4 details the documentation of each sample, listing museum vouchers, photographs, videotapes, and subsamples (chemistry, DNA, cell culture, etc.).

APPENDIX 1

Collection Site Summary

(Site Number = day + month + year + site; e.g., 27-VII-10-1)

COLLECTION SITE SUMMARY
HBOI CIOERT Florida Shelf-Edge Expedition (FLoSEE)
July 9-August 9, 2010
R/V Seward Johnson
Johnson-Sea-Link II Submersible

SITE NUMBER (DATE + SITE #)	LATITUDE	LONGITUDE	METHOD	DEPTH RANGE (Feet)		NUMBER of SAMPLES
9-VII-10-1	27 29.857'N	80 17.344'W	SCUBA	22	11	1
9-VII-10-2	27 29.459'N	80 17.593'W	SCUBA	12	6	0
10-VII-10-1	26 01.2576'N	79 49.1840'W	JSL II-3771	1446	1161	11+N+201+302
10-VII-10-2	26 00.699'N	79 48.720'W	CTD ROSETTE	1276	16	17
10-VII-10-3	25 56.410'N	79 49.889'W	JSL II-3772	1363	1111	9+303
11-VII-10-1	24 42.870'N	80 31.163'W	JSL II-3773	729	530	6
11-VII-10-2	24 45.822'N	80 44.071'W	SCUBA	85	50	4 + water
11-VII-10-3	24 42.2451'N	80 31.1982'W	CTD ROSETTE	1271		0
11-VII-10-4	24 25.502'N	80 45.281'W	JSL II-3774	917		0
11-VII-10-5	24 26.1828'N	80 43.7970'W	CTD ROSETTE	756	283	18
12-VII-10-1	24 38.944'N	83 06.741'W	JSL II-3775	171	60	6+201
12-VII-10-2	24 40.746'N	83 04.775'W	SCUBA	71	50	0
12-VII-10-3	24 40.744'N	83 06.2164'W	CTD ROSETTE	156	16	12
12-VII-10-4	24 38.926'N	83 06.097'W	SCUBA	77		2
12-VII-10-5	24 29.937'N	83 07.917'W	JSL II-3776	201	79	201
12-VII-10-6	24 39.261'N	83 01.773'W	SCUBA	50		0
12-VII-10-7	24 26.782'N	83 09.184'W	CTD ROSETTE	301	0	18
13-VII-10-1	24 30.116'N	83 05.859'W	JSL II-3777	122	79	0
13-VII-10-2	24 28.025'N	83 05.140'W	CTD ROSETTE	164	11	18
13-VII-10-3	24 31.131'N	83 05.824'W	SCUBA	90	85	0
13-VII-10-4	24 27.106'N	83 09.998'W	JSL II-3778	400	277	12
13-VII-10-5	24 26.719'N	83 09.237'W	CTD ROSETTE	313	0	18

SITE NUMBER (DATE + SITE #)	LATITUDE	LONGITUDE	METHOD	DEPTH RANGE (Feet)		NUMBER of SAMPLES
14-VII-10-1	24 15.076'N	81 47.354'W	JSL II-3779	1362	966	15+202
14-VII-10-2	24 15.123'N	81 47.833'W	CTD ROSETTE	1102	8	18
14-VII-10-3	24 19.642'N	81 41.329'W	CTD ROSETTE	646	0	18
14-VII-10-4	24 19.748'N	81 41.153'W	JSL II-3780	840	592	4
15-VII-10-1	24 33.053'N	81 48.575'W	SNORKEL	20	2	19
16-VII-10-1	24 27.884'N	83 11.499'W	JSL II-3781	408		102
16-VII-10-2	24 26.539'N	83 09.687'W	CTD ROSETTE	311	0	18
16-VII-10-3	24 26.819'N	83 08.367'W	JSL II-3782	351	351	0
16-VII-10-4	24 26.682'N	83 08.046'W	CTD ROSETTE	339	0	12
17-VII-10-1	24 53.298'N	83 39.263'W	JSL II-3783	219	191	15+201+N2
17-VII-10-2	24 52.729'N	83 39.114'W	CTD ROSETTE	142	10	18
17-VII-10-3	24 56.905'N	83 38.497'W	JSL II-3784	221	208	10+105+202
17-VII-10-4	24 56.892'N	83 37.898'W	CTD ROSETTE	187	0	18
18-VII-10-1	26 05.200'N	84 13.442'W	JSL II-3785	743	579	8+202
18-VII-10-2	26 22.219'N	83 46.746'W	JSL II-3786	278	261	12
18-VII-10-3	26 22.451'N	83 46.363'W	CTD ROSETTE	240	9	24
19-VII-10-1	26 20.190'N	84 44.757'W	JSL II-3787	1511	1340	16
19-VII-10-2	26 20.297'N	84 49.300'W	CTD ROSETTE	1384	0	18
19-VII-10-3	26 20.159'N	84 45.356'W	JSL II-3788	1644	1591	20
19-VII-10-4	26 20.198'N	84 45.499'W	CTD ROSETTE	1545	0	18
20-VII-10-1	27 44.005'N	84 31.230'W	JSL II-3789	414	396	14+202
20-VII-10-2	27 43.622'N	84 31.030'W	CTD ROSETTE	357	0	12
20-VII-10-3	27 36.766'N	84 13.166'W	JSL II-3790	236	219	17+201
20-VII-10-4	27 36.534'N	84 12.440'W	CTD ROSETTE	172	0	7
22-VII-10-1	27 36.770'N	84 13.155'W	JSL II-3791	230	212	7 + 201
22-VII-10-2	27 36.990'N	84 13.432'W	CTD ROSETTE	237		11

SITE NUMBER (DATE + SITE #)	LATITUDE	LONGITUDE	METHOD	DEPTH RANGE (Feet)		NUMBER of SAMPLES
22-VII-10-3	27 36.7677'N	84 13.1665'W	JSL II-3792	238	215	14+201
24-VII-10-1	28 33.359'N	84 25.534'W	CTD ROSETTE	151		11
24-VII-10-2	28 33.173'N	83 24.911'W	JSL II-3793	140	120	6 + 101 + 201
24-VII-10-3	28 29.873'N	84 21.399'W	JSL II-3794	123	97	5 + 201
26-VII-10-1	28 12.273'N	84 43.021'W	JSL II-3795	227	227	5 + 201-216
26-VII-10-2	28 12.498'N	84 42.004'W	MOCNESS	230		1
26-VII-10-3	28 12.355'N	84 38.762'W	CTD ROSETTE	236		4
26-VII-10-4	28 12.244'N	84 42.922'W	JSL II-3796	227	224	7+ 211+ 308
26-VII-10-5	28 11.88'N	84 42.69'W	CTD ROSETTE	230		12
26-VII-10-6	28 12.24'N	84 42.92'W	HOOK & LINE	227	227	3
27-VII-10-1	29 14.9535'N	85 41.434'W	JSL II-3797	233	197	10 + 201
27-VII-10-2	29 15.288'N	85 41.362'W	MOCNESS	244		8
27-VII-10-3	29 14.50'N	85 42.51'W	CTD ROSETTE	257		10
27-VII-10-4	29 16.138'N	85 42.267'W	JSL II-3798	260	195	14 + 202+ 304
27-VII-10-5	29 16.08"N	85 41.78'W	CTD ROSETTE	207		0
28-VII-20-1	29 11.144'N	85 40.762'W	JSL II-3799	263	222	15+201+301-305
28-VII-10-2	29 11.26'N	85 42.278'W	MOCNESS	287		6
28-VII-10-3	29 11.3918'N	85 41.0964'W	CTD ROSETTE	181	49	11 + WATER
28-VII-10-4	29 08.506'N	85 47.411'W	JSL II-3800	430	302	11 + 203 + 306
28-VII-10-5	29 09.484'N	85 47.38'W	CTD ROSETTE	260	33	38
28-VII-10-6	29 11.413'N	85 44.076'W	MOCNESS	289		8
29-VII-10-1	29 08.313'N	85 46.699'W	JSL II-3801	407	312	14 + 202+ 304
29-VII-10-2	29 07.654'N	85 47.07'W	MOCNESS	573		7
29-VII-10-3	26 07.742'N	85 48.302'W	CTD ROSETTE	541	33	30
29-VII-10-4	29 10.549'N	85 41.828'W	JSL II-3802	264	234	15+202+302
29-VII-10-5	29 10.46'N	85 42.088'W	CTD ROSETTE	213	49	14

SITE NUMBER (DATE + SITE #)	LATITUDE	LONGITUDE	METHOD	DEPTH RANGE (Feet)		NUMBER of SAMPLES
29-VII-10-6	29 07.658'N	85 47.111'W	MOCNESS	571		7
30-VII-10-1	28 58.846'N	85 21.831'W	JSL II-3803	246	205	7+201+302
30-VII-10-2	28 58.678'N	85 21.296'W	CTD ROSETTE	236		62
30-VII-10-3	28 57.583'N	85 21.705'W	MOCNESS	302	253	7
30-VII-10-4	28 57.869'N	85 21.104'W	JSL II-3804	228	211	12+202+302
30-VII-10-5	28 57.8741'N	85 20.6041'W	CTD ROSETTE	242	223	34
30-VII-10-6	28 57.6'N	85 21.6'W	MOCNESS	257		7
31-VII-10-1	28 21.248'N	84 49.695'W	JSL II-3805	244	224	9+202+302
31-VII-10-2	28 20.7374'N	84 49.556'W	CTD ROSETTE	248		31
31-VII-10-3	28 20.083'N	84 49.766'W	MOCNESS	247		6
31-VII-10-4	28 30.713'N	84 49.394'W	JSL II-3806	176	172	19+202+302
31-VII-10-5	28 30.735'N	84 49.4'W	CTD ROSETTE	178		34
31-VII-10-6	28 20.972'N	84 48.05'W	MOCNESS	215		7
1-VIII-10-1	28 29.287'N	84 20.532'W	JSL II-3807	117	87	15+302+201
1-VIII-10-2	28 30.081'N	84 21.666'W	SCUBA	97	96	7
1-VIII-10-3	28 29.3227'N	84 02.688'W	CTD ROSETTE	132		25
1-VIII-10-4	28 29.3227'N	84 21.688'W	1M PLANKTON NE	394		1
1-VIII-10-5	28 26.401'N	84 17.741'W	JSL II-3808	135	95	5+201+301
1-VIII-10-6	28 26.2101'N	84 17.8441'W	CTD ROSETTE	102		6
3-VIII-10-1	26 20.0901'N	84 45.5702'W	JSL II-3809	1694	1557	13 + 304 + 201
3-VIII-10-2	28 20.264'N	84 48.78'W	MOCNESS	1762		5
3-VIII-10-3	26 20.1608'N	84 45.3708'W	JSL II-3810	1640		11+304+ 201
3-VIII-10-4	26 20.1'N	84 45.3'W	DIP NET	0		2
3-VIII-10-5	28 20.97'N	84 48.05'W	CTD ROSETTE	1568		24
4-VIII-10-1	24 47.3907'N	83 41.1890'W	JSL II-3811	211	204	7+201+302
4-VIII-10-2	24 42.84'N	85 47.08'W	CTD ROSETTE	409		6

SITE NUMBER (DATE + SITE #)	LATITUDE	LONGITUDE	METHOD	DEPTH RANGE (Feet)		NUMBER of SAMPLES
4-VIII-10-3	24 42.69'N	83 46.919'W	MOCNESS	561		6
4-VIII-10-4	24 42.2580'N	83 45.3829'W	JSL II-3812	314	272	11+201+303
4-VIII-10-5	24 41.754'N	83 50.920'W	MOCNESS	924		7
5-VIII-10-1	24 27.4086'N	83 09.8666'W	JSL II-3813	267		20+1SED+2 WA
5-VIII-10-2	24 24.61'N	83 15.61'W	CTD ROSETTE	792		2
5-VIII-10-3	24 24.681'N	83 15.187'W	MOCNESS	709		5
5-VIII-10-4	24 26.4643'N	83 08.5241'W	JSL II-3814	379		0
5-VIII-10-5	24 24.84'N	83 15.41'W	MOCNESS	706		5
6-VIII-10-1	24 15.0968'N	84 47.4692'W	JSL II-3815	1399	894	3+1 SED+ 2WA
6-VIII-10-2	24 15.095'N	81 49.48'W	CTD ROSETTE	1716		6
6-VIII-10-3	24 14.85'N	81 50.83'W	MOCNESS	1065		6
6-VIII-10-4	24 15.0682'N	81 47.5026'W	JSL II-3816	1297		14 + 3 WATER
6-VIII-10-5	24 14.28'N	81 52.01'W	MOCNESS	1742		6
7-VIII-10-1	24 42.2806'N	80 30.6811'W	JSL II-3817	708	651	9 +1 SED+ 1 W
7-VIII-10-2	24 37.65'N	80 36.01'W	CTD ROSETTE	614		6
7-VIII-10-3	24 36.616'N	80 37.078'W	MOCNESS	1312		6
7-VIII-10-4	24 42.3331'N	80 30.8885'W	JSL II-3818	690	593	10+2 WATER
8-VIII-10-1	26 05.7368'N	79 50.5053'W	JSL II-3819	1073		13 + 2 WATER
8-VIII-10-2	25 53.427'N	79 53.430'W	CTD ROSETTE	990	940	24
8-VIII-10-3	25 53.427'N	79 53.430'W	MOCNESS	990		7
8-VIII-10-4	26 00.8624'N	79 49.4601'W	JSL II-3820	1263	1174	11+2 WATER+1

APPENDIX 2

Collection Site Descriptions

(Site Number = day + month + year + site; e.g., 27-VII-10-1)

COLLECTION SITE DESCRIPTIONS
HBOI CIOERT Florida Shelf-Edge Expedition (FLoSEE)
July 9-August 9, 2010
R/V Seward Johnson
Johnson-Sea-Link II Submersible

SITE NUMBER COLLECTION METHOD	HABITAT	TEMP. (C)	VISI-BILITY (Ft.)	CURRENT (KNOT from)	SEAS (Ft. from)	DEPTH RANGE (Ft.)
LOCATION		SALINITY	WEATHER	(MPH from)		
9-VII-10-1 SCUBA FLORIDA, FORT PIERCE, NORTH BEACH, PEPPER PARK, 3RD REEF	FLAT, ROCK PAVEMENT, 1FT LEDGES	25.55	6 SUNNY	0 <10	FLAT	22 11
9-VII-10-2 SCUBA FLORIDA, FORT PIERCE, NORTH BEACH, 2ND REEF, 2ND CONDO, S. OF COSTA DEL SOL	FLAT, PAVEMENT WITH 1-3 FT LEDGES	27.7	25 SUNNY	0 <10 SE	<1 SE	12 6
10-VII-10-1 JSL II-3771 FLORIDA, MIAMI TERRACE, REED SITE-BU-6	10 DEGREE SLOPE; ROCK LEDGES AND PAVEMENT; SCATTERED SPONGES	8.3 35.0	20-25 SUNNY	.4 S 0.8 WNW	1-2 195	1446 1161
10-VII-10-2 CTD ROSETTE FLORIDA, MIAMI TERRACE, REED SITE-BU-6 PROXIMITY (AWAY FROM SLOPE)	WATER COLUMN		 CLEAR	 11.4 S	<1 195	1276 16
10-VII-10-3 JSL II-3772 FLORIDA, MIAMI TERRACE, REEF SITE BU-7, EAST WALL OF WEST RIDGE - NEW SITE	HARD BOTTOM, 40-60 DEGREE SLOPE, ROCK COBBLE, PAVEMENT, BOULDERS	8.2 35	25 SUNNY	0.2 350 5-6 SSW	1-2 180	1363 1111
11-VII-10-1 JSL II-3773 FLORIDA, POURTALES TERRACE, ALLIGATOR BIOHERM #3, "THE HUMPS"	~50 DEGREE SLOPE, SERIES OF SLOPES AND TERRACES WITH PLATEAUS, TOPS OF TERRACES RICH IN STYLASTERS AND SPONGES	10.31 35.2	30 SUNNY	0.2 S 3 ENE	FLAT 180	729 530

SITE NUMBER COLLECTION METHOD LOCATION	HABITAT	TEMP. (C) SALINITY	VISI-BILITY (Ft.) WEATHER	CURRENT (KNOT from) (MPH from)	SEAS (Ft. from)	DEPTH RANGE (Ft.)
11-VII-10-2 SCUBA FLORIDA, FLORIDA KEYS NATIONAL MARINE SACTUARY, 3 NMI EAST OF TENNESSEE REEF	20-30 DEGREE SLOPE, DEEP FOREREEF WITH LARGE M.CAVERNOISA, X.MUTA AND NUMEROUS GORGONIANS	30	0.25-0.5 SSW P/CLOUDY 0	CALM	85 50
11-VII-10-3 CTD ROSETTE FLORIDA, POURTALES TERRACE, ALLIGATOR BIOHERM #3, "THE HUMPS"	WATER COLUMN	30.119 36.21	CLEAR	12.9 SW	0-1	1271
11-VII-10-4 JSL II-3774 FLORIDA, POURTALES TERRACE, SOUTH OF MARATHON KEY, "PRISCILLA BUMP", REED PEAK 311	FLAT, ROCK PAVEMENT, COARSE SEDIMENT ON TOP	30 SUNNY	2 SW CALM		1	917
11-VII-10-5 CTD ROSETTE FLORIDA, POURTALES TERRACE, SOUTH OF MARATHON KEY, "PRISCILLA BUMP", REED PEAK 311	WATER COLUMN				0-1	756 283
12-VII-10-1 JSL II-3775 FLORIDA, TORTUGAS ECOLOGICAL RESERVE NORTH, TORTUGAS BANK, WEST SLOPE, OUTSIDE TER NORTH	REEF SLOPE AND CREST	21 SUNNY	10-100 0 3 10		FLAT NE	171 60
12-VII-10-2 SCUBA FLORIDA, TORTUGAS ECOLOGICAL RESERVE NORTH, MOORING BUOY TER 13	CORAL REEF, LARGE CORAL MOUND ~25FT TALL AND 35FT DIAM	27.7 SUNNY	100+	0.5 N	CALM	71 50
12-VII-10-3 CTD ROSETTE FLORIDA, TORTUGAS ECOLOGICAL RESERVE NORTH, OUTSIDE TER, NORTH OF BANK	WATER COLUMN				0-1	156 16

SITE NUMBER COLLECTION METHOD LOCATION	HABITAT	TEMP. (C) SALINITY	VISI-BILITY (Ft.) WEATHER	CURRENT (KNOT from) (MPH from)	SEAS (Ft. from)	DEPTH RANGE (Ft.)
12-VII-10-4 SCUBA FLORIDA, TORTUGAS ECOLOGICAL RESERVE NORTH, OUTSIDE TER, WP JSL II-3775, BLACK BAND SITE	FLAT GENTLE SLOPE, CORAL COLONIZED HARD BOTTOM	28.9	60+ SUNNY	0.5 N	CALM	77
12-VII-10-5 JSL II-3776 FLORIDA, TORTUGAS ECOLOGICAL RESERVE SOUTH, RILEY'S HUMP, WEST SIDE, INSIDE TER	0-10 DEGREE SLOPE, HARD BOTTOM, 1-2' RELIEF, RUBBLE, BOULDER, CORAL	24.1 36.4	25 SUNNY	0.4-.6 225 4 90	FLAT	201 79
12-VII-10-6 SCUBA FLORIDA, TORTUGAS ECOLOGICAL RESERVE NORTH, BAT CAVES	FLAT SLOPE; LOW NO RELIEF REEF WITH 10-20% COVER, SOME OVERHANGS	28.3	60+ SUNNY	2 N CALM	0	50
12-VII-10-7 CTD ROSETTE FLORIDA, TORTUGAS ECOLOGICAL RESERVE SOUTH, WEST OF TER, OUTSIDE TER	WATER COLUMN		 CLEAR	 3.6 108	0-1	301 0
13-VII-10-1 JSL II-3777 FLORIDA, TORTUGAS ECOLOGICAL RESERVE SOUTH, RILEY'S HUMP, INSIDE TER	5 DEGREE ROCK, RUBBLE HARD GROUNDS	24 35.9	20 SUNNY	1 NW 2 90	1-2 NE	122 79
13-VII-10-2 CTD ROSETTE FLORIDA, TORTUGAS ECOLOGICAL RESERVE SOUTH, RILEY'S HUMP, INSIDE TER	WATER COLUMN		 LIGHT CLOUDS	 6.2 87	0-1	164 11
13-VII-10-3 SCUBA FLORIDA, TORTUGAS ECOLOGICAL RESERVE SOUTH, RILEY'S HUMP, INSIDE TER	REEF, FLAT CORAL REEF/HARD BOTTOM THROUGHOUT ENTIRE DIVE	25.5	50 SUNNY	1 NW	0	90 85

SITE NUMBER COLLECTION METHOD LOCATION	HABITAT	TEMP. (C) SALINITY	VISI-BILITY (Ft.) WEATHER	CURRENT (KNOT from) (MPH from)	SEAS (Ft. from)	DEPTH RANGE (Ft.)
13-VII-10-4 JSL II-3778 FLORIDA, TORTUGAS ECOLOGICAL RESERVE SOUTH, MILLER'S LEDGE 1 NMI WEST, OUTSIDE TER	30' REEFS AND 150' WALL LEDGE	9.4 35	40 SUNNY	0.6 245 5.8 NE	1	400 277
13-VII-10-5 CTD ROSETTE FLORIDA, TORTUGAS ECOLOGICAL RESERVE SOUTH, WEST OF TER, OUTSIDE TER	WATER COLUMN	31.38 36.47		 4.1 65	0-1	313 0
14-VII-10-1 JSL II-3779 FLORIDA, POURTALES TERRACE, SOUTH OF KEY WEST, SINKHOLE "B", REED PEAK 380	80 DEGREE SLOPE, SINKHOLE, SOUTH WALL	8.5 35	20 SUNNY/RAIN	0.1 90 7 350	1 340	1362 966
14-VII-10-2 CTD ROSETTE FLORIDA, POURTALES TERRACE, SOUTH OF KEY WEST, SINKHOLE "B", REED PEAK 380	WATER COLUMN	28.8 36.27	 DRIZZLE	 1 89		1102 8
14-VII-10-3 CTD ROSETTE FLORIDA, POURTALES TERRACE, SOUTH OF KEY WEST, JORDAN SITE F	WATER COLUMN		 CLOUDY			646 0
14-VII-10-4 JSL II-3780 FLORIDA, POURTALES TERRACE, SOUTH OF KEY WEST, JORDAN SITE, REED PEAK 382	70-80 DEGREE SLOPE, FLAT TOP OF WALL WITH ROCK LEDGES AND SAND ON SLOPES	9.91 35.2	25-30 CLOUDY, RAIN	0.2 300 6 105	1-2 340	840 592
15-VII-10-1 SNORKEL FLORIDA, KEY WEST, TRUMAN ANNEX, NAVY PIER, UNDERNEATH PIER	PILINGS, UNDER PIER		10 CLOUDY	0	CALM	20 2

SITE NUMBER COLLECTION METHOD LOCATION	HABITAT	TEMP. (C) SALINITY	VISI-BILITY (Ft.) WEATHER	CURRENT (KNOT from) (MPH from)	SEAS (Ft. from)	DEPTH RANGE (Ft.)
16-VII-10-1 JSL II-3781 FLORIDA, TORTUGAS ECOLOGICAL RESERVE SOUTH, MILLER'S LEDGE, OUTSIDE TER, 2NMI W OF SITE 2	HARD BOTTOM WITH LOTS OF SAND AREAS BETWEEN, TOP OF THE RIDGES ALL EXPOSED ROCK	25.1 36.4	20 MOSTLY SUNN	0.4-0.5 350 18 SE	3 340	408
16-VII-10-2 CTD ROSETTE FLORIDA, TORTUGAS ECOLOGICAL RESERVE SOUTH, WEST OF TER, OUTSIDE TER	WATER COLUMN			16.5 99		311 0
16-VII-10-3 JSL II-3782 FLORIDA, TORTUGAS ECOLOGICAL RESERVE SOUTH, MILLER'S LEDGE, INSIDE TER, SITE 3	FLAT SAND, RUBBLE, 20' BOULDER REEF	24.29 36.2	10 P/CLOUDY	0.8-1.2 310 12-15 SE	4 SE	351 351
16-VII-10-4 CTD ROSETTE FLORIDA, TORTUGAS ECOLOGICAL RESERVE SOUTH, MILLER'S LEDGE	WATER COLUMN	29.8 36.7	 CLOUDY	 16.6 123	4-6	339 0
17-VII-10-1 JSL II-3783 FLORIDA, WEST FLORIDA SHELF, PULLEY RIDGE SITE 1, HAPC	OVERALL FLAT, HARD BOTTOM, ROCK, SMALL RUBBLE DEAD AGARICA UNDERNEITH, DOMINATED BY ANADENONEME	25.8 36.4	30-40 MOSTLY SUNN	0.2-0.7 300 10-15 SE	2-4 SE	219 191
17-VII-10-2 CTD ROSETTE FLORIDA, WEST FLORIDA SHELF, PULLEY RIDGE SITE 1, HAPC	WATER COLUMN	29.4 36.19	 CLOUDY	 17.3 110	4-6	142 10
17-VII-10-3 JSL II-3784 FLORIDA, WEST FLORIDA SHELF, PULLEY RIDGE SOUTH, SITE 2, ANDY DAVID SITE 7, HAPC	FLAT ROCK RUBBLE, COBBLE, DENSE ALGAE	24.72 36.5	20-40 P/CLOUDY	0.5 245 17 100	3-4 SE	221 208

SITE NUMBER COLLECTION METHOD LOCATION	HABITAT	TEMP. (C) SALINITY	VISI-BILITY (Ft.) WEATHER	CURRENT (KNOT from) (MPH from)	SEAS (Ft. from)	DEPTH RANGE (Ft.)
17-VII-10-4 CTD ROSETTE FLORIDA, WEST FLORIDA SHELF, PULLEY RIDGE SOUTH	WATER COLUMN	29.39 36.21	40 CLOUDY	13 103	4-6	187 0
18-VII-10-1 JSL II-3785 FLORIDA, WEST FLORIDA SHELF, NAPLES SINK HOLE	FLAT BOTTOM, SINKHOLE WITH STEEP SLOPES AND OVERHANGS	16.4 35.9	10 SUNNY	0.1 155 15 100	2-3 SE	743 579
18-VII-10-2 JSL II-3786 FLORIDA, WEST FLORIDA SHELF, PULLEY RIDGE, SITE 2 [ANDY DAVID ROUT, 2009]	ROCK LEDGE, LONG 2-6' ROCK LEDGE WITH PAYMENT ON TOP AND 1" SAND OVER HARD BOTTOM AT BASE	21.5 36.5	25 P/CLOUDY	0.2 250 10 110	2-3 SE	278 261
18-VII-10-3 CTD ROSETTE FLORIDA, WEST FLORIDA SHELF, PULLEY RIDGE NORTH, SITE 2	WATER COLUMN		CLOUDY		0-2	240 9
19-VII-10-1 JSL II-3787 FLORIDA, SOUTHWEST FLORIDA, LITHOHERMS, ESCARPMENT, REED SITE 32	90 DEGREE ROCK WALL	8.77 35	35-40 P/CLOUDY	<0.1 15 109	4-6 070	1511 1340
19-VII-10-2 CTD ROSETTE FLORIDA, SOUTHWEST FLORIDA, LITHOHERMS	WATER COLUMN	29.28 36.04	CLOUDY, STORMY	8.7 60	4-6	1384 0
19-VII-10-3 JSL II-3788 FLORIDA, SOUTHWEST FLORIDA, LITHOHERMS, LOPHELIA LITHOHERM, NEW SITE, NEW REED SITE 33	45 DEGREE SLOPE, 2-4' TALL THICKETS OF LOPHELIA PERTUSA, 10-30% FILL TO 100% COVER	8.45 35	0.1 P/CLOUDY	100 12 085	3-5 SE	1644 1591

SITE NUMBER COLLECTION METHOD LOCATION	HABITAT	TEMP. (C) SALINITY	VISI-BILITY (Ft.) WEATHER	CURRENT (KNOT from) (MPH from)	SEAS (Ft. from)	DEPTH RANGE (Ft.)
19-VII-10-4 CTD ROSETTE FLORIDA, SOUTHWEST FLORIDA, LITHOHERMS	WATER COLUMN	29.69 36.22		11.4 95	1-3	1545 0
20-VII-10-1 JSL II-3789 FLORIDA, WEST FLORIDA SHELF, STICKY GROUNDS, PATCH REEFS	FLAT 30 DEGREE SLOPE, PATCH REEFS, 30-50' WIDE, 6-15' TALL	18.9 P/CLOUDY	15 0.2	150 15-18 SSE	4 SE	414 396
20-VII-10-2 CTD ROSETTE FLORIDA, WEST FLORIDA SHELF, STICKY GROUNDS	WATER COLUMN	29.35 34.95	P/CLOUDY	15.5 115	2-4	357 0
20-VII-10-3 JSL II-3790 FLORIDA, WEST FLORIDA SHELF, 70M RIDGE, NEW REED SITE	20-40 DEGREE SLOPE	18.62 36.2	25-30 0.3 SUNNY	140 10-15 90	4-5	236 219
20-VII-10-4 CTD ROSETTE FLORIDA, WEST FLORIDA SHELF, OFF TAMPA BAY	WATER COLUMN	29.69 35.87	P/CLOUDY	10.3 32.6	2-4	172 0
22-VII-10-1 JSL II-3791 FLORIDA, WEST FLORIDA SHELF, REED'S LEDGE, NEW SITE (NEAR THE ELBOW)	FLAT SLOPE; SMALL RUBBLE ON SAND; ROCK LEDGE 5-10'	19.1 36.2	25 0.1-0.2 P/ SUNNY	S 13 90	4-6 180	230 212
22-VII-10-2 CTD ROSETTE FLORIDA, WEST FLORIDA SHELF; REED'S LEDGE; LEDGE NEAR THE ELBOW;	WATER COLUMN	29.34 36.15	P/CLOUDY	12.1 106	1-3	237

SITE NUMBER COLLECTION METHOD LOCATION	HABITAT	TEMP. (C) SALINITY	VISI-BILITY (Ft.) WEATHER	CURRENT (KNOT from) (MPH from)	SEAS (Ft. from)	DEPTH RANGE (Ft.)
22-VII-10-3 JSL II-3792 FLORIDA, WEST FLORIDA SHELF, REED'S LEDGE, 70M "GORGONIAN GARDEN" AKA "LARRY'S LEDGES"	FLAT PATCH REEFS; ROCK LEDGE 5-10'	18.9 36.2	30 SUNNY	0.4 90 7 100	2-3	238 215
24-VII-10-1 CTD ROSETTE FLORIDA, NORTHWEST FLORIDA SHELF, FLORIDA MIDDLE GROUNDS	WATER COLUMN	29.44 35.07	 CLOUDY, RAIN	 15.6 139	2-4	151
24-VII-10-2 JSL II-3793 FLORIDA, NORTHWEST FLORIDA SHELF, FLORIDA MIDDLE GROUNDS	FLAT SMALL RIPPLES W ALGAE IN TROUGH OF RIPLES	20	35-40 P/CLOUDY	0.2 W 18 130	4-6	140 120
24-VII-10-3 JSL II-3794 FLORIDA, NORTHWEST FLORIDA SHELF, FLORIDA MIDDLE GROUNDS	PATCH REEF	22.35	35-40 P/CLOUDY	0.5 15 15 130	3-5	123 97
26-VII-10-1 JSL II-3795 FLORIDA, WEST FLORIDA SHELF, STEAMBOAT LUMPS, KOENIG SITES	FLAT SLOPE, SANDY FLATS WITH RED GROUPER PITS IN SAND W 10' DIAMETER RED GROUPER PITS	18.5	25-30 P/CLOUDY	0.1-0.2 200 18 S	2-3 200	227 227
26-VII-10-2 MOCNESS FLORIDA, WEST FLORIDA SHELF, STEAMBOAT LUMPS	WATER COLUMN					230
26-VII-10-3 CTD ROSETTE FLORIDA, WEST FLORIDA SHELF, STEAMBOAT LUMPS	WATER COLUMN					236

SITE NUMBER COLLECTION METHOD LOCATION	HABITAT	TEMP. (C) SALINITY	VISI-BILITY (Ft.) WEATHER	CURRENT (KNOT from) (MPH from)	SEAS (Ft. from)	DEPTH RANGE (Ft.)
26-VII-10-4 JSL II-3796 FLORIDA, WEST FLORIDA SHELF, STEAMBOAT LUMPS, KOENIG SITES; WP2 TO WP 4	FLAT CARBONATE SAND-SHELL BOTTOM WITH RED GROUPER PITS CLUSTERED IN PATCHES	18.6 26.2	35 CLEAR	.2 20 8 20	2-3 90	227 224
26-VII-10-5 CTD ROSETTE FLORIDA, WEST FLORIDA SHELF, STEAMBOAT LUMPS	WATER COLUMN					230
26-VII-10-6 HOOK & LINE FLORIDA, WEST FLORIDA SHELF, STEAMBOAT LUMPS, KOENIG SITE, WP2	WATER COLUMN					227 227
27-VII-10-1 JSL II-3797 FLORIDA, NORTHWEST FLORIDA SHELF, MADISON-SWANSON, SITE 1, WEST FACE OF EAST RIDGE	BOULDER SLOPE 30 DEGREES AND TOP OF RIDGE	19.4 36.2	10-15 SUNNY	0.1 240 7 260	1-2	233 197
27-VII-10-2 MOCNESS FLORIDA, NORTHWEST FLORIDA SHELF, MADISON-SWANSON	WATER COLUMN					244
27-VII-10-3 CTD ROSETTE FLORIDA, NORTHWEST FLORIDA SHELF, MADISON-SWANSON	WATER COLUMN		P/CLOUDY	3.5 252	~1	257
27-VII-10-4 JSL II-3798 FLORIDA, NORTHWEST FLORIDA SHELF, MADISON-SWANSON, SITE 2	30-45 DEGREE SLOPE, ROCK BOULDERS 6-10'	19.4	6-20 SUNNY	0-0.2 4 270	FLAT	260 195

SITE NUMBER COLLECTION METHOD LOCATION	HABITAT	TEMP. (C) SALINITY	VISI-BILITY (Ft.) WEATHER	CURRENT (KNOT from) (MPH from)	SEAS (Ft. from)	DEPTH RANGE (Ft.)
27-VII-10-5 CTD ROSETTE FLORIDA, NORTHWEST FLORIDA SHELF, MADISON-SWANSON	WATER COLUMN		SUNNY	9.7 273	2-3	207
28-VII-20-1 JSL II-3799 FLORIDA, NORTHWEST FLORIDA SHELF, MADISON-SWANSON, SITE 3	10-80 DEGREE SLOPE	19.34 36.4	15-20 SUNNY	0.1-0.2 335 15 NNW	2-3	263 222
28-VII-10-2 MOCNESS FLORIDA, NORTHWEST FLORIDA SHELF, MADISON-SWANSON	WATER COLUMN					287
28-VII-10-3 CTD ROSETTE FLORIDA, NORTHWEST FLORIDA SHELF, MADISON-SWANSON	WATER COLUMN			12.4 351	2-3	181 49
28-VII-10-4 JSL II-3800 FLORIDA, NORTHWEST FLORIDA SHELF, MADISON-SWANSON, SITE 4	0-10 DEGREE SLOPE, SEDIMENT ROCK RUBBLE, 5 M ROCK SLABS, 1 M CAVES	18.41	10 SUNNY	0.4 300 10 300	2	430 302
28-VII-10-5 CTD ROSETTE FLORIDA, NORTHWEST FLORIDA SHELF, MADISON-SWANSON	WATER COLUMN		P/CLOUDY	14 107	3-4	260 33
28-VII-10-6 MOCNESS FLORIDA, NORTHWEST FLORIDA SHELF, MADISON-SWANSON	WATER COLUMN					289

SITE NUMBER COLLECTION METHOD LOCATION	HABITAT	TEMP. (C) SALINITY	VISI-BILITY (Ft.) WEATHER	CURRENT (KNOT from) (MPH from)	SEAS (Ft. from)	DEPTH RANGE (Ft.)
29-VII-10-1 JSL II-3801 FLORIDA, NORTHWEST FLORIDA SHELF, MADISON-SWANSON, SITE 5	FLAT, BOULDERS	18.15 36.4	15-20 SUNNY	0 15 360	1-3	407 312
29-VII-10-2 MOCNESS FLORIDA, NORTHWEST FLORIDA SHELF, MADISON-SWANSON, SITE 5	WATER COLUMN					573
29-VII-10-3 CTD ROSETTE FLORIDA, NORTHWEST FLORIDA SHELF, MADISON-SWANSON, SITE 5	WATER COLUMN		SUNNY	10.2 306	8-10+	541 33
29-VII-10-4 JSL II-3802 FLORIDA, NORTHWEST FLORIDA SHELF, MADISON-SWANSON, SITE 6	PATHY REEF, SANDY BOTTOM WITH RUBBLE AND LARGE BOULDERS	19.29 SUNNY	35-40 15 295	0.1 290	3-5	264 234
29-VII-10-5 CTD ROSETTE FLORIDA, NORTHWEST FLORIDA SHELF, MADISON-SWANSON, SITE 6	WATER COLUMN		SUNNY	15.9 100	5-6 100	213 49
29-VII-10-6 MOCNESS FLORIDA, NORTHWEST FLORIDA SHELF, MADISON-SWANSON, SITE 6	WATER COLUMN					571
30-VII-10-1 JSL II-3803 FLORIDA, NORTHWEST FLORIDA SHELF, TWIN RIDGES	ROCK BOULDER, LEDGES	18.42 36.4	20-25 SUNNY	0.1 105 10 NW	1	246 205

SITE NUMBER COLLECTION METHOD LOCATION	HABITAT	TEMP. (C) SALINITY	VISI-BILITY (Ft.) WEATHER	CURRENT (KNOT from) (MPH from)	SEAS (Ft. from)	DEPTH RANGE (Ft.)
30-VII-10-2 CTD ROSETTE FLORIDA, NORTHWEST FLORIDA SHELF, TWIN RIDGES	WATER COLUMN		HAZE	6.8 100	3-4	236
30-VII-10-3 MOCNESS FLORIDA, NORTHWEST FLORIDA SHELF, TWIN RIDGES	WATER COLUMN					302 253
30-VII-10-4 JSL II-3804 FLORIDA, NORTHWEST FLORIDA SHELF, SOUTH OF TWIN RIDGES, MAGIC MOUNTAIN--C. KOENIG SITE "MSOUT13MM"	FLAT 12-15' LEDGE, FLAT TOP BUTTRESSES	18	35-25 SUNNY	0.2 285 8 320	FLAT	228 211
30-VII-10-5 CTD ROSETTE FLORIDA, NORTHWEST FLORIDA SHELF, SOUTH OF TWIN RIDGES, MAGIC MOUNTAIN--C. KOENIG SITE "MSOUT13MM"	WATER COLUMN		SUNNY	8.5 304	3 ~290	242 223
30-VII-10-6 MOCNESS FLORIDA, NORTHWEST FLORIDA SHELF, TWIN RIDGES	WATER COLUMN					257
31-VII-10-1 JSL II-3805 FLORIDA, WEST FLORIDA SHELF, SNYDER RIDGE, C. KOENIG SITE "SNYDER RIDGE N"	FLAT 6' LEDGE, NW-SE, 1-3' BOULDERS	18:79	20-30 SUNNY	0.2 250 8 255	1-2	244 224
31-VII-10-2 CTD ROSETTE FLORIDA, WEST FLORIDA SHELF, SNYDER RIDGE, C. KOENIG SITE "SNYDER RIDGE -GAG REEF"	WATER COLUMN					248

SITE NUMBER COLLECTION METHOD LOCATION	HABITAT	TEMP. (C) SALINITY	VISI-BILITY (Ft.) WEATHER	CURRENT (KNOT from) (MPH from)	SEAS (Ft. from)	DEPTH RANGE (Ft.)
31-VII-10-3 MOCNESS FLORIDA, WEST FLORIDA SHELF, SNYDER RIDGE, C. KOENIG SITE "SNYDER RIDGE"	WATER COLUMN					247
31-VII-10-4 JSL II-3806 FLORIDA, WEST FLORIDA SHELF, C. KOENIG SITE: "SSEGAGAG"	FLAT. SAND, RUBBLE. SMALL LEDGE, SMALL BOULDER	20.1 36.2	10-15 P/CLOUDY	0.5 270 10 20	1-2 W	176 172
31-VII-10-5 CTD ROSETTE FLORIDA, WEST FLORIDA SHELF, C. KOENIG SITE: "SSEGAGAG"	WATER COLUMN		P/CLOUDY		3-4	178
31-VII-10-6 MOCNESS FLORIDA, WEST FLORIDA SHELF, SNYDER RIDGE	WATER COLUMN					215
1-VIII-10-1 JSL II-3807 FLORIDA, NORTHWEST FLORIDA SHELF, FLORIDA MIDDLE GROUNDS	REEF FLAT, ABOUT 5-10 ROCK DROP TO SAND FLAT AT EDGES	24.02	35-40 SUNNY	0.2-0.3 30 8-10 SW	1-2	117 87
1-VIII-10-2 SCUBA FLORIDA, NORTHWEST FLORIDA SHELF, FLORIDA MIDDLE GROUNDS SITE 3	FLAT, HARD BOTTOM, DENSE HABITAT, LESS THAN 1 FT RELIEF	24.4	40 CLOUDY	0 <5	1	97 96
1-VIII-10-3 CTD ROSETTE FLORIDA, NORTHWEST FLORIDA SHELF, FLORIDA MIDDLE GROUNDS	WATER COLUMN		CLOUDY	6.6 10.6	2	132

SITE NUMBER COLLECTION METHOD LOCATION	HABITAT	TEMP. (C) SALINITY	VISI-BILITY (Ft.) WEATHER	CURRENT (KNOT from) (MPH from)	SEAS (Ft. from)	DEPTH RANGE (Ft.)
1-VIII-10-4 1M PLANKTON NE FLORIDA, NORTHWEST FLORIDA SHELF, FLORIDA MIDDLE GROUNDS	WATER COLUMN					394
1-VIII-10-5 JSL II-3808 FLORIDA, NORTHWEST FLORIDA SHELF, FLORIDA MIDDLE GROUNDS SITE 4	FLAT TOP HARD BOTTOM REEF, 8-10' WALL	21.9 	35-40 P/CLOUDY	0.2 160 7 SW	FLAT	135 95
1-VIII-10-6 CTD ROSETTE FLORIDA, NORTHWEST FLORIDA SHELF, FLORIDA MIDDLE GROUNDS	WATER COLUMN		 CLOUDY	 5.9 49	3	102
3-VIII-10-1 JSL II-3809 FLORIDA, SOUTHWEST FLORIDA, LITHOHERMS	60-90 DEGREE SLOPE, LARGE LOPHELIA TOPPED MOUNDS WITH SWATH OF FLAT SEDIMENT IN BETWEEN	27 34.9	40 P/CLOUDY	0 6 NE	1 NM	1694 1557
3-VIII-10-2 MOCNESS FLORIDA, SOUTHWEST FLORIDA, LITHOHERMS	WATER COLUMN					1762
3-VIII-10-3 JSL II-3810 FLORIDA, SOUTHWEST FLORIDA, LITHOHERMS	15-20 DEGREE SLOPE	7 34.9	35-40	0.1 NW 3 NE	0 NW	1640
3-VIII-10-4 DIP NET FLORIDA, SOUTHWEST FLORIDA, LITHOHERMS	WATER COLUMN					0

SITE NUMBER COLLECTION METHOD LOCATION	HABITAT	TEMP. (C) SALINITY	VISI-BILITY (Ft.) WEATHER	CURRENT (KNOT from) (MPH from)	SEAS (Ft. from)	DEPTH RANGE (Ft.)	
3-VIII-10-5 CTD ROSETTE FLORIDA, SOUTHWEST FLORIDA, LITHOHERMS	WATER COLUMN					1568	
4-VIII-10-1 JSL II-3811 FLORIDA, WEST FLORIDA SHELF, PULLEY RIDGE SOUTH	FLAT, GENTLE SLOP ONLY. DOMINATED BY ANADYONOME MENZIESII	25.22 36.4	30 SUNNY	.1 290 6 120	1-2	211	204
4-VIII-10-2 CTD ROSETTE FLORIDA, WEST FLORIDA SHELF, PULLEY RIDGE SOUTH	WATER COLUMN					409	
4-VIII-10-3 MOCNESS FLORIDA, WEST FLORIDA SHELF, PULLEY RIDGE SOUTH	WATER COLUMN					561	
4-VIII-10-4 JSL II-3812 FLORIDA, WEST FLORIDA SHELF, PULLEY RIDGE WEST/SOUTH	FLAT; HARD SUBSTRATE AND CORAL RUBBLE	16.62	35	0 6 SE	0	314	272
4-VIII-10-5 MOCNESS FLORIDA, WEST FLORIDA SHELF, PULLEY RIDGE SOUTH	WATER COLUMN					924	
5-VIII-10-1 JSL II-3813 FLORIDA, TORTUGAS ECOLOGICAL RESERVE SOUTH, MILLER'S LEDGE, OUTSIDE TER	FLAT ON LANDING, 40-50 DEGREE SLOPE AT WALL.	23	40 P/CLOUDY	0.5 300 10 120	2-3	267	

SITE NUMBER COLLECTION METHOD LOCATION	HABITAT	TEMP. (C) SALINITY	VISI-BILITY (Ft.) WEATHER	CURRENT (KNOT from) (MPH from)	SEAS (Ft. from)	DEPTH RANGE (Ft.)
5-VIII-10-2 CTD ROSETTE FLORIDA, TORTUGAS ECOLOGICAL RESERVE SOUTH, MILLER'S LEDGE, OUTSIDE TER	WATER COLUMN					792
5-VIII-10-3 MOCNESS FLORIDA, TORTUGAS ECOLOGICAL RESERVE SOUTH, MILLER'S LEDGE, OUTSIDE TER	WATER COLUMN					709
5-VIII-10-4 JSL II-3814 FLORIDA, TORTUGAS ECOLOGICAL RESERVE SOUTH, MILLER'S LEDGE, INSIDE TER	FLAT WITH LARGE, TALL COLUMNS AND MOUNDS/HILLS WITH COLUMNS AND OTHER STRUCTURES. SHARP 25 FT LEDGE.	14.5 36	50-55 CLOUDY	.2 150	2-3 125	379
5-VIII-10-5 MOCNESS FLORIDA, TORTUGAS ECOLOGICAL RESERVE SOUTH, WEST OF TER, OUTSIDE TER	WATER COLUMN					706
6-VIII-10-1 JSL II-3815 FLORIDA, POURTALES TERRACE, SOUTH OF KEY WEST, SINKHOLE "B", REED PEAK 380	90 DEGREE SLOPE	8.37	40	0	2-3 SW	1399 894
6-VIII-10-2 CTD ROSETTE FLORIDA, POURTALES TERRACE, SOUTH OF KEY WEST, SINKHOLE "B", REED PEAK 380	WATER COLUMN					1716
6-VIII-10-3 MOCNESS FLORIDA, POURTALES TERRACE, SOUTH OF KEY WEST, 3 MILE OFF SINK HOLE "B"	WATER COLUMN					1065

SITE NUMBER COLLECTION METHOD LOCATION	HABITAT	TEMP. (C) SALINITY	VISI-BILITY (Ft.) WEATHER	CURRENT (KNOT from) (MPH from)	SEAS (Ft. from)	DEPTH RANGE (Ft.)
6-VIII-10-4 JSL II-3816 FLORIDA, POURTALES TERRACE, SOUTH OF KEY WEST, SINKHOLE "B", REED PEAK 380	FLAT BUT ON A RIDGE. 20-30 DEGREE SLOPE	8 35	4-45 P/CLOUDY	0.1-0.2 10 SE	2-3 W	1297
6-VIII-10-5 MOCNESS FLORIDA, POURTALES TERRACE, SOUTH OF KEY WEST, 3 MILE OFF SINK HOLE "B"	WATER COLUMN					1742
7-VIII-10-1 JSL II-3817 FLORIDA, POURTALES TERRACE, ALLIGATOR BIOHERM 1635, THE GREAT "SEA WEINER HUNT"	SEDIMENT, 20 DEGREE SLOPE, SMALL GORGONIANS	11.8 35.5	20 P/CLOUDY	0.5-0.7 260 1.5 S	1	708 651
7-VIII-10-2 CTD ROSETTE FLORIDA, POURTALES TERRACE, ALLIGATOR BIOHERM	WATER COLUMN					614
7-VIII-10-3 MOCNESS FLORIDA, POURTALES TERRACE, ALLIGATOR BIOHERM	WATER COLUMN					1312
7-VIII-10-4 JSL II-3818 FLORIDA, POURTALES TERRACE, ALLIGATOR BIOHERM 1635, "SEA CUKE HILL"	TERRACES, HARD BOTTOM WITH SEDIMENT COVER	12.12 35.5	30 P/CLOUDY	0.5 220 6 160	1 160	690 593
8-VIII-10-1 JSL II-3819 FLORIDA, MIAMI TERRACE, FORT LAUDERDALE, "WRECKFISH" SITE BU-4	ROCK PAVEMENT, SCOURED BY CURRENT, VERY THIN SEDIMENT, UNEVEN	10.13 35.2	35 WATERSPOUTS	0.2-0.3 E 12 310	2-3 190	1073

SITE NUMBER COLLECTION METHOD LOCATION	HABITAT	TEMP. (C) SALINITY	VISI-BILITY (Ft.) WEATHER	CURRENT (KNOT from) (MPH from)	SEAS (Ft. from)	DEPTH RANGE (Ft.)
8-VIII-10-2 CTD ROSETTE FLORIDA, MIAMI TERRACE, OFF MIAMI TERRACE	WATER COLUMN					990 940
8-VIII-10-3 MOCNESS FLORIDA, MIAMI TERRACE, OFF MIAMI TERRACE	WATER COLUMN					990
8-VIII-10-4 JSL II-3820 FLORIDA, MIAMI TERRACE, REED SITE-BU-6	10-80 DEGREE SLOPE, BROKEN PAVEMENT	8.31	35 CLOUDY	<.1 350 6 200	2-3	1263 1174

APPENDIX 3

Species List of Specimens Collected
(Sample Number = day + month + year + site + sample; e.g., 27-VII-10-1-001)

SPECIES LIST
HBOI CIOERT Florida Shelf-Edge Expedition (FLoSEE)
July 9-August 9, 2010
R/V Seward Johnson
Johnson-Sea-Link II Submersible

SAMPLE NUMBER (Date+Site+Sample)	PHYLUM	TAXONOMY	METHOD	DEPTH (Ft.)
9-VII-10-1-001	POR	CLATHRIA SP.	SCUBA	12
10-VII-10-1-001	POR	LEIODERMATIUM SP.	JSL II-3771	1285
10-VII-10-1-002	POR	LEIODERMATIUM SP.	JSL II-3771	1281
10-VII-10-1-003	POR	LEIODERMATIUM SP.	JSL II-3771	1276
10-VII-10-1-004	POR	HEXACTINELLIDA?	JSL II-3771	1241
10-VII-10-1-005	POR	LEIODERMATIUM SP.	JSL II-3771	1240
10-VII-10-1-006	POR	HEXACTINELLIDA	JSL II-3771	1200
10-VII-10-1-007	POR	LEIODERMATIUM SP.	JSL II-3771	1198
10-VII-10-1-008	POR	LEIODERMATIUM SP.	JSL II-3771	1195
10-VII-10-1-009	POR	HEXACTINELLIDA?	JSL II-3771	1163
10-VII-10-1-010	POR	PHAKELLIA SP.	JSL II-3771	1162
10-VII-10-1-011	CNI	PRIMNOIDAE	JSL II-3771	1163
10-VII-10-1-201	SED	SEDIMENT	JSL II-3771	1382
10-VII-10-1-301	ENV	WATER/PLANKTON	JSL II-3771	1382
10-VII-10-1-302	ENV	WATER/PLANKTON	JSL II-3771	1198
10-VII-10-1-N1	ECH	CRINOIDEA	JSL II-3771	1162
10-VII-10-3-001	POR	LEIODERMATIUM SP.	JSL II-3772	1356
10-VII-10-3-002	POR	ASCONEMA? SP.	JSL II-3772	1356
10-VII-10-3-003	POR	AXINELLIDAE or RASPAILLIIDAE	JSL II-3772	1357
10-VII-10-3-004	POR	GEODIA SP.	JSL II-3772	1357
10-VII-10-3-005	POR	LEIODERMATIUM SP.	JSL II-3772	1357
10-VII-10-3-006	ECH	GONIASTERIDAE	JSL II-3772	1357
10-VII-10-3-007	CNI	ISIDIIDAE	JSL II-3772	1318
10-VII-10-3-008	POR	SPONGOSORITES SP.	JSL II-3772	1311
10-VII-10-3-009	POR	LITHISTIDA	JSL II-3772	1114
10-VII-10-3-301	ENV	WATER/PLANKTON	JSL II-3772	1357
10-VII-10-3-302	ENV	WATER/PLANKTON	JSL II-3772	1357
10-VII-10-3-303	ENV	WATER/PLANKTON	JSL II-3772	1357
11-VII-10-1-001	POR	HEXACTINELLIDA	JSL II-3773	699
11-VII-10-1-002	CNI	STYLASTERIDAE	JSL II-3773	699
11-VII-10-1-003	POR	LITHISTIDA	JSL II-3773	650
11-VII-10-1-004	POR	PETROSIIDAE?	JSL II-3773	540
11-VII-10-1-005	MOL	PEROTROCHUS AMABILIS	JSL II-3773	538

SAMPLE NUMBER (Date+Site+Sample)	PHYLUM	TAXONOMY	METHOD	DEPTH (Ft.)
11-VII-10-1-006	CNI	STYLASTERIDAE	JSL II-3773	699
11-VII-10-2-001	POR	AXINELLA CORRUGATA	SCUBA	70
11-VII-10-2-002	POR	PTILOCAULIS BURTONI?	SCUBA	80
11-VII-10-2-003	POR	PTILOCAULIS SP.	SCUBA	80
11-VII-10-2-004	POR	PTILOCAULIS SP.	SCUBA	80
11-VII-10-2-301	CYA	CYANOPHYTA- BLACK BAND DISEASE ON MONTASTRAEA CAVERNOSA	SCUBA	55
11-VII-10-2-302	CYA	CYANOPHYTA- BLACK BAND DISEASE ON MONTASTRAEA CAVERNOSA	SCUBA	61
12-VII-10-1-001	CNI	MONTASTRAEA CAVERNOSA	JSL II-3775	96
12-VII-10-1-002	CNI	MONTASTRAEA CAVERNOSA	JSL II-3775	95
12-VII-10-1-003	CNI	MONTASTRAEA CAVERNOSA	JSL II-3775	97
12-VII-10-1-004	CNI	MONTASTRAEA CAVERNOSA	JSL II-3775	95
12-VII-10-1-005	CNI	MONTASTRAEA CAVERNOSA	JSL II-3775	98
12-VII-10-1-006	CNI	MONTASTRAEA CAVERNOSA	JSL II-3775	115
12-VII-10-1-201	SED	SEDIMENT	JSL II-3775	120
12-VII-10-4-001	CYA	CYANOPHYTA- BLACK BAND DISEASE ON MONTASTRAEA CAVERNOSA	SCUBA	77
12-VII-10-4-002	CYA	CYANOPHYTA- BLACK BAND DISEASE ON MONTASTRAEA FAVEOLATA	SCUBA	77
12-VII-10-5-201	SED	SEDIMENT	JSL II-3776	203
13-VII-10-4-001	CNI	ASTRANGIA? SP. or PHYLLANGIA AMERICANA?	JSL II-3778	384
13-VII-10-4-002	CNI	MADREPORA SP.	JSL II-3778	367
13-VII-10-4-003	CNI	MADRACIS SP.	JSL II-3778	345
13-VII-10-4-004	CNI	STYLASTERIDAE	JSL II-3778	348
13-VII-10-4-005	CNI	PLEXAURIDAE	JSL II-3778	335
13-VII-10-4-006	CNI	ANTIPATHIDAE	JSL II-3778	335
13-VII-10-4-007	ECH	HOLOTHUROIDEA	JSL II-3778	332
13-VII-10-4-008	CNI	PLEXAURIDAE	JSL II-3778	333
13-VII-10-4-009	POR	GEODIA SP.	JSL II-3778	333
13-VII-10-4-010	CNI	MADRACIS SP.	JSL II-3778	342
13-VII-10-4-101	RHO	RHODYMENIA? SP.	JSL II-3778	390
13-VII-10-4-102	CHL	ANADYOMENE MENZIESII	JSL II-3778	393
13-VII-10-4-201	SED	SEDIMENT	JSL II-3778	384
14-VII-10-1-001	CNI	STYLASTERIDAE	JSL II-3779	1298
14-VII-10-1-002	CNI	ANTIPATHIDAE	JSL II-3779	1298
14-VII-10-1-003	CNI	ANTIPATHIDAE	JSL II-3779	1279
14-VII-10-1-004	MOL	LEPAS SPP. (2 SPECIES)	JSL II-3779	1279
14-VII-10-1-005	CNI	STYLASTERIDAE	JSL II-3779	1276
14-VII-10-1-006	CNI	ANTIPATHIDAE	JSL II-3779	1236
14-VII-10-1-007	CNI	ISIDIIDAE	JSL II-3779	1296
14-VII-10-1-008	MOL	JUNONIA SP.	JSL II-3779	1038
14-VII-10-1-009	POR	HEXACTINELLIDA	JSL II-3779	1029

SAMPLE NUMBER (Date+Site+Sample)	PHYLUM	TAXONOMY	METHOD	DEPTH (Ft.)
14-VII-10-1-010	POR	HEXACTINELLIDA	JSL II-3779	976
14-VII-10-1-011	POR	RASPAILIIDAE	JSL II-3779	976
14-VII-10-1-012	POR	PHAKELLIA SP.	JSL II-3779	973
14-VII-10-1-013	POR	PHAKELLIA SP.2?	JSL II-3779	966
14-VII-10-1-201	SED	RUBBLE + DUGONG BONES	JSL II-3779	1363
14-VII-10-1-202	SED	SEDIMENT	JSL II-3779	1350
14-VII-10-4-001	CNI	STYLASTERIDAE	JSL II-3780	738
14-VII-10-4-002	CNI	ZOANTHIDAE	JSL II-3780	694
14-VII-10-4-003	CNI	STYLASTERIDAE	JSL II-3780	592
14-VII-10-4-004	ECH	ASTROPHYTON MURICATUM	JSL II-3780	694
15-VII-10-1-001	BRY	ZOOBOTRYON SP.	SNORKEL	10
15-VII-10-1-002	CNI	CARIJOA SP. (AKA 'TELESTO')	SNORKEL	5
15-VII-10-1-003	CHO	ASCIDIACEA	SNORKEL	10
15-VII-10-1-004	CHO	ASCIDIACEA	SNORKEL	10
15-VII-10-1-005	POR	CHONDRILLA SP.	SNORKEL	10
15-VII-10-1-006	CHO	EUDISTOMA? SP.	SNORKEL	10
15-VII-10-1-007	CHO	EUDISTOMA SP.	SNORKEL	5
15-VII-10-1-008	CHO	ASCIDIA NIGRA	SNORKEL	5
15-VII-10-1-009	POR	IOTROCHOTA BIROTULATA	SNORKEL	15
15-VII-10-1-010	POR	IRCINIA SP.	SNORKEL	8
15-VII-10-1-011	POR	AMPHIMEDON COMPRESSA	SNORKEL	15
15-VII-10-1-012	POR	NIPHATES ERECTA?	SNORKEL	15
15-VII-10-1-013	POR	NIPHATES? SP.	SNORKEL	10
15-VII-10-1-014	POR	DYSIDEA ETHEREA	SNORKEL	3
15-VII-10-1-015	POR	GEODIA GIBBEROSA	SNORKEL	15
15-VII-10-1-016	POR	CALLYSPONGIA VAGINALIS	SNORKEL	10
15-VII-10-1-017	POR	SPHECIOSPONGIA VESPARIUM	SNORKEL	15
15-VII-10-1-018	CHO	ASCIDIACEA	SNORKEL	5
15-VII-10-1-019	CHO	STYELLA SP.	SNORKEL	5
16-VII-10-1-101	CHL	ANADYOMENE MENZIESII	JSL II-3781	409
16-VII-10-1-102	RHO	RHODOPHYTA	JSL II-3781	416
17-VII-10-1-001	CHO	ASCIDIACEA	JSL II-3783	195
17-VII-10-1-002	POR	XESTOSPONGIA MUTA	JSL II-3783	195
17-VII-10-1-003	CNI	AGARICIA GRAHAMAE	JSL II-3783	201
17-VII-10-1-004	POR	XESTOSPONGIA MUTA	JSL II-3783	201
17-VII-10-1-005	ECH	COMATULIDA	JSL II-3783	195
17-VII-10-1-101	RHO	CORALLIINACEAE	JSL II-3783	218
17-VII-10-1-102	PHA	LOBOPHORA VARIEGATA	JSL II-3783	195
17-VII-10-1-103	RHO	PEYSSONNELIA SP.	JSL II-3783	200

SAMPLE NUMBER (Date+Site+Sample)	PHYLUM	TAXONOMY	METHOD	DEPTH (Ft.)
17-VII-10-1-104	RHO	PEYSSONNELIA SP.	JSL II-3783	200
17-VII-10-1-105	RHO	PEYSSONNELIA SP.	JSL II-3783	203
17-VII-10-1-106	RHO	PEYSSONNELIA SP.	JSL II-3783	201
17-VII-10-1-107	CHL	ANADYOMENE MENZIESII	JSL II-3783	201
17-VII-10-1-108	RHO	CORALLIINACEAE	JSL II-3783	202
17-VII-10-1-201	SED	SEDIMENT	JSL II-3783	208
17-VII-10-1-N1	ECU	OCHETOSTOMA? SP.	JSL II-3783	201
17-VII-10-1-N2	BRY	BRYOZOA	JSL II-3783	195
17-VII-10-3-001	POR	VERONGIDA	JSL II-3784	198
17-VII-10-3-002	POR	CALLYSPONGIA SP.	JSL II-3784	188
17-VII-10-3-003	CNI	PLEXAURIDAE	JSL II-3784	190
17-VII-10-3-004	POR	PORIFERA	JSL II-3784	189
17-VII-10-3-005	POR	AGELAS CLATHRODES	JSL II-3784	190
17-VII-10-3-006	CNI	MUSSA SP.	JSL II-3784	188
17-VII-10-3-007	CNI	CIRRHIPATHES LUTKENI	JSL II-3784	188
17-VII-10-3-008	CNI	PLEXAURIDAE	JSL II-3784	199
17-VII-10-3-009	CNI	PLEXAURIDAE	JSL II-3784	189
17-VII-10-3-010	ECH	COMATULIDA	JSL II-3784	188
17-VII-10-3-101	RHO	RHODOPHYTA	JSL II-3784	208
17-VII-10-3-102	CHL	ULVA? SP.	JSL II-3784	208
17-VII-10-3-103	CHL	ANADYOMENE MENZIESII	JSL II-3784	208
17-VII-10-3-104	PHA	PHAEOPHYTA?	JSL II-3784	208
17-VII-10-3-105	RHO	RHODOPHYTA	JSL II-3784	211
17-VII-10-3-201	SED	SEDIMENT + ROCK RUBBLE	JSL II-3784	208
17-VII-10-3-202	SED	RUBBLE + SEDIMENT	JSL II-3784	189
18-VII-10-1-001	POR	AXINELLIDAE	JSL II-3785	571
18-VII-10-1-002	CNI	TANACITEPATHES TETRASTICHA?	JSL II-3785	628
18-VII-10-1-003	POR	LITHISTIDA	JSL II-3785	622
18-VII-10-1-004	POR	PETROSIIDAE	JSL II-3785	623
18-VII-10-1-005	CNI	ANTIPATHES RIGIDA?	JSL II-3785	632
18-VII-10-1-006	POR	LITHISTIDA	JSL II-3785	615
18-VII-10-1-007	POR	LITHISTIDA	JSL II-3785	586
18-VII-10-1-008	POR	STRONGYLOPHORA SP.	JSL II-3785	569
18-VII-10-1-201	SED	SEDIMENT	JSL II-3785	738
18-VII-10-1-202	SED	ROCK	JSL II-3785	571
18-VII-10-2-001	CNI	ELLISELLA SP.	JSL II-3786	270
18-VII-10-2-002	CNI	SWIFTIA EXSERTA	JSL II-3786	266
18-VII-10-2-003	CNI	ELLISELLA BARBADENSIS	JSL II-3786	266
18-VII-10-2-004	CNI	ANTIPATHIDAE	JSL II-3786	264

SAMPLE NUMBER (Date+Site+Sample)	PHYLUM	TAXONOMY	METHOD	DEPTH (Ft.)
18-VII-10-2-005	CNI	BEBRYCE SP.	JSL II-3786	264
18-VII-10-2-006	CNI	ANTIPATHIDAE	JSL II-3786	271
18-VII-10-2-007	CNI	MADRACIS SP.	JSL II-3786	268
18-VII-10-2-008	CNI	MADRACIS SP.	JSL II-3786	268
18-VII-10-2-009	CNI	MUSSIIDAE?	JSL II-3786	267
18-VII-10-2-010	POR	IRCINIA CAMPANA	JSL II-3786	268
18-VII-10-2-201	SED	SEDIMENT	JSL II-3786	264
18-VII-10-2-N1	POR	DEMOSPONGIAE (SPP.)	JSL II-3786	260
19-VII-10-1-001	POR	HETEROTELLA SP.	JSL II-3787	1476
19-VII-10-1-002	POR	PHAKELLIA SP.	JSL II-3787	1454
19-VII-10-1-003	CNI	STYLASTERIDAE	JSL II-3787	1443
19-VII-10-1-004	CNI	STYLASTERIDAE	JSL II-3787	1428
19-VII-10-1-005	CNI	ANTIPATHIDAE	JSL II-3787	1430
19-VII-10-1-006	CNI	NEPHTHEIDAE	JSL II-3787	1415
19-VII-10-1-007	CNI	LOPHELIA PERTUSA	JSL II-3787	1396
19-VII-10-1-008	CNI	ISIDIIDAE	JSL II-3787	1350
19-VII-10-1-009	CHO	ASCIDIACEA	JSL II-3787	1352
19-VII-10-1-010	CHO	PYROSOMA SP.	JSL II-3787	1340
19-VII-10-1-011	CNI	STYLASTERIDAE	JSL II-3787	1348
19-VII-10-1-012	CNI	ANTHOMASTUS SP.	JSL II-3787	1378
19-VII-10-1-013	CNI	ELLISELLIDAE	JSL II-3787	1414
19-VII-10-1-014	POR	TOPSENTIA SP.	JSL II-3787	1450
19-VII-10-1-015	CNI	ACTINIARIA	JSL II-3787	1454
19-VII-10-1-201	SED	SEDIMENT	JSL II-3787	1510
19-VII-10-1-N1	ART	DECAPODA	JSL II-3787	1476
19-VII-10-1-N2	ECH	COMATULIDA	JSL II-3787	1450
19-VII-10-1-N3	ANN	POLYCHAETA	JSL II-3787	1458
19-VII-10-1-N4	ECH	OPHIUROIDEA	JSL II-3787	1396
19-VII-10-1-N5	ART	GALATHEIDAE	JSL II-3787	1396
19-VII-10-1-N6	ECH	OPHIUROIDEA	JSL II-3787	1396
19-VII-10-3-001	POR	HYALONEMA SP.	JSL II-3788	1638
19-VII-10-3-002	POR	HYALONEMA SP.	JSL II-3788	1637
19-VII-10-3-003	POR	APHROCALLISTES + ZOANTHIDAE	JSL II-3788	1633
19-VII-10-3-004	CNI	STYLASTERIDAE	JSL II-3788	1633
19-VII-10-3-005	CNI	PRIMNOIDAE	JSL II-3788	1633
19-VII-10-3-006	CNI	ANTHOMASTUS SP.	JSL II-3788	1634
19-VII-10-3-007	CNI	LOPHELIA PERTUSA	JSL II-3788	1628
19-VII-10-3-008	CNI	MADREPORA OCULATA	JSL II-3788	1626
19-VII-10-3-009	CNI	NEPHTHEIDAE	JSL II-3788	1628

SAMPLE NUMBER (Date+Site+Sample)	PHYLUM	TAXONOMY	METHOD	DEPTH (Ft.)
19-VII-10-3-010	CNI	SCLERACTINIA	JSL II-3788	1624
19-VII-10-3-011	CNI	ANTIPATHIDAE	JSL II-3788	1617
19-VII-10-3-012	CNI	LOPHELIA PERTUSA	JSL II-3788	1591
19-VII-10-3-013	CNI	PARAMURICEIDAE	JSL II-3788	1591
19-VII-10-3-014	CNI	LOPHELIA PERTUSA	JSL II-3788	1611
19-VII-10-3-015	POR	APHROCALLISTES SP.	JSL II-3788	1614
19-VII-10-3-016	CNI	STYLASTERIDAE	JSL II-3788	1614
19-VII-10-3-017	POR	PORIFERA	JSL II-3788	1622
19-VII-10-3-018	POR	APHROCALLISTES + ZOANTHIDAE	JSL II-3788	1631
19-VII-10-3-201	SED	SEDIMENT	JSL II-3788	1643
19-VII-10-3-N1	ART	MAJIDAE	JSL II-3788	1624
20-VII-10-1-001	CNI	PARAMURICEIDAE	JSL II-3789	407
20-VII-10-1-002	CNI	ANTIPATHIDAE	JSL II-3789	407
20-VII-10-1-003	CNI	GORGONACEA	JSL II-3789	407
20-VII-10-1-004	MOL	PEROTROCHUS AMABILIS	JSL II-3789	407
20-VII-10-1-005	CNI	MADREPORA OCULATA	JSL II-3789	407
20-VII-10-1-006	CNI	PARAMURICEIDAE	JSL II-3789	407
20-VII-10-1-007	POR	IRCINIA CAMPANA	JSL II-3789	405
20-VII-10-1-008	POR	LITHISTIDA	JSL II-3789	402
20-VII-10-1-009	CNI	MADREPORA OCULATA	JSL II-3789	409
20-VII-10-1-010	CNI	ANTIPATHIDAE	JSL II-3789	400
20-VII-10-1-011	POR	PORIFERA	JSL II-3789	396
20-VII-10-1-012	CNI	MADREPORA OCULATA	JSL II-3789	398
20-VII-10-1-013	ECH	ASTROPHYTON MURICATUM	JSL II-3789	407
20-VII-10-1-201	SED	SEDIMENT	JSL II-3789	915
20-VII-10-1-202	SED	ROCK	JSL II-3789	407
20-VII-10-1-N	ECH	OPHIUROIDEA	JSL II-3789	407
20-VII-10-3-001	CNI	SWIFTIA EXSERTA	JSL II-3790	230
20-VII-10-3-002	CNI	ANTIPATHES SP.	JSL II-3790	229
20-VII-10-3-003	ANN	FILOGRANA SP.	JSL II-3790	230
20-VII-10-3-004	CNI	PLEXAURIDAE	JSL II-3790	221
20-VII-10-3-005	CNI	PLEXAURIDAE	JSL II-3790	223
20-VII-10-3-006	POR	CLATHRIIDAE?	JSL II-3790	220
20-VII-10-3-007	POR	DICTYOCERATIDA	JSL II-3790	219
20-VII-10-3-008	CNI	CIRRHIPATHES SP.	JSL II-3790	222
20-VII-10-3-009	BRY	BRYOZOA	JSL II-3790	222
20-VII-10-3-010	POR	AKA SP.	JSL II-3790	229
20-VII-10-3-011	ANN	FILOGRANA SP.	JSL II-3790	236
20-VII-10-3-012	CNI	ELLISELLA SP.	JSL II-3790	233

SAMPLE NUMBER (Date+Site+Sample)	PHYLUM	TAXONOMY	METHOD	DEPTH (Ft.)
20-VII-10-3-013	POR	IRCINIA CAMPANA	JSL II-3790	221
20-VII-10-3-014	CNI	HYDROIDA	JSL II-3790	222
20-VII-10-3-015	MOL	UMBRACULUM? SP.	JSL II-3790	224
20-VII-10-3-201	SED	SEDIMENT	JSL II-3790	236
20-VII-10-3-N1	ECH	ASTEROSCHEMA SP.	JSL II-3790	233
20-VII-10-3-N2	CHO	ASCIDIACEA	JSL II-3790	220
22-VII-10-1-001	CNI	GORGONACEA	JSL II-3791	218
22-VII-10-1-002	CNI	PLEXAURIDAE	JSL II-3791	218
22-VII-10-1-003	CNI	SWIFTIA EXSERTA	JSL II-3791	218
22-VII-10-1-004	BRY	BRYOZOA	JSL II-3791	230
22-VII-10-1-005	ANN	FILOGRANA SP.	JSL II-3791	228
22-VII-10-1-006	ECH	ASTEROIDEA	JSL II-3791	228
22-VII-10-1-007	POR	AXINELLIDA	JSL II-3791	228
22-VII-10-1-201	SED	SEDIMENT	JSL II-3791	214
22-VII-10-3-001	CNI	ELLISELLIDAE?	JSL II-3792	238
22-VII-10-3-002	POR	APLYSINA SP.	JSL II-3792	234
22-VII-10-3-003	CNI	PLEXAURIDAE	JSL II-3792	233
22-VII-10-3-004	POR	IRCINIA SP.	JSL II-3792	216
22-VII-10-3-005	POR	AXINELLIDA	JSL II-3792	215
22-VII-10-3-006	CNI	ANTIPATHIDAE	JSL II-3792	232
22-VII-10-3-007	BRY	BRYOZOA	JSL II-3792	233
22-VII-10-3-008	BRY	BRYOZOA	JSL II-3792	226
22-VII-10-3-009	ANN	FILOGRANA SP.	JSL II-3792	226
22-VII-10-3-010	POR	HALICHONDRIA MAGNICONULOSA?	JSL II-3792	234
22-VII-10-3-011	POR	AXINELLIDA	JSL II-3792	234
22-VII-10-3-012	POR	SMENOSPONGEA? SP.	JSL II-3792	234
22-VII-10-3-013	POR	HALICHONDRIA?	JSL II-3792	215
22-VII-10-3-014	MOL	UMBRACULUM SP.	JSL II-3792	229
22-VII-10-3-201	SED	SEDIMENT	JSL II-3792	230
24-VII-10-2-001	POR	CINACHYRELLA? SP.	JSL II-3793	140
24-VII-10-2-002	POR	AGELAS SP.	JSL II-3793	140
24-VII-10-2-003	POR	AKA SP.	JSL II-3793	125
24-VII-10-2-004	POR	HALICLONIDAE?	JSL II-3793	125
24-VII-10-2-005	CNI	SIDERASTREA SP.	JSL II-3793	125
24-VII-10-2-006	BRY	BRYOZOA	JSL II-3793	125
24-VII-10-2-101	CHL	CHLOROPHYTA	JSL II-3793	130
24-VII-10-2-201	SED	SEDIMENT	JSL II-3793	130
24-VII-10-3-001	CNI	PLEXAURIDAE	JSL II-3794	117
24-VII-10-3-002	CNI	PLEXAURIDAE	JSL II-3794	102

SAMPLE NUMBER (Date+Site+Sample)	PHYLUM	TAXONOMY	METHOD	DEPTH (Ft.)
24-VII-10-3-003	CHO	ASCIDIACEA	JSL II-3794	101
24-VII-10-3-004	CNI	PLEXAURIDAE	JSL II-3794	101
24-VII-10-3-005	CNI	MILLEPORA SP.	JSL II-3794	106
24-VII-10-3-201	SED	SEDIMENT	JSL II-3794	123
26-VII-10-1-001	ECH	STYLOCIDARIS SP.	JSL II-3795	227
26-VII-10-1-002	ART	DECAPODA	JSL II-3795	227
26-VII-10-1-003	CHO	BROTULIDAE	JSL II-3795	227
26-VII-10-1-101	RHO	RHODOPHYTA	JSL II-3795	227
26-VII-10-1-201	SED	SEDIMENT (CORE)	JSL II-3795	227
26-VII-10-1-202	SED	SEDIMENT	JSL II-3795	227
26-VII-10-1-203	SED	SEDIMENT	JSL II-3795	228
26-VII-10-1-204	SED	SEDIMENT	JSL II-3795	227
26-VII-10-1-205	SED	SEDIMENT	JSL II-3795	228
26-VII-10-1-206	SED	SEDIMENT (CORE)	JSL II-3795	228
26-VII-10-1-207	SED	SEDIMENT	JSL II-3795	228
26-VII-10-1-208	SED	SEDIMENT (CORE)	JSL II-3795	227
26-VII-10-1-209	SED	SEDIMENT	JSL II-3795	227
26-VII-10-1-210	SED	SEDIMENT	JSL II-3795	227
26-VII-10-1-211	SED	SEDIMENT	JSL II-3795	227
26-VII-10-1-212	SED	SEDIMENT (CORE)	JSL II-3795	227
26-VII-10-1-213	SED	SEDIMENT	JSL II-3795	227
26-VII-10-1-214	SED	SEDIMENT (CORE)	JSL II-3795	227
26-VII-10-1-215	SED	SEDIMENT	JSL II-3795	227
26-VII-10-1-301	ENV	WATER/PLANKTON	JSL II-3795	227
26-VII-10-1-302	ENV	WATER/PLANKTON	JSL II-3795	227
26-VII-10-1-303	ENV	WATER/PLANKTON	JSL II-3795	228
26-VII-10-1-304	ENV	WATER/PLANKTON	JSL II-3795	228
26-VII-10-1-305	ENV	WATER/PLANKTON	JSL II-3795	227
26-VII-10-1-306	ENV	WATER/PLANKTON	JSL II-3795	227
26-VII-10-1-307	ENV	WATER/PLANKTON	JSL II-3795	237
26-VII-10-1-308	ENV	WATER/PLANKTON	JSL II-3795	227
26-VII-10-1-N1	MOL	GASTROPODA + BIVALVIA	JSL II-3795	227
26-VII-10-2-001	ART	CHIROSTYLIDAE?	MOCNESS	243
26-VII-10-4-001	ART	CRUSTACEA: MAJIDAE, GALATHEIDAE, PAGUROIDEA	JSL II-3796	227
26-VII-10-4-002	ART	SCYLLARIDAE + ALPHIIDAE	JSL II-3796	227
26-VII-10-4-003	POR	AKA SP.	JSL II-3796	227
26-VII-10-4-004	POR	AKA SP.	JSL II-3796	227
26-VII-10-4-005	CHO	ASCIDIACEA	JSL II-3796	227
26-VII-10-4-006	CHO	MURAENIDAE	JSL II-3796	227

SAMPLE NUMBER (Date+Site+Sample)	PHYLUM	TAXONOMY	METHOD	DEPTH (Ft.)
26-VII-10-4-101	RHO	RHODOPHYTA	JSL II-3796	227
26-VII-10-4-201	SED	SEDIMENT	JSL II-3796	227
26-VII-10-4-202	SED	SEDIMENT	JSL II-3796	227
26-VII-10-4-203	SED	SEDIMENT	JSL II-3796	227
26-VII-10-4-204	SED	SEDIMENT	JSL II-3796	226
26-VII-10-4-205	SED	SEDIMENT	JSL II-3796	205
26-VII-10-4-206	SED	SEDIMENT	JSL II-3796	227
26-VII-10-4-207	SED	SEDIMENT	JSL II-3796	227
26-VII-10-4-208	SED	SEDIMENT	JSL II-3796	227
26-VII-10-4-209	SED	SEDIMENT	JSL II-3796	227
26-VII-10-4-210	SED	SEDIMENT	JSL II-3796	227
26-VII-10-4-211	SED	ROCK	JSL II-3796	227
26-VII-10-4-301	ENV	WATER/PLANKTON	JSL II-3796	226
26-VII-10-4-302	ENV	WATER/PLANKTON	JSL II-3796	226
26-VII-10-4-303	ENV	WATER/PLANKTON	JSL II-3796	226
26-VII-10-4-304	ENV	WATER/PLANKTON	JSL II-3796	226
26-VII-10-4-305	ENV	WATER/PLANKTON	JSL II-3796	226
26-VII-10-4-306	ENV	WATER/PLANKTON	JSL II-3796	226
26-VII-10-4-307	ENV	WATER/PLANKTON	JSL II-3796	227
26-VII-10-4-308	ENV	WATER/PLANKTON	JSL II-3796	227
26-VII-10-6-001	CHO	EPINEPHELUS MORIO	HOOK & LIN	227
27-VII-10-1-001	CNI	ELLISELLA SP.	JSL II-3797	207
27-VII-10-1-002	CNI	ANTIPATHIDAE	JSL II-3797	206
27-VII-10-1-003	CNI	ANTIPATHIDAE	JSL II-3797	206
27-VII-10-1-004	CNI	PLEXAURIDAE	JSL II-3797	199
27-VII-10-1-005	CNI	VILLOGORGIA? SP.	JSL II-3797	200
27-VII-10-1-006	CNI	BEBRYCE SP.	JSL II-3797	201
27-VII-10-1-007	POR	IRCINIA SP.	JSL II-3797	200
27-VII-10-1-008	CNI	CIRRHIPATHES SP.	JSL II-3797	199
27-VII-10-1-009	POR	CALCAREA	JSL II-3797	200
27-VII-10-1-010	CNI	CIRRHIPATHES SP.	JSL II-3797	200
27-VII-10-1-201	SED	SEDIMENT	JSL II-3797	200
27-VII-10-1-301	ENV	WATER/PLANKTON	JSL II-3797	200
27-VII-10-1-302	ENV	WATER/PLANKTON	JSL II-3797	200
27-VII-10-1-N1	ECH	OPHIUROIDEA	JSL II-3797	200
27-VII-10-1-N2	ECH	OPHIUROIDEA	JSL II-3797	200
27-VII-10-4-001	CNI	MADRACIS SP.	JSL II-3798	261
27-VII-10-4-002	CNI	MADRACIS SP.	JSL II-3798	259
27-VII-10-4-003	CNI	MADRACIS SP.	JSL II-3798	256

SAMPLE NUMBER (Date+Site+Sample)	PHYLUM	TAXONOMY	METHOD	DEPTH (Ft.)
27-VII-10-4-004	BRY	BRYOZOA	JSL II-3798	256
27-VII-10-4-005	CNI	ELLISELLA ELONGATA	JSL II-3798	256
27-VII-10-4-006	CNI	ANTIPATHIDAE	JSL II-3798	253
27-VII-10-4-007	BRY	BRYOZOA	JSL II-3798	256
27-VII-10-4-008	POR	DEMOSPONGIAE	JSL II-3798	244
27-VII-10-4-009	CNI	ANTIPATHIDAE	JSL II-3798	244
27-VII-10-4-010	CNI	GORGONACEA	JSL II-3798	208
27-VII-10-4-011	POR	AXINELLIDAE	JSL II-3798	208
27-VII-10-4-012	POR	IRCINIA SP.	JSL II-3798	208
27-VII-10-4-013	CNI	PLEXAURIDAE	JSL II-3798	195
27-VII-10-4-014	BRY	BRYOZOA	JSL II-3798	194
27-VII-10-4-201	SED	SEDIMENT	JSL II-3798	230
27-VII-10-4-202	SED	ROCK	JSL II-3798	256
27-VII-10-4-301	ENV	WATER/PLANKTON	JSL II-3798	233
27-VII-10-4-302	ENV	WATER/PLANKTON	JSL II-3798	233
27-VII-10-4-303	ENV	WATER/PLANKTON	JSL II-3798	208
27-VII-10-4-304	ENV	WATER/PLANKTON	JSL II-3798	208
28-VII-10-1-001	CNI	GORGONACEA	JSL II-3799	243
28-VII-10-1-002	CNI	GORGONACEA	JSL II-3799	242
28-VII-10-1-003	CNI	GORGONACEA	JSL II-3799	256
28-VII-10-1-004	CNI	ANTIPATHIDAE	JSL II-3799	247
28-VII-10-1-005	POR	LITHISTIDA	JSL II-3799	237
28-VII-10-1-006	CNI	ANTIPATHIDAE	JSL II-3799	230
28-VII-10-1-007	CNI	MADREPORA CAROLINA	JSL II-3799	265
28-VII-10-1-008	CNI	DENDROPHYLLIIDAE	JSL II-3799	233
28-VII-10-1-009	CNI	ANTIPATHIDAE	JSL II-3799	278
28-VII-10-1-010	CNI	GORGONACEA	JSL II-3799	233
28-VII-10-1-011	POR	LITHISTIDA	JSL II-3799	237
28-VII-10-1-012	CNI	SCLERACTINIA	JSL II-3799	237
28-VII-10-1-201	SED	SEDIMENT	JSL II-3799	265
28-VII-10-1-301	ENV	WATER/PLANKTON	JSL II-3799	246
28-VII-10-1-302	ENV	WATER/PLANKTON	JSL II-3799	246
28-VII-10-1-303	ENV	WATER/PLANKTON	JSL II-3799	265
28-VII-10-1-304	ENV	WATER/PLANKTON	JSL II-3799	265
28-VII-10-1-305	ENV	WATER/PLANKTON	JSL II-3799	233
28-VII-10-1-N1	CNI	ACTINIARIA	JSL II-3799	233
28-VII-10-1-N2	CNI	SCLERACTINIA	JSL II-3799	237
28-VII-10-1-N3	CNI	ACTINIARIA	JSL II-3799	237
28-VII-10-4-001	ECH	COMATULIDA	JSL II-3800	384

SAMPLE NUMBER (Date+Site+Sample)	PHYLUM	TAXONOMY	METHOD	DEPTH (Ft.)
28-VII-10-4-002	CNI	ELLISELLIDAE	JSL II-3800	371
28-VII-10-4-003	CNI	MADREPORA CAROLINA	JSL II-3800	372
28-VII-10-4-004	CNI	ELLISELLIDAE	JSL II-3800	333
28-VII-10-4-005	CNI	PLEXAURIDAE	JSL II-3800	304
28-VII-10-4-006	POR	LITHISTIDA	JSL II-3800	302
28-VII-10-4-007	CNI	PLEXAURIDAE	JSL II-3800	302
28-VII-10-4-008	POR	LITHISTIDA	JSL II-3800	312
28-VII-10-4-009	POR	LITHISTIDA	JSL II-3800	302
28-VII-10-4-010	POR	LITHISTIDA	JSL II-3800	302
28-VII-10-4-011	CNI	SCLERACTINIA	JSL II-3800	384
28-VII-10-4-201	SED	SEDIMENT	JSL II-3800	430
28-VII-10-4-202	SED	SEDIMENT	JSL II-3800	340
28-VII-10-4-203	SED	SEDIMENT	JSL II-3800	300
28-VII-10-4-301	ENV	WATER/PLANKTON	JSL II-3800	430
28-VII-10-4-302	ENV	WATER/PLANKTON	JSL II-3800	430
28-VII-10-4-303	ENV	WATER/PLANKTON	JSL II-3800	340
28-VII-10-4-304	ENV	WATER/PLANKTON	JSL II-3800	340
28-VII-10-4-305	ENV	WATER/PLANKTON	JSL II-3800	301
28-VII-10-4-306	ENV	WATER/PLANKTON	JSL II-3800	301
29-VII-10-1-001	CNI	ANTIPATHIDAE	JSL II-3801	366
29-VII-10-1-002	CNI	MADREPORA SP.	JSL II-3801	366
29-VII-10-1-003	POR	LITHISTIDA	JSL II-3801	386
29-VII-10-1-004	CNI	GORGONACEA	JSL II-3801	319
29-VII-10-1-005	POR	CORALLISTIDAE	JSL II-3801	319
29-VII-10-1-006	POR	LITHISTIDA	JSL II-3801	311
29-VII-10-1-007	POR	TOPSENTIA SP.	JSL II-3801	311
29-VII-10-1-008	CNI	PLEXAURIDAE	JSL II-3801	311
29-VII-10-1-009	ECH	ASTROPHYTON MURICATUM	JSL II-3801	311
29-VII-10-1-010	CNI	GORGONACEA	JSL II-3801	311
29-VII-10-1-011	POR	LITHISTIDA	JSL II-3801	319
29-VII-10-1-012	CNI	SCLERACTINIA	JSL II-3801	311
29-VII-10-1-013	CHO	PRONOTOGRAMMUS MARTINESIS	JSL II-3801	311
29-VII-10-1-014	CHO	HEMANTHIAS VIVANUS	JSL II-3801	310
29-VII-10-1-201	SED	SEDIMENT	JSL II-3801	407
29-VII-10-1-202	SED	SEDIMENT	JSL II-3801	311
29-VII-10-1-301	ENV	WATER/PLANKTON	JSL II-3801	407
29-VII-10-1-302	ENV	WATER/PLANKTON	JSL II-3801	407
29-VII-10-1-303	ENV	WATER/PLANKTON	JSL II-3801	311
29-VII-10-1-304	ENV	WATER/PLANKTON	JSL II-3801	311

SAMPLE NUMBER (Date+Site+Sample)	PHYLUM	TAXONOMY	METHOD	DEPTH (Ft.)
29-VII-10-2-001	CHO	ISTIOPHORUS ALBICANS (Latreille, 1804)	MOCNESS	573
29-VII-10-4-001	POR	LITHISTIDA (DEAD)	JSL II-3802	256
29-VII-10-4-002	POR	DEMOSPONGIAE	JSL II-3802	243
29-VII-10-4-003	CNI	ANTIPATHIDAE	JSL II-3802	240
29-VII-10-4-004	CNI	PLEXAURIDAE	JSL II-3802	240
29-VII-10-4-005	CNI	PLEXAURIDAE	JSL II-3802	240
29-VII-10-4-006	CNI	ANTIPATHIDAE	JSL II-3802	248
29-VII-10-4-007	CNI	CIRRHIPATHES LUTKINI?	JSL II-3802	248
29-VII-10-4-008	CNI	ANTIPATHIDAE	JSL II-3802	248
29-VII-10-4-009	POR	LITHISTIDE?	JSL II-3802	248
29-VII-10-4-010	CNI	MADREPORA SP.	JSL II-3802	247
29-VII-10-4-011	ECH	ASTEROIDEA	JSL II-3802	248
29-VII-10-4-012	CNI	MADRACIS SP.	JSL II-3802	254
29-VII-10-4-013	CNI	SCLERACTINIA	JSL II-3802	254
29-VII-10-4-014	ART	PAGUROIDEA	JSL II-3802	265
29-VII-10-4-016	CNI	MADRACIS SP.	JSL II-3802	250
29-VII-10-4-201	SED	SEDIMENT	JSL II-3802	257
29-VII-10-4-202	SED	SEDIMENT	JSL II-3802	264
29-VII-10-4-301	ENV	WATER/PLANKTON	JSL II-3802	265
29-VII-10-4-302	ENV	WATER/PLANKTON	JSL II-3802	262
30-VII-10-1-001	POR	IRCINIA CAMPANA	JSL II-3803	241
30-VII-10-1-002	BRY	BRYOZOA	JSL II-3803	238
30-VII-10-1-003	ANN	FILOGRANA SP.	JSL II-3803	236
30-VII-10-1-004	POR	AXINELLIDA?	JSL II-3803	237
30-VII-10-1-005	POR	JASPIS? NEW SPECIES?	JSL II-3803	226
30-VII-10-1-006	BRY	BRYOZOA	JSL II-3803	227
30-VII-10-1-201	SED	SEDIMENT	JSL II-3803	211
30-VII-10-1-301	ENV	WATER/PLANKTON	JSL II-3803	224
30-VII-10-1-302	ENV	WATER/PLANKTON	JSL II-3803	210
30-VII-10-1-N1	ART	DECAPODA	JSL II-3803	227
30-VII-10-4-001	CNI	MADRACIS SP.	JSL II-3804	221
30-VII-10-4-002	CNI	MADRACIS SP.	JSL II-3804	221
30-VII-10-4-003	CNI	OCULINA VARICOSA	JSL II-3804	227
30-VII-10-4-004	CNI	SCLERACTINIA	JSL II-3804	227
30-VII-10-4-005	POR	JASPIS? NEW SPECIES?	JSL II-3804	211
30-VII-10-4-006	CNI	PLEXAURIDAE	JSL II-3804	227
30-VII-10-4-007	CNI	MADRACIS SP.	JSL II-3804	228
30-VII-10-4-008	CNI	OCULINA VARICOSA	JSL II-3804	226
30-VII-10-4-009	POR	PSEUDOCORTICIUM NEW SPECIES?	JSL II-3804	225

SAMPLE NUMBER (Date+Site+Sample)	PHYLUM	TAXONOMY	METHOD	DEPTH (Ft.)
30-VII-10-4-010	POR +	SPONGOSORITES SILIQUARIA + SILIQUARIA SP.	JSL II-3804	215
30-VII-10-4-201	SED	SEDIMENT	JSL II-3804	227
30-VII-10-4-202	SED	SEDIMENT	JSL II-3804	224
30-VII-10-4-301	ENV	WATER/PLANKTON	JSL II-3804	224
30-VII-10-4-302	ENV	WATER/PLANKTON	JSL II-3804	224
30-VII-10-4-N1	CHO	ANTHIIDAE	JSL II-3804	227
30-VII-10-4-N2	CHO	GOBIIDAE	JSL II-3804	215
31-VII-10-1-001	POR	LITHISTIDA	JSL II-3805	238
31-VII-10-1-002	CNI	PLEXAURIDAE	JSL II-3805	232
31-VII-10-1-003	CNI	MADRACIS SP.	JSL II-3805	234
31-VII-10-1-004	POR	IRCINIA SP.	JSL II-3805	232
31-VII-10-1-005	POR	LITHISTIDA?	JSL II-3805	234
31-VII-10-1-006	CNI	SCLERACTINIA	JSL II-3805	238
31-VII-10-1-007	POR	APLYSINIDAE?	JSL II-3805	225
31-VII-10-1-008	POR	JASPIS? NEW SPECIES?	JSL II-3805	224
31-VII-10-1-009	POR +	SPONGOSORITES SILIQUARIA + SILIQUARIA SP.	JSL II-3805	230
31-VII-10-1-201	SED	SEDIMENT	JSL II-3805	243
31-VII-10-1-202	SED	SEDIMENT	JSL II-3805	235
31-VII-10-1-301	ENV	WATER/PLANKTON	JSL II-3805	243
31-VII-10-1-302	ENV	WATER/PLANKTON	JSL II-3805	236
31-VII-10-4-001	POR	CALLYSPONGIA VAGINALIS	JSL II-3806	177
31-VII-10-4-002	POR	ERYLUS SP.	JSL II-3806	177
31-VII-10-4-003	CHO	ASCIDIACEA	JSL II-3806	175
31-VII-10-4-004	CHO	DIDEMNIDAE	JSL II-3806	174
31-VII-10-4-005	CHO	ASCIDIACEA	JSL II-3806	173
31-VII-10-4-006	CHO	ASCIDIACEA	JSL II-3806	173
31-VII-10-4-007	CNI	MURICEA ATLANTICA?	JSL II-3806	174
31-VII-10-4-008	CHO	ASCIDIACEA	JSL II-3806	174
31-VII-10-4-009	POR	VERONGIDA	JSL II-3806	174
31-VII-10-4-010	CNI	ELLISELLA SP.	JSL II-3806	174
31-VII-10-4-011	CHO	ASCIDIACEA	JSL II-3806	175
31-VII-10-4-012	CNI	CIRRHIPATHES LUTKENI	JSL II-3806	174
31-VII-10-4-013	CHO	DIDEMNIDAE	JSL II-3806	177
31-VII-10-4-014	CHO	ASCIDIACEA	JSL II-3806	174
31-VII-10-4-015	POR	POECILOSCLERIDA	JSL II-3806	174
31-VII-10-4-016	BRY	BRYOZOA	JSL II-3806	175
31-VII-10-4-017	POR	PSAMMOCINIA SP.	JSL II-3806	174
31-VII-10-4-101	RHO	RHODOPHYTA	JSL II-3806	175
31-VII-10-4-102	RHO	RHODOPHYTA	JSL II-3806	175

SAMPLE NUMBER (Date+Site+Sample)	PHYLUM	TAXONOMY	METHOD	DEPTH (Ft.)
31-VII-10-4-201	SED	SEDIMENT	JSL II-3806	174
31-VII-10-4-202	SED	SEDIMENT	JSL II-3806	174
31-VII-10-4-301	ENV	WATER/PLANKTON	JSL II-3806	174
31-VII-10-4-302	ENV	WATER/SEDIMENT	JSL II-3806	174
1-VIII-10-1-001	CNI	PORITES SP.	JSL II-3807	104
1-VIII-10-1-002	CNI	EUNICEA SP.	JSL II-3807	87
1-VIII-10-1-003	CNI	MURICEA SP.	JSL II-3807	89
1-VIII-10-1-004	CNI	EUNICEA SP.	JSL II-3807	89
1-VIII-10-1-005	CNI	MILLEPORA SP.	JSL II-3807	89
1-VIII-10-1-006	POR	DEMOSPONGIAE	JSL II-3807	90
1-VIII-10-1-007	POR	PETROSIIDAE	JSL II-3807	90
1-VIII-10-1-008	POR	APLYSINA? SP.	JSL II-3807	96
1-VIII-10-1-009	POR	AMPHIMEDON SP.	JSL II-3807	90
1-VIII-10-1-010	POR	POECILOSCLERIDA	JSL II-3807	88
1-VIII-10-1-101	CHL	CODIUM SP.	JSL II-3807	89
1-VIII-10-1-102	CHL	CODIUM SP.	JSL II-3807	91
1-VIII-10-1-201	SED	SEDIMENT	JSL II-3807	90
1-VIII-10-1-301	ENV	WATER/PLANKTON	JSL II-3807	91
1-VIII-10-1-302	ENV	WATER/PLANKTON	JSL II-3807	91
1-VIII-10-1-N1	RHO	RHODOPHYTA	JSL II-3807	95
1-VIII-10-1-N2	RHO	RHODOPHYTA	JSL II-3807	95
1-VIII-10-1-N3	RHO	RHODOPHYTA	JSL II-3807	95
1-VIII-10-2-001	CNI	OCULINA DIFFUSA	SCUBA	97
1-VIII-10-2-002	CNI	PORITES ASTREOIDES?	SCUBA	97
1-VIII-10-2-003	POR	AXINELLIDAE	SCUBA	97
1-VIII-10-2-004	POR	POECILOSCLERIDA	SCUBA	97
1-VIII-10-2-005	POR	PTILOCAULIS?	SCUBA	97
1-VIII-10-2-006	POR	CINACHYRELLA SP.	SCUBA	97
1-VIII-10-2-007	POR	PLACOSPONGIA MELOBESIOIDES	SCUBA	97
1-VIII-10-5-001	CNI	PORITES PORITES	JSL II-3808	112
1-VIII-10-5-002	CNI	PORITES PORITES	JSL II-3808	110
1-VIII-10-5-003	CNI	DICHOCOENIA STOKESI	JSL II-3808	107
1-VIII-10-5-101	RHO	RHODOMENIA? SP.	JSL II-3808	95
1-VIII-10-5-102	PHA	SPOROCHNUS PEDUNCULATUS	JSL II-3808	95
1-VIII-10-5-201	SED	SEDIMENT	JSL II-3808	134
1-VIII-10-5-301	ENV	WATER/PLANKTON	JSL II-3808	134
3-VIII-10-1-001	CNI	LOPHELIA PERTUSA	JSL II-3809	1668
3-VIII-10-1-002	ART	GALATHEIDAE	JSL II-3809	1666
3-VIII-10-1-003	CNI	MADRACIS SP.	JSL II-3809	1664

SAMPLE NUMBER (Date+Site+Sample)	PHYLUM	TAXONOMY	METHOD	DEPTH (Ft.)
3-VIII-10-1-004	CNI	STYLASTERIDAE	JSL II-3809	1666
3-VIII-10-1-005	POR	LEIODERMATIUM SP. or VETULINA SP.	JSL II-3809	1668
3-VIII-10-1-006	POR	CHORISTIDA	JSL II-3809	1653
3-VIII-10-1-007	CNI	ANTIPATHES BIPINNATA	JSL II-3809	1669
3-VIII-10-1-008	POR	LITHISTIDA	JSL II-3809	1668
3-VIII-10-1-009	ECH	ARAEOSOMA BELLI	JSL II-3809	1668
3-VIII-10-1-010	ECH	COMATULIDA	JSL II-3809	1668
3-VIII-10-1-011	CNI	LOPHELIA PERTUSA	JSL II-3809	1585
3-VIII-10-1-012	MOL	CEPHALOPODA (EGG MASS)	JSL II-3809	1582
3-VIII-10-1-013	CNI	PLUMARELLA SP.	JSL II-3809	1666
3-VIII-10-1-201	SED	SEDIMENT	JSL II-3809	1694
3-VIII-10-1-301	ENV	WATER/PLANKTON	JSL II-3809	1581
3-VIII-10-1-302	ENV	WATER/PLANKTON	JSL II-3809	1580
3-VIII-10-1-303	CHO	OSTEICHTHYES	JSL II-3809	1578
3-VIII-10-1-304	CHO	PYROSOMA SP.	JSL II-3809	1660
3-VIII-10-1-305	CNI	SCLERACTINIA	JSL II-3809	1666
3-VIII-10-3-001	POR	HEXACTINELLIDA	JSL II-3810	1611
3-VIII-10-3-002	CNI	LOPHELIA PERTUSA	JSL II-3810	1608
3-VIII-10-3-003	POR	HEXACTINELLIDA	JSL II-3810	1605
3-VIII-10-3-004	POR	PACHASTRELLIDAE?	JSL II-3810	1608
3-VIII-10-3-005	CNI	LOPHELIA PERTUSA	JSL II-3810	1606
3-VIII-10-3-006	CNI	LOPHELIA PERTUSA	JSL II-3810	1603
3-VIII-10-3-007	POR	PETROSIIDAE	JSL II-3810	1651
3-VIII-10-3-008	CNI	PLUMARELLA SP.	JSL II-3810	1620
3-VIII-10-3-201	SED	SEDIMENT	JSL II-3810	1639
3-VIII-10-3-301	ART	BATHYNECTES LONGISPINA?	JSL II-3810	1631
3-VIII-10-3-302	ENV	WATER/PLANKTON	JSL II-3810	1631
3-VIII-10-3-304	ENV	WATER/PLANKTON	JSL II-3810	1611
3-VIII-10-3-305	ART	EUMUNIDA PICTA	JSL II-3810	1611
3-VIII-10-3-306	ENV	WATER/PLANKTON	JSL II-3810	1589
3-VIII-10-3-307	ENV	WATER/PLANKTON	JSL II-3810	1663
3-VIII-10-3-308	CNI	SCLERACTINIA	JSL II-3810	1608
4-VIII-10-1-001	CNI	MONTASTRAEA ANNULARIS	JSL II-3811	204
4-VIII-10-1-002	CHO	DIDEMNIDAE	JSL II-3811	206
4-VIII-10-1-003	CHO	ASCIDIACEA	JSL II-3811	205
4-VIII-10-1-004	POR	VERONGULA RIGIDA	JSL II-3811	205
4-VIII-10-1-101	CHL	ANADYONOME MENZIESII	JSL II-3811	204
4-VIII-10-1-102	CHL	ANADYONOME MENZIESII	JSL II-3811	212
4-VIII-10-1-103	RHO	CORALLINACEAE (RHODOLITHS)	JSL II-3811	206

SAMPLE NUMBER (Date+Site+Sample)	PHYLUM	TAXONOMY	METHOD	DEPTH (Ft.)
4-VIII-10-1-104	PHA	DICTYOTA SP.	JSL II-3811	206
4-VIII-10-1-105	CHL +	HALIMEDA SP. + ANADYONOME MENZIESII + RHODOPYTA	JSL II-3811	200
4-VIII-10-1-201	SED	SEDIMENT	JSL II-3811	206
4-VIII-10-1-301	ENV	WATER/PLANKTON	JSL II-3811	206
4-VIII-10-1-302	ENV	WATER/PLANKTON	JSL II-3811	209
4-VIII-10-1-303	POR	HEXACTINELLIDA	JSL II-3811	200
4-VIII-10-1-304	ECH	COMATULIDA	JSL II-3811	204
4-VIII-10-1-305	POR	PORIFERA	JSL II-3811	204
4-VIII-10-4-001	POR	XESTOSPONGIA MUTA	JSL II-3812	279
4-VIII-10-4-002	CNI	STYLASTERIDAE	JSL II-3812	318
4-VIII-10-4-003	CNI	STYLASTERIDAE	JSL II-3812	316
4-VIII-10-4-004	CNI	STYLASTERIDAE	JSL II-3812	300
4-VIII-10-4-005	POR	AGELAS SP.	JSL II-3812	286
4-VIII-10-4-006	POR	DEMOSPONGIAE	JSL II-3812	284
4-VIII-10-4-007	POR	DEMOSPONGIAE	JSL II-3812	284
4-VIII-10-4-008	POR	ERYLUS SP.	JSL II-3812	278
4-VIII-10-4-101	CHL	CHLOROPHYTA	JSL II-3812	279
4-VIII-10-4-102	CHL	CHLOROPHYTA + RHODOPHYTA	JSL II-3812	319
4-VIII-10-4-201	SED	SEDIMENT	JSL II-3812	279
4-VIII-10-4-301	ENV	WATER/PLANKTON	JSL II-3812	270
4-VIII-10-4-302	ENV	WATER/PLANKTON	JSL II-3812	327
4-VIII-10-4-303	ECH	COMATULIDA	JSL II-3812	285
4-VIII-10-4-304	ART	BRACHYURA	JSL II-3812	278
4-VIII-10-4-305	ENV	WATER/PLANKTON	JSL II-3812	278
5-VIII-10-1-001	CNI	PLEXAURIDAE	JSL II-3813	272
5-VIII-10-1-002	POR	AXINELLIDAE	JSL II-3813	277
5-VIII-10-1-003	POR	HAPLOSCLERIDA?	JSL II-3813	275
5-VIII-10-1-004	POR	HALICHONDRIA?	JSL II-3813	274
5-VIII-10-1-005	CNI	NEPHTHEIDAE	JSL II-3813	272
5-VIII-10-1-006	POR	JASPIS? SP.	JSL II-3813	270
5-VIII-10-1-007	POR	PETROSIIDAE	JSL II-3813	270
5-VIII-10-1-008	POR	DEMOSPONGIAE	JSL II-3813	270
5-VIII-10-1-009	POR	PETROSIIDAE	JSL II-3813	271
5-VIII-10-1-010	CNI	GORGONACEA	JSL II-3813	272
5-VIII-10-1-011	POR	VERONGIDA	JSL II-3813	271
5-VIII-10-1-012	CHO	DIDEMNIDAE	JSL II-3813	273
5-VIII-10-1-013	POR	DEMOSPONGIAE	JSL II-3813	272
5-VIII-10-1-014	ECH	HOLOTHUROIDEA	JSL II-3813	271
5-VIII-10-1-015	POR	AXINELLIDAE	JSL II-3813	271

SAMPLE NUMBER (Date+Site+Sample)	PHYLUM	TAXONOMY	METHOD	DEPTH (Ft.)
5-VIII-10-1-016	POR	AXINELLIDAE	JSL II-3813	270
5-VIII-10-1-201	SED	SEDIMENT	JSL II-3813	284
5-VIII-10-1-301	ECH	ASTROPHYTON MURICATUM	JSL II-3813	283
5-VIII-10-1-302	ART	PAGUROIDEA	JSL II-3813	283
5-VIII-10-1-303	ECH	COMATULIDA	JSL II-3813	272
5-VIII-10-1-304	MOL	GASTROPODA (NUDIBRANCHIA or SACCOGLOSSA)	JSL II-3813	272
6-VIII-10-1-001	POR	HEXACTINELLIDA	JSL II-3815	1246
6-VIII-10-1-002	POR	CAMINUS SP.	JSL II-3815	924
6-VIII-10-1-003	POR	PORIFERA	JSL II-3815	901
6-VIII-10-1-201	SED	SEDIMENT	JSL II-3815	1171
6-VIII-10-1-301	ENV	WATER/PLANKTON	JSL II-3815	1374
6-VIII-10-1-302	ENV	WATER/PLANKTON	JSL II-3815	1376
6-VIII-10-4-001	POR	PORIFERA	JSL II-3816	1295
6-VIII-10-4-002	POR	PORIFERA	JSL II-3816	1278
6-VIII-10-4-003	POR	APHROCALLISTES SP.	JSL II-3816	1218
6-VIII-10-4-005	ECH	HOLOTHUROIDEA	JSL II-3816	1154
6-VIII-10-4-006	POR	PORIFERA	JSL II-3816	1154
6-VIII-10-4-007	ECH	GONIASTERIDAE	JSL II-3816	1291
6-VIII-10-4-008	ECH	GONIASTERIDAE	JSL II-3816	1109
6-VIII-10-4-009	ECH	GONIASTERIDAE	JSL II-3816	1109
6-VIII-10-4-301	ENV	WATER/PLANKTON	JSL II-3816	1297
6-VIII-10-4-303	ART	EUMUNIDA PICTA	JSL II-3816	1213
6-VIII-10-4-304	ART	EUMUNIDA PICTA	JSL II-3816	1211
6-VIII-10-4-305	ECH	ECHINOIDEA	JSL II-3816	1187
6-VIII-10-4-306	ART	BATHYNECTES LONGISPINA?	JSL II-3816	1153
6-VIII-10-4-307	ENV	WATER/PLANKTON	JSL II-3816	1154
6-VIII-10-4-309	ENV	WATER/PLANKTON	JSL II-3816	1076
6-VIII-10-4-310	MOL	PLEUROTOMARIIDAE	JSL II-3816	1076
7-VIII-10-1-001	CNI	ACTINIARIA	JSL II-3817	719
7-VIII-10-1-002	POR	HEXACTINELLIDA	JSL II-3817	649
7-VIII-10-1-003	ECH	PARACOLOCHIRUS MYSTICUS	JSL II-3817	644
7-VIII-10-1-004	POR	DICTYOCERATIDA	JSL II-3817	664
7-VIII-10-1-005	ANN	ANNELIDA? SABELLIDAE?	JSL II-3817	660
7-VIII-10-1-006	POR	LEIODERMATIUM SP.	JSL II-3817	663
7-VIII-10-1-201	SED	SEDIMENT	JSL II-3817	708
7-VIII-10-1-301	ENV	WATER/PLANKTON	JSL II-3817	657
7-VIII-10-1-302	MOL	PLEUROTOMARIIDAE	JSL II-3817	663
7-VIII-10-1-303	CNI	STYLASTERIDAE	JSL II-3817	651
7-VIII-10-1-304	POR	RASPAILIIDAE	JSL II-3817	660

SAMPLE NUMBER (Date+Site+Sample)	PHYLUM	TAXONOMY	METHOD	DEPTH (Ft.)
7-VIII-10-4-001	ECH	PARACOLOCHIRUS MYSTICUS	JSL II-3818	643
7-VIII-10-4-002	ANN	ANNELIDA? SABELLIDAE?	JSL II-3818	625
7-VIII-10-4-003	POR	LEIODERMATIUM SP.	JSL II-3818	650
7-VIII-10-4-004	POR	LEIODERMATIUM SP.	JSL II-3818	645
7-VIII-10-4-005	POR	DEMOSPONGIAE	JSL II-3818	622
7-VIII-10-4-006	POR	HEXACTINELLIDA	JSL II-3818	593
7-VIII-10-4-301	ART	BRACHYURA	JSL II-3818	632
7-VIII-10-4-302	ENV	WATER/PLANKTON	JSL II-3818	661
7-VIII-10-4-303	ENV	WATER/PLANKTON	JSL II-3818	610
7-VIII-10-4-304	CNI	STYLASTERIDAE	JSL II-3818	650
7-VIII-10-4-305	POR	HEXACTINELLIDA	JSL II-3818	650
7-VIII-10-4-307	CHO	ACTINOPTERYGII	JSL II-3818	645
8-VIII-10-1-001	POR	CORALLISTES? SP.	JSL II-3819	1025
8-VIII-10-1-002	POR	HEXACTINELLIDA	JSL II-3819	1031
8-VIII-10-1-301	ENV	WATER/PLANKTON	JSL II-3819	1072
8-VIII-10-1-302	ENV	WATER/PLANKTON	JSL II-3819	1071
8-VIII-10-1-303	ART	GALATHEIDAE	JSL II-3819	1019
8-VIII-10-1-304	CNI	STYLASTERIDAE	JSL II-3819	945
8-VIII-10-1-305	CNI	ACTINIARIA	JSL II-3819	1031
8-VIII-10-1-306	CNI	LOPHELIA PERTUSA	JSL II-3819	1015
8-VIII-10-1-307	ECH	ASTROPHYTON MURICATUM	JSL II-3819	1014
8-VIII-10-1-308	CNI	ZOANTHIDAE	JSL II-3819	945
8-VIII-10-1-309	MOL	GASTROPODA	JSL II-3819	945
8-VIII-10-1-310	CNI	SCLERACTINIA	JSL II-3819	1031
8-VIII-10-1-311	CNI	ZOANTHIDAE	JSL II-3819	1031
8-VIII-10-1-312	ECH	OPHIUROIDEA	JSL II-3819	1016
8-VIII-10-1-313	CNI	SCLERACTINIA	JSL II-3819	1031
8-VII-10-4-001	POR	LEIODERMATIUM SP.	JSL II-3820	1261
8-VII-10-4-002	POR	PHAKELLIA SP.	JSL II-3820	1262
8-VII-10-4-003	POR	LEIODERMATIUM SP.	JSL II-3820	1231
8-VII-10-4-004	POR	PACHASTRELLIDAE	JSL II-3820	1224
8-VII-10-4-005	POR	PACHASTRELLIDAE	JSL II-3820	1225
8-VII-10-4-006	POR	POECILOSCLERIDA?	JSL II-3820	1203
8-VII-10-4-007	POR	PETROSIIDAE	JSL II-3820	1171
8-VII-10-4-008	POR	HEXACTINELLIDA?	JSL II-3820	1205
8-VII-10-4-201	SED	SEDIMENT	JSL II-3820	1263
8-VII-10-4-301	ENV	WATER/PLANKTON	JSL II-3820	1263
8-VII-10-4-302	ENV	WATER/PLANKTON	JSL II-3820	1263
8-VII-10-4-303	ART	PARAPANDALUS? SP..	JSL II-3820	1225

SAMPLE NUMBER (Date+Site+Sample)	PHYLUM	TAXONOMY	METHOD	DEPTH (Ft.)
8-VII-10-4-304	CNI	LOPHELIA PERTUSA	JSL II-3820	1205
8-VII-10-4-305	CNI	SCLERACTINIA	JSL II-3820	1205

APPENDIX 4

Sample Documentation
(Sample Number = day + month + year + site + sample; e.g., 27-VII-10-1-001)

SAMPLE DOCUMENTATION
HBOI CIOERT Florida Shelf-Edge Expedition (FLoSEE)
July 9-August 9, 2010
R/V Seward Johnson
Johnson-Sea-Link II Submersible

SAMPLE NUMBER (Date + Site # + Sample #)	IN-SITU 35-MM PHOTO	LAB 35-MM PHOTO	MUSEUM SPECIMEN (Large)	MUSEUM SPECIMEN (Small)	PRESER-VATIVE	MICROBIAL ISOLATION (Agar)	MICROBIAL ISOLATION (Freeze)	CELL CULTURE	TLC	HPLC	DNA
9-VII-10-1-001	N	Y	Y	Y	70ET	N	N	Y	N	N	N
10-VII-10-1-001	N	Y	Y	Y	70ET	N	Y	N	N	Y	Y
10-VII-10-1-002	N	Y	Y	Y	70ET	N	Y	N	N	Y	Y
10-VII-10-1-003	N	Y	Y	Y	70ET	Y	Y	N	N	Y	Y
10-VII-10-1-004	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
10-VII-10-1-005	N	Y	Y	Y	70ET	N	Y	N	N	Y	Y
10-VII-10-1-006	N	Y	Y	Y	70ET	N	Y	N	N	Y	Y
10-VII-10-1-007	N	Y	Y	Y	70ET	Y	Y	N	N	Y	Y
10-VII-10-1-008	N	Y	Y	Y	70ET	N	Y	N	N	Y	Y
10-VII-10-1-009	N	Y	Y	Y	70ET	N	Y	N	N	Y	Y
10-VII-10-1-010	N	Y	Y	Y	70ET	N	Y	N	N	Y	Y
10-VII-10-1-011	N	Y	Y	Y	70ET	N	N	N	N	N	Y
10-VII-10-1-201	N	N	Y	N	10FO	Y	Y	N	N	N	N
10-VII-10-1-301	N	N	N	N		N	N	N	N	N	N
10-VII-10-1-302	N	N	N	N		N	N	N	N	N	N
10-VII-10-1-N1	N	Y	Y	N	70ET	N	N	N	N	N	N
10-VII-10-3-001	N	Y	Y	Y	70ET	Y	Y	N	N	Y	Y
10-VII-10-3-002	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
10-VII-10-3-003	N	Y	Y	Y	70ET	N	Y	N	N	Y	Y
10-VII-10-3-004	N	Y	Y	Y	70ET	N	Y	N	N	Y	Y
10-VII-10-3-005	N	Y	Y	Y	70ET	Y	Y	N	N	Y	Y
10-VII-10-3-006	N	Y	Y	N	70ET	N	N	N	N	N	N
10-VII-10-3-007	N	Y	Y	Y	70ET	Y	Y	N	N	Y	Y
10-VII-10-3-008	N	Y	Y	Y	70ET	N	Y	N	N	Y	Y
10-VII-10-3-009	N	Y	Y	Y	70ET	N	Y	N	N	Y	Y
10-VII-10-3-301	N	N	N	N		N	N	N	N	N	N
10-VII-10-3-302	N	N	N	N		N	N	N	N	N	N
10-VII-10-3-303	N	N	N	N		N	N	N	N	N	N
11-VII-10-1-001	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
11-VII-10-1-002	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
11-VII-10-1-003	Y	Y	Y	Y	70ET	Y	Y	N	N	Y	Y
11-VII-10-1-004	Y	Y	Y	Y	70ET	Y	Y	N	N	Y	Y

SAMPLE NUMBER (Date + Site # + Sample #)	IN-SITU 35-MM PHOTO	LAB 35-MM PHOTO	MUSEUM SPECIMEN (Large)	MUSEUM SPECIMEN (Small)	PRESER-VATIVE	MICROBIAL ISOLATION (Agar)	MICROBIAL ISOLATION (Freeze)	CELL CULTURE	TLC	HPLC	DNA
11-VII-10-1-005	Y	Y	Y	N		N	N	N	N	N	N
11-VII-10-1-006	N	Y	Y	Y	70ET	N	N	N	N	N	N
11-VII-10-2-001	N	Y	Y	Y	70ET	Y	Y	Y	N	Y	N
11-VII-10-2-002	N	Y	Y	N	70ET	N	N	N	N	N	N
11-VII-10-2-003	N	Y	Y	Y	70ET	N	N	N	N	Y	N
11-VII-10-2-004	N	Y	Y	Y	70ET	N	N	N	N	Y	N
11-VII-10-2-301	Y	N	N	N		N	N	N	N	N	N
11-VII-10-2-302	N	N	N	N		N	N	N	N	N	N
12-VII-10-1-001	N	Y	N	N		N	N	N	N	N	N
12-VII-10-1-002	N	Y	N	N		N	N	N	N	N	N
12-VII-10-1-003	N	Y	N	N		N	N	N	N	N	N
12-VII-10-1-004	N	Y	N	N		N	N	N	N	N	N
12-VII-10-1-005	N	Y	N	N		N	N	N	N	N	N
12-VII-10-1-006	N	Y	Y	Y	70ET	N	N	N	N	N	N
12-VII-10-1-201	N	N	Y	N	10FO	Y	Y	N	N	N	N
12-VII-10-4-001	N	N	N	N		N	N	N	N	N	N
12-VII-10-4-002	N	N	N	N	N	N	N	N	N	N	N
12-VII-10-5-201	N	N	Y	N	10FO	Y	Y	N	N	N	N
13-VII-10-4-001	N	Y	Y	N	70ET	N	N	N	N	N	N
13-VII-10-4-002	N	Y	Y	Y	70ET	N	Y	N	N	Y	Y
13-VII-10-4-003	N	Y	Y	Y	70ET	N	Y	N	N	Y	Y
13-VII-10-4-004	N	Y	Y	Y	70ET	N	Y	N	N	Y	Y
13-VII-10-4-005	N	Y	Y	Y	70ET	Y	Y	N	N	Y	Y
13-VII-10-4-006	N	Y	Y	Y	70ET	N	Y	N	N	Y	Y
13-VII-10-4-007	N	Y	Y	Y	70ET	Y	Y	N	N	Y	N
13-VII-10-4-008	N	Y	Y	Y	70ET	Y	Y	N	N	Y	Y
13-VII-10-4-009	N	Y	Y	Y	70ET	N	Y	N	N	Y	Y
13-VII-10-4-010	Y	Y	Y	Y	70ET	N	Y	N	N	Y	N
13-VII-10-4-101	N	Y	Y	Y	10FO	N	Y	N	N	Y	Y
13-VII-10-4-102	N	Y	Y	Y	10FO	Y	Y	N	N	Y	Y
13-VII-10-4-201	N	N	Y	N	10FO	Y	Y	N	N	N	N
14-VII-10-1-001	N	Y	Y	N	70ET	N	N	N	N	N	N
14-VII-10-1-002	N	Y	Y	N	70ET	N	Y	N	N	N	Y
14-VII-10-1-003	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
14-VII-10-1-004	Y	Y	Y	Y	70ET	Y	Y	N	N	N	N
14-VII-10-1-005	N	Y	Y	N	70ET	N	N	N	N	Y	N
14-VII-10-1-006	Y	Y	Y	Y	70ET	Y	Y	N	N	Y	Y
14-VII-10-1-007	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y

SAMPLE NUMBER (Date + Site # + Sample #)	IN-SITU 35-MM PHOTO	LAB 35-MM PHOTO	MUSEUM SPECIMEN (Large)	MUSEUM SPECIMEN (Small)	PRESER-VATIVE	MICROBIAL ISOLATION (Agar)	MICROBIAL ISOLATION (Freeze)	CELL CULTURE	TLC	HPLC	DNA
14-VII-10-1-008	N	Y	Y	N	70ET	N	N	N	N	N	N
14-VII-10-1-009	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
14-VII-10-1-010	N	Y	Y	Y	70ET	N	Y	N	N	Y	Y
14-VII-10-1-011	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
14-VII-10-1-012	N	Y	Y	Y	70ET	N	Y	N	N	Y	Y
14-VII-10-1-013	N	Y	Y	Y	70ET	N	Y	N	N	Y	Y
14-VII-10-1-201	Y	Y	Y	N	N	N	N	N	N	N	N
14-VII-10-1-202	Y	N	Y	N	5FO	Y	Y	N	N	N	N
14-VII-10-4-001	Y	Y	Y	Y	70ET	N	N	N	N	N	N
14-VII-10-4-002	Y	Y	Y	Y	70ET	N	N	N	N	Y	N
14-VII-10-4-003	Y	Y	Y	Y	70ET	N	N	N	N	N	N
14-VII-10-4-004	Y	Y	Y	N	70ET	N	N	N	N	N	N
15-VII-10-1-001	N	Y	Y	Y	70ET	Y	Y	N	N	Y	N
15-VII-10-1-002	N	Y	Y	Y	70ET	Y	Y	N	N	Y	N
15-VII-10-1-003	N	Y	Y	Y	10FO	Y	Y	N	N	Y	N
15-VII-10-1-004	N	Y	Y	Y	10FO	N	N	N	N	Y	N
15-VII-10-1-005	N	Y	Y	Y	70ET	N	N	Y	N	Y	N
15-VII-10-1-006	N	Y	Y	Y	5FO	N	N	N	N	Y	N
15-VII-10-1-007	N	Y	N	Y	5FO	N	N	N	N	Y	N
15-VII-10-1-008	N	Y	Y	N	10FO	N	N	N	N	Y	N
15-VII-10-1-009	N	Y	Y	Y	70ET	N	N	Y	N	Y	N
15-VII-10-1-010	N	Y	Y	Y	70ET	N	N	Y	N	Y	N
15-VII-10-1-011	N	Y	Y	Y	70ET	N	N	Y	N	Y	N
15-VII-10-1-012	N	Y	Y	Y	70ET	N	N	Y	N	Y	N
15-VII-10-1-013	N	Y	Y	Y	70ET	N	N	Y	N	Y	N
15-VII-10-1-014	N	Y	Y	Y	70ET	N	N	Y	N	Y	N
15-VII-10-1-015	N	Y	Y	Y	70ET	N	N	Y	N	Y	N
15-VII-10-1-016	N	Y	Y	Y	70ET	N	N	Y	N	Y	N
15-VII-10-1-017	N	Y	Y	Y	70ET	N	N	Y	N	Y	N
15-VII-10-1-018	N	Y	Y	Y	10FO	N	N	N	N	Y	N
15-VII-10-1-019	N	Y	Y	N	10FO	N	N	N	N	Y	N
16-VII-10-1-101	N	Y	Y	Y	5FO	Y	Y	N	N	Y	Y
16-VII-10-1-102	N	Y	Y	Y	5FO	Y	Y	N	N	Y	Y
17-VII-10-1-001	N	Y	Y	Y	10FO	Y	Y	N	N	Y	Y
17-VII-10-1-002	N	Y	Y	Y	70ET	Y	Y	Y	N	Y	Y
17-VII-10-1-003	Y	Y	Y	N	70ET	N	N	N	N	N	N
17-VII-10-1-004	N	Y	Y	Y	70ET	N	Y	N	N	Y	Y
17-VII-10-1-005	N	N	Y	N	70ET	N	N	N	N	N	N

SAMPLE NUMBER (Date + Site # + Sample #)	IN-SITU 35-MM PHOTO	LAB 35-MM PHOTO	MUSEUM SPECIMEN (Large)	MUSEUM SPECIMEN (Small)	PRESER-VATIVE	MICROBIAL ISOLATION (Agar)	MICROBIAL ISOLATION (Freeze)	CELL CULTURE	TLC	HPLC	DNA
17-VII-10-1-101	N	Y	Y	N	DRY	N	N	N	N	N	N
17-VII-10-1-102	N	Y	Y	N	5FO	N	Y	N	N	N	N
17-VII-10-1-103	N	Y	Y	N	5FO	N	Y	N	N	N	N
17-VII-10-1-104	N	Y	Y	N	5FO	N	Y	N	N	N	N
17-VII-10-1-105	N	Y	Y	N	5FO	N	Y	N	N	N	N
17-VII-10-1-106	N	Y	Y	N	5FO	N	N	N	N	N	N
17-VII-10-1-107	N	Y	Y	Y	5FO	N	Y	N	N	Y	Y
17-VII-10-1-108	N	Y	Y	N	70ET	N	Y	N	N	N	N
17-VII-10-1-201	N	N	Y	N	70ET	Y	Y	N	N	N	N
17-VII-10-1-N1	N	N	Y	N	5FO	N	N	N	N	N	N
17-VII-10-1-N2	N	N	Y	N	70ET	N	N	N	N	N	N
17-VII-10-3-001	Y	Y	Y	Y	70ET	N	Y	Y	N	Y	Y
17-VII-10-3-002	N	Y	Y	Y	70ET	Y	Y	N	N	Y	Y
17-VII-10-3-003	N	Y	Y	Y	70ET	N	Y	N	N	N	Y
17-VII-10-3-004	N	Y	Y	Y	70ET	N	Y	N	N	Y	Y
17-VII-10-3-005	N	Y	Y	Y	70ET	N	Y	Y	N	Y	Y
17-VII-10-3-006	N	Y	N	N		N	N	N	N	N	N
17-VII-10-3-007	N	Y	Y	Y?	70ET	N	Y	N	N	N	Y
17-VII-10-3-008	N	Y	Y	Y	70ET	N	N	N	N	N	N
17-VII-10-3-009	N	N	Y	Y?	70ET	N	N	N	N	N	N
17-VII-10-3-010	N	Y	Y	N	70ET	N	N	N	N	N	N
17-VII-10-3-101	Y	Y	Y	Y	5FO	N	Y	N	N	Y	N
17-VII-10-3-102	Y	Y	Y	Y	5FO	N	Y	N	N	Y	N
17-VII-10-3-103	Y	Y	Y	Y	5FO	N	Y	N	N	Y	N
17-VII-10-3-104	N	Y	Y	Y	5FO	N	Y	N	N	Y	N
17-VII-10-3-105	Y	Y	Y	Y	5FO	N	Y	N	N	N	N
17-VII-10-3-201	N	N	Y	N	70ET	N	Y	N	N	N	N
17-VII-10-3-202	N	N	N	N		Y	Y	N	N	N	N
18-VII-10-1-001	Y	Y	Y	Y	70ET	N	Y	N	N	Y	N
18-VII-10-1-002	Y	Y	Y	Y	70ET	Y	Y	N	N	Y	Y
18-VII-10-1-003	Y	Y	Y	Y	70ET	N	Y	N	N	N	Y
18-VII-10-1-004	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
18-VII-10-1-005	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
18-VII-10-1-006	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
18-VII-10-1-007	N	Y	Y	Y	70ET	N	Y	N	N	Y	Y
18-VII-10-1-008	N	Y	N	Y	70ET	N	Y	N	N	Y	N
18-VII-10-1-201	N	Y	Y	N	70ET	Y	Y	N	N	N	N
18-VII-10-1-202	N	Y	Y	N		N	N	N	N	N	N

SAMPLE NUMBER (Date + Site # + Sample #)	IN-SITU 35-MM PHOTO	LAB 35-MM PHOTO	MUSEUM SPECIMEN (Large)	MUSEUM SPECIMEN (Small)	PRESER-VATIVE	MICROBIAL ISOLATION (Agar)	MICROBIAL ISOLATION (Freeze)	CELL CULTURE	TLC	HPLC	DNA
18-VII-10-2-001	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
18-VII-10-2-002	Y	Y	Y	Y	70ET	Y	Y	N	N	N	Y
18-VII-10-2-003	Y	Y	N	Y	70ET	N	Y	N	N	Y	Y
18-VII-10-2-004	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
18-VII-10-2-005	Y	Y	Y	Y	70ET	N	Y	N	N	N	Y
18-VII-10-2-006	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
18-VII-10-2-007	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
18-VII-10-2-008	Y	Y	Y	N	70ET	N	Y	N	N	N	Y
18-VII-10-2-009	Y	Y	Y	N	70ET	N	N	N	N	N	N
18-VII-10-2-010	Y	Y	Y	Y	70ET	N	Y	N	N	Y	N
18-VII-10-2-201	N	N	Y	N	70ET	Y	Y	N	N	N	N
18-VII-10-2-N1	N	N	Y	N	70ET	N	N	N	N	N	N
19-VII-10-1-001	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
19-VII-10-1-002	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
19-VII-10-1-003	Y	Y	Y	Y	70ET	N	N	N	N	N	N
19-VII-10-1-004	N	Y	N	N		N	N	N	N	N	N
19-VII-10-1-005	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
19-VII-10-1-006	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
19-VII-10-1-007	Y	Y	Y	N	N	N	N	N	N	N	N
19-VII-10-1-008	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
19-VII-10-1-009	Y	Y	Y	Y	10FO	Y	Y	N	N	Y	Y
19-VII-10-1-010	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
19-VII-10-1-011	Y	Y	Y	N	70ET	N	Y	N	N	N	Y
19-VII-10-1-012	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
19-VII-10-1-013	Y	Y	N	Y	70ET	N	Y	N	N	Y	N
19-VII-10-1-014	Y	Y	Y	Y	70ET	Y	Y	N	N	Y	Y
19-VII-10-1-015	Y	Y	Y	N	10FO	Y	Y	N	N	Y	Y
19-VII-10-1-201	N	N	Y	N	70ET	Y	Y	N	N	N	N
19-VII-10-1-N1	N	N	Y	N	70ET	N	N	N	N	N	N
19-VII-10-1-N2	Y	N	Y	N	70ET	N	N	N	N	N	N
19-VII-10-1-N3	N	N	Y	N	70ET	N	N	N	N	N	N
19-VII-10-1-N4	N	N	Y	N	70ET	N	N	N	N	N	N
19-VII-10-1-N5	N	N	Y	N	70ET	N	N	N	N	N	N
19-VII-10-1-N6	N	N	Y	N	70ET	N	N	N	N	N	N
19-VII-10-3-001	Y	Y	Y	Y	70ET	Y	Y	N	N	Y	Y
19-VII-10-3-002	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
19-VII-10-3-003	N	Y	Y	Y	70ET	N	Y	N	N	Y	Y
19-VII-10-3-004	N	Y	Y	Y	70ET	N	N	N	N	N	N

SAMPLE NUMBER (Date + Site # + Sample #)	IN-SITU 35-MM PHOTO	LAB 35-MM PHOTO	MUSEUM SPECIMEN (Large)	MUSEUM SPECIMEN (Small)	PRESER-VATIVE	MICROBIAL ISOLATION (Agar)	MICROBIAL ISOLATION (Freeze)	CELL CULTURE	TLC	HPLC	DNA
19-VII-10-3-005	N	Y	N	Y	70ET	N	N	N	N	Y	N
19-VII-10-3-006	N	Y	N	Y	70ET	Y	Y	N	N	Y	Y
19-VII-10-3-007	N	Y	Y	Y	70ET	N	N	N	N	N	Y
19-VII-10-3-008	N	Y	Y	Y	70ET	N	Y	N	N	N	Y
19-VII-10-3-009	N	Y	N	Y	70ET	N	N	N	N	Y	N
19-VII-10-3-010	N	Y	Y	Y	70ET	N	N	N	N	N	N
19-VII-10-3-011	N	Y	N	Y	70ET	N	N	N	N	Y	N
19-VII-10-3-012	N	Y	Y	N		N	N	N	N	N	N
19-VII-10-3-013	N	Y	Y	Y	70ET	N	Y	N	N	Y	Y
19-VII-10-3-014	N	Y	N	Y	70ET	N	N	N	N	N	Y
19-VII-10-3-015	N	Y	Y	Y	70ET	N	Y	N	N	Y	Y
19-VII-10-3-016	N	Y	Y	Y	70ET	N	N	N	N	N	N
19-VII-10-3-017	N	Y	Y	Y	70ET	N	Y	N	N	Y	Y
19-VII-10-3-018	N	Y	Y	Y	70ET	N	Y	N	N	Y	Y
19-VII-10-3-201	N	N	Y	N	70ET	N	Y	N	N	N	N
19-VII-10-3-N1	N	N	Y	N	70ET	N	N	N	N	N	N
20-VII-10-1-001	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
20-VII-10-1-002	Y	Y	Y	N	70ET	N	Y	N	N	Y	N
20-VII-10-1-003	N	Y	Y	Y	70ET	N	Y	N	N	Y	Y
20-VII-10-1-004	Y	Y	Y	N		N	N	N	N	Y	N
20-VII-10-1-005	Y	Y	Y	Y	70ET	N	Y	N	N	N	Y
20-VII-10-1-006	Y	Y	Y	Y	70ET	Y	Y	N	N	Y	Y
20-VII-10-1-007	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
20-VII-10-1-008	N	Y	Y	Y	70ET	N	Y	N	N	Y	Y
20-VII-10-1-009	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
20-VII-10-1-010	N	Y	Y	Y	70ET	N	Y	N	N	Y	Y
20-VII-10-1-011	N	Y	Y	Y	70ET	N	Y	N	N	Y	Y
20-VII-10-1-012	N	Y	Y	N	70ET	N	Y	N	N	N	Y
20-VII-10-1-013	Y	Y	Y	N	70ET	N	N	N	N	N	N
20-VII-10-1-201	N	Y	Y	N	70ET	Y	Y	N	N	N	N
20-VII-10-1-202	N	Y	Y	N		N	N	N	N	N	N
20-VII-10-1-N	N	N	Y	N	70ET	N	N	N	N	N	N
20-VII-10-3-001	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
20-VII-10-3-002	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
20-VII-10-3-003	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
20-VII-10-3-004	Y	Y	Y	Y	70ET	Y	Y	N	N	Y	Y
20-VII-10-3-005	N	Y	Y	Y	70ET	N	Y	N	N	Y	Y
20-VII-10-3-006	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y

SAMPLE NUMBER (Date + Site # + Sample #)	IN-SITU 35-MM PHOTO	LAB 35-MM PHOTO	MUSEUM SPECIMEN (Large)	MUSEUM SPECIMEN (Small)	PRESER-VATIVE	MICROBIAL ISOLATION (Agar)	MICROBIAL ISOLATION (Freeze)	CELL CULTURE	TLC	HPLC	DNA
20-VII-10-3-007	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
20-VII-10-3-008	Y	Y	N	Y	70ET	N	Y	N	N	Y	Y
20-VII-10-3-009	Y	Y	Y	Y	70ET	N	N	N	N	Y	N
20-VII-10-3-010	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
20-VII-10-3-011	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
20-VII-10-3-012	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
20-VII-10-3-013	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
20-VII-10-3-014	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
20-VII-10-3-015	Y	Y	Y	N	5FO	N	N	N	N	Y	N
20-VII-10-3-201	Y	N	Y	N	70ET	Y	Y	N	N	N	N
20-VII-10-3-N1	Y	Y	Y	N	70ET	N	N	N	N	N	N
20-VII-10-3-N2	N	N	Y	N	70ET	N	N	N	N	N	N
22-VII-10-1-001	N	Y	Y	Y	70ET	N	N	N	N	Y	Y
22-VII-10-1-002	Y	Y	Y	Y	70ET	N	N	N	N	Y	Y
22-VII-10-1-003	Y	Y	Y	Y	70ET	N	N	N	N	Y	Y
22-VII-10-1-004	Y	Y	Y	Y	70ET	N	N	N	N	N	Y
22-VII-10-1-005	N	Y	Y	Y	70ET	N	N	N	N	N	N
22-VII-10-1-006	N	Y	Y	N	70ET	N	N	N	N	N	N
22-VII-10-1-007	N	Y	Y	Y	70RT	N	N	N	N	Y	N
22-VII-10-1-201	N	N	Y	N	70ET	N	N	N	N	N	Y
22-VII-10-3-001	N	Y	Y	Y	70ET	N	N	N	N	Y	N
22-VII-10-3-002	Y	Y	Y	Y	70ET	N	N	N	N	Y	N
22-VII-10-3-003	Y	Y	Y	Y	70ET	N	N	N	N	Y	N
22-VII-10-3-004	Y	Y	Y	Y	70ET	N	N	N	N	Y	N
22-VII-10-3-005	N	Y	Y	Y	70ET	N	N	N	N	Y	N
22-VII-10-3-006	Y	Y	Y	Y	70ET	N	N	N	N	Y	N
22-VII-10-3-007	N	Y	Y	Y	70ET	N	N	N	N	Y	N
22-VII-10-3-008	Y	Y	Y	Y	70ET	N	N	N	N	Y	N
22-VII-10-3-009	Y	Y	Y	Y	70ET	N	N	N	N	Y	N
22-VII-10-3-010	Y	Y	Y	Y	70ET	N	N	N	N	Y	N
22-VII-10-3-011	Y	Y	Y	Y	70ET	N	N	N	N	Y	N
22-VII-10-3-012	Y	Y	Y	Y	70ET	N	N	N	N	Y	N
22-VII-10-3-013	N	Y	Y	Y	70ET	N	N	N	N	Y	N
22-VII-10-3-014	Y	Y	Y	N	70ET	N	N	N	N	N	N
22-VII-10-3-201	N	N	Y	N	70ET	N	N	N	N	N	N
24-VII-10-2-001	Y	Y	Y	Y	70ET	N	N	N	N	Y	N
24-VII-10-2-002	Y	Y	Y	Y	70ET	N	N	N	N	Y	N
24-VII-10-2-003	Y	Y	Y	Y	70ET	N	N	N	N	Y	N

SAMPLE NUMBER (Date + Site # + Sample #)	IN-SITU 35-MM PHOTO	LAB 35-MM PHOTO	MUSEUM SPECIMEN (Large)	MUSEUM SPECIMEN (Small)	PRESER-VATIVE	MICROBIAL ISOLATION (Agar)	MICROBIAL ISOLATION (Freeze)	CELL CULTURE	TLC	HPLC	DNA
24-VII-10-2-004	Y	Y	Y	Y	70ET	N	N	N	N	Y	N
24-VII-10-2-005	Y	Y	N	N	N	N	N	N	N	N	Y
24-VII-10-2-006	N	N	Y	Y	70ET	N	N	N	N	N	Y
24-VII-10-2-101	NO	N	Y	N	70ET	N	N	N	N	N	N
24-VII-10-2-201	N	N	Y	N	70ET	N	N	N	N	N	N
24-VII-10-3-001	Y	Y	Y	Y	70ET	N	N	N	N	Y	N
24-VII-10-3-002	Y	Y	Y	Y	70ET	N	N	N	N	Y	N
24-VII-10-3-003	Y	Y	Y	Y	5FO	N	N	N	N	Y	N
24-VII-10-3-004	Y	Y	Y	Y	70ET	N	N	N	N	Y	N
24-VII-10-3-005	Y	Y	Y	Y	70ET	N	N	N	N	Y	N
24-VII-10-3-201	N	N	Y	N	70ET	N	N	N	N	N	N
26-VII-10-1-001	N	Y	Y	N	70ET	N	N	N	N	N	N
26-VII-10-1-002	N	Y	Y	N	70ET	N	N	N	N	N	N
26-VII-10-1-003	N	Y	Y	N	5FO	N	N	N	N	N	N
26-VII-10-1-101	N	Y	Y	N	5FO	N	N	N	N	N	N
26-VII-10-1-201	N	N	N	N		N	N	N	N	N	N
26-VII-10-1-202	N	N	Y	N	70ET	Y	Y	N	N	N	N
26-VII-10-1-203	N	N	N	N		N	N	N	N	N	N
26-VII-10-1-204	N	N	Y	N	70ET	Y	Y	N	N	N	N
26-VII-10-1-205	N	N	Y	N		N	N	N	N	N	N
26-VII-10-1-206	N	N	N	N		N	N	N	N	N	N
26-VII-10-1-207	N	N	Y	N	70ET	Y	Y	N	N	N	N
26-VII-10-1-208	N	N	N	N		N	N	N	N	N	N
26-VII-10-1-209	N	N	Y	N	70ET	Y	N	N	N	N	N
26-VII-10-1-210	N	N	N	N		N	N	N	N	N	N
26-VII-10-1-211	N	N	Y	N	70ET	N	N	N	N	N	N
26-VII-10-1-212	N	N	N	N		N	N	N	N	N	N
26-VII-10-1-213	N	N	Y	N	70ET	Y	N	N	N	N	N
26-VII-10-1-214	N	N	N	N		N	N	N	N	N	N
26-VII-10-1-215	N	N	Y	N	70ET	Y	N	N	N	N	N
26-VII-10-1-301	N	N	N	N	N	N	N	N	N	N	N
26-VII-10-1-302	N	N	N	N		N	N	N	N	N	N
26-VII-10-1-303	N	N	N	N	N	N	N	N	N	N	N
26-VII-10-1-304	N	N	N	N	N	N	N	N	N	N	N
26-VII-10-1-305	N	N	N	N		N	N	N	N	N	N
26-VII-10-1-306	N	N	N	N	N	N	N	N	N	N	N
26-VII-10-1-307	N	N	N	N	N	N	N	N	N	N	N
26-VII-10-1-308	N	N	N	N	N	N	N	N	N	N	N

SAMPLE NUMBER (Date + Site # + Sample #)	IN-SITU 35-MM PHOTO	LAB 35-MM PHOTO	MUSEUM SPECIMEN (Large)	MUSEUM SPECIMEN (Small)	PRESER-VATIVE	MICROBIAL ISOLATION (Agar)	MICROBIAL ISOLATION (Freeze)	CELL CULTURE	TLC	HPLC	DNA
26-VII-10-1-N1	N	N	Y	N	70ET	N	N	N	N	N	N
26-VII-10-2-001	N	Y	Y	N	95ET	N	N	N	N	N	N
26-VII-10-4-001	N	N	Y	N	70ET	N	N	N	N	N	N
26-VII-10-4-002	N	Y	Y	N	70ET	N	N	N	N	N	N
26-VII-10-4-003	Y	Y	Y	Y	70ET	Y	Y	N	N	Y	Y
26-VII-10-4-004	N	y	Y	Y	70ET	Y	Y	N	N	Y	Y
26-VII-10-4-005	N	Y	N	N		N	N	N	N	N	N
26-VII-10-4-006	N	Y	Y	N	10FO	N	N	N	N	N	N
26-VII-10-4-101	N	Y	Y	N	5FO	N	N	N	N	N	N
26-VII-10-4-201	N	N	Y	N	70ET	Y	Y	N	N	N	N
26-VII-10-4-202	N	N	Y	N		Y	Y	N	N	N	N
26-VII-10-4-203	N	N	N	N		N	N	N	N	N	N
26-VII-10-4-204	N	N	N	N	N	N	N	N	N	N	N
26-VII-10-4-205	N	N	N	N	N	N	N	N	N	N	N
26-VII-10-4-206	N	N	N	N		N	N	N	N	N	N
26-VII-10-4-207	N	N	N	N		N	N	N	N	N	N
26-VII-10-4-208	N	N	N	N		N	N	N	N	N	N
26-VII-10-4-209	N	N	N	N		N	N	N	N	N	N
26-VII-10-4-210	N	N	N	N		N	N	N	N	N	N
26-VII-10-4-211	N	Y	Y	N		N	N	N	N	N	N
26-VII-10-4-301	N	N	N	N		N	N	N	N	N	N
26-VII-10-4-302	N	N	N	N		N	N	N	N	N	N
26-VII-10-4-303	N	N	N	N	N	N	N	N	N	N	N
26-VII-10-4-304	N	N	N	N	N	N	N	N	N	N	N
26-VII-10-4-305	N	N	N	N	N	N	N	N	N	N	N
26-VII-10-4-306	N	N	N	N	N	N	N	N	N	N	N
26-VII-10-4-307	N	N	N	N	N	N	N	N	N	N	N
26-VII-10-4-308	N	N	N	N	N	N	N	N	N	N	N
26-VII-10-6-001	N	N	N	N	N	N	N	N	N	N	N
27-VII-10-1-001	Y	Y	N	Y	70ET	N	N	N	N	N	Y
27-VII-10-1-002	Y	Y	Y	Y	70ET	N	N	N	N	Y	Y
27-VII-10-1-003	N	Y	Y	Y	70ET	N	N	N	N	Y	Y
27-VII-10-1-004	N	Y	Y	Y		N	N	N	N	Y	Y
27-VII-10-1-005	Y	Y	Y	Y	70ET	Y	Y	N	N	Y	Y
27-VII-10-1-006	Y	Y	Y	Y	70ET	N	N	N	N	Y	Y
27-VII-10-1-007	Y	Y	Y	Y	70ET	Y	Y	N	N	Y	Y
27-VII-10-1-008	N	Y	N	Y	70ET	N	N	N	N	Y	Y
27-VII-10-1-009	N	Y	N	Y	70ET	N	N	N	N	N	Y

SAMPLE NUMBER (Date + Site # + Sample #)	IN-SITU 35-MM PHOTO	LAB 35-MM PHOTO	MUSEUM SPECIMEN (Large)	MUSEUM SPECIMEN (Small)	PRESER-VATIVE	MICROBIAL ISOLATION (Agar)	MICROBIAL ISOLATION (Freeze)	CELL CULTURE	TLC	HPLC	DNA
27-VII-10-1-010	N	Y	N	Y	70ET	N	N	N	N	N	Y
27-VII-10-1-201	N	N	Y	N	70ET	Y	Y	N	N	N	N
27-VII-10-1-301	N	N	N	N	N	N	N	N	N	N	N
27-VII-10-1-302	N	N	N	N	N	N	N	N	N	N	N
27-VII-10-1-N1	N	Y	Y	N	70ET	N	N	N	N	N	N
27-VII-10-1-N2	Y	Y	N	N		N	N	N	N	N	N
27-VII-10-4-001	Y	Y	Y	Y	70ET	N	N	N	N	Y	Y
27-VII-10-4-002	Y	Y	Y	Y	70ET	N	N	N	N	Y	Y
27-VII-10-4-003	Y	Y	Y	Y	70ET	N	N	N	N	Y	Y
27-VII-10-4-004	N	Y	N	Y	70ET	N	N	N	N	N	Y
27-VII-10-4-005	N	Y	N	Y	70ET	N	N	N	N	N	Y
27-VII-10-4-006	Y	Y	Y	Y	70ET	N	N	N	N	Y	Y
27-VII-10-4-007	N	Y	N	Y	70ET	N	N	N	N	N	N
27-VII-10-4-008	N	Y	N	Y	70ET	N	N	N	N	Y	Y
27-VII-10-4-009	Y	Y	Y	Y	70ET	N	N	N	N	N	Y
27-VII-10-4-010	N	Y	Y	Y	70ET	N	N	N	N	Y	Y
27-VII-10-4-011	Y	Y	Y	Y	70ET	Y	Y	N	N	N	Y
27-VII-10-4-012	Y	Y	Y	Y		N	N	N	N	Y	Y
27-VII-10-4-013	Y	Y	Y	Y	70ET	N	N	N	N	Y	Y
27-VII-10-4-014	Y	Y	N	Y	70ET	N	N	N	N	N	Y
27-VII-10-4-201	N	N	Y	N	70ET	Y	Y	N	N	N	N
27-VII-10-4-202	N	Y	Y	N	N	N	N	N	N	N	N
27-VII-10-4-301	N	N	N	N	N	N	N	N	N	N	N
27-VII-10-4-302	N	N	N	N	N	N	N	N	N	N	N
27-VII-10-4-303	N	N	N	N	N	N	N	N	N	N	N
27-VII-10-4-304	N	N	N	N	N	N	N	N	N	N	N
28-VII-10-1-001	Y	Y	Y	Y	70ET	N	N	N	N	Y	Y
28-VII-10-1-002	Y	Y	Y	Y	70ET	N	N	N	N	Y	Y
28-VII-10-1-003	Y	Y	Y	Y	70ET	N	N	N	N	Y	Y
28-VII-10-1-004	Y	Y	Y	Y	70ET	N	N	N	N	Y	Y
28-VII-10-1-005	Y	Y	Y	Y	70ET	Y	Y	N	N	Y	Y
28-VII-10-1-006	Y	Y	Y	Y	70ET	N	N	N	N	Y	Y
28-VII-10-1-007	Y	Y	Y	Y	70ET	N	N	N	N	N	Y
28-VII-10-1-008	Y	Y	Y	Y	70ET	N	N	N	N	N	Y
28-VII-10-1-009	Y	Y	Y	Y	70ET	N	N	N	N	Y	Y
28-VII-10-1-010	Y	Y	Y	Y	70ET	N	N	N	N	Y	Y
28-VII-10-1-011	Y	Y	Y	Y	70ET	N	N	N	N	Y	Y
28-VII-10-1-012	Y	Y	Y	Y	70ET	N	N	N	N	N	Y

SAMPLE NUMBER (Date + Site # + Sample #)	IN-SITU 35-MM PHOTO	LAB 35-MM PHOTO	MUSEUM SPECIMEN (Large)	MUSEUM SPECIMEN (Small)	PRESER-VATIVE	MICROBIAL ISOLATION (Agar)	MICROBIAL ISOLATION (Freeze)	CELL CULTURE	TLC	HPLC	DNA
28-VII-10-1-201	Y	N	Y	N	70ET	Y	Y	N	N	N	N
28-VII-10-1-301	N	N	N	N	N	N	N	N	N	N	N
28-VII-10-1-302	N	N	N	N	N	N	N	N	N	N	N
28-VII-10-1-303	N	N	N	N	N	N	N	N	N	N	N
28-VII-10-1-304	N	N	N	N	N	N	N	N	N	N	N
28-VII-10-1-305	N	N	N	N	N	N	N	N	N	N	N
28-VII-10-1-N1	Y	Y	Y	N	10FO	N	N	N	N	N	N
28-VII-10-1-N2	Y	N	Y	N	70ET	N	N	N	N	N	N
28-VII-10-1-N3	Y	N	Y	N	10FO	N	N	N	N	N	N
28-VII-10-4-001	Y	Y	Y	N	N	N	N	N	N	Y	Y
28-VII-10-4-002	Y	Y	Y	Y	N	N	N	N	N	Y	Y
28-VII-10-4-003	Y	Y	Y	Y		N	N	N	N	N	Y
28-VII-10-4-004	Y	Y	Y	Y	N	N	N	N	N	Y	Y
28-VII-10-4-005	Y	Y	Y	Y		N	N	N	N	Y	Y
28-VII-10-4-006	Y	Y	Y	Y		Y	Y	N	N	Y	Y
28-VII-10-4-007	Y	Y	Y	Y		N	N	N	N	Y	Y
28-VII-10-4-008	Y	Y	Y	Y		N	N	N	N	Y	Y
28-VII-10-4-009	Y	Y	Y	Y		Y	Y	N	N	Y	Y
28-VII-10-4-010	Y	Y	Y	Y	N	N	N	N	N	Y	Y
28-VII-10-4-011	Y	Y	N	Y	N	N	N	N	N	N	N
28-VII-10-4-201	N	N	Y	N	70ET	N	N	N	N	N	N
28-VII-10-4-202	N	N	Y	N		N	N	N	N	N	N
28-VII-10-4-203	N	N	Y	N	N	N	N	N	N	N	N
28-VII-10-4-301	N	N	N	N	N	N	N	N	N	N	N
28-VII-10-4-302	N	N	N	N	N	N	N	N	N	N	N
28-VII-10-4-303	N	N	N	N	N	N	N	N	N	N	N
28-VII-10-4-304	N	Y	N	N	N	N	N	N	N	N	N
28-VII-10-4-305	N	N	N	N		N	N	N	N	N	N
28-VII-10-4-306	N	N	N	N	N	N	N	N	N	N	N
29-VII-10-1-001	Y	Y	Y	Y	70ET	N	N	N	N	Y	Y
29-VII-10-1-002	Y	Y	Y	Y	70ET	N	N	N	N	N	Y
29-VII-10-1-003	Y	Y	Y	Y	70ET	Y	Y	N	N	Y	Y
29-VII-10-1-004	Y	Y	Y	Y	70ET	N	N	N	N	Y	Y
29-VII-10-1-005	Y	Y	Y	Y	70ET	N	N	N	N	Y	Y
29-VII-10-1-006	Y	Y	Y	Y	70ET	N	N	N	N	Y	Y
29-VII-10-1-007	Y	Y	Y	Y	70ET	N	N	N	N	Y	Y
29-VII-10-1-008	Y	Y	Y	Y	70ET	N	N	N	N	Y	Y
29-VII-10-1-009	Y	Y	Y	N	70ET	N	N	N	N	Y	Y

SAMPLE NUMBER (Date + Site # + Sample #)	IN-SITU 35-MM PHOTO	LAB 35-MM PHOTO	MUSEUM SPECIMEN (Large)	MUSEUM SPECIMEN (Small)	PRESER-VATIVE	MICROBIAL ISOLATION (Agar)	MICROBIAL ISOLATION (Freeze)	CELL CULTURE	TLC	HPLC	DNA
29-VII-10-1-010	Y	Y	N	Y	70ET	N	N	N	N	Y	Y
29-VII-10-1-011	Y	Y	Y	Y	70ET	N	N	N	N	Y	Y
29-VII-10-1-012	N	Y	N	Y	70ET	N	N	N	N	N	N
29-VII-10-1-013	N	Y	Y	N	10FO	N	N	N	N	N	N
29-VII-10-1-014	N	Y	Y	N	10FO	N	N	N	N	N	N
29-VII-10-1-201	N	N	Y	N	70ET	N	Y	N	N	N	N
29-VII-10-1-202	N	N	Y	N	70ET	N	Y	N	N	N	N
29-VII-10-1-301	N	N	N	N	N	N	N	N	N	N	N
29-VII-10-1-302	N	N	N	N	N	N	N	N	N	N	N
29-VII-10-1-303	N	N	N	N	N	N	N	N	N	N	N
29-VII-10-1-304	N	N	N	N	N	N	N	N	N	N	N
29-VII-10-2-001	N	Y	N	N		N	N	N	N	N	N
29-VII-10-4-001	Y	Y	Y	Y	70ET	N	N	N	N	Y	Y
29-VII-10-4-002	Y	Y	N	Y	70ET	N	Y	N	N	Y	Y
29-VII-10-4-003	Y	Y	Y	Y	70ET	N	N	N	N	Y	Y
29-VII-10-4-004	Y	Y	Y	Y	70ET	N	N	N	N	Y	Y
29-VII-10-4-005	Y	Y	Y	Y	70ET	N	N	N	N	Y	Y
29-VII-10-4-006	Y	Y	Y	Y	70ET	N	N	N	N	Y	Y
29-VII-10-4-007	Y	Y	Y	Y	70ET	N	N	N	N	Y	Y
29-VII-10-4-008	Y	Y	Y	Y	70ET	N	N	N	N	Y	Y
29-VII-10-4-009	N	Y	Y	Y	70ET	N	N	N	N	Y	Y
29-VII-10-4-010	Y	Y	Y	Y	70ET	N	N	N	N	N	Y
29-VII-10-4-011	N	Y	Y	N	70ET	N	N	N	N	N	N
29-VII-10-4-012	Y	Y	Y	Y	70ET	N	N	N	N	N	Y
29-VII-10-4-013	N	Y	Y	Y	70ET	N	N	N	N	N	Y
29-VII-10-4-014	N	Y	Y	N	70ET	N	N	N	N	N	N
29-VII-10-4-016	N	Y	Y	Y	70ET	N	N	N	N	N	N
29-VII-10-4-201	N	N	Y	N	70ET	N	Y	N	N	N	N
29-VII-10-4-202	N	N	Y	N	70ET	N	Y	N	N	N	N
29-VII-10-4-301	N	N	N	N	N	N	N	N	N	N	N
29-VII-10-4-302	N	N	N	N	N	N	N	N	N	N	N
30-VII-10-1-001	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
30-VII-10-1-002	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
30-VII-10-1-003	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
30-VII-10-1-004	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
30-VII-10-1-005	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
30-VII-10-1-006	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
30-VII-10-1-201	N	N	Y	N	70ET	N	Y	N	N	N	N

SAMPLE NUMBER (Date + Site # + Sample #)	IN-SITU 35-MM PHOTO	LAB 35-MM PHOTO	MUSEUM SPECIMEN (Large)	MUSEUM SPECIMEN (Small)	PRESER-VATIVE	MICROBIAL ISOLATION (Agar)	MICROBIAL ISOLATION (Freeze)	CELL CULTURE	TLC	HPLC	DNA
30-VII-10-1-301	N	N	N	N	N	N	N	N	N	N	N
30-VII-10-1-302	N	N	N	N	N	N	N	N	N	N	N
30-VII-10-1-N1	N	N	Y	Y	70ET	N	N	N	N	N	N
30-VII-10-4-001	Y	Y	Y	Y	70ET	N	Y	N	N	N	N
30-VII-10-4-002	Y	Y	Y	Y	70ET	N	Y	N	N	N	N
30-VII-10-4-003	Y	Y	Y	N	70ET	N	Y	N	N	N	N
30-VII-10-4-004	Y	Y	Y	N	70ET	N	Y	N	N	N	Y
30-VII-10-4-005	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
30-VII-10-4-006	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
30-VII-10-4-007	Y	Y	Y	Y	70ET	N	Y	N	N	N	N
30-VII-10-4-008	Y	Y	Y	Y	70ET	N	Y	N	N	N	N
30-VII-10-4-009	Y	Y	Y	Y	70ET	N	Y	N	N	N	Y
30-VII-10-4-010	N	Y	Y	Y	70ET	N	Y	N	N	Y	Y
30-VII-10-4-201	N	N	Y	N	70ET	N	N	N	N	N	N
30-VII-10-4-202	N	N	Y	N	70ET	N	N	N	N	N	N
30-VII-10-4-301	N	N	N	N	N	N	N	N	N	N	N
30-VII-10-4-302	N	N	N	N	N	N	N	N	N	N	N
30-VII-10-4-N1	Y	Y	Y	N	10FO	N	N	N	N	N	N
30-VII-10-4-N2	N	N	Y-KOENIG	N	10FO	N	N	N	N	N	N
31-VII-10-1-001	Y	Y	Y	Y	95ET	N	Y	N	N	Y	Y
31-VII-10-1-002	Y	Y	Y	Y	70ET	N	N	N	N	Y	N
31-VII-10-1-003	Y	Y	Y	Y	95ET	N	N	N	N	N	N
31-VII-10-1-004	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
31-VII-10-1-005	Y	Y	Y	Y	95ET	N	Y	N	N	Y	N
31-VII-10-1-006	Y	Y	Y	N	95ET	N	Y	N	N	N	Y
31-VII-10-1-007	Y	Y	Y	Y	95ET	N	Y	N	N	Y	Y
31-VII-10-1-008	Y	Y	Y	Y	95ET	N	Y	N	N	Y	Y
31-VII-10-1-009	N	Y	Y	Y	95ET	N	Y	N	N	Y	N
31-VII-10-1-201	N	N	Y	N	70ET	N	Y	N	N	N	N
31-VII-10-1-202	N	N	Y	N	70ET	N	Y	N	N	N	N
31-VII-10-1-301	N	N	N	N		N	N	N	N	N	N
31-VII-10-1-302	N	N	N	N	N	N	N	N	N	N	N
31-VII-10-4-001	Y	Y	Y	Y	95ET	N	Y	N	N	Y	Y
31-VII-10-4-002	Y	Y	Y	Y	95ET	N	Y	N	N	Y	Y
31-VII-10-4-003	Y	Y	Y	N	10FO	N	Y	N	N	Y	Y
31-VII-10-4-004	Y	Y	Y	Y	10FO	N	Y	N	N	Y	Y
31-VII-10-4-005	Y	Y	Y	Y	10FO	N	Y	N	N	Y	Y
31-VII-10-4-006	Y	Y	Y	N	10FO	N	Y	N	N	Y	Y

SAMPLE NUMBER (Date + Site # + Sample #)	IN-SITU 35-MM PHOTO	LAB 35-MM PHOTO	MUSEUM SPECIMEN (Large)	MUSEUM SPECIMEN (Small)	PRESER-VATIVE	MICROBIAL ISOLATION (Agar)	MICROBIAL ISOLATION (Freeze)	CELL CULTURE	TLC	HPLC	DNA
31-VII-10-4-007	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
31-VII-10-4-008	Y	Y	Y	N	10FO	N	Y	N	N	Y	Y
31-VII-10-4-009	Y	Y	Y	Y	95ET	N	Y	N	N	Y	Y
31-VII-10-4-010	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
31-VII-10-4-011	Y	Y	Y	N	10FO	N	Y	N	N	Y	Y
31-VII-10-4-012	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
31-VII-10-4-013	Y	Y	Y	Y	10FO	N	Y	N	N	Y	Y
31-VII-10-4-014	Y	Y	Y	Y	10FO	N	Y	N	N	Y	N
31-VII-10-4-015	Y	Y	Y	Y	95ET	N	Y	N	N	Y	N
31-VII-10-4-016	Y	Y	Y	Y	70ET	N	Y	N	N	Y	N
31-VII-10-4-017	N	Y	Y	Y	95ET	N	N	N	N	Y	Y
31-VII-10-4-101	N	Y	Y	Y	5FO	N	N	N	N	Y	N
31-VII-10-4-102	N	N	N	Y	5FO	N	N	N	N	N	N
31-VII-10-4-201	N	N	Y	N	70ET	N	Y	N	N	N	N
31-VII-10-4-202	N	N	Y	N	70ET	N	Y	N	N	N	N
31-VII-10-4-301	N	N	N	N	N	N	N	N	N	N	N
31-VII-10-4-302	N	N	N	N	N	N	N	N	N	N	N
1-VIII-10-1-001	Y	Y	Y	Y	95ET	N	N	N	N	N	Y
1-VIII-10-1-002	Y	Y	Y	Y	70ET	N	Y	N	N	Y	Y
1-VIII-10-1-003	N	Y	Y	Y	70ET	N	Y	N	N	Y	Y
1-VIII-10-1-004	NO	Y	Y	Y	70ET	N	Y	N	N	Y	Y
1-VIII-10-1-005	Y	Y	Y	Y	95ET	N	N	N	N	N	N
1-VIII-10-1-006	Y	Y	Y	Y	95ET	N	Y	N	N	Y	Y
1-VIII-10-1-007	Y	Y	Y	Y	95ET	N	Y	N	N	Y	Y
1-VIII-10-1-008	Y	Y	Y	Y	95ET	N	Y	N	N	Y	Y
1-VIII-10-1-009	N	Y	Y	Y	95ET	N	Y	N	N	Y	Y
1-VIII-10-1-010	Y	Y	Y	Y	95ET	N	Y	N	N	N	Y
1-VIII-10-1-101	Y	Y	Y	Y	5FO	N	N	N	N	N	N
1-VIII-10-1-102	N	Y	Y	Y	5FO	N	N	N	N	N	N
1-VIII-10-1-201	N	N	Y	N	70ET	N	Y	N	N	N	N
1-VIII-10-1-301	N	N	N	N	N	N	N	N	N	N	N
1-VIII-10-1-302	N	N	N	N	N	N	N	N	N	N	N
1-VIII-10-1-N1	N	Y	Y	N	5FO	N	N	N	N	N	N
1-VIII-10-1-N2	N	Y	Y	N	5FO	N	N	N	N	N	N
1-VIII-10-1-N3	N	Y	Y	N	5FO	N	N	N	N	N	N
1-VIII-10-2-001	N	Y	Y	Y	95ET	N	N	N	N	N	N
1-VIII-10-2-002	N	Y	Y	Y	95ET	N	N	N	N	N	N
1-VIII-10-2-003	N	Y	Y	Y	95ET	N	N	N	N	Y	N

SAMPLE NUMBER (Date + Site # + Sample #)	IN-SITU 35-MM PHOTO	LAB 35-MM PHOTO	MUSEUM SPECIMEN (Large)	MUSEUM SPECIMEN (Small)	PRESER-VATIVE	MICROBIAL ISOLATION (Agar)	MICROBIAL ISOLATION (Freeze)	CELL CULTURE	TLC	HPLC	DNA
1-VIII-10-2-004	N	Y	Y	Y	95ET	N	N	N	N	Y	N
1-VIII-10-2-005	N	Y	Y	Y	95ET	N	N	N	N	Y	N
1-VIII-10-2-006	N	Y	Y	Y	95ET	N	N	N	N	Y	N
1-VIII-10-2-007	N	Y	Y	Y	95ET	N	N	N	N	Y	N
1-VIII-10-5-001	Y	Y	Y	Y	95ET	N	N	N	N	N	N
1-VIII-10-5-002	Y	Y	Y	Y	95ET	N	N	N	N	N	N
1-VIII-10-5-003	Y	Y	Y	N	70ET	N	N	N	N	N	N
1-VIII-10-5-101	Y	Y	Y	Y	5FO	N	N	N	N	N	N
1-VIII-10-5-102	Y	Y	Y	Y	5FO	N	N	N	N	Y	N
1-VIII-10-5-201	N	N	Y	N	70ET	N	N	N	N	N	N
1-VIII-10-5-301	N	N	N	N	N	N	N	N	N	N	N
3-VIII-10-1-001	Y	Y	Y	Y	95ET	N	N	N	N	N	N
3-VIII-10-1-002	N	Y	Y	N	70ET	N	N	N	N	N	N
3-VIII-10-1-003	Y	Y	Y	Y	95ET	N	Y	N	N	Y	Y
3-VIII-10-1-004	Y	Y	Y	Y	70ET	N	N	N	N	N	N
3-VIII-10-1-005	Y	Y	Y	Y	95ET	N	Y	N	N	Y	Y
3-VIII-10-1-006	Y	Y	N	N	N	N	Y	N	N	Y	Y
3-VIII-10-1-007	Y	Y	N	N		N	Y	N	N	Y	Y
3-VIII-10-1-008	Y	Y	N	Y	70ET	N	Y	N	N	Y	Y
3-VIII-10-1-009	Y	Y	Y	N	10FO	N	N	N	N	N	N
3-VIII-10-1-010	N	Y	Y	N	70ET	N	N	N	N	N	N
3-VIII-10-1-011	Y	Y	Y	Y	95ET	N	N	N	N	N	N
3-VIII-10-1-012	N	Y	Y	Y	10FO	N	Y	N	N	Y	Y
3-VIII-10-1-013	Y	Y	Y	Y	95ET	N	N	N	N	Y	N
3-VIII-10-1-201	N	N	Y	N	70ET	N	Y	N	N	N	N
3-VIII-10-1-301	N	N	N	N	N	N	N	N	N	N	N
3-VIII-10-1-302	N	N	N	N	N	N	N	N	N	N	N
3-VIII-10-1-303	N	Y	Y	N	10FO	N	N	N	N	N	N
3-VIII-10-1-304	N	Y	Y	N	70ET	N	N	N	N	N	N
3-VIII-10-1-305	Y	N	N	Y	70ET	N	N	N	N	N	N
3-VIII-10-3-001	Y	Y	Y	Y	95ET	N	Y	N	N	Y	Y
3-VIII-10-3-002	N	Y	Y	Y	95ET	N	N	N	N	N	N
3-VIII-10-3-003	Y	Y	Y	Y	95ET	N	Y	N	N	Y	Y
3-VIII-10-3-004	Y	Y	Y	Y	95ET	N	Y	N	N	Y	Y
3-VIII-10-3-005	Y	Y	Y	Y	95ET	N	N	N	N	N	N
3-VIII-10-3-006	N	Y	Y	Y	95ET	N	N	N	N	N	N
3-VIII-10-3-007	Y	Y	Y	Y	95ET	N	Y	N	N	Y	Y
3-VIII-10-3-008	N	Y	Y	Y	95ET	N	Y	N	N	Y	Y

SAMPLE NUMBER (Date + Site # + Sample #)	IN-SITU 35-MM PHOTO	LAB 35-MM PHOTO	MUSEUM SPECIMEN (Large)	MUSEUM SPECIMEN (Small)	PRESER-VATIVE	MICROBIAL ISOLATION (Agar)	MICROBIAL ISOLATION (Freeze)	CELL CULTURE	TLC	HPLC	DNA
3-VIII-10-3-201	N	N	Y	N	70ET	N	Y	N	N	N	N
3-VIII-10-3-301	Y	Y	Y	N	70ET	N	N	N	N	N	N
3-VIII-10-3-302	N	N	N	N	N	N	N	N	N	N	N
3-VIII-10-3-304	N	N	N	N	N	N	N	N	N	N	N
3-VIII-10-3-305	Y	Y	Y	N	70ET	N	N	N	N	N	N
3-VIII-10-3-306	N	N	N	N	N	N	N	N	N	N	N
3-VIII-10-3-307	N	N	N	N	N	N	N	N	N	N	N
3-VIII-10-3-308	Y	Y	N	N	N	N	N	N	N	N	N
4-VIII-10-1-001	N	Y	Y	N	95ET	N	N	N	N	N	N
4-VIII-10-1-002	N	Y	Y	Y	10FO	N	Y	N	N	Y	Y
4-VIII-10-1-003	Y	Y	Y	Y	10FO	N	Y	N	N	Y	Y
4-VIII-10-1-004	N	Y	Y	Y	95ET	N	Y	N	N	Y	Y
4-VIII-10-1-101	N	Y	MDH?	Y	5FO	N	Y	N	N	N	N
4-VIII-10-1-102	N	Y	MDH?	Y	5FO	N	N	N	N	N	N
4-VIII-10-1-103	N	Y	MDH?	Y	5FO	N	N	N	N	N	N
4-VIII-10-1-104	N	Y	MDH?	Y	5FO	N	N	N	N	N	N
4-VIII-10-1-105	Y	Y	MDH?	Y	5FO	N	N	N	N	N	N
4-VIII-10-1-201	N	N	Y	N	70ET	N	Y	N	N	N	N
4-VIII-10-1-301	N	N	N	N	N	N	N	N	N	N	N
4-VIII-10-1-302	N	N	N	N	N	N	N	N	N	N	N
4-VIII-10-1-303	N	Y	Y	Y	95ET	N	N	N	N	N	N
4-VIII-10-1-304	N	Y	Y	N	95ET	N	N	N	N	N	N
4-VIII-10-1-305	N	Y	Y	Y	95ET	N	N	N	N	N	Y
4-VIII-10-4-001	Y	Y	N	N		N	Y	N	N	Y	Y
4-VIII-10-4-002	Y	Y	N	N		N	N	N	N	N	N
4-VIII-10-4-003	Y	Y	N	Y		N	N	N	N	N	N
4-VIII-10-4-004	N	Y	N	N		N	N	N	N	N	N
4-VIII-10-4-005	Y	Y	Y	Y		N	Y	N	N	Y	Y
4-VIII-10-4-006	Y	Y	N	N	N	N	Y	N	N	Y	Y
4-VIII-10-4-007	Y	Y	N	N		N	Y	N	N	Y	Y
4-VIII-10-4-008	Y	Y	N	N	N	N	Y	N	N	Y	Y
4-VIII-10-4-101	Y	Y	N	N		N	N	N	N	N	N
4-VIII-10-4-102	N	Y	N	N	N	N	N	N	N	N	N
4-VIII-10-4-201	N	N	N	N	N	N	Y	N	N	N	N
4-VIII-10-4-301	N	N	N	N	N	N	N	N	N	N	N
4-VIII-10-4-302	N	N	N	N	N	N	N	N	N	N	N
4-VIII-10-4-303	N	Y	N	N	N	N	N	N	N	N	N
4-VIII-10-4-304	N	Y	N	N		N	N	N	N	N	N

SAMPLE NUMBER (Date + Site # + Sample #)	IN-SITU 35-MM PHOTO	LAB 35-MM PHOTO	MUSEUM SPECIMEN (Large)	MUSEUM SPECIMEN (Small)	PRESER-VATIVE	MICROBIAL ISOLATION (Agar)	MICROBIAL ISOLATION (Freeze)	CELL CULTURE	TLC	HPLC	DNA
4-VIII-10-4-305	N	N	N	N	N	N	N	N	N	N	N
5-VIII-10-1-001	Y	Y	Y	Y	N	N	Y	N	N	Y	Y
5-VIII-10-1-002	Y	Y	Y	Y	N	N	Y	N	N	Y	Y
5-VIII-10-1-003	N	Y	N	Y		N	Y	N	N	Y	Y
5-VIII-10-1-004	N	Y	N	N	N	N	Y	N	N	Y	Y
5-VIII-10-1-005	Y	Y	Y	N		N	Y	N	N	Y	Y
5-VIII-10-1-006	Y	Y	Y	Y		N	Y	N	N	Y	Y
5-VIII-10-1-007	Y	Y	Y	Y		N	Y	N	N	Y	Y
5-VIII-10-1-008	Y	Y	N	Y		N	Y	N	N	Y	Y
5-VIII-10-1-009	N	Y	Y	Y		N	Y	N	N	Y	Y
5-VIII-10-1-010	Y	Y	Y	Y	N	N	Y	N	N	Y	Y
5-VIII-10-1-011	Y	Y	Y	Y		N	Y	N	N	Y	Y
5-VIII-10-1-012	N	Y	N	Y		N	Y	N	N	Y	Y
5-VIII-10-1-013	N	Y	Y	Y		N	Y	N	N	Y	Y
5-VIII-10-1-014	N	Y	N	N		N	Y	N	N	N	Y
5-VIII-10-1-015	N	Y	Y	Y		N	Y	N	N	Y	Y
5-VIII-10-1-016	N	Y	Y	Y		N	Y	N	N	Y	Y
5-VIII-10-1-201	N	N	N	Y		N	Y	N	N	N	N
5-VIII-10-1-301	Y	Y	N	N		N	N	N	N	N	N
5-VIII-10-1-302	N	Y	N	N	N	N	N	N	N	N	N
5-VIII-10-1-303	N	Y	N	N	N	N	N	N	N	N	N
5-VIII-10-1-304	N	N	N	Y	10FO	N	N	N	N	N	N
6-VIII-10-1-001	Y	Y	N	N	N	N	Y	N	N	Y	Y
6-VIII-10-1-002	Y	Y	N	N		N	Y	N	N	Y	Y
6-VIII-10-1-003	N	Y	Y	Y		N	N	N	N	N	N
6-VIII-10-1-201	N	N	N	N		N	Y	N	N	N	N
6-VIII-10-1-301	N	N	N	N	N	N	N	N	N	N	N
6-VIII-10-1-302	N	N	N	N	N	N	N	N	N	N	N
6-VIII-10-4-001	Y	Y	N	N	N	N	N	N	N	N	N
6-VIII-10-4-002	N	Y	Y	Y		N	Y	N	N	Y	Y
6-VIII-10-4-003	N	Y	Y	Y		N	Y	N	N	Y	Y
6-VIII-10-4-005	Y	Y	Y	N	70ET	N	Y	N	N	Y	Y
6-VIII-10-4-006	Y	Y	Y	Y		N	Y	N	N	Y	Y
6-VIII-10-4-007	Y	Y	Y	N		N	Y	N	N	Y	Y
6-VIII-10-4-008	N	Y	N	Y		N	Y	N	N	Y	Y
6-VIII-10-4-009	Y	Y	Y	N	70ET	N	Y	N	N	Y	Y
6-VIII-10-4-301	N	N	N	N	N	N	N	N	N	N	N
6-VIII-10-4-303	N	Y	N	N		N	N	N	N	N	N

SAMPLE NUMBER (Date + Site # + Sample #)	IN-SITU 35-MM PHOTO	LAB 35-MM PHOTO	MUSEUM SPECIMEN (Large)	MUSEUM SPECIMEN (Small)	PRESER-VATIVE	MICROBIAL ISOLATION (Agar)	MICROBIAL ISOLATION (Freeze)	CELL CULTURE	TLC	HPLC	DNA
6-VIII-10-4-304	N	Y	N	N		N	N	N	N	N	N
6-VIII-10-4-305	Y	Y	N	N		N	N	N	N	N	N
6-VIII-10-4-306	N	Y	N	N		N	N	N	N	N	N
6-VIII-10-4-307	N	N	N	N	N	N	N	N	N	N	N
6-VIII-10-4-309	N	N	N	N	N	N	N	N	N	N	N
6-VIII-10-4-310	N	Y	Y	Y		N	N	N	N	N	N
7-VIII-10-1-001	Y	Y	N	N		N	Y	N	N	Y	Y
7-VIII-10-1-002	N	Y	Y	Y	95ET	N	Y	N	N	Y	Y
7-VIII-10-1-003	Y	Y	Y	N	10FO	N	Y	N	N	Y	Y
7-VIII-10-1-004	N	Y	N	Y	95ET	N	Y	N	N	Y	Y
7-VIII-10-1-005	N	Y	Y	Y	70ET	N	Y	N	N	Y	Y
7-VIII-10-1-006	N	Y	Y	Y	95ET	N	Y	N	N	Y	Y
7-VIII-10-1-201	N	N	Y	N	70ET	N	Y	N	N	N	N
7-VIII-10-1-301	N	N	N	N		N	N	N	N	N	N
7-VIII-10-1-302	N	Y	N	N		N	N	N	N	N	N
7-VIII-10-1-303	Y	Y	Y	N	70ET	N	N	N	N	N	N
7-VIII-10-1-304	N	N	Y	N	95ET	N	N	N	N	N	N
7-VIII-10-4-001	Y	Y	Y	N		N	Y	N	N	Y	Y
7-VIII-10-4-002	N	Y	Y	Y		N	Y	N	N	Y	Y
7-VIII-10-4-003	Y	Y	Y	Y		N	Y	N	N	Y	Y
7-VIII-10-4-004	Y	Y	Y	Y		N	Y	N	N	Y	Y
7-VIII-10-4-005	Y	Y	Y	Y		N	Y	N	N	Y	Y
7-VIII-10-4-006	Y	Y	Y	Y		N	Y	N	N	Y	Y
7-VIII-10-4-301	N	Y	N	N		N	N	N	N	N	N
7-VIII-10-4-302	N	N	N	N	N	N	N	N	N	N	N
7-VIII-10-4-303	N	N	N	N	N	N	N	N	N	N	N
7-VIII-10-4-304	N	Y	N	Y		N	N	N	N	N	N
7-VIII-10-4-305	N	Y	Y	N	N	N	N	N	N	N	N
7-VIII-10-4-307	N	N	N	N	N	N	N	N	N	N	N
8-VIII-10-1-001	Y	Y	Y	Y	95ET	N	Y	N	N	Y	Y
8-VIII-10-1-002	N	Y	Y	Y	95ET	N	Y	N	N	Y	Y
8-VIII-10-1-301	N	N	N	N	N	N	N	N	N	N	N
8-VIII-10-1-302	N	N	N	N	N	N	N	N	N	N	N
8-VIII-10-1-303	N	Y	N	N	N	N	N	N	N	N	N
8-VIII-10-1-304	Y	Y	N	Y	70ET	N	N	N	N	N	N
8-VIII-10-1-305	N	Y	N	Y	70ET	N	N	N	N	N	N
8-VIII-10-1-306	Y	Y	Y	N	70ET	N	N	N	N	N	N
8-VIII-10-1-307	Y	Y	N	N		N	N	N	N	N	N

SAMPLE NUMBER (Date + Site # + Sample #)	IN-SITU 35-MM PHOTO	LAB 35-MM PHOTO	MUSEUM SPECIMEN (Large)	MUSEUM SPECIMEN (Small)	PRESER-VATIVE	MICROBIAL ISOLATION (Agar)	MICROBIAL ISOLATION (Freeze)	CELL CULTURE	TLC	HPLC	DNA
8-VIII-10-1-308	Y	N	N	Y	70ET	N	N	N	N	N	N
8-VIII-10-1-309	Y	Y	N	Y	70ET	N	N	N	N	N	N
8-VIII-10-1-310	N	Y	N	Y		N	N	N	N	N	N
8-VIII-10-1-311	N	Y	N	Y		N	N	N	N	N	N
8-VIII-10-1-312	Y	Y	Y	N		N	N	N	N	N	N
8-VIII-10-1-313	N	N	N	Y	N	N	N	N	N	N	N
8-VII-10-4-001	Y	Y	Y	Y		N	Y	N	N	Y	Y
8-VII-10-4-002	Y	Y	Y	Y		N	Y	N	N	Y	Y
8-VII-10-4-003	N	Y	Y	Y		N	Y	N	N	Y	Y
8-VII-10-4-004	Y	Y	Y	Y		N	Y	N	N	Y	Y
8-VII-10-4-005	Y	Y	Y	Y		N	Y	N	N	Y	Y
8-VII-10-4-006	N	Y	N	Y		N	N	N	N	N	N
8-VII-10-4-007	Y	Y	Y	Y		N	Y	N	N	Y	Y
8-VII-10-4-008	Y	Y	Y	Y		N	Y	N	N	Y	Y
8-VII-10-4-201	N	N	N	N	N	N	Y	N	N	N	N
8-VII-10-4-301	N	N	N	N	N	N	N	N	N	N	N
8-VII-10-4-302	N	N	N	N	N	N	N	N	N	N	N
8-VII-10-4-303	Y	Y	N	N		N	N	N	N	N	N
8-VII-10-4-304	Y	Y	Y	Y		N	N	N	N	N	N
8-VII-10-4-305	Y	Y	Y	Y		N	N	N	N	N	N