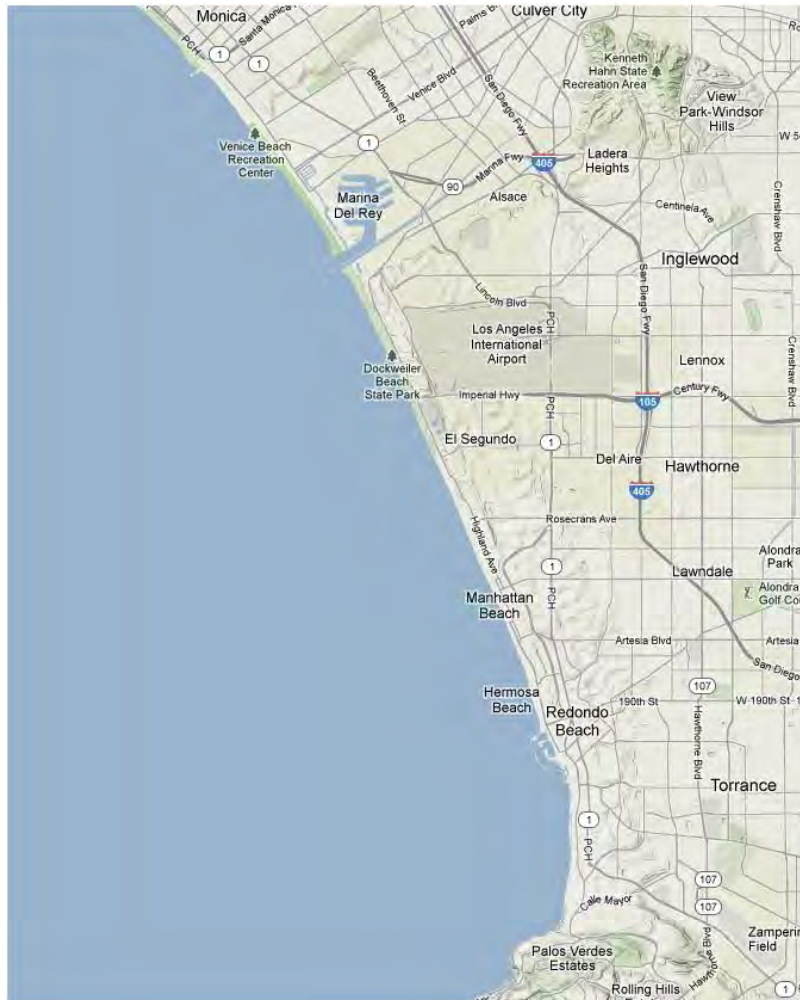


EPHEMERAL AND BASELINE DATA COLLECTION GUIDE CHEVRON'S EL SEGUNDO REFINERY EL SEGUNDO, CALIFORNIA

**MAY 2013
FINAL**



Chevron Products Company, El Segundo Refinery

Chevron Energy Technology Company

**California Department of Fish and Wildlife,
Office of Spill Prevention and Response
Scientific Branch, Natural Resource Damage Assessment and Restoration Program**

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LIST OF ABBREVIATIONS AND ACRONYMS

BLM	Bureau of Land Management
BTEX	Benzene, Toluene, Ethylbenzene, Xylene
COC	Chain-of-custody
CDFW	Department of Fish and Wildlife
DQOs	Data Quality Objectives
EDCC	Ephemeral Data Collection Coordinator
EPA	U.S. Environmental Protection Agency
GPS	Global Positioning System
HAZWOPER	Hazardous Waste Operations & Emergency Response
ID	Identification
NOAA	National Oceanic and Atmospheric Administration
NRDA	Natural Resource Damage Assessment
OSPR	Office of Spill Prevention and Response
PAHs	Polycyclic Aromatic Hydrocarbons
PFD	Personal Floatation Devices
PPE	Personal Protective Equipment
QAPP	Quality Assurance Project Plan
SAP	Sampling and Analysis Plan
SCAT	Shoreline Cleanup and Assessment Team
TPH	Total Petroleum Hydrocarbons
USFWS	United States Fish and Wildlife Service
VOA	Volatile Organic Analysis
WCJAT	West Coast Joint Assessment Team

EXECUTIVE SUMMARY

This plan describes and prioritizes ephemeral data collection by the Natural Resources Damage Assessment (NRDA) team in the event of an accidental release of oil at or near the Chevron El Segundo Refinery Marine Terminal in El Segundo, California. The NRDA team will consist of representatives of Chevron and the natural resource trustees (hereafter referred to as the ‘Trustees’), which may include the California Department of Fish and Wildlife, Office of Spill Prevention and Response (CDFW-OSPR), the Department of the Interior (U.S. Fish and Wildlife Service [USFWS] and Bureau of Land Management [BLM]), and/or the National Oceanic and Atmospheric Administration (NOAA). By implementing this plan, the data will be available in the event should an accidental release occur. Chevron and the CDFW-OSPR prepared this plan, with review provided by the BLM, USFWS, and NOAA.

Ephemeral data refer to information that may not be available if it is not collected within a narrow time frame. The primary goal of the plan is to collect ephemeral data that (1) documents existing conditions; (2) documents petroleum hydrocarbon concentrations in water, sediment, and selected marine organisms prior to and following an incident; and (3) determines concentrations of petroleum hydrocarbons in the water column under the impacted surface area.

The key to successfully collecting ephemeral data (i.e., petroleum hydrocarbon concentrations in environmental media) during an accidental release is a well-designed and implementable ephemeral data collection plan. Therefore, the primary purpose of this plan is to describe notification procedures, sampling locations, sample media, sampling procedures and chemical analysis objectives in the event of an accidental release related to operations at the Chevron El Segundo Refinery Marine Terminal. Collection of ephemeral data aids in the understanding of environmental conditions prior to a release and is critical in identifying the need for, and scope of, subsequent environmental sampling and injury assessment. Having this plan in place prior to a release will facilitate the collection of critical environmental information during the early stages of response effort.

A secondary purpose of this plan is to detail sampling locations, procedures, and chemical analysis objectives for biennial baseline or ambient monitoring of surface water, sediment, and tissues in Santa Monica Bay that may be performed to evaluate pre-incident ambient conditions. There are many anthropogenic and natural sources of hydrocarbons in the environment. Baseline or ambient conditions (i.e., petroleum hydrocarbon concentrations in various media not associated with an accidental release) should be assessed to gain an understanding of the existing conditions to allow a more accurate evaluation of impacts should an incident occur in the future. Chevron and the Trustees recognize that implementing an ephemeral data collection plan, within hours of an incident, may be problematic given the potential magnitude of released product (i.e., thousands of gallons of crude oil or refined fuels), and the limited resources and manpower available for this effort on a short 2-3 hour timeframe. In order to provide basic information on baseline chemical conditions in Santa Monica Bay, the NRDA team agreed that biennial monitoring of petroleum hydrocarbon concentrations in surface water, sediment, and tissues within the bay beginning in the spring of 2012 would be appropriate.

Before implementing this plan, representatives of the NRDA team will determine if incident circumstances warrant implementation of the plan, and, if so, any modifications to the plan that may be required. Also, during an incident, the ephemeral data collection procedures detailed in this plan may be modified following lessons learned from future oil spill response drills or real-time responses to accidental releases at or near the Chevron El Segundo Refinery Marine Terminal.

Finally, Chevron and the Trustees recognize that other spills may occur in Santa Monica Bay that may benefit from the sampling design and procedures described in this plan. In the event of a release that is not related to Chevron operations, the Trustees may choose to implement this plan to assist them during NRDA pre-assessment and assessment activities. However, if Trustees choose to implement the plan during a non-Chevron incident, Chevron shall have no obligation to conduct sampling or otherwise be responsible in any way for any obligations or deficiencies in the plan.

1.0 - INTRODUCTION

1.1 PURPOSE, GOALS, OBJECTIVES, FOCUS, AND SCOPE OF THE PLAN

- **Purpose:** To (1) expedite and detail procedures for collection of ephemeral source oil, surface water, sediment, and tissue samples in the event of an accidental release of petroleum into Santa Monica Bay from the Chevron El Segundo Refinery Marine Terminal (hereafter, referred to as the ‘Refinery’) or potentially from another source or event. This plan describes notification procedures, sampling locations, sample media, sampling procedures and chemical analysis objectives in the event of a large accidental release of oil related to operations at the Refinery. To (2) detail procedures for collecting and analyzing petroleum hydrocarbon concentrations in surface water, sediment, and tissues for understanding baseline or ambient conditions present because of anthropogenic or natural releases of petroleum hydrocarbons into Santa Monica Bay that are not associated with spills.
- **Goals:** To obtain data that will assist in determining the source of oil(s); document petroleum hydrocarbon concentrations in water, sediment, and selected marine organisms prior to and following an incident; and determine concentrations of petroleum hydrocarbons in the water column.
- **Objectives:** To (1) collect source oil, water, sediment, and tissue samples within the first hours, days, and weeks after an accidental release of oil from the Refinery or another source for petroleum hydrocarbon analysis; and (2) collect water, sediment, and tissue samples on a biennial basis for understanding baseline petroleum hydrocarbon concentrations in Santa Monica Bay. During an incident, there is a narrow window of opportunity for collection of these data, and, accordingly, they are referred to as “ephemeral” data (i.e., if the samples are not collected, the opportunity to collect them will be lost permanently). Ephemeral and baseline data aid in understanding environmental conditions prior to an incident and can be critical in identifying the need for, and scope of, subsequent environmental sampling, and injury assessment.
- **Focus of Sample Collection and Chemical Analysis:** The following types of samples will have the highest priority: (1) source oil(s) to confirm petroleum fingerprint and for possible toxicological testing; (2) water, sediment, and tissues in areas not yet impacted but likely to be impacted (baseline conditions); and (3) water under the impacted surface area to obtain information on the concentration of selected petroleum constituents in the water column. Petroleum hydrocarbon analyses will be consistent with the Environmental Protection Agency (EPA) standard methods as described in Section 3.0.

- **Scope:** To have a scalable sampling plan to adjust to the size of the incident, with sample locations pre-identified in the plan.
- **Study Area:** Santa Monica Bay from the Santa Monica Pier to Torrance Beach. Specific sampling locations within the study area are identified in Section 1.3.

1.2 FACTORS AFFECTING EPHEMERAL DATA COLLECTION PLAN IMPLEMENTATION

1.2.1 Study Area and Special Considerations

The Refinery is located at 324 West El Segundo Blvd., El Segundo, California, along the eastern shoreline of Santa Monica Bay. Based on the location of the Refinery, the study area or area potentially impacted by an accidental release of oil at the facility is dependent on tides and wind conditions. A ‘typical’ wind condition oil spill trajectory analyses suggests that impacts are most likely to occur along the shoreline of El Segundo and Manhattan Beaches.

Santa Monica Bay is comprised of different geological substrate types within nearshore and offshore areas: rocky intertidal, soft bottom, and hard bottom. Rocky intertidal areas and areas of mixed rocky and sandy shoreline cover approximately 30% or 20 miles (32 km) of the Bay’s coastline. Artificial rocky intertidal areas (e.g., jetties, breakwater, rip rap) exist in Marina del Rey, the mouth of Ballona Creek, and King Harbor. Unconsolidated, soft sediment, generally with the composition of sand, silt, and clay, makes up most of the Bay’s seafloor. The soft-bottom in Santa Monica Bay ranges in depth from the mean lower low water line (MLLW) to deeper than 500 meters in the outer portions of the bay and the submarine canyons.

Hard bottom environments in Santa Monica Bay include the shallow kelp-covered areas adjacent to rocky headlands, submarine canyon walls, and the deep-water plateau called Short Bank. A large gravel bed surrounds the rocky outcrops of Short Bank. Additionally, man-made features such as wastewater treatment plant outfall pipes, artificial reefs, and breakwaters are part of the hard bottom.

During and after an incident, the NRDA focuses on four primary questions: (1) what was injured, (2) the spatial extent of injury, (3) the degree of injury, and (4) the duration of injury. In addition, the time for injured resources to recover to their original or pre-release “baseline” is a critical component of the assessment. Ephemeral data, before, during, and after the release are essential to answer these questions. This plan provides a means to quantify pre-release “baseline” or “ambient” conditions before an area or coastline is impacted by an accidental release. Ambient conditions are represented by the chemical concentrations of anthropogenic (e.g., fossil fuel use) and naturally occurring oil or petroleum hydrocarbon constituents in water, sediment, and tissue. For example, storm water runoff, atmospheric deposition, boat traffic, and industrial releases of oil-

related constituents into Santa Monica Bay all contribute to ambient levels of these chemicals in the bay.

1.2.2 Physical and Temporal Factors

Implementation of the ephemeral data collection, as detailed in this plan, including sampling site priorities (Appendix 1) will depend on three primary factors : (1) volume released, (2) time period between the release and when field teams can be mobilized to collect samples, and (3) predominate tidal current at the time of the release. Santa Monica Bay is a dynamic environment, where the predominant force driving currents and water movement into and out of the bay is the tide. Waves, wind, and storm water runoff are secondary forces, affected by seasonality and weather conditions. For purposes of implementing this plan, as discussed in Section 1.4, the NRDA team leaders will confer to decide whether the magnitude of the release warrants the deployment of field teams to implement the plan. In deciding how to implement this plan and deciding on sampling location priorities, the NRDA team leaders will consider the following:

- *Volume released:* If the impacts associated with the incident appears to have harmed or is likely to harm birds, fish, or other organisms, or appears to have compromised the usefulness of habitat for wildlife, it may be assumed that NRDA is a possibility and that trust wildlife resources may be affected. Field teams should be mobilized to begin gathering information and collecting time-critical data.
- *Time period between the release and when field teams can be mobilized to collect samples:* If field teams are unable to collect samples after 6 to 12 hours following the release, depending on the magnitude, duration, weather conditions, and tidal currents, it may not be possible to sample bay or ocean shoreline before it is impacted. Therefore, as a contingency, this plan also includes an optional biennial baseline or ambient data collection plan as described in Section 1.3.
- *Prevailing tides:* A release during high tide could result in sensitive areas within Ballona Creek being impacted (i.e., Ballona Wetlands). Sampling priorities should be matched to tidal conditions following the release. Ballona Creek, the Ballona Creek Wetlands and Venice Canal are controlled by water control structures. See the Los Angeles/Long Beach Area Contingency Plans for more details.

1.2.3 Safety

Safety is the most important consideration in plan implementation. Field teams may encounter oil during collection of water samples. Personnel collecting data in the field should be at least 24-hour Hazardous Waste Operations & Emergency Response (HAZWOPER) certified if oil is present and have received permission from the Unified Command Incident Site Safety Officer to enter impacted areas.

Before sampling in impacted areas, all field team members will read and be familiar with the site safety plan prepared by the Unified Command. Before going into the field, all field team members will receive a daily safety briefing from the Ephemeral Data Collection Coordinator (EDCC – Section 1.4). Field team members collecting samples by boat will receive a boat safety briefing by the boat operator prior to leaving the dock. When on or near water, field team members will wear personal floatation devices at all times. Good judgment must be used at all times, particularly when considering fieldwork during inclement weather and collecting samples in the surf zone. No sampling will be conducted in the dark. While working on the shoreline, field team members should be mindful of slippery surfaces (e.g., rocks) and sharp objects. Field team members should wear sunglasses, sunscreen, appropriate footwear, and other personal protective equipment (PPE) as might be required by the safety officer.

PPE will depend on the specific hazardous petroleum materials and their concentrations. Under no circumstances should the field team enter uncharacterized, freshly impacted shorelines without proper training (i.e., 40-hour HAZWOPER certification) and combustible gas/hydrogen sulfide meters. Likewise, sampling in the impacted area will not be done if respirators are required or the safety officer deems the area unsafe. When collecting water samples in the impacted area, field sampling team members will wear appropriate protective equipment (e.g., gloves, Tyvek, personal flotation device). Nitrile gloves will be worn when sampling any medium of interest and will be changed between each sampling site. See Appendix 5 for further discussion of sampling procedures and health and safety.

1.3 BIENNIAL BASELINE OR AMBIENT MONITORING

As part of the preparation of this plan, Chevron volunteered to collect initial samples to begin documenting ambient or baseline conditions in the Study Area. Doing so was based on concerns about conditions (e.g., time of day when a spill might happen, traffic, etc) that may preclude or impede implementation of ephemeral data collection in the event of an actual accidental release. Future ambient data collection will be at Chevron's discretion and in consultation with CDFW-OSPR.

Initial samples were collected by CDFW-OSPR and Chevron between 23-25 April 2012 at the following locations:

- Surface Water Grab Samples (1-liter sample per location)
 - Santa Monica Pier (N 34.00894° - W 118.49823°)
 - Venice Canal (N 33.96657° - W 118.45479°)
 - Ballona Wetlands (N 33.96509° - W 118.44862°)
 - Manhattan Natural Seep (Seep 2) (N 33.86797° - W 118.49289°)
 - Redondo Natural Seep (Seep 1) (N 33.82961° - W 118.42580°)
 - Grand Jetty (N 33.91677° - W 118.42879°)
 - Hermosa Beach Pier (N 33.86149° - W 118.40323°)

- Sediment Samples (two composite samples per location with one collected at the water line or mid intertidal and one collected at the wrack line or high intertidal; same general area as water samples)
 - Santa Monica Pier (N 34.00894° - W 118.49823°)
 - Venice Canal (N 33.96657° - W 118.45479°)
 - Ballona Wetlands (N 33.96509° - W 118.44862°)
 - Del Rey Lagoon (N 33.96222° - W 118.45148°)
 - Grand Jetty (N 33.91677° - W 118.42879°)
 - Hermosa Beach Pier (N 33.86149° - W 118.40323°)
- Tissue Samples (each sample is a composite of 15-20 individuals)
 - Santa Monica Pier (N 34.00894° - W 118.49823°)
 - Ballona Creek (N 33.96301° - W 118.45279°)
 - Grand Jetty (N 33.91677° - W 118.42879°)
 - Hermosa Beach Pier (N 33.86149° - W 118.40323°)

Procedures for collecting, storing, transporting, and documenting samples are detailed in Section 2. Chemical analyses are described in Section 3. Chevron and the Trustees have the common understanding that the interpretation of statistical comparisons of these data to spill data (in the event one occurs) must take into consideration the sample size and geographic coverage of the sampling effort. Based on analysis of the 04/23/12 – 04/25/12 ambient data, it may be possible to make a better estimate of a minimum sample size necessary to evaluate statistical variation and help define baseline conditions.

1.4 NOTIFICATION PROCEDURES, COMMAND STRUCTURE, AND COMMUNICATION PLAN

After notification of a release of greater than de minimis quantities, Chevron and the Trustee agency leads or their alternates (Section 5), will coordinate to assess the circumstances and determine sampling priorities including what, if any, elements of the plan should be implemented, modified, or if additional monitoring elements should be considered. In the event of a large release that could potentially harm or threaten to harm birds, fish, or other organisms, or appears to have compromised or has the potential to compromise the usefulness of habitat for fish or wildlife, Chevron and the Trustee agencies will identify and mobilize the appropriate staff to initiate implementation of the plan. Chevron and Trustees agency leads, or their alternates (Section 5), will participate in an initial conference call to determine the specific plan elements to be implemented and to share needed contact and location information and then will assign their respective staffs to participate in sample collection activities as appropriate.

A Trustee EDCC, appointed by the NRDA team agency leads, will be assigned to provide project oversight and management. The EDCC will manage implementation of this plan and coordinate with Unified Command for the response via the NRDA Representative for

increased efficiencies in all aspects of data collection for the response and the damage assessment. The EDCC makes field assignments, reviews and disseminates health and safety procedures, monitors all field activities, and provides the field team leaders with information containing specific guidelines (e.g., health and safety, sampling locations and sites, sample collection procedures, etc.) for implementing the plan. All personnel involved in implementation of the ephemeral data collection plan are responsible for reporting progress and results to the EDCC. The EDCC also will verify that all field sampling team members have read and signed a copy of the incident health and safety plan.

1.5 FIELD TEAMS

NRDA field teams, including representatives of Chevron and/or the Trustees, will collect samples offshore and onshore. To expedite the collection of samples, offshore and onshore field teams should be mobilized. The offshore teams should include an experienced boat operator and two other qualified people (i.e., people with experience or training for on water sample collection): one to collect samples and the other to record notes and take photographs. The onshore sampling teams may consist of up to four people each: e.g., one to collect water and sediment samples, one to collect tissue, one to record notes, and one to photo-document the shoreline. A person designated by the Unified Command or Investigations Unit will collect the source oil sample, if present. All communications with the Unified Command will be coordinated through the NRDA Representative (Section 1.6). Key contacts for mobilizing field teams are identified in Section 5.0.

1.6 RELATIONSHIP TO UNIFIED COMMAND

The NRDA for an incident is done in parallel with the incident response. Since NRDA field assessment activities may overlap those of the response, close coordination and cooperation between the two efforts is necessary. The NRDA team agency leads are responsible for establishing the communication link with the Incident Command (i.e., Unified Command if the incident is federalized) and the Environmental Unit Leader via the NRDA Representative or Liaison as described in the West Coast Joint Assessment Team (WCJAT) guidance document (WCJAT, 2009) and CDFW-OSPR Policy 603-1, Communication and Coordination between Natural Resource Damage Assessment (NRDA) and Incident Command Structure During Spill Response (2009). Figure 2 details the response Unified Command Structure for a spill and coordination points with NRDA. The EDCC, through the NRDA Representative, will coordinate NRDA activities with the Unified Command as discussed in Section 1.2.3 above. For example, when NRDA ephemeral data collection field teams are directed to sample in impacted areas, health and safety must be addressed and permission to enter impacted areas must be coordinated through the NRDA Representative and the EDCC.

2.0 - SAMPLING PROCEDURES

2.1 OVERVIEW

This section describes methods for collecting source oil or fuel (i.e. product), weathered product (i.e., tar balls), sheen, water, sediment, and tissue. The protocol described below is to be followed unless the NRDA team agency leads decide otherwise and provide an alternative. This section provides a general overview of sample collection procedures; Appendices 1, 2, 3, 4 and 5 provide more detailed procedures, and sampling equipment and supplies necessary for locating, collecting, labeling, storing, transporting, and documenting samples.

Chain-of-custody must be maintained for all samples collected (see Section 4.0 and Appendix 5).

At a minimum, the following information should be recorded in field notes by each field team: names of field team, name of person collecting the sample; type of sample collected, time of sample collection; location (GPS) of sampling site; photographic log; and standard observations such as weather and presence of wildlife and beach users. After collected, all samples should immediately be chilled in an ice cooler with frozen blue, crushed, or block ice.

Appendix 1 provides maps of proposed pre-shoreline oiling sampling locations and biennial baseline or ambient monitoring locations. Appendix 2 provides photographs of sampling locations and brief site descriptions. Appendix 3 provides a checklist for field sampling teams to consider before, during, and after planned field activities. Appendix 4 provides a list of equipment and supplies necessary for collecting and documenting samples. Appendix 5 is CDFW-OSPR's 'Template' Sampling and Analysis Plan (SAP) used during the ephemeral data collection phase of an NRDA.

One NRDA team member each day or each shift will be responsible for quality assurance that data sheets are completely and correctly documented.

This plan refers to sample "locations" and sample "sites". A sample "location" is the general vicinity where the sample is to be collected (e.g., Ballona Wetlands). A sample "site" is the point referenced in decimal degrees by WGS84 datum where the sample is collected (e.g., points on a transect at Ballona Wetlands).

2.2 SAMPLING FREQUENCY

2.2.1 Ephemeral data collection following a spill event

A source sample and baseline (pre-oiling) shoreline samples should be collected as soon as possible after the release. To achieve these objectives, the NRDA team must have notification procedures in effect for the immediate mobilization of field teams following a significant release (see Sections 1.4 and 5).

The frequency of sampling following the incident in impacted areas (i.e., daily, weekly, monthly) will depend on the magnitude of the incident, the type of product released, and the affected resource or habitat (e.g., rocky intertidal, water column, wetlands, sandy beach). The NRDA team agency leads will evaluate conditions and determine a suitable frequency for subsequent sampling in areas impacted by the incident.

2.3 SAMPLING PRIORITY

Under ideal conditions (i.e., favorable weather and plenty of resources), collection of source oil samples and environmental samples identified below should occur in parallel and have first priority. Circumstances, and depending on the timing of the mobilization of field teams, may prevent the collection of samples in the priority indicated below. Therefore, it is critical that the NRDA team agency leads quickly evaluate circumstances and available resources to determine the appropriate priority of sample collection.

- **First Priorities:**

- I. Collection of source oil(s) from the point of release. CDFW-OSPR Oil Spill Prevention Specialists and Chevron representatives (with the approval of CDFW-OSPR) are the appropriate personnel to collect source oil samples.
- II. Water, sediment, and tissue in areas that are not yet impacted but are likely to be impacted based on trajectory analyses and the professional judgment of the Unified Command Scientific Support Coordinator. See Section 1.2.2 and Appendix 1 for information and maps that detail sampling location priorities within various segments of the bay.
- III. Collection of water, product (i.e., tar balls, floating fuel) or sheen samples in impacted areas, provided it is safe (i.e., respirators not required and other proper PPE is applied), and site access is coordinated with the Unified Command. Within the impacted areas, the first priority is to sample water under the impacted surface area followed by sampling at the leading margin where the oil has begun to break up. Sheen and product samples for petroleum hydrocarbon fingerprinting also should be collected on water, on structures, and on shorelines to document the extent of the release.

- **Second and Ongoing Priorities:** After first priority samples are collected in the days following the incident, additional sheen, product, water, sediment, and tissues samples may be collected for chemical analysis on a weekly, monthly, or annual basis as required for injury assessment purposes (Section 1.2.1).

2.4 SAMPLE LABELING PROCEDURES

All samples must be labeled for proper sample tracking, transport, chain-of-custody, and chemical analysis. Maps provided in Appendix 1 show shoreline segment identification numbers that should be used in preparing each unique sample identification code. Appendix 5 provides detailed sample labeling procedures, including unique codes used to identify the type of sample collected and when and where it was collected. For purposes of identifying the technical or resource NRDA work group involved with sampling, the codes also will include “ED” for “ephemeral data collection” and a one number code identifying the field team that collected the sample.

2.5 SOURCE OIL SAMPLING

It is critical that all sources of released oil be identified and sampled at the point of release. This is typically, and most appropriately, done as part of the response activities directed by the Unified Command, not NRDA personnel. The NRDA Representative will coordinate with the state and federal incident investigators to confirm that sampling of the released material (e.g., oil) from its source will be conducted. The NRDA Representative also will brief the incident investigators regarding NRDA sampling activities and any special NRDA concerns. Source sample collection at the point of release is overseen by the State incident investigator (i.e., warden) and collections are normally done by CDFW-OSPR Oil Spill Prevention Specialists. Source sampling by NRDA personnel is usually not recommended because of the hazards and expertise needed to sample fuel tanks, pipelines, or vessels following a release.

Sampling of released oil, dispersed in the environment, is recommended for documenting the spatial extent of impacts and confirming the source of the oil. Provided safety considerations are met (Section 1.2.3), NRDA field teams may collect these types of samples.

Samples may be analyzed for petroleum fingerprinting purposes (Section 3).

2.5.1 General Procedure for Collecting Source Oil from Point of Release

- **Timing:** First priority; collect as soon as possible.

- **Sample Location:** To be coordinated by CDFW-OSPR Oil Spill Prevention Specialists.
- **Sampling Equipment:** Pre-cleaned, wide-mouth glass jar with an airtight Teflon®, cap. Under emergency conditions, a new metal or plastic bucket (least preferred) may be used after cleaning with soap and water.
- **Sample Volume:** 1-liter samples, minimum. Paper, metal, or plastic funnel may be used to transfer oil.
- **Number of Samples:** Five
- **Sampling Procedure:** Per CDFW-OSPR Oil Spill Prevention Specialists.
- **Contamination Precaution:** Do not let a glove come into contact with oil. If a glove comes into contact with oil, discard the sample, change gloves, and take another sample. Avoid sampling downwind of solvents from engine exhaust.
- **GPS:** Record sampling locations by location name and GPS coordinates (WG84 datum in decimal degrees) in field notes.
- **Labeling:** Fill out a label for each jar and vial with following information: name of the spill; sample number; sample type; date, time, and location of sample collection; field team number; and collector's name. Use permanent marker for labeling. Cover label with clear tape. See Appendix 5 for more detailed labeling information.
- **Sample Storage:** Immediately place samples in an ice chest. Store with enough blue, crushed, or block ice to maintain the samples chilled at 4°C for shipment to a laboratory. Keep source oil sample(s) separate from other samples and from each other.
- **Decontamination:** If samples are collected from multiple sources, clean sampling equipment with Alconox followed by a distilled water rinse between each sample collection. Methanol may also be used to clean sampling equipment. Change gloves between sample collections. Collect rinse water in a container and dispose of appropriately following waste handling procedures described below.
- **Waste Handling:** When decontaminating sampling equipment, wash and rinse over a plastic bucket with a lid. Store all oily rags, paper towel, gloves, and other contaminated material in a plastic bag. Dispose of rinse water and contaminated material in accordance with the waste management plan prepared by the Unified Command Environmental Unit.

- **Recordkeeping:** Record the date, time, location of sample collection, sample collection point, and name(s) of collector(s). Take a photograph of the area where the samples were collected.
- **Photo Documentation:** Photograph or video the sampling site. Take video and/or the photos in both directions along the shore as well as from the waterline toward the backshore, and from the backshore to the waterline. Try to get permanent and distinctive landmarks in some photos and/or videos for future reference. Photographs should be processed so that sample locations are GPS-referenced on a map.

2.5.2 General Procedures for Collecting Sheen or Oil on Shorelines or Water

Rainbow sheen on water or structures

In cases where the released material is visible as a rainbow sheen either floating on water or coating structures; samples may be collected for petroleum fingerprinting purposes to define the extent of the release.

- **Timing:** Second priority; collect as directed.
- **Sample Location:** The locations and numbers of samples to collect are spill-specific and should be coordinated through the NRDA team agency leads and the EDCC.
- **Sampling Equipment:** Fiberglass sheets. Pre-cleaned, wide-mouth glass jar with an airtight Teflon®, cap.
- **Number of Samples:** At least one sample should be collected that represents each location visited.
- **Sampling Procedure:** Sheen samples are collected by wiping fiberglass sheets across the sheen floating on water or coating substrate. See Appendix 5 for more detailed information.
- **Contamination Precaution:** Avoid sampling downwind of solvents from engine exhaust.
- **GPS:** Record sampling locations by location name and GPS coordinates (WG84 datum in decimal degrees) in field notes.
- **Labeling:** Fill out a label for each jar and vial with following information: name of the spill; sample number; sample type; date, time, and location of sample collection; field team number; and collector's name. Use permanent marker for labeling. Cover label with clear tape. See Appendix 5 for more detailed labeling information.

- **Sample Storage:** Immediately place samples in an ice chest. Store with enough blue, crushed, or block ice to maintain the samples chilled at approximately 4°C for shipment to the designated laboratory.
- **Decontamination:** If samples are collected from multiple sources, clean sampling equipment with Alconox followed by a distilled water rinse between each sample collection. Methanol may also be used to clean sampling equipment. Change gloves between sample collections. Collect rinse water in a container and dispose of appropriately following waste handling procedures described below.
- **Waste Handling:** Store all oily rags, gloves, and other contaminated material in a plastic bag. Dispose of in accordance with the waste management plan prepared by the Unified Command Environmental Unit.
- **Recordkeeping:** Record the date, time, location of sample collection, sample collection point, and name(s) of collector(s).
- **Photo-Documentation:** Photograph or video the sampling site. Take video and/or the photos in both directions along the shore as well as from the waterline toward the backshore, and from the backshore to the waterline. Try to get permanent and distinctive landmarks in some photos and/or videos for future reference. Photographs/video should be processed so that sample locations are GPS-referenced on a map.

Oil on water, shoreline, or structures

In cases where the released material is highly viscous, concentrated, or weathered (e.g., fuel oil, crude oil), either floating on water, submerged, stranded on the beach, or coating structures; samples of product may be collected for petroleum fingerprinting purposes and to document the extent of the release.

- **Timing:** Second priority; collect as directed.
- **Sample Location:** The locations and numbers of samples to collect are spill-specific and should be coordinated through the NRDA team agency leads and the EDCC.
- **Sampling Equipment:** Pre-cleaned, wide-mouth glass jar with an airtight Teflon®, cap.
- **Sample Volume:** At least one sample should be collected that represents each location visited.
- **Number of Samples:** 2 each 500 ml. jar

- **Sampling Procedure:** Product (i.e., tar balls) is collected by using a disposable wooden tongue depressor. Submerged product may need to be collected by oil adsorbing pom poms or by other means.
- **Contamination Precaution:** Avoid sampling downwind of solvents from engine exhaust.
- **GPS:** Record sampling locations by location name and GPS coordinates (WG84 datum in decimal degrees) in field notes.
- **Labeling:** Fill out a label for each jar and vial with following information: name of the spill; sample number; sample type; date, time, and location of sample collection; field team identification; and collector's name. Use permanent marker for labeling. Cover label with clear tape. See Appendix 5 for more detailed labeling information.
- **Sample Storage:** Immediately place samples in an ice chest. Store with enough blue, crushed, or block ice to maintain the samples chilled at approximately 4°C for shipment to a laboratory.
- **Decontamination:** If samples are collected from multiple sources, clean sampling equipment with Alconox followed by a distilled water rinse between each sample collection. Methanol may also be used to clean sampling equipment. Change gloves between sample collections. Collect rinse water in a container and dispose of appropriately following waste handling procedures described below.
- **Waste Handling:** Store all oily rags, gloves, wooden tongue depressors, and other contaminated material in a plastic bag. Dispose of in accordance with the waste management plan prepared by the Unified Command Environmental Unit.
- **Recordkeeping:** Record the date, time, location of sample collection, sample collection point, and name(s) of collector(s).
- **Photo-Documentation:** Photograph or video the sampling site. Take video and/or the photos in both directions along the shore as well as from the waterline toward the backshore, and from the backshore to the waterline. Try to get permanent and distinctive landmarks in some photos and/or videos for future reference. Photographs/video should be processed so that sample locations are GPS-referenced on a map.

2.6 WATER SAMPLING

Water samples will be collected for analyses of benzene, toluene, ethyl benzene, and xylenes (BTEX), total petroleum hydrocarbons (TPH), and Polycyclic Aromatic Hydrocarbons (PAH's) (see Section 3 for analytical methods).

2.6.1 General Procedures and Sampling Locations

- **Timing:** First priority: areas that are not yet impacted. Second priority: areas under the floating oil, near or offshore.
- **Sample Location:** After evaluating circumstances and as health and safety conditions dictate, the NRDA team agency leads may discuss the need to select sampling locations in addition to or different from those identified below, including offshore locations only accessible by boat. However, for purposes of implementing this plan, the following shoreline locations should be sampled (see Appendix 1 for maps, Section 6 for driving directions, and Appendix 2 for photographs of identified sampling areas):

Pre-impact Surface Water Sampling Priority Areas

- Santa Monica Pier (N 34.00894° - W 118.49823°)
- Venice Canal (N 33.96657° - W 118.45479°)
- Ballona Wetlands (N 33.96509° - W 118.44862°)
- Manhattan Natural Seep (Seep 2) (N 33.86797° - W 118.49289°)
- Redondo Natural Seep (Seep 1) (N 33.82961° - W 118.42580°)
- Grand Jetty (N 33.91677° - W 118.42879°)
- Hermosa Beach Pier (N 33.86149° - W 118.40323°)

Immediate Post-impact Priorities

- Along impacted shorelines, including beaches or rocky intertidal areas. Include sheen or surface floating oil sample for chemical fingerprinting.
- Water under floating oil slicks by boat. Include sheen/surface floating oil sample for chemical fingerprinting.

Alternate Sampling Areas

Depending on spill trajectory models, additional shoreline areas may require sampling.

- **Sampling Equipment:** Offshore, the recommended sampler is the Ben Meadows Sub-Surface Grab Sampler with pre-cleaned, certified 1-liter, narrow-mouth amber glass jars. Onshore collect by hand with pre-cleaned, certified 1-liter, narrow-mouth

amber glass jars. In beach environments with high wave action, use the Ben Meadows Sub-surface Grab Sampler, with pre-cleaned, certified 1-liter, narrow-mouth amber glass jar to reach into the water for the sample. See Appendix 5 for more detailed information.

- **Sample Volume:** 1-liter, to be used for analyses of TPH, and/or PAH's, 40mL for BTEX. See allocation procedures per Sections 2.6.2 and 2.6.3 below.
- **Number of Samples:**
 - Offshore Field Teams - Collect one 1-liter sample from each identified offshore sampling location. At each location, collect the sample from just below the impacted surface area (~0.5 ft). Depending on the type of material released, other depth intervals may be targeted for sampling per the direction of the NRDA agency leads.
 - Onshore Field Teams - Collect one 1-liter sample from each identified pier structure or beach location identified above.
 - Quality Assurance/Quality Control (QA/QC) Samples – Collect as directed by the NRDA agency leads. See Appendix 5 for further details.
- **Sampling Procedure:** Visible oil on the water surface should be moved aside with a water hose, compressed air, or paddle. Care should be taken not to disperse oil into the water column. The sub-surface sampler should be opened at a depth of approximately six inches below the surface (or at specified depths determined by the NRDA Team Leader).
- **Contamination Precaution:** Avoid sampling downwind of solvents from engine exhaust.
- **GPS:** Record sampling locations by location name and GPS coordinates (WG84 datum in decimal degrees) in field notes.
- **Labeling:** Fill out a label for each bottle with following information: name of the spill; sample number; sample type; date, time, and location of sample collection; field team number; and collector's name. Use permanent marker for labeling. Cover label with clear tape. See Appendix 5 for more detailed labeling information. Immediately place samples in an ice chest.
- **Sample Storage:** Store samples in a cooler with enough ice to chill and preserve the samples at approximately 4°C. Sample holding times will vary, depending primarily on the matrix and type of sample collected (see Appendix 5), so if questions arise regarding holding times, contact the CDFW laboratory at (916) 358-2803, (916) 358-0319 or (916) 358-2858. Transport as soon as practical (and within 12 hours) to the laboratory or a secure refrigerator where the samples can be stored at 4°C until a decision about subsequent analyses can be made. Use packing material to avoid breakage.

- **Decontamination:** Clean the subsurface sampler and other sampling equipment with Alconox and rinse with distilled water rinse between each sample collection. Methanol may also be used to clean sampling equipment. Retain wash water in a container and dispose of appropriately.
- **Waste Handling:** When decontaminating sampling equipment, wash and rinse over a plastic bucket with a lid. Store all oily rags, gloves, and other contaminated material in a plastic bag. Dispose of oiled rinse water and contaminated material in accordance with the waste management plan prepared by the Unified Command Environmental Unit.
- **Recordkeeping:** Record the date, time, location of sample collection, sample collection point, and name(s) of collector(s).
- **Photo-Documentation:** Photographs should be taken of the sampling process and the collected sample(s) with reference points so the location can be identified later and plotted on a map. The date, time, and GPS location of the photographs should be documented. See Appendix 5 for more detailed information.

2.6.2 VOA Samples

Volatile organic analysis (VOA) water samples are collected in glass vials and analyzed for BTEX (Section 3).

- **Timing:** Holding time is 7 days for non-preserved samples.
- **Sample Location:** Sheen in water or beach sand.
- **Sampling Equipment:** 40-mL screw-cap glass vials with Teflon®-faced silicone septum (hereafter referred to as ‘VOA vials’). Depending on the time to extraction/analysis, and if deemed necessary by the contracted laboratory, to each vial add 2 drops of 6N hydrochloric acid as preservative.
- **Sample Volume:** 3 each vials 40-ml
- **Number of Samples:** 3 each per location
- **Sampling Procedure:** After collecting the 1-liter sample, gently pour water into VOA vial to avoid bubble formation. Fill the vial until a meniscus forms over lip of vial. Cover with the screw-cap lid, tighten the lid and invert the bottle and tap the end to check for air bubbles. If bubbles are present, pour out the sample and resample with a new VOA vial. Label, preserve, store, and ship samples as previously discussed (Section 2.6.1).

- **Contamination Precaution:** Clean bottles and gloves.
- **GPS:** Record sampling locations by location name and GPS coordinates (WG84 datum in decimal degrees) in field notes.
- **Labeling:** Fill out a label for each bottle with following information: name of the spill; sample number; sample type; date, time, and location of sample collection; field team number; and collector's name. Use permanent marker for labeling. Cover label with clear tape. See Appendix 5 for more detailed labeling information. Immediately place samples in an ice chest.
- **Sample Storage:** Store samples in a cooler with enough ice to chill and preserve the samples at approximately 4°C. Sample holding times will vary, depending primarily on the matrix and type of sample collected (see Appendix 5), so if questions arise regarding holding times, contact the CDFW laboratory at (916) 358-2803, (916) 358-0319 or (916) 358-2858. Transport as soon as practical (and within 12 hours) to the laboratory or a secure refrigerator where the samples can be stored at 4°C until a decision about subsequent analyses can be made. Use packing material to avoid breakage.
- **Decontamination:** Clean the subsurface sampler and other sampling equipment with Alconox and rinse with distilled water rinse between each sample collection. Methanol may also be used to clean sampling equipment. Retain wash water in a container and dispose of appropriately.
- **Waste Handling:** When decontaminating sampling equipment, wash and rinse over a plastic bucket with a lid. Store all oily rags, gloves, and other contaminated material in a plastic bag. Dispose of oiled rinse water and contaminated material in accordance with the waste management plan prepared by the Unified Command Environmental Unit.
- **Recordkeeping:** Record the date, time, location of sample collection, sample collection point, and name(s) of collector(s).
- **Photo-Documentation:** Photographs should be taken of the sampling process and the collected sample(s) with reference points so the location can be identified later and plotted on a map. The date, time, and GPS location of the photographs/video should be documented. See Appendix 5 for more detailed information.

2.6.3 TPH and PAH Samples

Water samples are collected and analyzed for total petroleum hydrocarbon and polycyclic aromatic hydrocarbon and alkylated polycyclic aromatic hydrocarbon content (Section 3).

- **Timing:** Sample needs to be preserved with acid. Good for 28 days.
- **Sample Location:** Water sheen
- **Sampling Equipment:** Pre-cleaned, certified 1-liter, narrow-mouth amber glass bottles.
- **Sample Volume:** 1 liter
- **Number of Samples:** 2 each per location
- **Sampling Procedure:** Collect a 1-liter sample, and after decanting water from jar for the VOA sample, cover with screw-cap lid and tighten. Label, preserve, store, and ship samples as previously discussed (Section 2.6.1).
- **Contamination Precaution:** Clean bottles and gloves. Keep in a cooler on ice.
- **GPS:** Record sampling locations by location name and GPS coordinates (WG84 datum in decimal degrees) in field notes.
- **Labeling:** Fill out a label for each bottle with following information: name of the spill; sample number; sample type; date, time, and location of sample collection; field team number; and collector's name. Use permanent marker for labeling. Cover label with clear tape. See Appendix 5 for more detailed labeling information. Immediately place samples in an ice chest.
- **Sample Storage:** Store samples in a cooler with enough ice to chill and preserve the samples at approximately 4°C. Sample holding times will vary, depending primarily on the matrix and type of sample collected (see Appendix 5), so if questions arise regarding holding times, contact the CDFW laboratory at (916) 358-2803, (916) 358-0319 or (916) 358-2858. Transport as soon as practical (and within 12 hours) to the laboratory or a secure refrigerator where the samples can be stored at 4°C until a decision about subsequent analyses can be made. Use packing material to avoid breakage.
- **Decontamination:** Clean the subsurface sampler and other sampling equipment with Alconox and rinse with distilled water rinse between each sample collection. Methanol may also be used to clean sampling equipment. Retain wash water in a container and dispose of appropriately.
- **Waste Handling:** When decontaminating sampling equipment, wash and rinse over a plastic bucket with a lid. Store all oily rags, gloves, and other contaminated material in a plastic bag. Dispose of oiled rinse water and contaminated material in

accordance with the waste management plan prepared by the Unified Command Environmental Unit.

- **Recordkeeping:** Record the date, time, location of sample collection, sample collection point, and name(s) of collector(s).
- **Photo-Documentation:** Photographs should be taken of the sampling process and the collected sample(s) with reference points so the location can be identified later and plotted on a map. The date, time, and GPS location of the photographs/video should be documented. See Appendix 5 for more detailed information.

2.6.4 QA/QC Samples

The types of water samples collected for QA/QC purposes is at the discretion of NRDA Agency Leads and as directed by EDCC. More information can be found in the NRDA Sampling and Analysis Plan template (Appendix 5). The samples can be taken in VOA vial(s) for BTEX and/or 1-liter water bottle(s) for TPH and PAH analyses, as directed by the Agency Leads and EDCC.

- **Timing:** As required by NRDA Agency Leads.
- **Sample Location:** Clean water that is collected and kept with the samples to check for contamination on the trip.
- **Sampling Equipment:** Pre-cleaned, certified 1-liter, narrow-mouth amber glass bottles will be used for TPH and PAH samples. 40-mL VOA vials will be used for BTEX analyses. Depending on the time to extraction/analysis, and if deemed necessary by the contracted laboratory, to each vial add 2 drops of 6N hydrochloric acid as preservative.
- **Sample Volume:** After decanting water from jar for the VOA sample, if collected, cover with screw-cap lid and tighten. Label, preserve, store, and ship samples as previously discussed (Section 2.6.1).
- **Number of Samples:** one VOA vial
- **Sampling Procedure:** Deionized water.
- **Contamination Precaution:** Clean bottles and gloves
- **GPS:** Lab (no GPS coordinates).
- **Labeling:** Clean or blank water. See Appendix 5 for more detailed labeling information. Immediately place samples in an ice chest.

- **Sample Storage:** Store samples in a cooler with enough ice to chill and preserve the samples at approximately 4°C. Sample holding times will vary, depending primarily on the matrix and type of sample collected (see Appendix 5), so if questions arise regarding holding times, contact the CDFW laboratory at (916) 358-2803, (916) 358-0319 or (916) 358-2858. Transport as soon as practical (and within 12 hours) to the laboratory or a secure refrigerator where the samples can be stored at 4°C until a decision about subsequent analyses can be made. Use packing material to avoid breakage.
- **Decontamination:** Clean the subsurface sampler and other sampling equipment with Alconox and rinse with distilled water rinse between each sample collection. Methanol may also be used to clean sampling equipment. Retain wash water in a container and dispose of appropriately.
- **Waste Handling:** When decontaminating sampling equipment, wash and rinse over a plastic bucket with a lid. Store all oily rags, gloves, and other contaminated material in a plastic bag. Dispose of oiled rinse water and contaminated material in accordance with the waste management plan prepared by the Unified Command Environmental Unit.
- **Recordkeeping:** Record the date, time, location of sample collection, sample collection point, and name(s) of collector(s).
- **Photo-Documentation:** Photographs should be taken of the sampling process and the collected sample(s) with reference points so the location can be identified later and plotted on a map. The date, time, and GPS location of the photographs should be documented. See Appendix 5 for more detailed information.

2.7 SEDIMENT SAMPLING

2.7.1 General Procedures and Sampling Locations

- **Timing:** As required by NRDA Agency Leads.
- **Sample Location:** After evaluating circumstances and as health and safety conditions dictate, the NRDA team agency leads may discuss the need to select sampling locations in addition to or different from those identified below. However, for purposes of implementing this plan, the following shoreline locations should be sampled (see Appendix 1 for maps and Appendix 2 for photographs of identified sampling areas):

Pre-impact Sediment Sampling Priority Areas

- Santa Monica Pier (N 34.00894° - W 118.49823°)
 - Venice Canal North End – Alternate sampling area (N 33.5904 ° - W 118.2807°)
 - Venice Canal/Marina Del Rey (N 33.5759 ° - W 118.2718°)
 - Ballona Creek (N 33.5747° W 118.2710°)
 - Ballona Wetlands (N 33.96509° - W 118.44862°)
 - Del Rey Lagoon (N 33.96222° - W 118.45148°)
 - Dockweiler Jetty (N 33.5626° - W 118.2633°)
 - Grand Jetty (N 33.91677° - W 118.42879°)
 - Manhattan Beach Pier (N 33.5302° W 118.2447°)
 - Hermosa Beach Pier (N 33.86149° - W 118.40323°)
 - Torrance Beach (N 33.4848° W 118.2331°)
- **Sampling Equipment:** Stainless steel or wooden spoon. 8-oz. screw-cap jar with Teflon liners, preferably glassware pre-cleaned and provided by the analytical laboratory (sediment core homogenate samples) or 1-liter wide-mouth amber glass bottles with Teflon® liner, preferably pre-cleaned and certified (sediment surface grab samples).
 - **Sample Volume:** Fill the jar completely with sediment.
 - **Number of Samples:** At each beach location identified above, three transects, equally spaced and perpendicular to the shore should be established. Judgment must be applied as to how far to space these transects, with consideration given to characterizing an area that may later become impacted with the released material. Collect a composite sample from the high, mid, and low tide elevations. Each composite sample should include at least five subsamples collected within a 5-ft. diameter from a point on the transect crossing each tidal elevation (see Figure 1).
 - **Sampling Procedure:** Fuel releases: ~1 foot deep sediment core; crude or fuel oil spills: ~2 cm deep surface grab sample.
 - **Contamination Precaution:** Avoid cross-contamination by cleaning or covering boots between sampling locations.
 - **GPS:** Record sampling locations by location name and GPS coordinates (WG84 datum in decimal degrees) in field notes.
 - **Labeling:** Fill out a label for each jar with following information: sample number; sample type (e.g., sediment); date, time, and location of sample collection; collector's name. Use permanent marker for labeling. Cover label with clear tape.
 - **Sample Storage:** Store samples in a cooler with enough ice to chill the samples to approximately 4°C. Sample holding times will vary, depending primarily on the matrix and type of sample collected (see Appendix 5), so if questions arise regarding holding times, contact the CDFW laboratory at (916) 358-2803, (916) 358-0319 or

(916) 358-2858. Transport as soon as practical (and within 12 hours) to the laboratory or a secure freezer where the samples can be stored at -20°C until a decision about subsequent analyses can be made.

- **Decontamination:** Wash all equipment beforehand that will be in direct contact with the collected samples with solvent (preferably methanol or methylene chloride) or Alconox detergent and rinse completely with distilled water and between each sample collection to prevent cross-contamination of samples. Equipment to be cleaned includes shovels, spatulas, mixing bowls, cores, etc. Collect rinse water in a container with its lid closed when not in use and dispose of appropriately.
- **Waste Handling:** When decontaminating sampling equipment, wash and rinse over a plastic bucket with a lid. Store all oily rags, gloves, and other contaminated material in a plastic bag. Dispose of oiled rinse water and contaminated material in accordance with the waste management plan prepared by the Unified Command Environmental Unit.
- **Recordkeeping:** Record the date, time, location of sample collection, sample collection point, and name(s) of collector(s).
- **Photo-Documentation:** After marking the station location but before taking any samples, photograph or video the sampling site. Take video and/or the photos in both directions along the shore as well as from the waterline toward the backshore, and from the backshore to the waterline. Try to get permanent and distinctive landmarks in some photos and/or videos for future reference. The date, time, and GPS location of the photographs should be documented. See Appendix 5 for more detailed information.

2.8 TISSUE SAMPLING

Tissue samples should be collected to document the potential exposure to petroleum hydrocarbons. Species suitable for collection include mussels, clams, or crab. Bivalves are generally preferable and collection details are provided below. The person collecting the samples must have a valid scientific collection permit or appropriate license from the CDFW and must coordinate collection with the Department. Preferably, samples can be collected by a CDFW employee to avoid the necessity of obtaining a scientific collection permit. If a CDFW employee is not present to collect these tissue samples, then written authorization to the ephemeral data collection team at the refinery will be provided by CDFW-OSPR NRDA personnel to collect such tissue samples on behalf of CDFW during this initial phase of the ephemeral data collection period.

2.8.1 General Procedures and Sampling Locations

- **Timing:** As required by NRDA Agency Leads.

- **Sample Location:**

Pre-impact Tissue Sampling Priority Areas

- Mussels on Santa Monica Pier pilings (N 34.00894° - W 118.49823°)
 - Mussels on rocks at Dockweiler Jetty (N 33.5626° - W 118.2633°)
 - Mussels on rocks at Ballona Creek (boat ramp) (N 33.96301° - W 118.45279°)
 - Mussels on rocks at Grand Jetty (N 33.91677° - W 118.42879°)
 - Mussels on Manhattan Beach Pier pilings (N 33.5302° - W 118.2447°)
 - Mussels on Hermosa Beach Pier pilings (N 33.86149° - W 118.40323°)
- **Sampling Equipment:** Place rinsed animals in heavy duty aluminum foil (dull side to the animals), and wrap them in several layers. Place foil-wrapped organisms in a zip-lock bag with adhered label. Place a second zip-lock bag around the first bag to protect the label between the two bags.
 - **Sample Volume:** From 15-30 individuals of the same species (enough for at least a 20 g composite of soft tissue).
 - **Sampling Procedure:** Remove the animals from the rocky shore or surface of the sediment, and, if necessary, rinse the debris and sediment from them using (in order of preference) distilled water, clean tap water, or clean seawater. Exterior rinses of shelled organisms (i.e., bivalves) are not usually necessary since only the tissue is extracted and analyzed. However, loosely adhered debris and sediment may be removed before wrapping samples.
 - **Contamination Precaution:** Clean bottles and gloves. Keep in a cooler on ice.
 - **GPS:** Record sampling locations by location name and GPS coordinates (WG84 datum) in field notes.
 - **Labeling:** Record on an adhesive sample label the following information on each sample: sample number (each sample must have a unique number), sample type, common name, genus and species (if known to the sample collector), location collected, time and date of collection, and collector's name. See Appendix 5 for further information.
 - **Sample Storage:** Store samples in a cooler with enough ice to preserve the samples at 4°C. Sample holding times will vary, depending primarily on the matrix and type of sample collected (see Appendix 5), so if questions arise regarding holding times, contact the CDFW laboratory at (916) 358-2803, (916) 358-0319, or (916) 358-2858. Transport as soon as practical, to the laboratory or a secure freezer (i.e., approved and secured by the Trustees) where the samples can be stored at -20°C until a decision

about subsequent analyses can be made. See Appendix 5 for further information on holding times.

- **Decontamination:** Wash all equipment that will be used to collect samples with solvent (preferably methanol or methylene chloride) or Alconox detergent and rinse completely with distilled water prior to use and between each sample collection to prevent cross-contamination of samples. Collect rinse water in a container and dispose of appropriately.
- **Waste Handling:** When decontaminating sampling equipment, wash and rinse over a plastic bucket with a lid. Store all oily rags, gloves, and other contaminated material in a plastic bag. Dispose of oiled rinse water and contaminated material in accordance with the waste management plan prepared by the Unified Command Environmental Unit.
- **Recordkeeping:** Record the date, time, location of sample collection, sample collection point, and name(s) of collector(s).
- **Photo-Documentation:** After marking the station location and before taking any samples, photograph or video the sampling site. Take video and/or the photos in both directions along the shore as well as from the waterline toward the backshore, and from the backshore to the waterline. Try to get permanent and distinctive landmarks in some photos and/or videos for future reference. The date, time, and GPS location of the photographs should be documented. See Appendix 5 for more detailed information.

3.0 - CHEMICAL ANALYSES

3.1 LABORATORIES

Send samples to either the Battelle Lab or the CDFW-OSPR Water Pollution Control Laboratory based on the collective decision of Chevron and the Trustees (see Section 5.0 for addresses).

3.2 METHODS

Request the following analyses and methods for various petroleum hydrocarbons:

- **Water Samples:** TPH (EPA Method 8015, GC/FID, extended range), PAHs and alkylated PAHs (EPA Method 8270-modified-GC/MS/SIM), BTEX (EPA Method 8260 modified GC/MS/SIM).
- **Sediment Samples:** TPH (EPA Method 8015 modified, GC/FID, extended range), PAHs and alkylated PAHs (EPA Method 8270-modified-GC/MS/SIM).
- **Tissue Samples:** PAHs and alkylated PAHs (EPA Method 8270-modified-GC/MS/SIM). Also request lipid content and water content and report results as dry weight.
- **Source Oil, Sheen, and Product Samples:** Complete characterization, including PAH's (EPA Method 8270-modified-GC/MS/SIM); BTEX (EPA Method 8260 modified GC/MS/SIM) density; boiling curve; metals; sulfur content; and weight fraction in oil of aromatics, naphthalenes, total paraffins, asphaltenes/resins, and sulfur.

4.0 - CHAIN-OF-CUSTODY

Chain-of-custody must be maintained at all times. Chain-of-custody means that the sample or data are under the possession and control of the person identified on the chain-of-custody form for the period specified on the form. Possession and control mean literally in the possession of, within sight of, or in secure storage with access limited only to the person in possession. The person relinquishing the samples and the person taking control of the samples need to sign the chain-of-custody form.

Before shipping samples, make sure that each chain-of-custody form is filled out completely and properly. Check that the sample identifications on sample bottles match the sample identifications on the chain-of- custody. Verify that the date, time, type, matrix and container types, and analyses requested are clearly indicated.

After the chain-of custody has been checked and verified, sign where indicated in the “Relinquished By” box at the bottom of the form. Make sure that the date and time that you relinquished the samples are recorded on the chain-of –custody. Put the chain-of-custody forms in a zip lock bag and place the bag in the ice chest. Remember to put ice in the ice chest and tape the lid shut with masking tape. Take the ice chest to an over-night mail service and ship the samples to the lab as directed by the EDCC. When the lab receives the ice chest, the person accepting the samples will sign his or her name in the “Received By” box on the bottom of the chain-of-custody form. The EDCC should receive a copy of each completed chain-of-custody form.

5.0 - KEY CHEVRON AND NATURAL RESOURCE TRUSTEE REPRESENTATIVES AND CHEMICAL ANALYSIS/TECHNICAL SUPPORT CONTACT INFORMATION

5.1 CHEVRON LEADS

Chevron Refinery NRDA Lead

Soli George: Cell (310) 912-4924/Office: (310) 615-3471

- ¹**Chevron Environmental Functional Team (EFT)**
Will Gala (EFT Leader): Cell (415) 902-1955/Office: (925) 842-6632
Anne Wagner Cell: (925) 324-0922/Office (925) 842-8224
Rene Bernier: Cell (281) 460-1802/Office (713) 954-6889
Jim Myers: Cell (832) 331-0779/Office: (713) 954-6821
¹First Call to Chevron EFT, either to Will or Anne in San Ramon, CA
- **Cardno ENTRIX:** Emergency Response Hotline: (800) 476-5886
Gordon Robilliard: Cell (253) 209-4908/Office: (253) 858-2114.

5.2 CDFW-OSPR AGENCY LEADS

Lead: Mike Anderson: Cell (916) 826-1136/ Office: (916) 324-9784
Alternate: Bruce Joab: Cell (916) 826-0166/ Office: (916) 322-7561
Alternate: Beckye Stanton: Cell (916) 216-6299/ Office: (916) 327-0916

5.3 USFWS AGENCY LEADS

Lead: Damian Higgins Cell: (916) 943-8529/Office: (916) 414-6548
Alternate: Lynn Roberts Cell: (707) 498-8619/Office: (707) 822-7201
Alternate: Bill Pinnix Cell: (707) 845-6858/Office: (707) 822-7201
Alternate: John Hunter Cell: (707) 499-1467/Office: (707) 822-7201

5.4 NOAA AGENCY LEADS

Lead: Rob Ricker Cell: (240) 460-6473/Office: (707) 570-1760
Alternate: Bob Pagliuco Cell: (707) 834-2215/Office: (707) 825-5166
Alternate: Greg Baker Cell: (206) 409-0248/Office: (650) 329-5048
Alternate: Laurie Sullivan Cell: (707) 320-7232/Office: (707) 570-1762

5.5 CHEVRON CHEMICAL ANALYSIS/TECHNICAL SUPPORT

- **Exponent:** Seattle Office: 24-Hrs: (888) 656-3976
Kirk O'Reilly Cell: (425) 922-3959/Office: (425) 519-8704
Paul Boehm Cell: (617)513-1351/Office: (978) 461-4600
John Brown Cell: (508) 878-2259/Office:
- **Battelle Analytical Lab**
Jonathan Thorn- Cell: (781) 561-5101/Office: (781) 952-5271
FedEx Mailing Address:
Battelle Analytical Lab
397 Washington Street
Duxbury, MA 02332
Email: thornj@battelle.org

5.6 CDFW-OSPR CHEMICAL ANALYSIS/TECHNICAL SUPPORT

- **Department of Fish and Wildlife Petroleum Chemistry Laboratory**
1995 Nimbus Road
Rancho Cordova, CA 95670
Contact: Susan Sugarman Office: (916) 358-2806 or
Dave Crane Office: (916) 358-2859
- **Department of Fish and Wildlife Water Pollution Control Lab**
2005 Nimbus Road
Rancho Cordova, CA 95670
Contact Charlene Lane Office: (916) 358-2858 or
Dave Crane Office: (916) 358-2859

6.0 – DIRECTIONS TO SAMPLING LOCATIONS

(all directions are FROM the ES Refinery)

Torrance Beach

Sepulveda Blvd./Pacific Coast Hwy South to Palos Verdes Blvd. Right on Palos Verdes Blvd., right on Calle Miramar. Left on Paseo de la Playa, immediate right into parking lot. Refer to Appendix 2, photographs 1-3.

Hermosa Beach Pier

Pacific Coast Highway South to Pier Avenue. West (right) on Pier Avenue, left on Hermosa Avenue, right on 11th Street. Park in parking lot on 11th St. and Hermosa Ave. Refer to Appendix 2, photographs 4-6.

Manhattan Beach Pier

Sepulveda Blvd./Pacific Coast Hwy South to Manhattan Beach Blvd. Right on Manhattan Beach Blvd to the dead end at Ocean Drive. Park in lot. Refer to Appendix 2, photographs 7-9.

Grand Jetty

Grand Avenue West directly into parking lot on corner of Grand Ave. and Vista del Mar. Refer to Appendix 2, photographs 10-12.

Dockweiler Jetty

Grand Ave. West to Vista del Mar North to Imperial Hwy. Left on Imperial Hwy. into parking lot. Make a right and drive to the last parking lot (in front of the jetty). Refer to Appendix 2, photographs 13-15.

Ballona Creek

Grand Ave. West to Vista del Mar. Right on Vista del Mar, left on Pacific Ave (if you hit Culver Blvd. you've gone too far). Pacific Ave to the dead end. Park in Pacific Ave. lot and walk east towards boom boxes/boat ramp. Refer to Appendix 2, photographs 16-18.

Ballona Wetlands Tidal Gate

Refer to directions to Ballona Creek. Walk past the boom boxes/boat ramp. The locked fence will be on your right. Refer to Appendix 2, photographs 22-24.

Del Rey Lagoon

Refer to directions to Ballona Creek. Enter the park at Esplanade and 63rd Street. Refer to Appendix 2, photographs 19-21.

Venice Canal/Marina Del Rey

Sepulveda Blvd. North to Lincoln Blvd. North to Washington Blvd. Left on Washington Blvd. Left on Via Marina. Follow Via Marina around to the right. Metered parking on the left. Refer to Appendix 2, photographs 25-27.

Santa Monica Pier

Sepulveda Blvd. North to Lincoln Blvd. North to Pacific Coast Hwy (1) West. Thru the tunnel onto PCH and make the 1st U Turn possible on PCH. Park in the lot directly North of the Pier. Refer to Appendix 2, photographs 31-33.

7.0 – REFERENCES

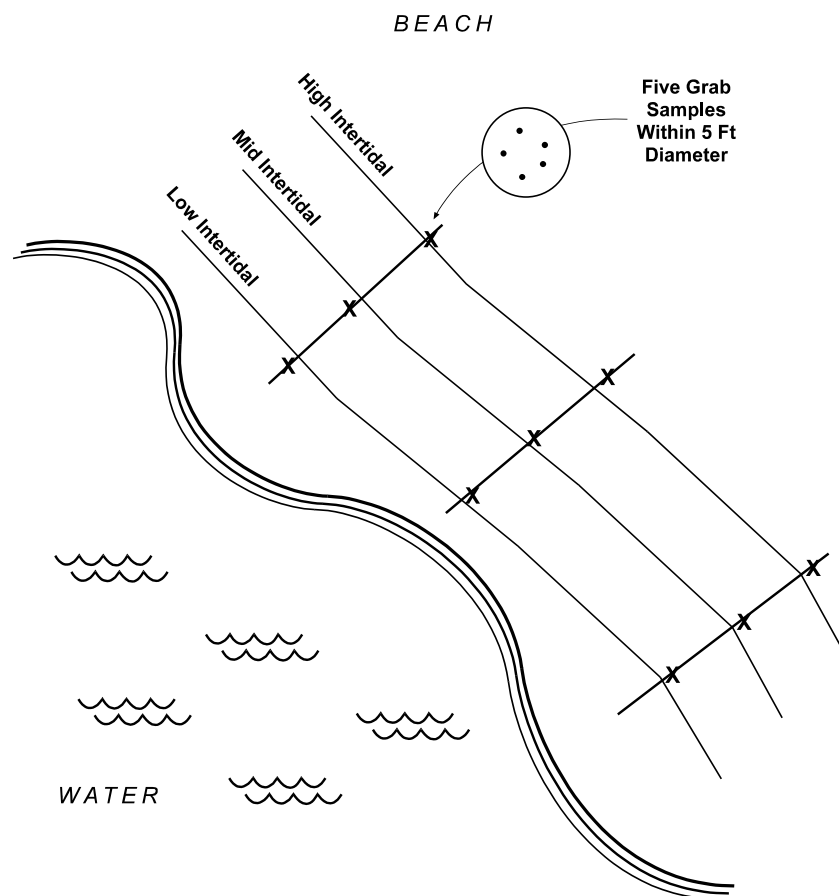
CDFW-OSPR 2009. OSPR POLICY AND GUIDELINES MANUAL Subject: Communication and Coordination between Natural Resource Damage Assessment (NRDA) and Incident Command Structure (ICS) During Spill Response Issued: September 21, 2009 Manual Section: Scientific\Damage Assessment Reference: 603-1

WCJAT 2009. The West Coast Joint Assessment Team (WCJAT) Position Statement Regarding Coordination of NRDA activities With Response Activities Within The Unified Command/Incident Command Structure. Memorandum. Finalized May 20th.

Los Angeles/Long Beach Area Contingency Plan
http://www.dfg.ca.gov/ospr/los_angeles_plan.aspx

Figure 1

**Example of Sediment Collection
From Onshore Sampling Sites¹**



¹Judgment must be applied as to how far to space these transects, with consideration given to characterizing an area that may later become contaminated with the spilled material.

Figure 2

Spill Response Unified Command Structure, Including Communication and Coordination Points with NRDA

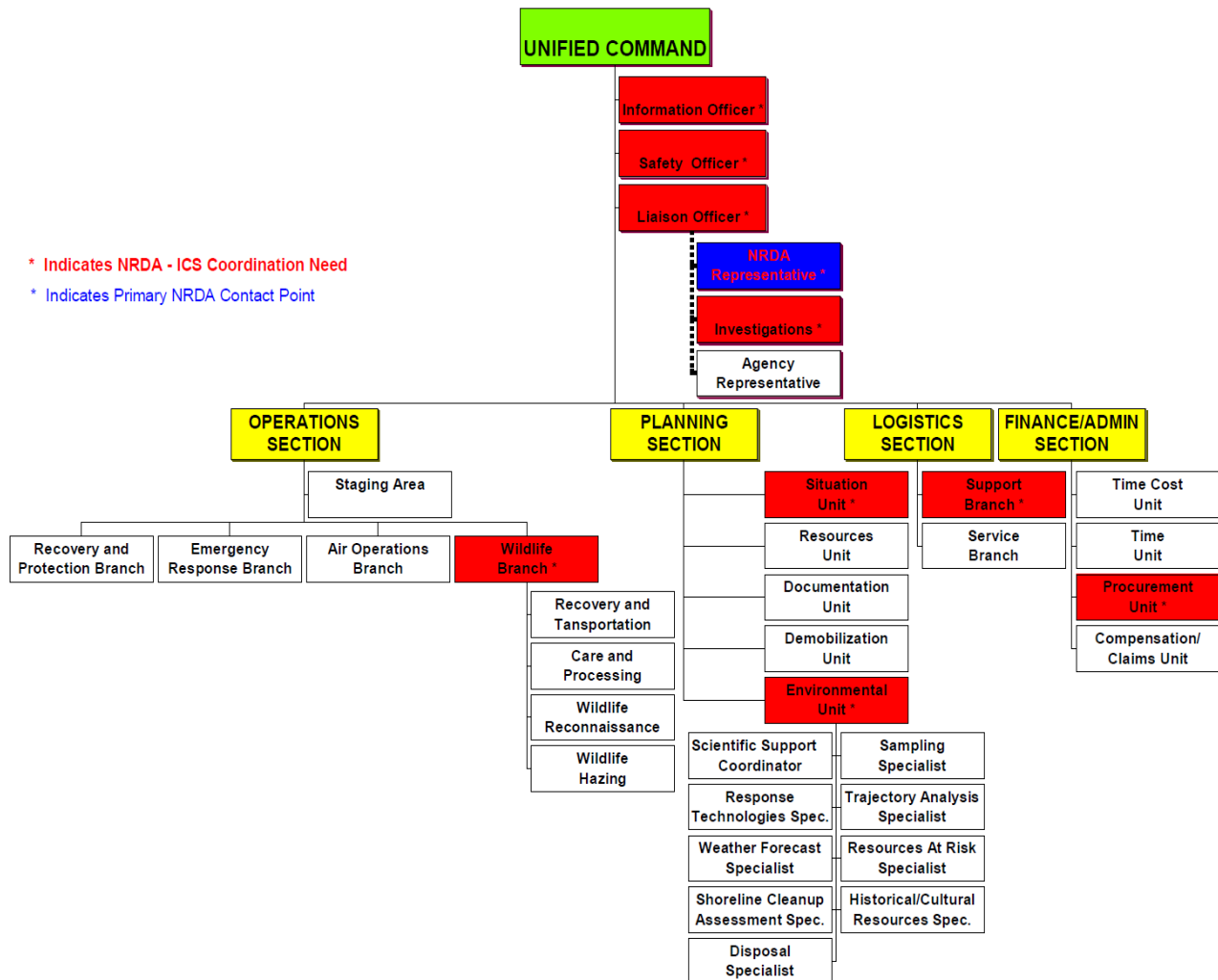
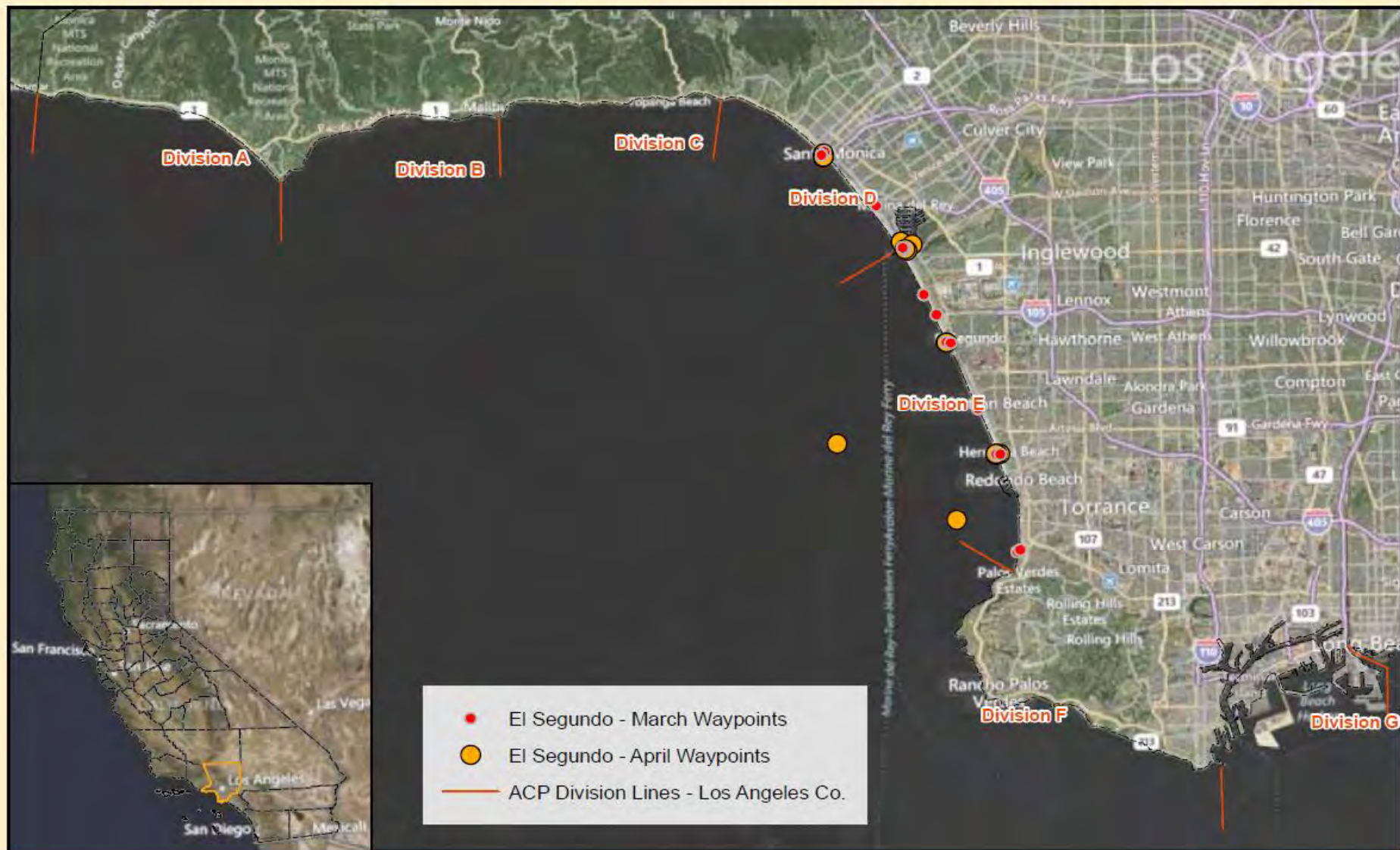


Figure 1. Spill Response Incident Command Structure Organization, Including Communication and Coordination Points with NRDA

APPENDIX 1
MAPS OF SAMPLING LOCATIONS
SANTA MONICA BAY





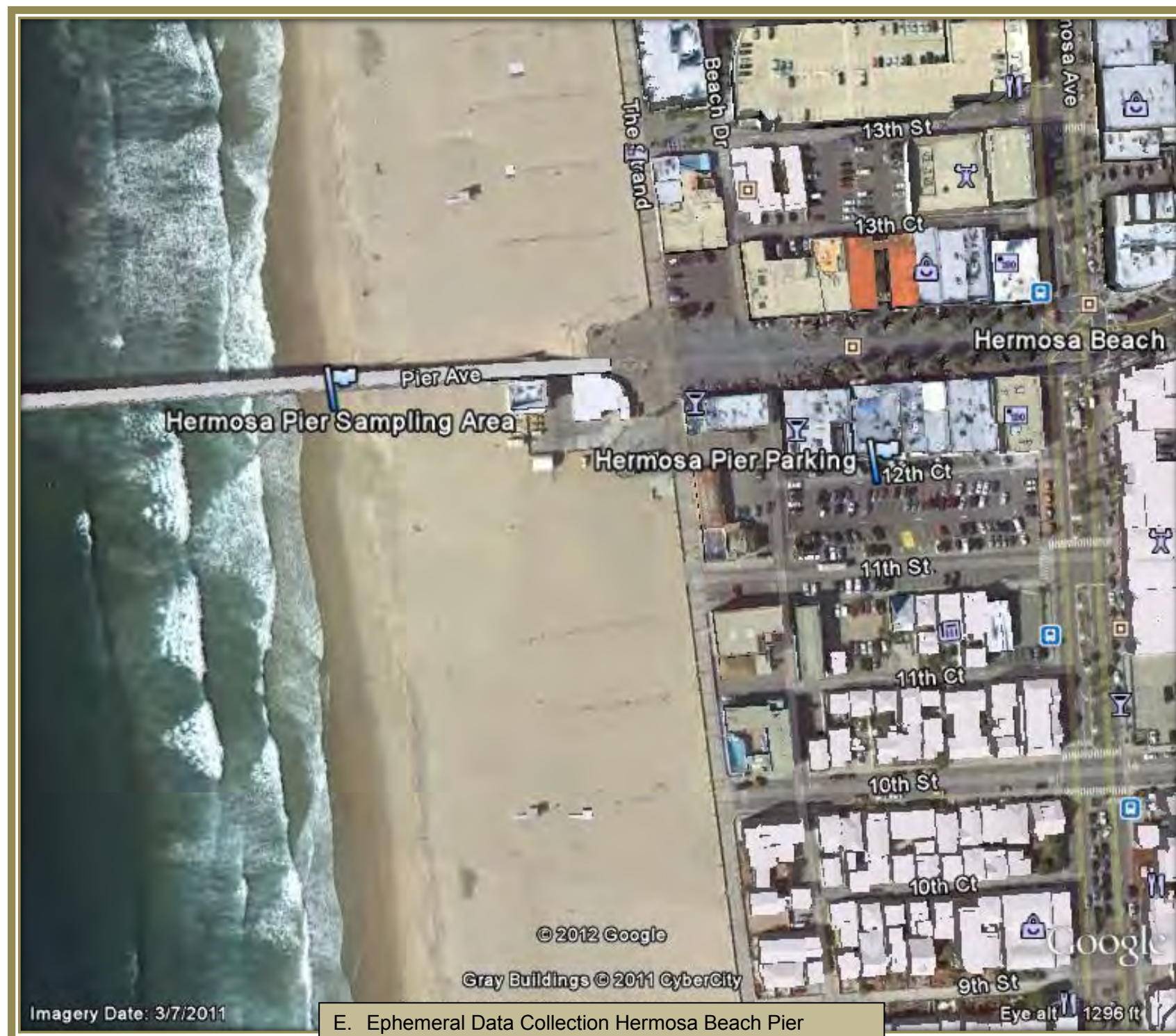
B. Ephemeral Data Collection Marina del Rey and Ballona Creek
Priority Sampling Locations



C. Ephemeral Data Collection Dockweiler Beach
Priority Sampling Location



D. Ephemeral Data Collection Grand Jetty
Priority Sampling Location



E. Ephemeral Data Collection Hermosa Beach Pier
Priority Sampling Location



F. Ephemeral Data Collection Manhattan Beach Pier
Priority Sampling Location



G. Ephemeral Data Collection Santa Monica Pier
Priority Sampling Location



H. Ephemeral Data Collection Torrance Beach
Priority Sampling Location



Venice Canal Sampling Area

Venice Canal Parking Lot

© 2012 Google

Google

Imagery Date: 3/7/2011

Eye alt 1144 ft

I. Ephemeral Data Collection Venice Canal
Priority Sampling Location

APPENDIX 2

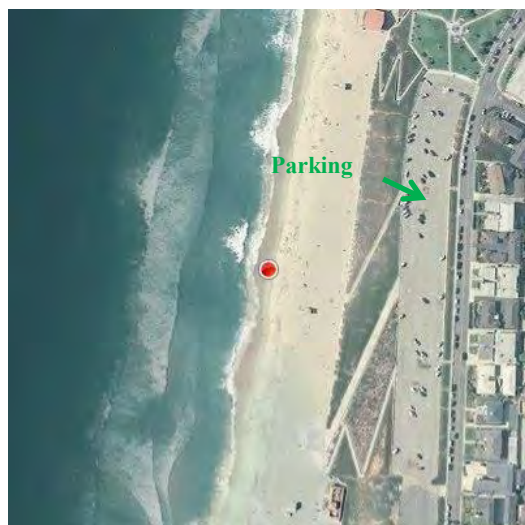
A. PHOTOGRAPHS OF HIGH PRIORITY EPHEMERAL AND BASELINE DATA COLLECTION SAMPLING LOCATIONS



Photograph 1
Ramp access to Torrance Beach



Photograph 2
Beach sampling point at Torrance Beach



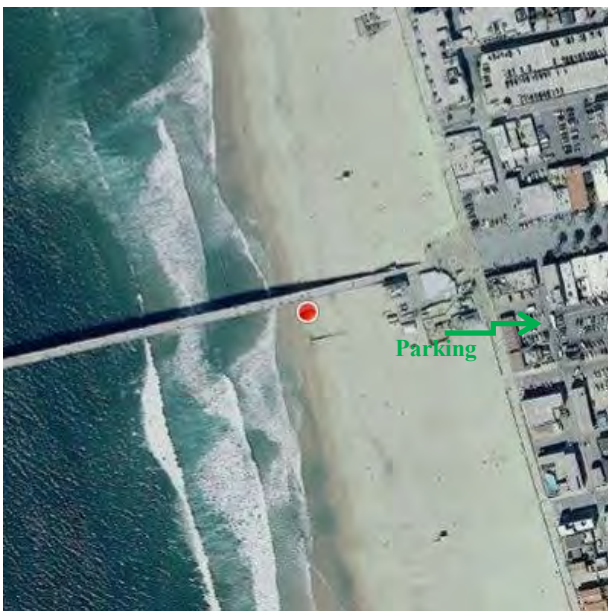
Photograph 3
Overview of Torrance Beach parking lot and sample location



Photograph 4
Hermosa Beach sediment sampling



Photograph 5
Hermosa Beach surface water sample area.
Personal flotation device (PFD) must be worn.
Potential high wave activity. Do not collect
samples during high wave or storm conditions.



Photograph 6
Overview of Hermosa Beach parking lot and
sample location.



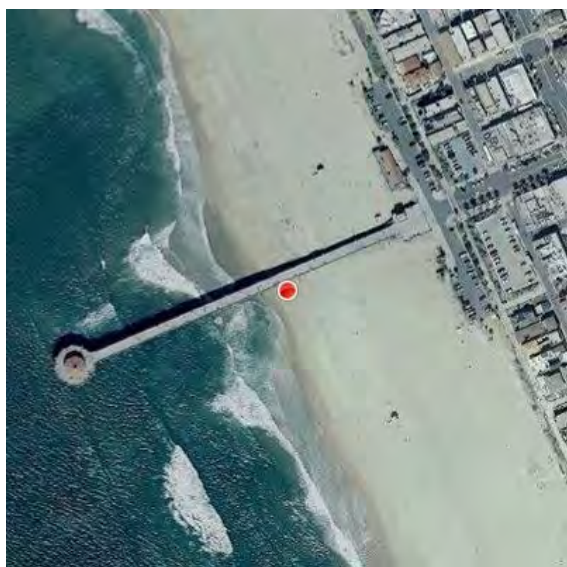
Photograph 7

Manhattan Beach Pier sampling location.
Personal floatation device (PFD) must be worn.
Potential high wave activity. Do not collect
samples during high wave or storm conditions.



Photograph 8

Manhattan Beach looking south.



Photograph 9

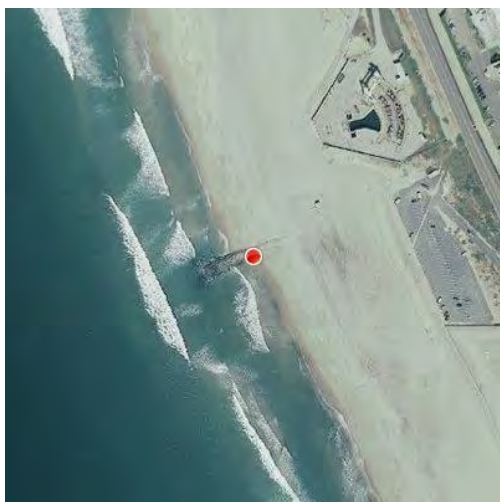
Overview of Manhattan Beach parking lot and
sample location.



Photograph 10
Grand Jetty sediment sampling.



Photograph 11
Grand Jetty tissue sampling. Personal floatation device (PFD) must be worn. Potential high wave activity. Do not collect samples during high wave or storm conditions.



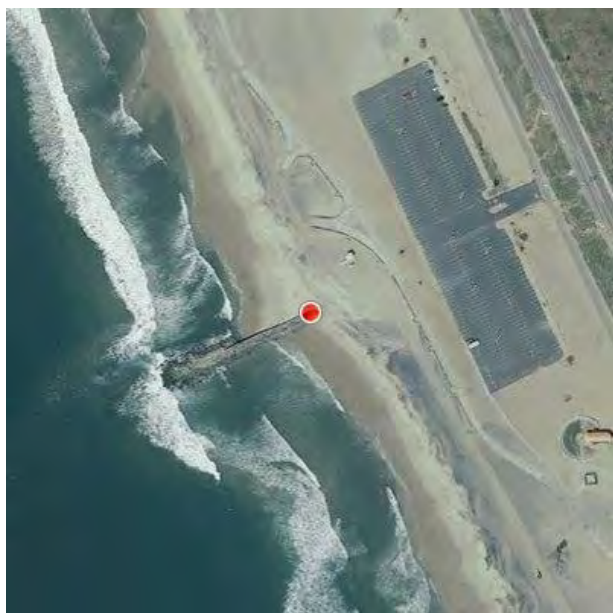
Photograph 12
Overview of Grand Jetty parking lot and sample location.



Photograph 13
Dockweiler Jetty beach looking south.



Photograph 14
Dockweiler Jetty. Personal floatation device (PFD) must be worn. Potential high wave activity. Do not collect samples during high wave or storm conditions.



Photograph 15
Overview of Dockweiler Jetty parking lot and sample location.



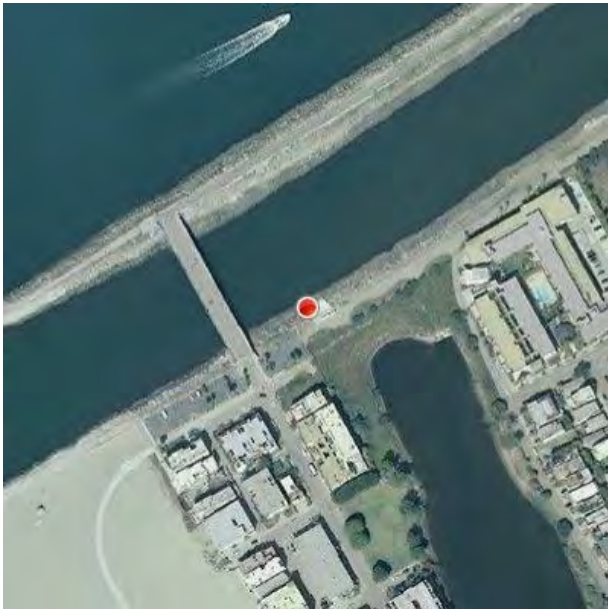
Photograph 16

Ballona Creek Tissue Sampling. Personal floatation device (PFD) must be worn. Do not collect samples during storm conditions.



Photograph 17

Ballona Creek.



Photograph 18

Overview of Ballona Creek, Ballona Wetlands and Del Rey Lagoon parking lot and sample location for Ballona Creek.



Photograph 19
Del Rey Lagoon sediment sampling.



Photograph 20
Del Rey Lagoon – close up of sediment sampling.



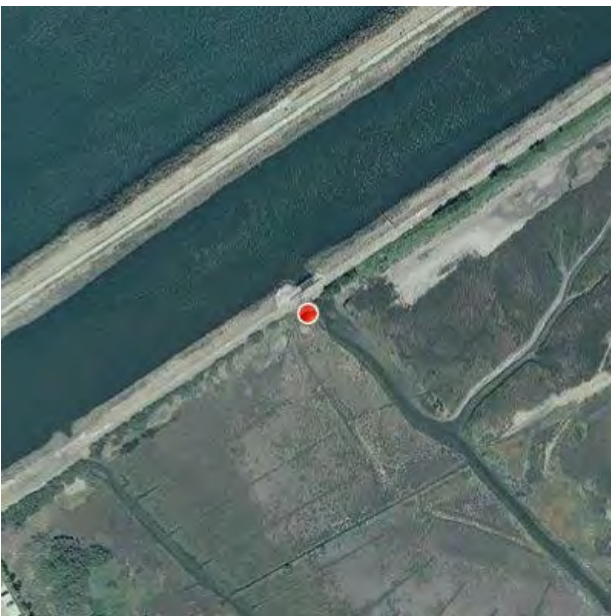
Photograph 21
Overview of sample location for Del Rey Lagoon.



Photograph 22
Ballona Wetlands sampling area.



Photograph 23
Ballona Wetlands sample gathering. Personal flotation device (PFD) must be worn. Important: Keep personnel and 'footprint' to a minimum in the Wetlands.



Photograph 24
Ballona Wetlands entrance location (locked gate) and sample gathering point.



Photograph 25
Venice Canal Entry sampling point.



Photograph 26
Venice Canal sediment sampling location. South entry to the canals.



Photograph 27
Overview of south Venice Canal parking lot (metered) and sample location.



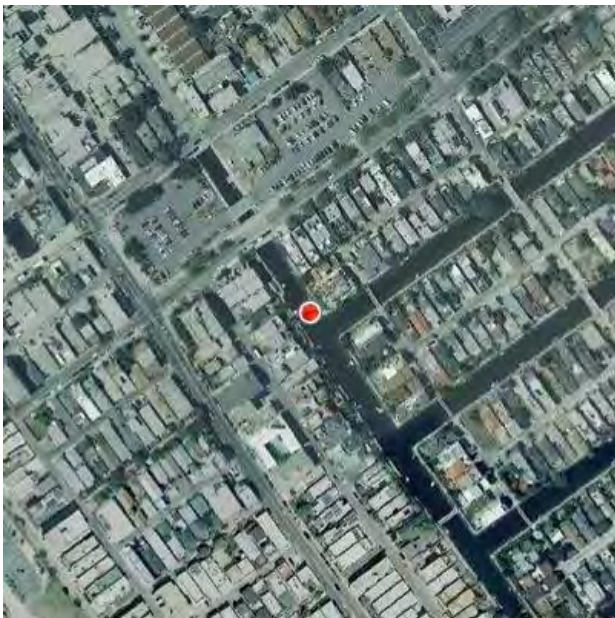
Photograph 28

Venice Canal north end access ramp. This is an alternate sampling area and should only be sampled if time permits.



Photograph 29

Venice Canal north end sampling location.



Photograph 30

Overview of Venice Canal north end parking lot and sample location.



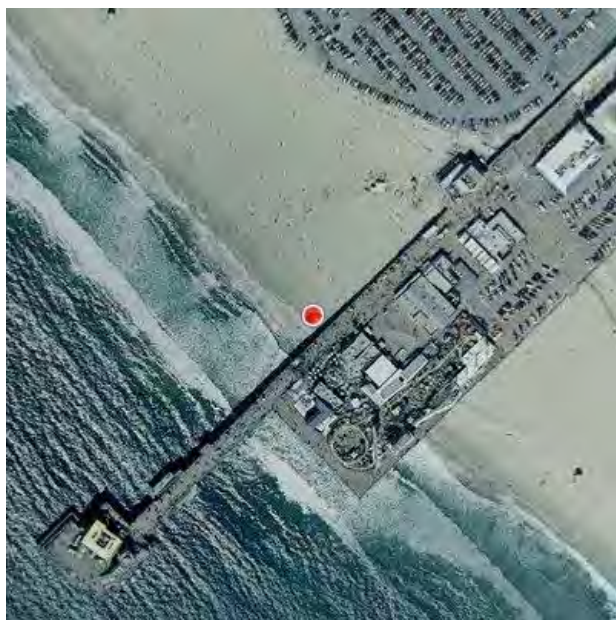
Photograph 31

Santa Monica Pier sediment sampling location looking south towards pier.



Photograph 32

Santa Monica Pier tissue sample gathering.
 Personal flotation device (PFD) must be worn.
 Potential high wave activity. Do not collect samples during high wave or storm conditions.



Photograph 33

Overview of Santa Monica Pier parking lot and sample location.



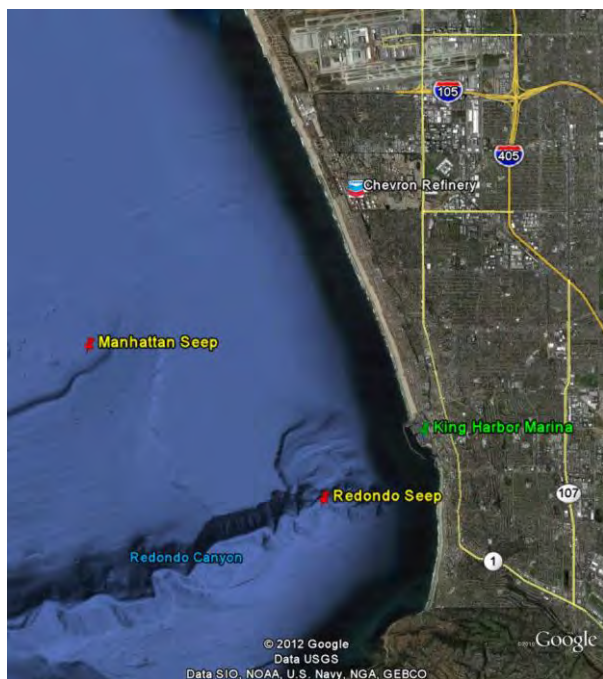
Photograph 34

Redondo Natural Seep sample gathering. Personal floatation device (PFD) must be worn. Potential high wave activity. Do not collect samples during high wave or storm conditions.



Photograph 35

Redondo Natural Seep sample gathering. Personal floatation device (PFD) must be worn. Potential high wave activity. Do not collect samples during high wave or storm conditions.



Photograph 36

Overview of seep locations.

APPENDIX 3

CDFW-OSPR Checklist for Field Sampling

BEFORE FIELD

EQUIPMENT & SUPPLIES	
Forms/COCs: see Table 1 for types and # of forms; clipboard (1 per team); sharpies, rite in the rain pen	
GPS & camera: 1 each per team; batteries (6 AA plus backup; check charge); photo scale	
Sampling jars & equipment: see Table 2 for containers; freezer and trash bags; tongue depressors; spoons; may need sediment corer or pole water sampler	
Ice & coolers: 1+ large cooler for samples; get cubed ice prior to first sampling (3-4, 7-lb bags per cooler)	
Create trip blank for VOA: See Tables 1 and 2 below; obtain DI water (from lab or store), fill and label 2, 40 mL VOA vials , and store in sample cooler	
Clothing: Wear clothes/hat with NRDA and/or agency logos	
PPE & monitors: outer & inner gloves; chemical resistant boots/covers; safety glasses; PFD; H2S monitor; GPS Spot Tracker	
FIELD TEAM ASSIGNMENT	
Contacts & Training: Give phone numbers and HAZWOPER training info for all team members to NRDA Field Ops; confirm if 1+ person has 40-hr HAZWOPER	
Daily Field Team Form: complete Field Team Assignment and Objectives section; attach to ICS 213 General Message Form for Field Team Assignments and give to NRDA rep	
SAMPLE PLANNING	
NRDA IDs: see Table 2; identify county, SCAT divisions and segments for each proposed sampling site; assign field team #s by TWG	
Access/Sites: Determine access points and directions; bring map/aerial image of the site; identify any site restrictions, access issues, sensitive species, and contacts	
Consider sub-surface sampling, depending on type of oil and substrate	
Contact lab: Make initial contact with lab(s); arrange sample storage and transport (see Tables 3 & 3)	

IN THE FIELD

HEALTH & SAFETY	
GPS SPOT tracker: Turn on, press and hold the footprint (track progress button) until it flashes green	
Call NRDA Field Ops: at start and end of field activities, and if any health and safety incidents occur	
Health & Safety Plan: All team members review and sign	
Complete "tailgate" Health & Safety Meeting at initial site setup; as necessary, assign tasks appropriate for level of HAZWOPER training	
PPE: sampler must wear eye protection and 2 pairs nitrile gloves - for water sampling by hand, wear smaller glove inside elbow-length; otherwise wear 2 pair smaller glove (change outer pair between samples); secondary sample handler wear 1 pair smaller glove (change between sites)	
PHOTO/GPS	
GPS setup: record make, model, and ID# on Daily Summary section of DFTF; clear previous track/waypoints; set WGS84 in decimal degrees; track log to 15 sec time interval & wrap when full; enable WAAS; turn on track log; check battery charge; take waypoint at setup and record on Sample & Photo Log ; do NOT turn off	
Camera setup: record make, model, and ID# on Daily Summary section; clear previous photos; use continuous sequential numbering and daily folder; use max resolution; confirm time zone; check battery charge; set camera time to match GPS time; take legible photo of current time on GPS and record on Sample & Photo Log ; do NOT delete photos	

SAMPLE & PHOTO LOG and SAMPLING	
Sites: take waypoint at each site (with unique GPS lat/long) where sampling, observations, or other activities occur; record location and descriptions (Table 1) with sketch and observations (Figure 1) on Sample & Photo Log	
Photo: Take photos of sampling location (up-coast, offshore, down-coast, close up) and collected samples (incl. sample label and scale); record camera photo # and description on Table 2 of Sample & Photo Log	
Sample jars/amount: See Table 3 below for sample types, jars, and amounts	
Sample ID: CountyDivSeg TWGFieldTeam# Date SampleTypeSample# (e.g., ALD01 RI1 022611 MU1) See Table 1; use unique sample ID for every sample except for "backup" sample (same ID but add letter; e.g., 1A and 1B).	
Sample log & labels: For each sample, record sample ID and description (including WP and time) on Table 2 of Sample & Photo Log ; fill out sample label completely; place label on glass jars or between 2 bags (VOA & tissue)	
Sample storage: wrap jars in bubble wrap or foam sleeves; store on wet ice between sampling locations	

Table 1. SAMPLE ID: CountyDivSeg TWGFieldTeam# Date SampleType Sample#

County	2 letters	Sample Type	2 letters
Div (SCAT Division)	1 letter	<i>Water / VOA</i>	<i>WT</i>
Seg (SCAT segment)	2 numbers	<i>Sheen</i>	<i>SH</i>
TWG	2 letters	<i>Oil / Tarball</i>	<i>TB</i>
<i>Birds</i>	<i>BD</i>	<i>Sediment</i>	<i>SD</i>
<i>Fish</i>	<i>FI</i>	<i>Mussel</i>	<i>MU</i>
<i>Marine Mammals</i>	<i>MM</i>	<i>Clam</i>	<i>CL</i>
<i>Sandy Beach</i>	<i>SB</i>	<i>Crab</i>	<i>CR</i>
<i>Rocky Intertidal / Rip-rap</i>	<i>RI</i>	<i>Emerita (Sand crab)</i>	<i>EM</i>
<i>Salt Marsh / Mudflats / Lagoon</i>	<i>SM</i>	<i>Fish</i>	<i>FI</i>
<i>Water Column / Kelp</i>	<i>WC</i>	<i>Beach Wrack</i>	<i>WR</i>
<i>Eelgrass</i>	<i>EG</i>	<i>Tissue (other)</i>	<i>TO</i>
Field Team # (by TWG and day)	1 number	Sample # (by sample type, TWG, and day)	1 number
Date (date collected)	MMDDYY		

Table 2. ANALYTICAL CHEMISTRY SAMPLE INFORMATION (by sample type and analysis)

Sample Type	Type & Size of Container	Amount	Analysis	Holding condition & time (days)	Ok to freeze?	Cost
Water (WT)	Glass: 1 L amber	Full; 1+ ¹	PAH / TPH ¹	4°C, dark: 7 to extract; 40 to analyze	No	\$370 ¹
VOA (WT)	Glass: 40 mL VOA	Full; 2	BTEX	4°C, dark: 7 to extract & analyze	No	\$160
Sheen (SH)	Glass: 12" fiberglass sheets	4 sheets	Petroleum Fingerprint	Long-term	Yes	\$525
Tarball / Oil (TB)	Glass: small (60-250 mL)	>1 tsp	Petroleum Fingerprint	Long-term	Yes	\$525
Sediment (SD)	Glass: grab - 250 mL OR composite - 1 L wide mouth	>30 g ¹	PAH / TPH ¹ (grain size / TOC ²)	4°C, dark: 7 to extract; 40 to analyze; frozen: long-term	Yes	\$475 ¹ (+ \$250 ²)
Tissue (varies)	Aluminum foil ³	>30 g ¹	PAH (% lipid ²)	4°C, dark: 7 to extract; 40 to analyze; frozen: long-term	Yes	\$475 (included ²)

¹ A single sample can be used to confirm petroleum hydrocarbons and for subsequent PAH analysis, but COC must clearly request both; otherwise 1 L for each analysis; TPH analysis not recommended unless petroleum product visible

² Additional analytes that could be considered for these sample types

³ Double wrap tissue in aluminum foil with dull side to sample; place inside 2 plastic freezer bags with label in between

Table 3. CDFW LABORATORY INFORMATION (Both located at 1995 Nimbus Road, Gold River, CA 95670)

Lab	Analyses	POC	Sample Intake
WPCL	PAH, TPH, BTEX, inland oil fingerprint	Janna Rinderneck (cell 916-826-9729) [Alternates: Jim McCall (916-358-2702); Dave Crane (cell 916-599-1450)]	Scot Harris (916-358-0319)
PCL	marine oil fingerprint	Susan Sugarman (916-358-2806)	Shane Stahl (916-358-2802)

AFTER FIELD / AT COMMAND POST

HEALTH & SAFETY	
Notify NRDA Field Ops and turn off spot tracker when leaving last field site	
Waste & Decon: check with NRDA Field Ops; dispose of used gloves and sampling wastes properly	
SAMPLES	
Storage: keep at 4°C in dark (in cooler on wet ice or in the fridge); maintain secure custody	
COC: fill out form; see Tables 2 and 3; clearly identify instructions to lab (e.g., hold, extract and hold, OR analyze); at sample transfer, both parties sign COC, original COC with samples, and copy to sampler	
Transport: Confirm transportation to and receipt by the analytical lab (see Table 3); use double trash bags for wet ice and close drain; if shipping, follow air/ground shipping regulations	
EQUIPMENT/SUPPLIES	
Make sure all equipment is cleaned, stored; replace supplies and forms; recharge/replace batteries	
DATA INTAKE	
Coordinate location/time of data download with NRDA Field Ops	
Field Team: complete Daily Summary section; review and initial all forms	
File management: Scan/download forms/notes, GPS, and photos, save original and working copies in 2 locations; complete Data Intake section; organize files as shown below	
- Daily folder (by field team and day, see Table 1): TWGFieldTeam#_Date (e.g. <i>RI1_022611</i>) - Sub-folders by file type (GPS, photos, field forms) and status (original, working): TWGFieldTeam#_Date_FileType.Status (e.g., <i>RI1_022611_Photo.Original</i>)	
GPS: save GPS files as .gpx, .gdb, .txt files using Garmin MapSource; clear waypoints and track from GPS	
Photos: Copy photos directly from memory card to “original” folder; copy to a “working” folder; do NOT change file names; clear photos from camera	
DATA MANAGEMENT	
Geotag: Match GPS and photos using GPS-Photolink™; save output as .kml, tagged photos, & PDF	
Upload data: post GPS-Photolink output (.kml & PDF) and scanned forms to Document Library	
Database: add sample info to Sample Tracking Sheet	
complete Data Management section	

Table 4. Forms

Form Name (Abbrev)	Version	Use	#
Daily Field Team Form (DFTF)		Info on field team members, logistics, assignments and objectives; daily summary; data intake and management	1 per team
Sample and Photo Log		Record site information, photos, and samples	3 sites /sheet
Sample labels		Identify	10 samples /sheet
Chain of custody (COC)			~10 samples /sheet

APPENDIX 4

CDFW-OSPR Equipment & Supply List for Field Sampling

Supplies in general “sampling kits” (June 2013)

NOTES:

- *Kits in other locations may have slightly different contents; see location-specific list for particular details*
- *Most supplies are in 1 large grey bin, multiple boxes for jars, and a separate box with bubble wrap, bags, packing tape, etc.*
- 1 Clipboard (plastic, gray)
 - 5 [Chain of Custody Forms](#) (triplicate)
 - 2 [NRDA Field Team Check Lists](#)
 - 12 [Sample/Photo Log](#) Form printed on Rite in Rain paper
 - 4 [Daily field team forms](#)
 - 1 Rite in the Rain field note book
 - 1 Rite in the Rain ball point pen
 - 2 Sharpies
 - 1 ball point pen
 - 2 photo scales
 - 56 weatherproof [sample labels](#) (1 per sample jar)
 - 3 sheets on label sheets (10 each); 26 labels on Rite in the Rain paper
- Gloves (**see table below**)
- Ziploc/Trash bags
 - 1 bag assorted Ziploc (gallon and quart)
 - 3 kitchen size trash bags
 - 1 large black trash bags
- 1, 50' roll of aluminum foil
- 1 measuring tape (30+ m length)
- 1 roll paper towels
- Sample jars (**see table below**)
- 1 roll of clear packing tape
- 1 package (20) tongue depressors
- 1 container Wet-Ones wipes
- wooden spoons (**see table below**)

Sampling equipment (jars and per jar supplies)	Use	Total # wanted
Sampling jars (# and type)	Media sampling	56
4 oz VOA vials	BTEX in water	12
250 mL clear jars	Grab sediment, tarball	12
# of tongue depressors	1/jar, 250 mL	12
1 L amber jars, narrow mouth	Water	12
1 L amber jars, wide mouth	Composite sediment	12
# of wooden spoons	1/jar, 1 L wide-mouth	12
Sheen jars (250 mL clear; can be trace clean)	Sheen in water	8
12" fiberglass sheets each	4/jar sheen	32
Bubble wrap sleeves	1/jar all	56
Inner glove, wrist length (multiple size options)	2+ pair/ for non-water sample jar 1 pair/ water sample jar	100+;
Inner glove, S/M (boxes of 25 pairs)		50 (1+/jar)
Inner glove, L/XL (boxes of 25 pairs)		100 (2+/jar)
Outer gloves, elbow length (multiple sizes)	1 pair / water jar	12+
Elbow-length glove, S/M		4
Elbow-length glove, L/XL		8
Outer glove, shoulder-length (each size)	2 pairs per bin (each size)	4
shoulder-length glove, L/XL		2
shoulder-length glove, med		2

APPENDIX 5

CDFW-OSPR NRDA Sampling and Analysis Plan 'Template'