

# Health and Safety Plan

**Health and Safety Plan Plan  
Remedial Investigation/Feasibility Study  
and Interim Action  
Cap Sante Marine Lease Area  
Anacortes, Washington**

June 19, 2007

Prepared for

**Port of Anacortes  
Anacortes, WA**

 **LANDAU  
ASSOCIATES**  
130 2nd Avenue South  
Edmonds, WA 98020  
(425) 778-0907

# TABLE OF CONTENTS

	<u>Page</u>
1.0 INTRODUCTION	1
1.1 PURPOSE AND REGULATORY COMPLIANCE	1
1.2 CHAIN OF COMMAND	1
1.3 SITE WORK ACTIVITIES	2
1.4 SITE DESCRIPTION	2
2.0 HAZARD EVALUATION AND CONTROL MEASURES	3
2.1 TOXICITY OF CHEMICALS OF CONCERN	3
2.2 POTENTIAL EXPOSURE ROUTES	3
2.2.1 Inhalation	3
2.2.2 Skin Contact	3
2.2.3 Ingestion	4
2.3 HEAT STRESS AND HYPOTHERMIA	4
2.3.1 Heat Stress	4
2.3.2 Hypothermia	4
2.4 OTHER PHYSICAL HAZARDS	5
2.4.1 Slips/Falls	5
2.4.2 Machinery/Moving Parts	5
2.4.3 Confined Spaces	5
2.4.4 Noise	5
2.5 SEDIMENT SAMPLING	5
3.0 PROTECTIVE EQUIPMENT AND AIR MONITORING	7
3.1 PROTECTIVE EQUIPMENT	7
3.2 AIR MONITORING	7
4.0 SAFETY EQUIPMENT LIST	9
5.0 EXCLUSION AREAS	10
5.1 EXCLUSION ZONE	10
5.2 CONTAMINATION REDUCTION ZONE	10
5.3 SUPPORT ZONE	10
6.0 MINIMIZATION OF CONTAMINATION	11
7.0 DECONTAMINATION	12
8.0 DISPOSAL OF CONTAMINATED MATERIALS	13
9.0 SITE SECURITY AND CONTROL	14
10.0 SPILL CONTAINMENT	15
11.0 EMERGENCY RESPONSE PLAN	16
11.1 PLAN CONTENT AND REVIEW	16
11.2 PLAN IMPLEMENTATION	16
11.3 EMERGENCY RESPONSE CONTACTS	17
11.4 FIRES	17
11.5 PLAN DOCUMENTATION AND REVIEW	18
12.0 MEDICAL SURVEILLANCE	19

## LIST OF TABLES

Table   Title

C-1   Human Health Information for Chemicals of Concern

## LIST OF ATTACHMENTS

Attachment   Title

1            Emergency Information and Route to Hospital Map  
2            Certification

## **Site Health and Safety Plan Summary**

**Site Name:** Cap Sante Marine Site

**Location:** Anacortes, Washington

**Client:** Port of Anacortes

**Proposed Dates of Activities:** 2007, 2008

**Type of Facility:** A boatyard, marina support area, and a marine fueling facility

**Land Use of Area Surrounding Facility:** Commercial, industrial, and marine

**Site Activities:** Drilling soil boreholes, soil sampling, monitoring well installation, groundwater sampling, and sediment sampling

**Potential Site Contaminants:** chromium (Cr), copper (Cu), lead (Pb), carcinogenic polycyclic aromatic hydrocarbons (cPAHs), naphthalenes, polychlorinated biphenyls (PCBs), total petroleum hydrocarbons, and volatile organic compounds (VOCs),

**Routes of Entry:** Skin contact with soil, groundwater, or sediment; incidental ingestion of soil, water, or sediment; and inhalation of airborne droplets, dusts, or vapors

**Protective Measures:** Hard hat, safety glasses, gloves, protective clothing, steel-toed boots, personal flotation device if offshore

## 1.0 INTRODUCTION

This site-specific health and safety plan (HSP) addresses procedures to minimize the risk of chemical exposures, physical accidents to onsite workers, and environmental contamination.

### 1.1 PURPOSE AND REGULATORY COMPLIANCE

The HSP covers each of the required elements as specified in 29 CFR 1910.120 or equivalent Washington State Department of Labor and Industries regulations. When combined with the Landau Associates Health and Safety Program, this site-specific plan meets all applicable regulatory requirements.

This HSP will be made available to all Landau Associates' personnel and subcontractors involved in field work on this project. For subcontractors, this HSP represents minimum safety procedures. Subcontractors are responsible for their own safety while present onsite or conducting work for this project. Subcontractor work may involve safety and health procedures not addressed in the HSP. The HSP was originally prepared by a Certified Industrial Hygienist and has been reviewed by the Landau Associates' Corporate Health and Safety Officer. By signing the documentation form provided with this plan (Attachment 2), project workers also certify their agreement to comply with the plan. Both Landau Associates and its subcontractors are independently responsible for the health and safety of their own employees on the project.

### 1.2 CHAIN OF COMMAND

The Landau Associates chain of command for health and safety on this project involves the following individuals:

**Landau Associates' Task Manager:** Stacy Pischer

The Task Manager in conjunction with the Project Manager ( John Herzog of Herzog LLC) has overall responsibility for the successful outcome of the project. The Task Manager, in consultation with the contracted Certified Industrial Hygienist or Corporate Health and Safety (H&S) Manager and the Project Manager, makes final decisions regarding questions concerning the implementation of the site HSP.

**Landau Associates' Project H&S Coordinator:** To be determined

As the Project H&S Coordinator, this individual is responsible for implementing the HSP in the field. The Project H&S Coordinator informs subcontractors of the minimum requirements of this plan. This person will also assure that proper protective equipment is available and used in the correct manner,

decontamination activities are carried out properly, and that employees have knowledge of the local emergency medical system.

**Landau Associates' Corporate H&S Manager:** Chris Kimmel

The Landau Associates Corporate H&S Manager has overall responsibility for preparation and modification of this HSP. In the event that health and safety issues arise during site operations, the H&S Manager will attempt to resolve them in discussion with the appropriate members of the project team.

#### **Project Team Members**

Project team members are responsible for understanding the H&S requirements for this project, and implementing these procedures in the field. Team members will receive technical guidance from the Project H&S Coordinator.

### **1.3 SITE WORK ACTIVITIES**

This HSP covers field site activities to be conducted throughout the remedial investigation (RI) at the Cap Sante Marine site. The field activities associated with the RI include:

- Drilling shallow and deep boreholes
- Collection of soil samples
- Installation of shallow groundwater monitoring wells, including well development
- Collection of groundwater samples following installation of the monitoring wells
- Water level monitoring at the monitoring wells and in Fidalgo Bay and the Cap Sante Waterway.

Additional activities related to sediment sampling will also be performed. The field activities that may be associated with the Marine Area RI include:

- Collection of on shore and off shore surface sediment samples

### **1.4 SITE DESCRIPTION**

The site currently includes a boatyard, a marina support area, and a marine fueling facility, and traffic related to each of these.

## **2.0 HAZARD EVALUATION AND CONTROL MEASURES**

### **2.1 TOXICITY OF CHEMICALS OF CONCERN**

Based on previous site information and knowledge of the types of activities conducted at the site, the following chemicals may be present at this site: chromium (Cr), copper (Cu), lead (Pb), Zinc (Zn), carcinogenic polycyclic aromatic hydrocarbons (cPAHs), naphthalenes, polychlorinated biphenyls (PCBs), total petroleum hydrocarbons, and volatile organic compounds (VOCs).

Human health hazards of these chemicals are summarized in Table C-1. The information provided in this table covers potential toxic effects that might occur if relatively significant acute and/or chronic exposure occurred. However, this information does not indicate that such effects are likely to occur from the planned site activities. The chemicals that may be encountered at this site are not expected to be present at concentrations that could cause significant health hazards from short-term exposures. The types of planned work activities and use of monitoring procedures and protective measures will further limit potential exposures at this site.

Health standards are presented using the following abbreviations:

- PEL – Permissible exposure limit
- TWA – Time-weighted average exposure limit for any 8-hour work shift
- STEL – Short-term exposure limit expressed as a 15-minute time-weighted average and not to be exceeded at any time during a work day.

### **2.2 POTENTIAL EXPOSURE ROUTES**

#### **2.2.1 INHALATION**

Inhalation of dusts generated during soil sampling and drilling or sediment sampling could be an issue if the weather is dry, windy, or warm. Exposure via this route could potentially occur if chemicals are present in the soil or sediment and dust particles become airborne during site activities or if VOCs are liberated when samples are exposed to air or during drilling of soil boreholes.

#### **2.2.2 SKIN CONTACT**

Exposure via this route could occur if contaminated soil, groundwater, or sediment contacts the skin or clothing. Protective clothing and decontamination activities specified in this plan will minimize the potential for skin contact with the contaminants.



### **2.2.3 INGESTION**

Exposure via this route could occur if individuals eat, drink, or perform other hand-to-mouth contact in the contaminated (exclusion) zones. Decontamination procedures established in this plan will minimize the inadvertent ingestion of contaminants.

## **2.3 HEAT STRESS AND HYPOTHERMIA**

### **2.3.1 HEAT STRESS**

Use of impermeable clothing reduces the cooling ability of the body due to evaporation reduction. This may lead to heat stress. If such conditions occur during site activities, appropriate work-rest cycles will be utilized and water or electrolyte-rich fluids (Gatorade or equivalent) will be made available to minimize heat stress effects.

Also, when ambient temperatures exceed 70°F, monitoring of employee pulse rates will be conducted. Each employee will check his or her pulse rate at the beginning of each break period. Take the pulse at the wrist for 6 seconds, and multiply by 10. If the pulse rate exceeds 110 beats per minute, then reduce the length of the next work period by one-third.

Example: After a 1-hour work period at 80°F, a worker has a pulse rate of 120 beats per minute. The worker must shorten the next work period by one-third, resulting in a work period of 40 minutes until the next break.

### **2.3.2 HYPOTHERMIA**

Hypothermia can result from abnormal cooling of the core body temperature. It is caused by exposure to a cold environment and wind-chill. Wetness or water immersion can also play a significant role.

Typical warning signs of hypothermia include fatigue, weakness, lack of coordination, apathy, and drowsiness. A confused state is a key symptom of hypothermia. Shivering and pallor are usually absent, and the face may appear puffy and pink. Body temperatures below 90°F require immediate treatment to restore temperature to normal.

Current medical practice recommends slow re-warming as treatment for hypothermia, followed by professional medical care. This can be accomplished by moving the person into a sheltered area and wrapping with blankets in a warm room. In emergency situations, where body temperature falls below 90°F and heated shelter is not available, use a sleeping bag, blankets, and body heat from another individual to help restore normal body temperature.

## **2.4 OTHER PHYSICAL HAZARDS**

### **2.4.1 SLIPS/FALLS**

As with all field work sites, caution will be exercised to prevent slips on rain slick surfaces, stepping on sharp objects, etc. Work will not be performed on elevated platforms without fall protection. With offshore work, there is a possibility of falling overboard. When possible, personnel will stand well in from the edges of the deck. Personal flotation devices will be worn at all times when on a vessel. At least one person with current training in first aid and CPR will be onsite at all times.

### **2.4.2 MACHINERY/MOVING PARTS**

The drilling equipment or sampling vessel may be equipped with various winches, motors, booms, and other machines. These present a general physical hazard from moving parts. Personnel will stand clear of machinery at all times unless specific instructions are given by the drill rig operator, vessel skipper, or other person in authority. Steel-toed shoes or boots will be worn at all times when on the site or on the vessel. When possible, appropriate guards will be in place during equipment use.

Lifting equipment used to raise and lower sediment sampling equipment may also present a physical hazard. Field personnel should be careful to keep loose clothing, hands, and feet away from winches and capstones. Sampling equipment, especially grab samplers, can present a severe pinch hazard and personnel must make sure they understand how the device works before operating it.

### **2.4.3 CONFINED SPACES**

Confined space entry is not anticipated for this project. Personnel will not enter any confined space without specific approval of the Project Manager, Task Manager, and Corporate H&S Manager.

### **2.4.4 NOISE**

Appropriate hearing protection (ear muffs or ear plugs with a noise reduction rating of at least 20 dBA) will be used if individuals work near high-noise generating equipment (> 85 dBA). Determination of the need for hearing protection will be made by the Project H&S Coordinator.

## **2.5 SEDIMENT SAMPLING**

All sediment sampling activities conducted from boats will be conducted using basic principles of water safety, including:

- Use Coast Guard-approved life jackets for all offshore activities
- Avoid standing near edge of boat
- Secure workers with lifeline if work must be conducted over edge
- Avoid sampling on stormy days or when seas are high
- Use caution when transferring from land to sea; make sure barges and boats are firmly secured to dock or pier before boarding or disembarking
- Wear hard hats and appropriate personal protective equipment in exclusion areas.

## **3.0 PROTECTIVE EQUIPMENT AND AIR MONITORING**

### **3.1 PROTECTIVE EQUIPMENT**

Work for this project will be conducted in Level D protection. Level C protection is presented as a contingency only and represents a modified protection level, incorporating respiratory protection only where required by site conditions. Situations requiring Levels A or B protection are not anticipated for this project; should they occur, work will stop and the HSP will be amended, as appropriate, prior to resuming work.

Workers performing general site activities where skin contact with highly contaminated materials is unlikely and inhalation risks are not expected will wear coveralls, eye protection, gloves (whenever handling samples), and safety boots. Offshore activities require use of a Coast Guard-approved life jacket. Level D protection will consist of the following:

- Hard hats
- Rain gear or poly-coated Tyvek (wet operations) or uncoated Tyvek (dry operations)
- Safety glasses
- Steel-toed, chemical-resistant boots
- Nitrile, neoprene, or equivalent inner and outer gloves.

Workers performing site activities where heavily contaminated materials are detected will wear chemical-resistant gloves (nitrile, neoprene, or other appropriate outer and inner gloves) and coated Tyvek or other chemical-resistant suits. Workers will use face shields or goggles, as necessary, to avoid splashes.

When performing activities in which inhalation of chemical vapors and dusts is a concern, workers will wear half-mask or full-face air-purifying respirators with combination cartridges. Cartridges should be changed on a daily basis, at a minimum. They should be changed more frequently if chemical vapors are detected inside the respirator or other symptoms of breakthrough are noted (e.g., irritation, dizziness, breathing difficulty).

### **3.2 AIR MONITORING**

Direct reading instruments give immediate, real time readings of contaminant levels. Reliable direct reading instruments, such as the combustible gas indicator, photoionization detector (PID), flame ionization detector, and colorimetric tubes, are available for situations commonly encountered at hazardous and contaminated substance sites. The appropriate type of monitoring equipment depends on

the suspected type and concentration of chemical contaminants. The primary limitation of direct reading instruments is that most do not quantify specific chemical compounds.

Air monitoring for VOCs will be conducted during drilling or other intrusive activities. A PID will be used to monitor for VOCs (Table C-1). The instrument will be calibrated prior to each day's activity according to manufacturer's instructions. Calibration will be recorded in the health and safety logbook or field notes. Readings shall be entered into the logbook at a minimum of 30-minute intervals.

## 4.0 SAFETY EQUIPMENT LIST

The following safety equipment must be available onsite:

- First aid kit
- Mobile telephone
- Steel-toed safety boots
- Chemical-resistant coveralls and gloves
- Safety glasses
- Hard hat
- Life jackets (during offshore activities only)
- Air monitoring instruments (during onshore activities only)
- Half-face respirator with cartridges.

## **5.0 EXCLUSION AREAS**

If migration of chemicals from the work area is a possibility, or as otherwise required by regulations or client specifications, site control will be maintained by establishing clearly identified work zones. These will include the exclusion zone, contaminant reduction zone, and support zone, as discussed below.

### **5.1 EXCLUSION ZONE**

Exclusion zones will be established around each contaminated substance activity location. Only persons with appropriate training and authorization from the Project H&S Coordinator will enter this perimeter while work is being conducted.

### **5.2 CONTAMINATION REDUCTION ZONE**

A contamination reduction zone will consist of a decontamination station that must be used to exit the exclusion zone. The station will have the brushes and wash fluids necessary to decontaminate personnel and equipment leaving the exclusion zone. Care will be taken to prevent the spread of contamination from this area.

### **5.3 SUPPORT ZONE**

A support zone will be established outside the contamination reduction area to stage clean equipment, don protective clothing, take rest breaks, etc. For sediment sampling conducted from a vessel, this zone will include the cabin of the vessel.

## **6.0 MINIMIZATION OF CONTAMINATION**

To make the work zone procedure function effectively, the amount of equipment and number of personnel allowed in contaminated areas must be minimized. In addition, the amounts of sample collected should not exceed what is needed for laboratory analysis and record samples. Do not kneel on contaminated ground, stir up unnecessary dust, or perform any practice that increases the probability of hand-to-mouth transfer of contaminated materials. Eating, drinking, chewing gum, smoking, or using smokeless tobacco are forbidden in the exclusion zone.



## 7.0 DECONTAMINATION

Decontamination is necessary to limit the migration of contaminants from the work zone(s) onto the site or from the site into the surrounding environment. Equipment and personnel decontamination are discussed in the following sections, and the following types of equipment will be available to perform these activities:

- Boot and glove wash bucket and rinse bucket
- Scrub brushes – long handled
- Spray rinse applicator
- Plastic garbage bags
- 5-gallon container with soap solution.

Proper decontamination (decon) procedures will be employed to ensure that contaminated materials do not contact individuals and are not spread from the site. These procedures will also ensure that contaminated materials generated during site operations and during decontamination are managed appropriately. All nondisposable equipment will be decontaminated in the contamination reduction zone.

Personnel working in exclusion zones will perform a limited decontamination in the contamination reduction zone prior to changing respirator cartridges (if worn), taking rest breaks, drinking liquids, etc. They will decontaminate fully before eating lunch or leaving the site. The following describes the procedures for decon activities:

1. In the contamination reduction zone, wash and rinse outer gloves and boots in portable buckets.
2. Inspect protective outer suit, if worn, for severe contamination, rips, or tears.
3. If suit is highly contaminated or damaged, full decontamination will be performed.
4. Remove outer gloves. Inspect and discard if ripped or damaged.

## **8.0 DISPOSAL OF CONTAMINATED MATERIALS**

All disposable sampling equipment and personal protective equipment will be rinsed to remove gross contamination and placed inside of a 10 mil polyethylene bag or other appropriate containers. These disposable supplies and containers will be removed from the site by the field personnel and disposed of in a normal refuse container (dumpster) and/or solid waste landfill, unless visibly contaminated with hazardous substances. In such cases, the Project Manager and/or Task Manager will determine the need for special handling and disposal, according to applicable regulations.

## **9.0 SITE SECURITY AND CONTROL**

Site security and control will be the responsibility of the Project H&S Coordinator. The “buddy-system” will be used when working in designated hazardous areas. Any security or control problems will be reported to the client or appropriate authorities.

## **10.0 SPILL CONTAINMENT**

Sources of bulk chemicals subject to spillage are not expected to be used in this project. Accordingly, a spill containment plan is not required for this project.

## **11.0 EMERGENCY RESPONSE PLAN**

The Emergency Response Plan outlines the steps necessary for appropriate response to emergency situations. The following paragraphs summarize the key Emergency Response Plan procedures for this project.

### **11.1 PLAN CONTENT AND REVIEW**

The principal hazards addressed by the Emergency Response Plan include the following: fire or explosion, medical emergencies, uncontrolled contaminant release, and situations such as the presence of chemicals above exposure guidelines or inadequate protective equipment for the hazards present. However, in order to help anticipate potential emergency situations, field personnel should always exercise caution and look for signs of potentially hazardous situations, including the following as examples:

- Visible or odorous chemical contaminants
- Drums or other containers
- General physical hazards (e.g., traffic, cranes, moving equipment, ships, sharp or hot surfaces, slippery or uneven surfaces)
- Possible sources of radiation
- Live electrical wires or equipment; underwater pipelines or cables; and poisonous or dangerous animals.

These and other potential problems should be anticipated and steps taken to avert problems before they occur. All personnel will certify (Attachment 2) that they are familiar with the contents of this plan and acknowledge their agreement to comply with the provisions of the plan.

The Emergency Response Plan will be reviewed during the onsite health and safety briefing so that all personnel will know what their duties are should an emergency occur.

### **11.2 PLAN IMPLEMENTATION**

The Project H&S Coordinator will act as the lead individual in the event of an emergency situation and evaluate the situation. This individual will determine the need to implement the emergency procedures, in concert with other resource personnel including client representatives, and the Corporate H&S Manager. Other onsite field personnel will assist the H&S Coordinator as required during the emergency.

If the Emergency Response Plan is implemented, the Project H&S Coordinator or designees are responsible for alerting all personnel at the affected area by use of a signal device (such as a hand-held air horn), visual, or shouted instructions, as appropriate.

Emergency evacuation routes and safe assembly areas will be identified and discussed in the onsite health and safety briefing, as appropriate. The buddy-system will be employed during evacuation to ensure safe escape, and the Project H&S Coordinator will be responsible for roll-call to account for all personnel.

### **11.3 EMERGENCY RESPONSE CONTACTS**

Site personnel must know whom to notify in the event of Emergency Response Plan implementation. The following information will be readily available at the site in a location known to all workers:

- Emergency Telephone Numbers: see list in Attachment 1
- Route to Nearest Hospital: see directions and map in Attachment 1
- Site Descriptions: see the description at the beginning of this plan
- If a significant environmental release of contaminants occurs, the federal, state, and local agencies noted in this plan must be notified within 24 hours. Contact the Project Manager as soon as possible and he/she will be responsible for notifying agencies listed in Attachment 1. If the release to the environment includes navigable waters, also notify the National Response Center.

In the event of an emergency situation requiring implementation of the Emergency Response Plan (e.g., fire or explosion, serious injury, tank leak or other material spill, presence of chemicals above exposure guidelines, inadequate personnel protection equipment for the hazards present), cease all work immediately. Offer whatever assistance is required, but do not enter work areas without proper protective equipment. Workers not needed for immediate assistance will decontaminate per normal procedures (if possible) and leave the work area, pending approval by the Project H&S Coordinator for re-start of work. The following general emergency response safety procedures should be followed.

### **11.4 FIRES**

Landau Associates personnel will attempt to control only very small fires. If an explosion appears likely, evacuate the area immediately. If a fire occurs that cannot be readily controlled, then immediate intervention by the local fire department or other appropriate agency is imperative. Use these steps:

- If aboard a vessel, abandon the vessel, using life rafts or swimming, to reach a previously agreed-upon upwind location; exit the water as quickly as possible to minimize the risk of hypothermia
- Contact fire agency identified in the site-specific plan
- Inform Project Manager/Project H&S Coordinator of the situation.

Contact 911 if a medical emergency occurs. If a worker leaves the site to seek medical attention, another worker should accompany the patient. When in doubt about the severity of an accident or exposure, always seek medical attention as a conservative approach. Notify the Project Manager of the outcome of the medical evaluation as soon as possible. For minor cuts and bruises, an onsite first aid kit will be available.

If a worker is seriously injured or becomes ill or unconscious, immediately request assistance from the emergency contact sources noted in the site-specific plan. Do not attempt to assist an unconscious worker in an untested confined space without applying confined space entry procedures or without using proper respiratory protection, such as a self-contained breathing apparatus.

In the event that a seriously injured person is also heavily contaminated, use clean plastic sheeting to prevent contamination of the inside of the emergency vehicle. Less severely injured individuals may also have their protective clothing carefully removed or cut off before transport to the hospital. If it is deemed appropriate to transport the victim to the hospital, follow the route map on Attachment 1.

## **11.5 PLAN DOCUMENTATION AND REVIEW**

The Project Manager/Project H&S Coordinator will notify the Corporate H&S Manager as soon as possible after an emergency situation has been stabilized. The Project Manager will also notify the appropriate client contacts, and regulatory agencies, if applicable. If an individual is injured, the Project Manager will file a detailed Accident Report with the Corporate H&S Manager within 24 hours.

The Project Manager and Corporate H&S Manager will critique the emergency response action following the event. The results of the critique will be used in to improve future Emergency Response Plans and actions.

## **12.0 MEDICAL SURVEILLANCE**

A medical surveillance program has been instituted for Landau Associates and will also be in effect for Subcontractor employees having exposures to hazardous substances. For Landau Associates, exams are given before employment; annually, thereafter; and upon termination. Content of exams is determined by the Occupational Medicine physician, in compliance with applicable regulations, and is detailed in the Landau Associates General Health and Safety Program.

Each team member will have undergone a physical examination as noted above in order to verify that he/she is physically able to use protective equipment, work in hot environments, and not be predisposed to occupationally induced disease. Additional exams may be needed to evaluate specific exposures or unexplainable illness.



**TABLE C-1  
HUMAN HEALTH INFORMATION FOR CHEMICALS OF CONCERN**

<b>Contaminant</b>	<b>PEL (ppm)</b>	<b>IDLH (ppm)</b>	<b>Route of Exposure</b>	<b>Symptoms of Acute Exposure</b>	<b>Instruments Used to Monitor Contaminant</b>
Total Petroleum Hydrocarbons	N/A	Unknown	Inhalation, ingestion, dermal contact	Skin and mucous membrane irritation; dizziness, nausea	Olfactory, visual, photoionization detector (PID)
Polychlorinated biphenyls	0.5 mg/m <sup>3</sup>	5.0 mg/m <sup>3</sup>	Inhalation, ingestion, dermal contact	Irritated eyes, nose, and throat; skin irritation including burning, itching, redness; vomiting, jaundice, abdominal pain, and fatigue.	Visual (dust)
Chromium	1 mg/m <sup>3</sup>	250 mg/m <sup>3</sup>	Inhalation, ingestion, dermal contact	Irritated eyes and skin	Visual (dust)
Copper	1.0 mg/m <sup>3</sup>	100 mg/m <sup>3</sup>	Inhalation, ingestion, dermal or eye contact	Respiratory irritation, vomiting, skin irritation	Visual (dust)
Lead	0.05 mg/m <sup>3</sup>	100 mg/m <sup>3</sup>	Inhalation, ingestion, dermal contact	Weakness, lassitude, facial pallor	Visual (dust)
Carcinogenic Polycyclic Aromatic Hydrocarbons	N/A	Unknown	Inhalation, ingestion, dermal and eye contact	Nausea, vomiting, low blood pressure, abdominal pain, convulsions, and coma	Visual (dust)
Benzene	1 ppm	500 ppm	Inhalation, ingestion, dermal or eye contact	Skin, nose, throat irritation; dizziness, vomiting	PID
Toluene	100 ppm	500 ppm	Inhalation, ingestion, dermal contact	Skin, nose, throat irritation; dizziness, vomiting	PID
Ethylbenzene	100 ppm	800 ppm	Inhalation, ingestion, dermal and eye contact	Eye, skin, mucous membrane irritation; headache, narcosis	PID
Xylenes	100 ppm	900 ppm	Inhalation, ingestion, dermal or eye contact	Skin, nose, eye, throat irritation; dizziness, drowsiness, excitement, vomiting, abdominal pain	PID
VOCs (as solvents- Benzene as the indicator contaminant)	1 ppm	500 ppm	Inhalation, ingestion, adsorption, and dermal or eye contact	Skin, nose, throat irritation; dizziness, vomiting	PID/ Benzene Draeger tubes
Naphthalene	10 ppm	250 ppm	Inhalation, ingestion, adsorption, and dermal or eye contact	Skin, nose, eye, irritation; dizziness; drowsiness; dermatitis	Visual (dust)

**Notes:**

OSHA ceiling value not to be exceeded during any part of the working day

PEL = Permissible exposure limit.

IDLH = Immediately dangerous to life and health (NIOSH).

N/A = Not applicable.

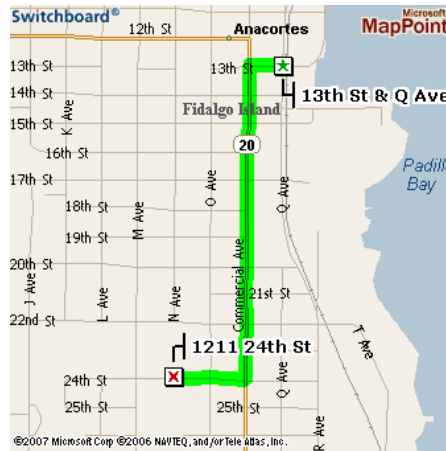
DNA = Data not available.

# ATTACHMENT 1 EMERGENCY INFORMATION

HOSPITAL                      Island Hospital  
   1211 24<sup>th</sup> Street  
   Anacortes, Washington 98221  
   Information: (360) 299-1300

## DIRECTIONS:

1. Determine your location and call 911 if the situation warrants.
2. If the situation is not an emergency, but medical attention is required, get to your vehicle parked at the site and:
  - Start out going WEST on 13TH ST toward Q AVE (0.1 mile).
  - Turn LEFT onto COMMERCIAL AVE / WA-20 SPUR (0.6 mile).
  - Turn RIGHT onto 24TH ST (<0.1 mile).
  - End at Island Hospital (estimated time 3 minutes).



TELEPHONE – Cellular telephones to be carried by each team on/off shore.

EMERGENCY TRANSPORTATION SYSTEMS (Fire, Police, Ambulance) – **911**

EMERGENCY ROUTES – See map above

EMERGENCY CONTACTS –

Poison Control Center:	(800) 222-1222
Project Manager – John Herzog	(206) 406-6431
Corporate H&S Manager – Chris Kimmel	(425) 778-0907
Port of Anacortes Contact – Connie Thoman	(360) 299-1818
National Response Center:	(800) 424-8802
Washington Division of Emergency Management	(800) 258-5990
U.S. Coast Guard	(800) 982-8813

In the event of an uncontrolled emergency, call for help as soon as possible. Dial **911**; give the following information:

- WHERE the emergency is – use cross streets or landmarks
- PHONE NUMBER you are calling from
- WHAT HAPPENED – type of injury
- HOW MANY persons need help
- WHAT is being done for the victim(s)
- YOU HANG UP LAST – let the person you called hang up first.

