

10.0 General Site Health and Safety Procedures

10.1 Site Security

Herrera SHSO is responsible for monitoring entry onto active areas of the site and for knowing who is on-site at all times.

- Work site area perimeter identification method (describe equipment and procedures to be used): Sediment and shellfish sampling equipment and one to three boats will be used for sample collection. Field activity will be performed in an isolated area open to the public. The boat tenders and other field personnel will be aware of visitors and keep the general public away from the sampling area.
- Work area security (on- and off-hours) used: Herrera SHSO will monitor site access within the sediment processing work zone. Boat captains will monitor areas surrounding the vessels during sediment collection.
- Work will be done around heavy equipment (e.g. drill rig, backhoe, etc.): (Yes/No): Yes
If yes, describe: Both the vibracore equipment used to collect cores and surface sediment samplers will involve use of davits/yardarms on boats that swing across the deck. Crew members must be aware of swinging equipment during use.
- Work will be done in or adjacent to a road, street or highway: (Yes/No): No
If yes, describe:
- Reflective vests will be worn around heavy equipment or when working in or around traffic.
- Prior to working on-site, a general inspection of hazards will be made by the Site Health and Safety Officer.
- If an onsite command post is necessary, ensure that it is located upwind from source areas, given prevailing winds, and locate/identify on Site Map (p.7).
- Onsite personnel must be able to call offsite via a telephone within 150 feet of work.
- Designate at least one vehicle for emergency use.

10.2 Work Limitations and Restrictions

- Be aware of unstable conditions associated with rocking boats.
- No eating or drinking is allowed in the area of work.
- No smoking or lighting of matches or lighters is allowed in the area of work.
- No rings, watches, bracelets, necklaces, or other jewelry that could trap chemical contamination or get caught in moving equipment.
- Buddy system at all times when working around heavy equipment.

10.3 Perimeter Identification and Personal Protection Equipment

To protect workers from potential contaminants in sample media, protective clothing will be worn during sampling activities. Protective clothing will be discarded or decontaminated between uses.

10.3.1 Level of Protection

- **Level D** - No respiratory protection. Safety glasses, hard hat, steel-toe boots, long-sleeved shirt and pants. Hearing protection, gloves, and other PPE as required.

10.3.2 Work Zone Boundaries

This job will require one or all of the following “zones” or “boundaries” to be established during work.

- **a. Exclusion Zone** - Required when workers within that zone must wear PPE (usually Level B or C).
- **b. Contamination Reduction Zone** - Required when decontamination of people and equipment leaving the Exclusion Zone is required (usually Level B or C).
- **c. Support Zone** - the location where administrative and other support activities are conducted (usually Level B or C).

- **d. Work Area Boundary** - Excludes non-workers from entering a potentially hazardous environment (usually Level B, C, or D).

10.4 Heat and Cold Stress

The Herrera SHSO will monitor weather broadcasts before the start of outdoor work each day, and more frequently as necessary. No work will be done outdoors during hazardous weather conditions (e.g. lightning storms).

For Heat Stress:

- For temperatures above 75°F, each person will take their pulse at rest. At breaks, the pulse should be less than 110 beats per minute after one minute. Before returning to work, the pulse should be no more than 10 beats greater than the resting pulse.
- If the air temperature is greater than 95°F, work should be done for 30 minutes with a rest break of 10 minutes for Level 'D'. At least 8 ounces (1 cup) of cool water, Gatorade-type drink, or dilute fruit juice should be consumed at each rest break or at least one cup every 20 minutes.
- Work should stop if any of the following symptoms occur: muscle spasm and/or pain in the limbs or abdomen (heat cramps); weak pulse, heavy sweating, dizziness, and/or fatigue (heat exhaustion); or rapid pulse, no sweating, nausea, dizziness, and/or confusion (heat stroke). Provide First Aid immediately.
- Use sunscreen on unprotected skin to protect against ultraviolet exposure as necessary.

For Cold Stress:

- For temperatures below 40°F, adequate insulating clothing must be worn. If the temperature is below 20°F, workers will be allowed to enter a heated shelter at regular intervals. Warm sweet drinks should be available. Coffee intake should be limited.
- No one should begin work or return to work from a heated shelter with wet clothes. Workers should be aware of signs of cold stress such as heavy shivering, pain in the fingers or toes, drowsiness, or irritability. Onsets of any of these signs are indications for immediate return to a heated shelter.

10.5 Noise

A noise hazard exists when working in the immediate vicinity of heavy machinery operations. In addition to the potential for hearing damage, noise may interfere with critical communication and recognition of other potential hazards at the work site, such as moving vehicles. To minimize potential injuries, field employees will utilize hearing protection devices, (ear plugs, headphones), as necessary, and maintain a high level of alertness at all times.

11.0 Decontamination

Following are the decontamination procedures that will be employed to prevent contamination of personnel and to prevent cross contamination of sampling equipment during the collection of samples.

11.1 Personnel Decontamination

Decon Solutions:	Soap and tap water
Decon Method:	Remove and dispose of Tyvek, rain suits, or coveralls; clean boots (if muddy) with water from the bay and tap water; remove and dispose gloves; wash and rinse hands and face with soap and water.
Exposure Monitoring:	None
Level of Protection:	D
Location:	Support zone (work zone c)

11.2 Sampling Equipment Decontamination

Decon Solutions:	Liquinox detergent and distilled water
Decon Method:	<u>Bowls and spoons</u> - Scrub with Liquinox/water solution, rinse with site water, rinse with distilled water. <u>Shovels and other digging equipment</u> – Scrub with Liquinox/water solution, rinse with site water.
Exposure Monitoring:	None
Level of Protection:	D
Location:	Support zone (work zone c) Bowls and spoons – at the site. Shovels and other digging equipment – at the site.

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12.0 Waste Characteristics

12.1 Waste Generation

Waste Anticipated (Yes/No): Yes

Waste Type	Description	Quantity
Solid	Excess core sediment stored in drums.	< 5 drums
Liquid	Decon water disposed in bay.	
Sludge	None.	
Incidental	Disposable gloves and paper towels will be placed in a trash bag and disposed with general refuse.	10 bags
Other	Residual sediment from surface sediment sampling equipment will be rinsed over the side of the boat.	residual amount on sampling equipment

12.2 Expected Health Characteristics

Corrosive _____ Flammable/Ignitable _____ Radioactive _____
 Toxic X _____ Reactive _____ Unknown _____
 Explosive _____ Medical/Pathogenic _____ Carcinogenic X _____
 Other (specify) _____

12.3 Packaging Requirements for Waste Material

Open head 55-gallon drum: Excess sediment.

Plastic trash bag: Incidental refuse.

Other:

12.4 Disposal and/or Treatment Methods Proposed

Waste	Disposal and/or Treatment
Plastic trash bags of incidental refuse.	Municipal waste dumpster.
Sediment	Permitted waste facility.

13.0 Employee Training and Medical Clearance

The following is a summary of training information for personnel who will perform work on the site. Copies of personnel training certificates are presented in Attachment 3.

1. Name Brady Hanson Title Geologist Approved PPL C

Field Responsibilities: Herrera Site Health and Safety Officer

Training	Dates (Month/Year)
Current 8-Hour Refresher	9/07
40-Hour Hazardous Waste	8/00
Supervisor	
First Aid; CPR	10/07 (both)
Medical Clearance	
Other	

2. Name Gina Catarra Title Chemist Approved PPL C

Field Responsibilities: Sample collection / processing

Training	Dates (Month/Year)
Current 8-Hour Refresher	1/08
40-Hour Hazardous Waste	12/02
Supervisor	
First Aid; CPR	8/07; 8/07
Medical Clearance	
Other	

3. Name Bruce Carpenter Title Sr. Hydrogeologist Approved PPL C

Field Responsibilities: Sample collection / processing

Training	Dates (Month/Year)
Current 8-Hour Refresher	10/07
40-Hour Hazardous Waste	12/87
Supervisor	2/90
First Aid; CPR	8/07; 8/07
Medical Clearance	
Other	

4. Name George Iftner Title Geologist Approved PPL C

Field Responsibilities: Sample collection

Training	Dates (Month/Year)
Current 8-Hour Refresher	9/07
40-Hour Hazardous Waste	4/98
Supervisor	
First Aid; CPR	2/06; 2/06
Medical Clearance	
Other	

14.0 Health and Safety Plan — Acknowledgement and Agreement Form

The following field personnel have read this health and safety plan and understand the potential and actual hazards present on the site and shall abide by its strictures.

Name	Signature	Company	Date
Name	Signature	Company	Date
Name	Signature	Company	Date
Name	Signature	Company	Date
Name	Signature	Company	Date
Name	Signature	Company	Date
Name	Signature	Company	Date
Name	Signature	Company	Date
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Name	Signature	Company	Date

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ATTACHMENT 1

Injury/Exposure Report and Site Incident Report

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Injury/Exposure Report

(Attach additional documentation as necessary)

DATE OF INCIDENT: _____ CASE NO. _____ TIME OF DAY _____
EMPLOYEE NAME _____ DATE OF BIRTH _____
HOME ADDRESS _____ PHONE NO. _____
SEX MALE ___ FEMALE ___ AGE ___ JOB TITLE _____ SOCIAL SECURITY NO. _____
OFFICE LOCATION _____ DATE OF HIRE _____

WHERE DID INCIDENT OCCUR? (INCLUDE ADDRESS) _____

ON EMPLOYER'S PREMISES? YES ___ NO ___ PROJECT NAME/NO. _____

WHAT WAS EMPLOYEE DOING WHEN INCIDENT OCCURRED? (BE SPECIFIC) _____

HOW DID THE INCIDENT OCCUR? (DESCRIBE FULLY)

WHAT STEPS COULD BE TAKEN TO PREVENT SUCH AN INCIDENT?

OBJECT OR SUBSTANCE THAT DIRECTLY CAUSED INCIDENT? _____

DESCRIBE THE INJURY OR EXPOSURE _____ PART OF BODY AFFECTED _____

NAME AND ADDRESS OF PHYSICIAN _____

IF HOSPITALIZED, NAME AND ADDRESS OF HOSPITAL _____

LOSS OF ONE OR MORE DAYS OF WORK? YES ___ NO ___ IF YES, DATE LAST WORKED _____

HAS EMPLOYEE RETURNED TO WORK? YES ___ NO ___ IF YES, DATE RETURNED _____

DID EMPLOYEE DIE? YES ___ NO ___ IF YES, DATE _____

COMPLETED BY (PRINT) _____ EMPLOYEE SIGNATURE _____
(Supervisor or Site Health & Safety Officer)

DATE _____

SIGNATURE _____ PIC SIGNATURE _____

DATE _____ DATE _____

This report must be completed by the employee's supervisor or Site Health and Safety Officer immediately upon learning of the incident. The completed report must be reviewed and signed by the Principal-in-Charge and transmitted to Corporate Health and Safety Officer within 24 hours of the incident, even if employee is not available to review and sign. Employee or employee's doctor must submit a copy of the doctor's report to Corporate Health and Safety Officer within 24 hours of the initial exam and any subsequent exams. For field injuries, submit a copy of the Health and Safety Plan.

ATTACHMENT 2

Daily Tailgate Health and Safety Meeting Form

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Daily Tailgate Safety Meeting Form

FIRST DATE OF ACTIVITY: _____ TIME: _____ SITE LOCATIONS: _____

1. Discussed activities planned for the day
2. Individual activities are clear to each crew member
3. Chemical hazards discussed
 - a. Action levels are known and understood
 - b. Frequency and procedures for air monitoring are known and understood
4. Physical hazards discussed

a. <input type="checkbox"/> Heat stress	e. <input type="checkbox"/> Overhead utilities
b. <input type="checkbox"/> Cold stress	f. <input type="checkbox"/> Underground utilities
c. <input type="checkbox"/> Slip, trip, and fall hazards	g. <input type="checkbox"/> Moving and emptying drums
d. <input type="checkbox"/> Drilling operations	
5. Personal protective equipment (PPE) discussed
 - a. Head protection (hard hat)
 - b. Eye protection (safety glasses must have side shields)
 - c. Hearing protection (at all times drill rig is in operation and when in close proximity to flight line)
 - d. Foot protection (steel toes and shanks for work boots)
 - e. Splash (solvent rinse)
 - f. Gloves
 - i. Chemical hazard (diluting standards for GC)
 - ii. Environmental conditions (cold)
 - iii. Protection against cross-contamination (disposal after each use)
 - iv. Physical hazard (cut, puncture, and abrasion)
6. Decon procedures discussed

a. <input type="checkbox"/> Drilling equipment	b. <input type="checkbox"/> Sampling equipment
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7. Emergency procedures discussed
 - a. Route to hospital from site locations(s) above
 - b. Evacuation procedures
 - c. Cellular phone, map to hospital, first aid kit, and eyewash with onsite geologist
8. Special conditions/procedures

a. <input type="checkbox"/> Escort required	b. <input type="checkbox"/> Locked gates, permits, passes, etc.
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9. Questions/concerns addressed
10. Other

Meeting attended by (sign and date for each day of work on site; **USE BACK IF ADDITIONAL SPACE IS REQUIRED**):

(Print Name)	(Signature)	(Date)
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Meeting conducted by: _____ (Title) _____