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: Bowls and spoons - Scrub with Liquinox/water solution, rinse with site water, rinse with distilled water.

Shovels and other digging equipment – 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.
12.0 Waste Characteristics

12.1 Waste Generation

Waste Anticipated (Yes/No): Yes

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

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

<table>
<thead>
<tr>
<th>Waste</th>
<th>Disposal and/or Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plastic trash bags of incidental refuse.</td>
<td>Municipal waste dumpster.</td>
</tr>
<tr>
<td>Sediment</td>
<td>Permitted waste facility.</td>
</tr>
</tbody>
</table>
# 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.

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>1. Name</td>
<td>Brady Hanson</td>
<td>Title</td>
<td>Geologist</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Approved PPL C</td>
</tr>
<tr>
<td>Field Responsibilities:</td>
<td>Herrera Site Health and Safety Officer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td>Dates (Month/Year)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current 8-Hour Refresher</td>
<td>9/07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>40-Hour Hazardous Waste</td>
<td>8/00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supervisor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First Aid; CPR</td>
<td>10/07 (both)</td>
<td></td>
<td></td>
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<tr>
<td>Medical Clearance</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Other</td>
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</thead>
<tbody>
<tr>
<td>2. Name</td>
<td>Gina Catarra</td>
<td>Title</td>
<td>Chemist</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Approved PPL C</td>
</tr>
<tr>
<td>Field Responsibilities:</td>
<td>Sample collection / processing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td>Dates (Month/Year)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current 8-Hour Refresher</td>
<td>1/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>40-Hour Hazardous Waste</td>
<td>12/02</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supervisor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First Aid; CPR</td>
<td>8/07; 8/07</td>
<td></td>
<td></td>
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<tr>
<td>Medical Clearance</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Other</td>
<td></td>
<td></td>
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</tbody>
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<th></th>
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</thead>
<tbody>
<tr>
<td>3. Name</td>
<td>Bruce Carpenter</td>
<td>Title</td>
<td>Sr. Hydrogeologist</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Approved PPL C</td>
</tr>
<tr>
<td>Field Responsibilities:</td>
<td>Sample collection / processing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td>Dates (Month/Year)</td>
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<td></td>
</tr>
<tr>
<td>Current 8-Hour Refresher</td>
<td>10/07</td>
<td></td>
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<tr>
<td>40-Hour Hazardous Waste</td>
<td>12/87</td>
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</tr>
<tr>
<td>Supervisor</td>
<td>2/90</td>
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<tr>
<td>First Aid; CPR</td>
<td>8/07; 8/07</td>
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<td>Medical Clearance</td>
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<td>Other</td>
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</tbody>
</table>
4. Name  George Iftner  Title  Geologist  Approved PPL  C

Field Responsibilities: Sample collection

<table>
<thead>
<tr>
<th>Training</th>
<th>Dates (Month/Year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current 8-Hour Refresher</td>
<td>9/07</td>
</tr>
<tr>
<td>40-Hour Hazardous Waste</td>
<td>4/98</td>
</tr>
<tr>
<td>Supervisor</td>
<td></td>
</tr>
<tr>
<td>First Aid; CPR</td>
<td>2/06; 2/06</td>
</tr>
<tr>
<td>Medical Clearance</td>
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<tr>
<td>Other</td>
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</tbody>
</table>
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.

<table>
<thead>
<tr>
<th>Name</th>
<th>Signature</th>
<th>Company</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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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 __________________________ PHONE NO. __________________________
HOME ADDRESS ___________________________ SOCIAL SECURITY NO. __________________________
SEX MALE _____ FEMALE _____ AGE _____ JOB TITLE __________________________
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) __________________________ __________________________
(Supervisor or Site Health & Safety Officer)
EMPLOYEE SIGNATURE __________________________ 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.
Site Incident Report
(Attach additional documentation as necessary)

DATE OF INCIDENT: ____________________ TIME OF INCIDENT: ____________________

LOCATION OF INCIDENT: _______________________________________________________

PROJECT NAME: __________________________________ PROJECT NO.: __________________

TYPE OF INCIDENT* (CHECK THOSE THAT APPLY):

___ "NEAR MISS" ___ VEHICLE ACCIDENT
___ UNDERGROUND PROPERTY DAMAGE ___ FIRE
___ ABOVE-GROUND PROPERTY DAMAGE ___ EVACUATION
___ CHEMICAL EXPOSURE ___ REGULATORY AGENCY INSPECTION OR VIOLATION
___ OTHER (DESCRIBE) ________

*SUBMIT COPY OF HEALTH AND SAFETY PLAN AND ATTACHMENTS FOR FIELD-RELATED INCIDENTS.

DESCRIPTION OF INCIDENT: _______________________________________________________

CAUSE OF INCIDENT: ____________________________________________________________

ACTION TAKEN: _________________________________________________________________

FUTURE CORRECTIVE ACTION: ____________________________________________________

ESTIMATED AMOUNT OF DAMAGE: ________________________________________________

INVESTIGATOR NAME ___________________ SIGNATURE ___________________ DATE __________

PRINCIPAL-IN-CHARGE ___________________ SIGNATURE ___________________ DATE __________

cc: Health and safety manager, corporate health and safety officer, and administration within 24 hours of incident.
ATTACHMENT 2

Daily Tailgate Health and Safety Meeting Form
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Daily Tailgate Safety Meeting Form

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. [ ] Heat stress
   b. [ ] Cold stress
   c. [ ] Slip, trip, and fall hazards
   d. [ ] Drilling operations
   e. [ ] Overhead utilities
   f. [ ] Underground utilities
   g. [ ] Moving and emptying drums
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. [ ] Drilling equipment
   b. [ ] Sampling equipment
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. [ ] Escort required
   b. [ ] Locked gates, permits, passes, etc.
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) _______________________________