

Environmental, Health and Safety



Visitors and Vendors Information

Rev D

EHS Management System & Policy



- BIW is registered/certified to ISO 14001 and ISO 45001
- A system that documents how we manage the inter-related parts of our business in order to achieve objectives
- Ensures BIW has a program to minimize environmental aspects/impacts and safety risks
- Management commitment to continual improvement

GENERAL DYNAMICS Bath Iron Works

ENVIRONMENTAL, HEALTH & SAFETY POLICY

BIW is committed to the environment, including prevention of pollution and to providing a safe and healthy workplace for all employees.

We are committed to:

- **Recognizing** and **preventing** workplace hazards and environmental pollution;
- Actively **involving** our employees to create a safe workplace and to protect the environment;
- **Communicating** this policy and other related information to all interested parties as necessary;
- **Conforming** with Environmental, Health & Safety legal requirements, regulations, compliance obligations and other commitments;
- Periodically setting and reviewing objectives for continuously **improving** our management system, to enhance environmental performance, to prevent injuries and ill health, and to maintain relevancy and appropriateness to the organization.

EHS Management System

- How can you contribute to the effectiveness of the EHS Management System?
 - Be aware of the associated environmental impacts of your job
 - Be aware of the hazards and risks of your job.
 - Follow all EHS regulatory and company procedures and policies
 - Communicate with EHS if you see a problem.
 - Encourage your fellow employees to do the same.
- By contributing to the effectiveness you will:
 - Have a direct impact on improved compliance rates,
 - Contribute to less pollution to the environment that we live in
 - Keep yourself safe so that you can return home in the same condition that you came to work in
- If you don't follow the regulatory and company policies and procedures you may:
 - Subject yourself to discipline
 - Create company non-compliance,
 - Create increased pollution and regulatory actions including penalties.

Safety Goal & Expectations

- **GOAL** - Everyone will return home at the end of their shift in the same condition in which they arrived
- Always plan your work with safety in mind.
- Follow approved work rules, policies and procedures.
- Wear all required personal protective equipment (PPE) for the task.
- Use your three “Job Safety Analysis” steps – task, hazards, protection
- Maintain a clean organized work area

**PLEASE USE
PEDESTRIAN
WALKWAYS**

The Basics - Walkways

Walkways are marked with white lines on the pavement throughout the shipyard to designate safe walking paths. Employees should use the walkways as much as possible.

Always use the walkways:

- If you are arriving at work for your shift or leaving work for the day.
- If you are not wearing appropriate PPE.

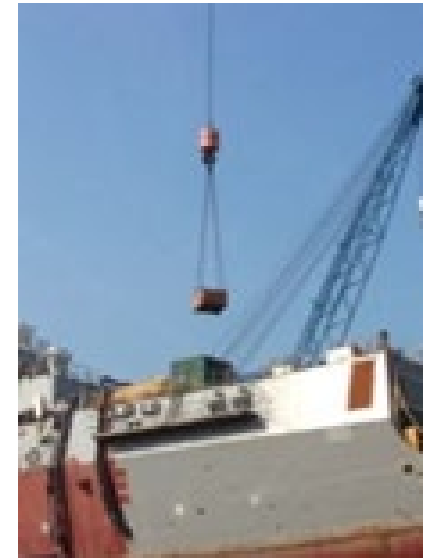


The Basics - Overhead Loads (SPM-S-25)

At BIW , we average a minimum of 3,200 lifts by crane, *each week.*
Crane lifts are one of the more hazardous tasks performed in the Shipyard.

Not moving for an overhead load places you at risk. It also makes it difficult for the crane operators and riggers to safely move material throughout areas when they have to stop abruptly for employees who do not move. Whether it is a piece of pipe or a 200-ton unit, every one must move out of the way.

Pay attention to the horns/sirens of the crane. Simply stop what you are doing and move out of harm's way. *It is a requirement that could save your life - this is a very old rule for a very good reason.*



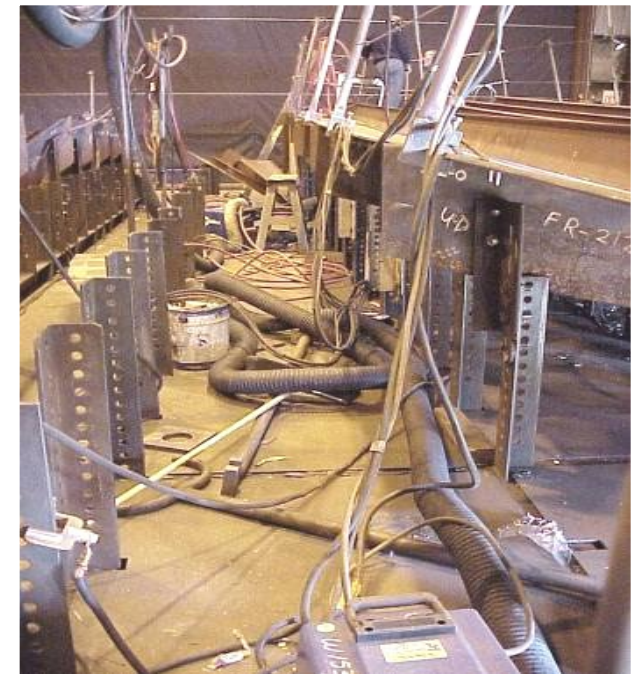
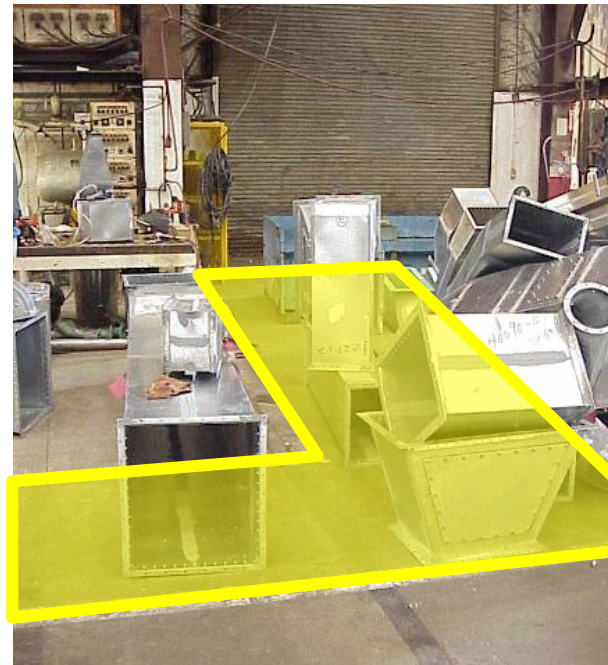
Never walk under a suspended load. Practice Situational awareness in high risk areas like the piers and LLTF.



The Basics - Housekeeping

Accounts for
over 30% of all
inspection
findings !

- Contributes to slips, trips, and falls...
- Creates a fire hazard
- Impedes safe egress in an emergency



The Basics - PPE Requirements (SPM-S-05)

- Hard Hats: Protect against impact from falling objects
- Safety Glasses: Protect against projectile hazards, dust, and UV light
- Safety Shoes: Protect toes from dropped objects

All PPE issued by BIW is manufactured to required ANSI standards.

Safety shoes must be rated to ANZI Z41 or ASTM F2412 or F2413

- Learn about basic PPE use, inspection, and additional requirements during your orientation yard tour.

Outdoors

You must wear:

- Hard Hat
- Safety Glasses
- Safety Shoes- no crocks, tevas, sandals, open back clogs, open toe, foot or heels

Exceptions:

- When you remain in a designated walkway, travelling from one non-production building to another
- When arriving or leaving for your shift.

Inside Buildings

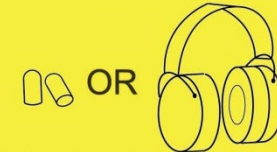
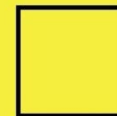
PERSONAL PROTECTIVE EQUIPMENT REQUIRED



Safety Glasses



Hardhat



Hearing Protection



**** Safety Shoes also required inside all production buildings****

Hearing Protection

- Earplugs
 - Secure fit
 - Disposable



- Earmuffs
 - Cleaning
 - Inspection



- Noise Reduction Rating
- Available at Tool Cribs – ear plugs available at most building entrances

Preparing – Job Hazard Analysis

- **What are the hazards?**
- **Have I been trained?**
- **Do I understand the scope of work?**
- **Careful decision making**
- **Clear communication**
- **Proper work practices**
- **Watching out for others**
- **What other activities are going on around me?**
- **Is your work exposing others to a potential hazard?**

Potential hazards in shipyards?

- Slips, Trips and Falls
- Fire
- Electrical, Stored Energy
- Confined spaces
- Uneven Surfaces/Open Holes
- Crush/pinch/struck-by
- Chemical/Noise/Radiation
- Simple hazards (eyes on path, situational awareness)
- Mobile Equipment
- Overhead loads

Top Five Safety Absolutes

Programs Identified With the Highest Risk Involved

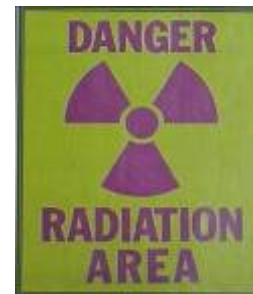


1. Warning Tape & Signs (SPM-S-11)
2. Guidelines for Fall Protection (SPM-S-07)
3. Hot Work Control (SPM-EL-11)
4. Safe Entry into Confined Spaces (SPM-EL-01)
5. Lockout/Tags Plus for Shipboard and Landside Applications (SPM-S-21)

Barrier Tape & Signs (SPM-S-11)

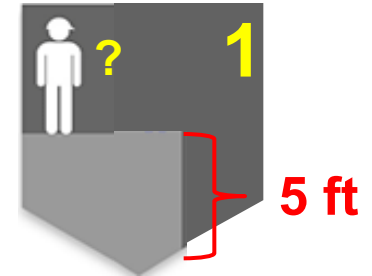
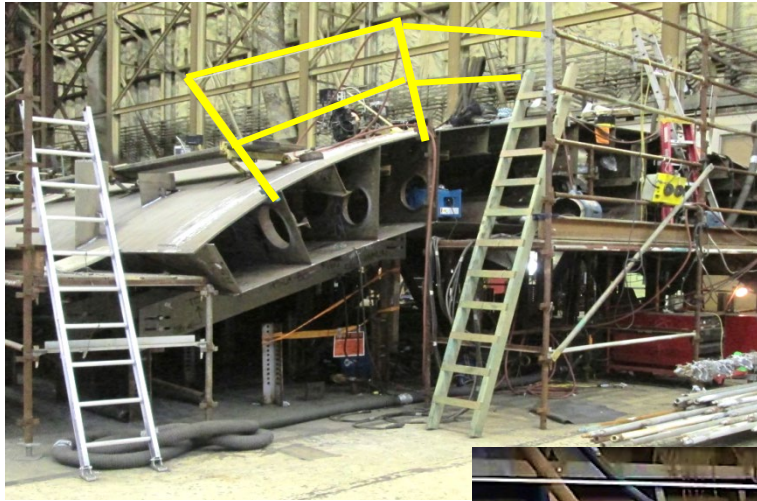


NO TAPE USED



NO TAPE USED

Fall Protection (5 foot rule) – SPM-S-07



Hot Work - Sparks and Welding Slag(SPM-EL-11)



- Fires are an extremely high risk in shipyards
- Sparks can fall several decks below the worksite
- Combustible materials must be removed within 35-feet in all directions
- Be aware of hot work around you and choose your travel path accordingly

Warning Tags/Lockout/Tags Plus (SPMs S-02 & S-21)



Do Not Operate: Used to secure defective equipment

Tags are used to secure specific systems, machinery, or pieces of equipment.

Remember: Never bypass or remove a warning tag. Only affix tags if you are trained and authorized to do so.

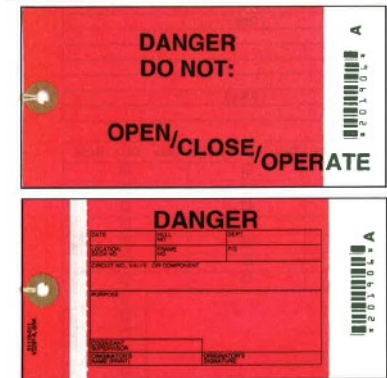


Area Lacking Safety Hardware: Used to secure access to elevated areas.

Repairs Required: Used to take machinery / equipment out of service until repairs are made



Lockout/Tags-plus: Used to protect personnel when controlling hazardous energy.
Top: Facilities Tag
Bottom: Shipboard Tag



Hazard Communication (SPM-IH-05)

New government regulations have improved the quality and consistency of information on chemical hazards in the workplace.

The Hazard Communication Program at BIW is designed to inform employees on how to find safety information on chemicals in the workplace.

We encourage all employees to contact the Environmental Health and Safety staff for assistance with understanding potential hazards and protective measures for chemicals.

- Industrial Hygienist
- List of hazardous chemicals at BIW
- Safety Data Sheets for chemicals at BIW
- Chemical exposure monitoring results

Call 442-5555

Or contact the EHS Staff

The image shows the cover page of a procedure document titled "SPM-IH-05 Hazard Communication Program". The document is from General Dynamics Bath Iron Works, Environmental, Health, and Safety. It is page 1 of 8, revision J. The document was prepared by R. Knowles, an Industrial Hygienist, and approved by Deb Nadeau, Director of Environmental, Health & Safety. The document outlines the Environmental Health & Safety Policy, stating that BIW is committed to protecting the environment and providing a safe and healthy workplace. The policy includes commitments to recognizing and preventing workplace hazards, actively involving employees in safety, communicating policy information, conforming with legal requirements, and periodically reviewing objectives for improvement.

GENERAL DYNAMICS Bath Iron Works	Environmental, Health, and Safety Procedure
Page 1 of 8	
SPM-IH-05 Hazard Communication Program Rev. J	
Prepared by: R. Knowles	
<u>Robert Knowles</u> Industrial Hygienist	<u>Deb Nadeau</u> Director, Environmental, Health & Safety
Environmental Health & Safety Policy	
BIW is committed to protect the environment and provide a safe and healthy workplace.	
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SPM-IH-05	

Policy for protection (SPM-IH-03)

Respirator/Ventilation Requirements SPM-IH-03

01/03/2012

Revision 9:
Information Only



Operation	Confined Space		Enclosed Space		Outside	
	Respirator	Ventilation	Respirator	Ventilation	Respirator	Ventilation
Hotwork						
Brazing	HF	1 V/P	NR	1 V/P	NR	NR
Flame Straightening	HF	1 V/P	NR	1 V/S	NR	NR
Oxy-fuel Cutting	HF	1 V/P	NR	1 V/P	NR	NR
Gouging All Metals	HF	2 V/P	HF	2 V/P	HF	NR
Plasma Arc Cutting	HF	2 V/P	HF	2 V/P	NR	NR
Plasma Arc Cutting on Stainless, Inconel	HF	2 V/P	HF	2 V/P	HF	NR
Tacking all Metals (Except FCAW, SMAW, GMAW on Stainless, Inconel)	HF	1 V/P	Recommend HF	1 V/P	NR	NR
Welding FCAW, GMAW, SMAW	HF	1 V/P	HF	1 V/P	HF	NR
Welding and Burning Galvanized Steel (Excludes Tacking)	HF	2 V/P	HF	2 V/P	HF	NR
Welding GTAW	HF	1 V/P	NR	1 V/P	NR	NR
Welding/Tacking FCAW, SMAW, GMAW on Stainless, Inconel	HF	1 V/P	HF	1 V/P	HF	NR
Blasting						
Blasting	SA	1 V/S	SA	1 V/S	SA	NR
Blasting Hand Portable	FF	1 V/P	FF	1 V/P	FF	NR
Heavy Blast Grit Removal: Vacuum, Shovel	HF	Vacuum	HF	Vacuum	NR	NR
Heavy Blast Grit Removal: Compressed Air	SA	1 V/S	SA	1 V/S	FF	NR
Filter Replacement Blast Facilities	FF	1 V/S	HF	1 V/S	Recommend HF	NR
Surface Prep and Painting						
Brush Painting	HF	1 V/P	Recommend HF	1 V/P	NR	NR
Brush Painting Low Flash Point Primers/Paints	HF	1 V/P	HF	1 V/P	NR	NR
Coating Removal: Chemical Paint Stripper	HF	1 V/P	NR	1 V/P	NR	NR
Rolling Paint with Low Flash Point	SA	2 V/P	FF	2 V/P	HF	NR
Solvent Washing	FF	1 V/P	FF	1 V/P	NR	NR
Spray Painting High Flash Point	SA	1 V/P 2 V/S	FF	1 V/P 2 V/S	FF	NR
Spray Painting Low Flash Point	SA	1 V/P 2 V/S	SA*	1 V/P 2 V/S	FF	NR
Spray Painting Water Based Epoxy	FF	1 V/P	FF	1 V/P	FF	NR
Buffing and Grinding						
Buffing Mechanical (Flapper Wheel, Scotchbrite, Wire Brush)	HF	1 V/P	Recommend HF	1 V/P	NR	NR
Coating/Primer Removal: Mechanical Grinding, Sanding	FF	1 V/P	HF >20 Minutes	1 V/P	Recommend HF	NR
Grinding/Sanding on Bare Steel and Aluminum	HF	1 V/P	HF >20 Minutes	1 V/P	Recommend HF	NR
Grinding/Sanding Stainless, Inconel, Copper-Nickel, Monel	HF	1 V/P	HF	1 V/P	Recommend HF	NR
Miscellaneous						
Man-Made Mineral Fibers: Fibrous Glass, Mineral Wool	HF	1 V/S	Recommend HF	1 V/S	NR	NR
Pipe Joint Cleaning	NR	1 V/P	NR	1 V/P	NR	NR

Important Notes

- These are minimum requirements. Higher levels of protection may be used.
- **Exemptions** to these requirements may be provided by qualified EH&S Staff on a case by case basis.
- (*) The **Paint/Blast buildings** are exempted from certain respirator and ventilation tube requirements. See SPM-EL-04.
- **Ventilation** required for spray painting, brush painting, roller painting, and solvent washing must remain in the space after the job is done.
- **“Recommended”**: Although overexposures are not evident, respirators are recommended based on the professional judgment of the EH&S staff at BIW.
- **“Confined Space”**: A compartment of small size and limited access such as a double bottom tank, cofferdam or other space which by its small size and confined nature can easily aggravate a hazardous exposure. Also includes: voids, sumps, boilers, pits, etc.
- **“Enclosed Space”**: Any space, other than a confined space, that is enclosed, by bulkheads/ walls and an overhead/ceiling. This includes buildings, ship compartments, etc... Other spaces such as partially enclosed structures and open-ended units will be treated as enclosed spaces.
- **“Outside”**: An area that is exterior to any enclosed space or confined space that is in the open and exposed to the weather
- **How to use Time Restrictions**: “HF >20 minutes” means a respirator is required if more than a total of 20 minutes of actual work is to be performed in the work shift.



Ventilation is required to control air contaminants



Consult with Environmental, Health and Safety on additional requirements for:

- Abrasive blasting
- Asbestos
- Cadmium, Lead, Hex Chrome In coatings
- Concrete work that may release silica dust
- Deck chipping
- Hotwork on ship's reefers
- Installing/removing fibrous insulation
- Isocyanate insulation, paints, adhesives
- Nomex board fabrication
- Powder paint application
- Ultra high solids paint application
- Boiler application of high flash point paint/primer
- Conar dome grinding

Legend:

- HF = Half Face
- FF = Full Face
- SA = Airline
- NR = Not Required
- V/P = Vent Tube per Person (Try to keep vent tube within 8" of the job)
- V/S = Vent Tube per Space. Fans, blowers and air ejectors are acceptable substitutes.

Environmental Operations at BIW

- Environmental performance is a part of ALL of our jobs here at BIW.
- We must make sure our work does not negatively impact our environment.
- Maintaining compliance with regulations ensures smooth production and helps BIW to remain competitive.
- Environmental violations can lead to fines, negative publicity, and shutdowns.



We must properly manage:

- Hazardous Waste
- Solid Waste
- Air Emissions
- Storm Water Pollution
- Sewer Discharges
- Hazardous Material Usage/Storage
- Environmental Spills
- Oil Pollution
- Petroleum Transfers
- Emergency Response

Water Programs Compliance

BIW must make sure that stormwater leaving our facilities is clean.



Only Rain Down the Drain!

What you drop and leave on the ground may reach the Kennebec River (Bath) or New Meadows River (SFAB & OFAB) through storm drains, piers, decks, outfalls and scuppers.



Spill Reporting

All spills of hazardous waste or oil products need to be reported to the environmental department ASAP. Examples include:

Waste Oil and hydraulic oil
Paint & Solvent
Unknown products
Diesel or Gasoline Fuel
Caustics such as acids

The following are considered emergencies:

- Any spill to soil, water, or storm drains
- A release of any unknown material
- Spills of corrosives such as battery acid
- Any spill of a flammable liquid (e.g., gasoline, solvent)
- Spills of ten or more gallons of petroleum products

Call 442-5000 to report a spill

Or for Emergencies & off

hours: Bath 442-2222

Brunswick Off-sites – 442-1222



Hazardous Waste Compliance



- Hazardous wastes include waste paints, fuels, aerosols, and other flammable liquids.
- BIW MUST properly collect, label, store, and dispose of all hazardous wastes. It is the law!
- Hazardous waste is collected at specific locations in Bath, at SFAB, and at OFAB.
- Employees working in these areas receive additional training for handling and properly managing this material.



- All employees with hazardous waste are responsible for taking it to the appropriate location.
- Containers must remain closed when not in use.
- Liquids must be poured off into drums. No liquids allowed in dumpsters.



Universal Waste Compliance

- Some common household items, which contain a hazardous waste, can be disposed of as universal waste if not broken. These items include **Fluorescent lights, TVs & computer monitors, small fluorescent bulbs, non-leaking PCB ballasts, nickel/cadmium batteries, mercury thermometers, and mercury thermostats.**
- All must be collected and properly managed.
- Universal Waste is not considered shipyard waste and must never be thrown in red dumpsters, totes or office trash cans. It must be dropped off at the proper storage locations, listed below:

Bath –

- 1) Haz. Waste CAA – north side of Conley Building
- 2) Pier #2
- 3) Pier #4
- 4) Maintenance Shop
- 5) North Stores 2nd Floor
- 6) Temp Electric Bldg #0047
- 7) OST #2, 5th Floor, North side
- 8) OST #3, 3rd Floor, South side
- 9) MSC, Southeast Corner
- 10) North Stores Loading Dock, DXC

SFAB

- Inside Blast & Paint Line
- Inside Conex Box across from Blast & Paint

OFAB – South side of main plant, near Paint Shop area

CW – Across from offices at South end of building



Place large items in available locker and smaller items in bucket inside locker.

Solid Waste Compliance



GRAY

Clean scrap wood



YELLOW

Scrap metal of all types



Locked Bins –for documents marked:

- For internal Use Only
- BIW Proprietary
- US Gov. Technical Data
- For Official Use only



RED

Shipyard Waste
(non-hazardous waste,
no liquids)



GREEN

Single Stream
Recycling

(cardboard, paper, plastic,
glass etc.)

**REMINDER:
NO PLASTIC BAGS IN
RECYCLING!**

Emergency Evacuation

1. You must evacuate a building or ship **immediately** if notified by:
 - A Building or Ship Alarm
 - BIW or local Fire Department
 - A Supervisor
2. Each area has a designated person responsible for reporting an alarm or evacuation to the appropriate emergency numbers.
3. Upon evacuation, move away from the building/ship and report to your mustering area.
 - Supervisors will perform a head count and report only missing persons to the Fire Department Incident Command Post.
4. Do not re-enter a building or ship until it has been cleared by the BIW or local Fire Department.

Emergency Exits

- All emergency exits are well posted and marked.
- Exit routes and doors should not be blocked.
- NO matter where you're working, always be aware of at least two (2) of your closest exit(s).
- Always exit in an orderly fashion during an evacuation – do not run.
- Work with fellow employees to ensure everyone is aware that an evacuation is taking place.
- NEVER use an elevator to exit an area.
- Employees that may have difficulty evacuating should ensure that their supervisor is aware of the situation so emergency responders can be advised immediately.
- Exit doors should be closed upon evacuation and not propped open.
- Once an Alarm is sounded, Everyone must **Exit Immediately**.

Emergency Numbers

- Fire, Medical, Security or Spill
 - ↗ Main Yard call 207-442-2222
 - ↗ Offsite Production facility call 207-442-1222
 - ↗ Offsite Non-Production facility call 911 then 207-442-2222
- General Information Numbers
 - ↗ On-Call EHS Engineer call 207-522-1408
 - ↗ Medical Department call 207-442-2231
 - ↗ Security Main Gate call 207-442-2266
 - ↗ Environmental Lab call 207-442-3022