

**Site Specific Health and Safety Plan Addendum I
Evaluation and Interim Remediation of Soils
O'Henry Laundry, Tutu, St. Thomas
U.S. Virgin Islands**

February 1995

Prepared for:

**L'Henri, Inc.
St. Thomas, U.S. Virgin Islands**

Addendum Prepared by:

**International Technology Corporation
312 Directors Drive
Knoxville, Tennessee**

By my signature below, I certify that I have been informed of, understand, and will abide by the procedures of the Site Specific Safety and Health Plan Addendum I for the Remedial Activities at O'Henry Laundry in Tutu, St. Thomas, U.S. Virgin Islands.

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13.0 Health and Safety Plan Addendum I

This addendum is for use by IT Corporation personnel, subcontractors and visitors who will be working on the Evaluation and Interim Remediation of Soils at O'Henry Laundry in Tutu, St. Thomas, U.S. Virgin Islands.

13.1 Objective

The objective of the Health and Safety Plan (HASP) Addendum I is to ensure the continuance of safe working conditions during the field activities. The safety procedures outlined have been established based on a reevaluation of the potential hazards associated with activities at the site. This HASP Addendum describes the health and safety requirements and procedures to be used while conducting field work, in addition to those requirements and procedures already specified in the Project Site Specific Safety and Health Plan (SSHP), dated June 1994. These additional/revised procedures are required, for the most part, to ensure compliance with applicable laws or corporate policies which have been established or modified since the original SSHP was prepared.

13.2 Scope of Work

The scope of work will be expanded to include one soil boring. The boring will be advanced using a drill rig equipped with 6-inch hollow stem augers to a depth of approximately 25 feet, which is the expected depth to groundwater, or to competent bedrock, depending on which is encountered first.

Undisturbed samples for laboratory analysis of VOCs by CLP will be collected at 5-foot intervals using a split spoon sampler (ASTM D1586-92 or similar). A maximum of 6 samples (including one field duplicate) from the boring will be analyzed for VOCs using CLP (1990 scope of work). Each of the samples will be split and analyzed in the field using a gas chromatograph. Shelby tube samples will be collected at depths of approximately 6 feet, 11 feet, 16 feet, and 21 feet.

After completion, the boring will be abandoned by grouting with a cement/bentonite grout containing 95 percent type I portland cement and five percent bentonite. The grout will have a minimum density of 9.4 pounds per gallon and will be pumped into the boring from the bottom using the tremie method. The augers will be incrementally withdrawn from the boring as it is grouted.

Decontamination of drilling and sampling equipment and management of investigation-derived wastes will be handled as described in the Work Plan, that is, soils will be segregated by depth and placed in 55-gallon drums to be provided by IT (IT Corporation, 1994).

13.2 Physical Hazards

The list of physical hazards shall be expanded to include drilling hazards and drum handling hazards.

13.2.1 Drilling Hazards

The physical hazards specific to drilling are listed in the following paragraphs.

Slips. Slips are toothed wedges positioned between the drill pipe and the master bushing/rotary table to suspend the drill string in the well bore when it is not supported by the hoist. Most accidents associated with slip operations are related to manual materials handling; strained backs and shoulders are common.

Tongs. Tongs are large, counter-weighted wrenches used to break out the torqued couplings on drill pipe. Both sets of tongs have safety lines; when breakout force is put on the tongs, the tongs or the safety lines could break and injure an employee standing close to them. Another likely accident can occur when the driller actuates the wrong tong lever and an unsecured tong swings across the rig floor at uncontrolled velocity. A common accident attributable to tongs can occur when an employee has his hand or finger in the wrong place as he attempts to swing and latch the tong onto the drill pipe, resulting in crushing injuries or amputation of the fingers.

Elevators. Elevators are a set of clamps affixed to the bails on the swivel below the traveling block. They are used to clamp each side of a drill pipe and hold the pipe as it is pulled from the well bore. Accidents and injuries can occur during the latching and unlatching tasks; fingers and hands can get caught and crushed in the elevator latch mechanism. If the pipe is overhead when the latching mechanism fails, then the pipe may fall on employees working on the drill floor.

Cat Lines. Cat lines are used on drilling rigs to hoist material. Accidents that occur during cat line operations may injure the employee doing the rigging as well as injure the operator. Minimal hoisting control causes sudden and erratic load movements, which may result in hand and foot injuries.

Working Surfaces. The rig floor is the working surface for most tasks performed in well drilling operations. The surface is frequently wet from circulating fluid and/or water used to wash it down. Slippery work surfaces can increase the likelihood of back injuries, overexertion injuries, and slips and falls.

Derrick Operations. The derrick man on a well drilling operation performs his tasks from various elevated work platforms in the mast. He is exposed to falls when not utilizing fall protection equipment while climbing the derrick ladder, while working with the pipe stands, and while moving from the ladder to his platform station.

Utility Hazards. There are no overhead or underground utilities at the site.

Materials Handling. The most common type of accident that occurs in material handling operations is the "caught between" situation when a load is being handled and a finger or toe gets caught between two objects. Rolling stock can shift and/or fall from a pipe rack or truck bed. Rig accidents can occur as a result of improperly placing the rig on uneven or unstable terrain, or failing to adequately secure the rig prior to the start of operations.

13.2.1.1 Operating Procedures for Drilling

Prior to the start of site work, the drilling subcontractor will inspect all drilling equipment in the presence of the Site Supervisor.

General Drilling Practices

- The departing driller shall inform the oncoming driller of any special hazards or ongoing work that may affect the safety of the crew
- Fire fighting equipment shall not be tampered with and shall not be removed for other than the intended fire-fighting purposes or for servicing.
- If lubrication fittings are not accessible with guards in place, machinery shall be stopped for oil and greasing.
- Rigging equipment for material handling shall be checked prior to use on each shift and as often as necessary to ensure it is safe. Defective rigging shall be removed from service.
- The area around the derrick ladder shall be kept clear to provide unimpeded access to the ladder.

- Work areas and walkways shall not be obstructed.
- The rotary table of the rig floor shall be kept free of obstructions and free of undue accumulation of oil, water, ice, or circulating fluids.

Hoisting Operations

- The derrick must not be raised until the rig has been blocked, leveled, and chocked.
- Drillers shall never engage the rotary clutch without watching the rotary table and ensuring it is clear of personnel and equipment.
- Unless the draw works is equipped with an automatic feed control, the brake shall not be left unattended without first being tied down.
- Drill pipe or casing shall not be picked up suddenly.
- Drill pipe shall not be hoisted until the driller is sure that the pipe is latched in the elevator, or the derrick man has signaled that he may safely hoist the pipe.
- During instances of unusual loading of the derrick or mast, such as when making an unusually hard pull, only the driller should be on the rig floor and no one shall be on the rig or derrick.
- The brakes on the draw works of every drilling rig shall be tested by each driller, when he comes on shift, to determine whether they are in good order. The brakes shall be thoroughly inspected by a competent individual each week.
- A hoisting line with a load imposed shall not be permitted to be in direct contact with any derrick member or stationary equipment, unless it has been specifically designed for line contact.
- Workers shall never stand near the well bore whenever any wire line device is being run.
- Hoisting control stations shall be kept clean and controls labeled as to their functions.

Riding Hoisting Equipment. Under no circumstances will personnel be permitted to ride the traveling block or elevators, nor will the cat line be used as a personnel carrier.

Cat Line Operations

- Only experienced workers will be allowed to operate the cat head controls. The kill switch must be clearly labeled and operational prior to operation of the cat line.
- The cat head area must be kept free of obstructions and entanglements.
- The operator shall not use more wraps than necessary to pick up the load. More than one layer of wrapping is not permitted.
- Personnel shall not stand near, step over, or go under a cable or cat line which is under tension.
- Employees rigging loads on cat lines shall:
 - Keep out from under the load.
 - Keep fingers and feet where they will not be crushed.
 - Be sure to signal clearly when the load is being picked up.
 - Use standard visual signals only and not depend on shouting to coworkers.
 - Make sure the load is properly rigged, since a sudden jerk in the cat line will shift or drop the load.

Pipe Handling

- Pipe shall be loaded and unloaded, layer by layer, with the bottom layer pinned or blocked securely on all four corners. Each successive layer should be effectively blocked or chocked.
- Workers shall not be permitted on top of the load during loading, unloading, or transferring of pipe or rolling stock.
- Employees shall be instructed never to try to stop rolling pipe or casing; they should be instructed to stand clear of rolling pipe.
- Slip handles shall be used to lift and move slips. Employees should not be permitted to kick slips into position.

- When pipe is being hoisted, personnel shall not stand where the bottom end of the pipe could whip and strike them.
- Pipe stored in racks, catwalks, or on flatbed trucks shall be chocked to prevent rolling.

Derrick Operations

- The derrick climber shall be used whenever climbing the derrick. Personnel on the derrick should be tied off, or otherwise protected from falling when working in an unguarded elevated position.
- All stands of pipe and drill collars racked in a derrick shall be secured with rope or otherwise adequately secured.
- Tools, derrick parts, or materials of any kind shall not be thrown from the derrick.
- The elevators must be properly clamped onto all pipe joints prior to the driller engaging the load.

Making and Breaking Joints

- Tongs shall be used for the initial making up and breaking of the joint. The rotary table should not be used for the initial breaking of a joint.
- Employees making or breaking joints shall not be permitted to stand within the arc of the tong handles when the tong pull line is under tension. Employees should handle the tongs only by the appropriate handles.
- Employees shall be trained in the safe use of spinning chains. Spinning chains should not be handled near the rotary table while it is in motion.

13.2.2 Drum Handling Hazards

Drums will be used to store excavated soils. The following procedures shall followed when handling drums:

- All drums shall meet DOT, OSHA and EPA regulations for the wastes they contain.
- Mechanical drum handling equipment will be used to lift or move drums. Drums shall be moved only with proper equipment, and shall be secured to prevent dropping or loss of control during transport.

- Operations shall be organized to minimize the amount of drum movement.
- No one shall be required to lift more than 60 pounds. Workers will wear heavy protective gloves when working to close/open drums.
- Standing or working on drums is prohibited.

13.3 First-Aid and Medical Treatment

Injuries and illnesses requiring medical treatment will be accompanied by an "Authorization for Treatment" form and the supervisor must notify WOHA, IT's Medical Consultant at 1-800-777-9642 as soon as the victim is stabilized.

13.4 Key Project and IT Personnel

The Project Manager, Belinda Price, has been replaced by Ken Loy and the Occupational Physician, Dr. Peter Greaney, has been replaced by Dr. Ross Myerson (1-800-777-9642).