

HEALTH AND SAFETY PLAN

JH Baxter



6520 - 188th Street NE

Arlington, Washington

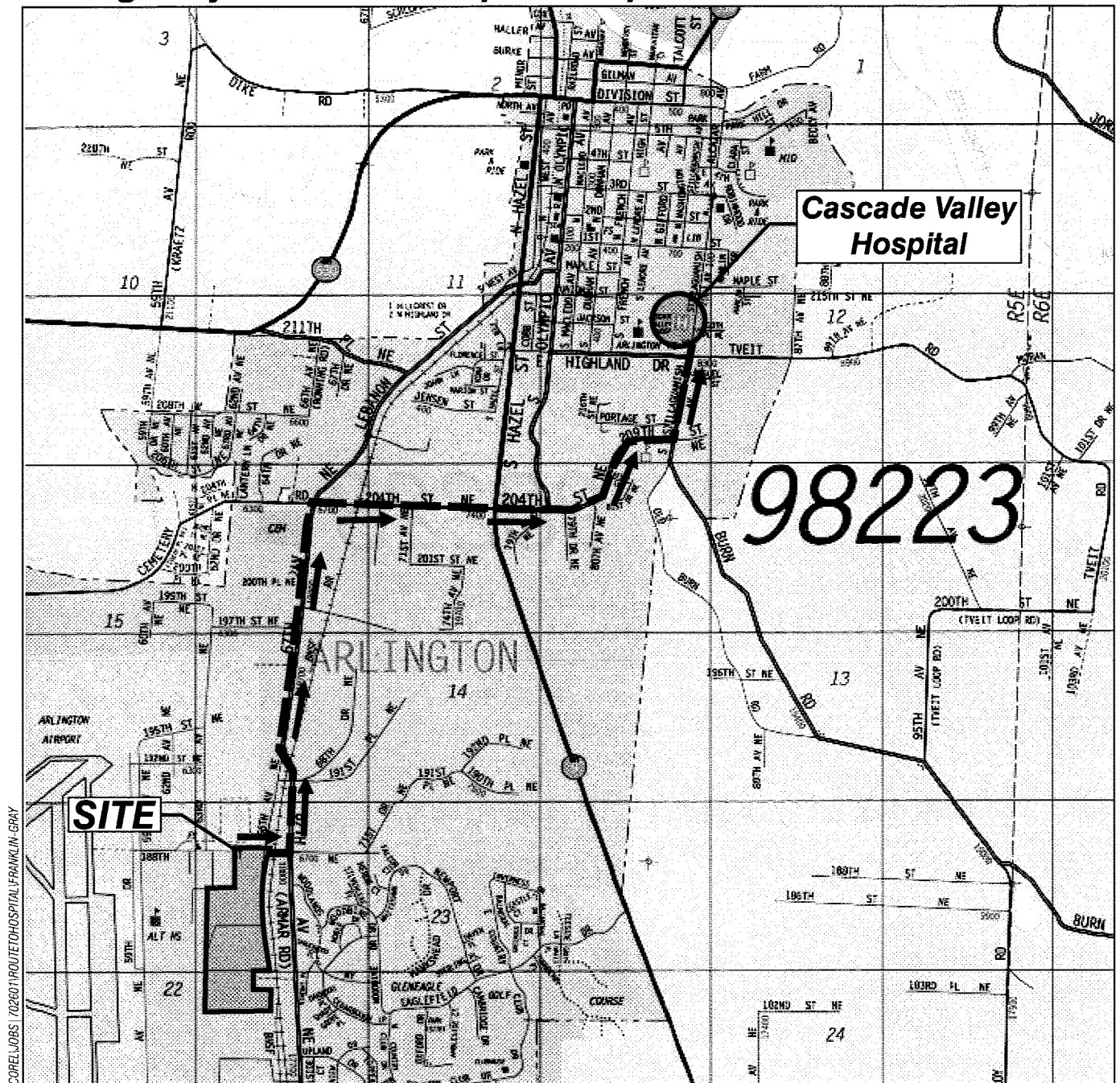
DATE PREPARED: April 29, 1999

RECEIVED
JUN 21 1999
DEPT OF ECOLOGY

EMERGENCY CONTINGENCY INFORMATION

SITE LOCATION	JH Baxter 6520 - 188th Street NE Arlington, Washington
NEAREST HOSPITAL	Cascade Valley Hospital 330 South Stillaguamish Avenue Arlington, Washington (360) 435-2133 The route from the facility to the hospital is depicted on Figure 1.
EMERGENCY RESPONDERS	Police Department911 Fire Department911 Ambulance.....911
EMERGENCY CONTACTS	Hart Crowser, Seattle Office..... (206) 324-9530 Kimberly Blodgett, Facility Contact.....(360) 435-2146
IN EVENT OF EMERGENCY, CALL FOR HELP AS SOON AS POSSIBLE	Give the following information:  Where You Are. Address, cross streets, or landmarks  Phone Number you are calling from ?? What Happened. Type of injury, accident # How many persons need help + What is being done for the victim(s) !! You hang up last. Let whomever you called hang up first

Emergency Route to Hospital Map



Cascade Valley Hospital
330 S. Stillaguamish Ave.
Arlington, WA 98223

Directions from Site:

Start out going East on 188TH NE towards 67TH AVE NE.
Turn LEFT onto 67TH AVE NE.
Stay straight on 67TH until 204TH ST NE.
Turn RIGHT onto 204TH and follow to STILLAGUAMISH AVE.
Turn LEFT onto STILLAGUAMISH and follow to Hospital.

0 1/2 1
Approximate Scale in Miles

HARTCROWSER

J-7026-01

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Figure 1

SITE HEALTH AND SAFETY PLAN SUMMARY

SITE NAME: JH Baxter

LOCATION: 6520 - 188th Street NE
Arlington, Washington

CLIENT: JH Baxter

PROPOSED DATES OF ACTIVITIES: June 1999 through August 2001

TYPE OF FACILITY: Pole Treating and Storage Facility

LAND USE OF AREA SURROUNDING FACILITY: Industrial, residential, recreational

SITE ACTIVITIES:

- Installation of monitoring wells and soil borings
- Collection of groundwater, storm water, and soil samples

POTENTIAL SITE CONTAMINANTS:

- Creosote
- Pentachlorophenol
- Dioxin
- Aromatic and Aliphatic Hydrocarbons (aromatic oil solution)

ROUTES OF ENTRY: Airborne vapors and dust; skin contact with soil, free product, or groundwater; and incidental ingestion of soil.

PROTECTIVE MEASURES: Engineering controls, safety glasses, safety boots, hard hat, gloves, protective clothing, and respirators.

MONITORING EQUIPMENT:

- MSA 361 or equivalent combustible gas, oxygen, hydrogen sulfide meter
- HNU PI 101 or equivalent photoionization detector (for organic vapors)

1.0 INTRODUCTION

1.1 Purpose and Regulatory Compliance

This site-specific Health and Safety Plan (H&S Plan) addresses procedures to minimize the risk of chemical exposures, physical accidents to on-site workers, and environmental contamination. The H&S Plan covers each of the 11 required plan elements as specified in 29 CFR 1910.120 or equivalent state regulations. Table 1 lists the sections of this plan which apply to each of these required elements. When used together with the Hart Crowser General H&S Plan, this site-specific plan meets all applicable regulatory requirements.

Table 1 - Location of Required Health and Safety Plan Elements in This Site-Specific H&S Plan

Required H&S Plan Element	Section in this Health and Safety Plan
Confined space entry	2.6 Other Physical Hazards
Decontamination	7.0 Decontamination
Emergency response plan	11.0 Emergency Response Plan
Medical surveillance	12.0 Medical Surveillance
Monitoring program	2.3 Air Monitoring and Action Levels
Names of key personnel	1.3 Chain of Command
Personal protective equipment	3.0 Protective Equipment, 4.0 Safety Equipment List
Safety and hazard analysis	2.0 Hazard Evaluation and Control Measures
Site control	5.0 Exclusion Areas, 9.0 Site Security and Control
Spill containment	10.0 Spill Containment
Training	13.0 Training Requirements

1.2 Distribution and Approval

This H&S Plan will be made available to all Hart Crowser personnel involved in field work on this project. It will also be made available to subcontractors and other non-employees who may need to work on the site. For non-employees, it must be made clear that the plan represents minimum safety procedures and that they are responsible for their own safety while present on site. The plan has been approved by the Hart Crowser Corporate Health and Safety (H&S) Manager. By signing the documentation form provided with this plan (Table 5 located at the end of plan), project workers also certify their approval and agreement to comply with the plan.

1.3 Chain of Command

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

Project Manager: Lori Herman

The Project Manager has overall responsibility for the successful outcome of the project. The Project Manager, in consultation with the Corporate H&S Manager, makes final decisions regarding questions concerning the implementation of the site-specific H&S Plan. The Project Manager may delegate this authority and responsibility to the Project and/or Field H&S Managers.

Corporate H&S Manager: David E. Chawes, C.I.H.

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

Project H&S Manager: Jeremy Porter

The Project H&S Manager has overall responsibility for health and safety on this project. This individual ensures that everyone working on this project understands this H&S Plan. This individual will maintain liaison with the Hart Crowser Project Manager so that all relevant health and safety issues are communicated effectively to project workers.

Field H&S Manager: Jeremy Porter

The Field H&S Manager is responsible for implementing this H&S Plan in the field. This individual also observes subcontractors to verify that they are following these procedures, at a minimum. The Field H&S Manager 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 should it be necessary.

1.4 Site Work Activities

The following work tasks will be accomplished:

- ▶ Installation of monitoring wells and soil borings; and
- ▶ Collection of groundwater, storm water, and soil samples.

The expected time frame of this project is from June 1999 through August 2001.

1.5 Site Description

The site is a pole treating and storage facility. Past practices on the site may have led to contamination of environmental media with creosote, pentachlorophenol, dioxin, and aromatic oils (aliphatic/aromatic hydrocarbons).

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 this location, the following chemicals may be present at this site:

- creosote
- pentachlorophenol
- dioxin
- aromatic oils (aliphatic/aromatic hydrocarbons)

Health hazards of these chemicals are discussed below. This information covers potential toxic effects which might occur if relatively significant acute and/or chronic exposure were to happen. This information does not mean that such effects will occur from the planned site activities. In general, the chemicals, which may be encountered at this site, are not expected to be present at concentrations that could produce significant exposures. The types of planned work activities and use of monitoring procedures and protective measures will limit potential exposures at this site.

These 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.

Creosote

Liquids and vapors of creosote are strong irritants producing local skin rash, burning, itching, and other skin disorders. If creosote gets into the eyes, severe eye damage can occur. Photosensitization is also a concern: if skin with creosote on it is exposed to sunlight, severe allergic skin reactions could occur. Internal absorption of creosote can cause symptoms such as salivation, vomiting, vertigo (dizziness), headache, and progressively more serious illness. Coal Tar Creosote is a probable cancer-causing agent in humans. There may be no safe level of exposure to a carcinogen, so all contact should be reduced to the lowest possible level. There is no PEL established for creosote. NIOSH has recommended the airborne exposure limit be 0.1 mg/m³ averaged over a 10-hour workshift. This exposure limit is for the Cyclohexane extractable fraction of Coal Tar Creosote. The above exposure limit is for air levels only. If skin contact also occurs, you may be overexposed, even though air levels are less than the limits listed above.

Pentachlorophenol

Pentachlorophenol exposure can occur via dust inhalation, skin absorption, ingestion, and skin and eye contact. Irritation of the nose, throat, and eyes is the most common symptom of airborne PCP, causing stuffy nose, scratchy throat, and tearing. Dermal exposure may lead to contact dermatitis, or more rarely, diffuse urticaria or chloracne. Commonly reported symptoms of systemic poisoning by PCP are profuse sweating, weakness, dizziness, anorexia, nausea and - in workers exposed over long periods - weight loss. Indications of severe acute poisoning are hyperthermia, muscle spasms, tremor, labored breathing, a sense of constriction in the chest, abdominal pain and vomiting, restlessness, excitement, and mental confusion. Tachycardia and increased respiratory rate are usually

apparent. Intense thirst is characteristic. Pentachlorophenol is currently classified a Class B2, or probable, human carcinogen by the EPA. The current PEL-TWA for pentachlorophenol is 0.5 mg/m³.

2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)

2,3,7,8-Tetrachlorodibenzo-p-Dioxin (TCDD) (CAS Registry Number 1746-01-6) can affect you when inhaled and by passing through your skin. It is a carcinogen--handle with extreme caution, and may also be a teratogen. Exposure can cause a severe acne-like skin rash to develop. This can be bad enough to be disabling and may persist for many years. Exposure can also cause damage to the liver. TCDD can cause nervous system damage with symptoms of weakness, pain in the legs and numbness.

The Human Health Assessment Group in EPA's Office of Health and Environmental Assessment has evaluated TCDD for carcinogenicity. According to their analysis, the weight-of-evidence for TCDD is group B2, which is based on inadequate evidence in humans and sufficient evidence in animals. As a group B2 chemical, TCDD is considered to be probably carcinogenic to humans. Following severe accidental exposure, symptoms of porphyria cutanea tarda, uroporphyrinuria, abnormal liver tests and liver enlargement were noted. Chloracne was found in 52 percent of 226 workers in a 1979 cross-sectional survey at a plant where 2,4,5-T had been manufactured from 1948 to 1969 (TCDD is a contaminant of 2,4,5-T).

Diesel Fuel

Diesel fuel (Diesel Fuel Number 2) consists primarily of straight-chain hydrocarbons from C-10 to C-23. The most abundant constituents are typically C-16 and C-17 hydrocarbons. Some aromatics may also be present, typically contributing less than 0.1 percent of the total product. Exposure to diesel fuel liquid product may produce skin irritation, and inhalation of the product mist may result in headache, nausea, and confusion. Diesel fuel has not been assigned a PEL-TWA. It is not considered a carcinogen by IARC.

Benzene

Benzene exposure can occur by inhalation, percutaneous absorption, ingestion, and skin and eye contact. Like other aliphatic and aromatic hydrocarbons, acute overexposure to benzene can cause central nervous system depression. Headache, dizziness, nausea, convulsions, coma, and death can result from elevated exposures. In some cases, acute exposure has resulted in death due to ventricular fibrillation. The principal chronic hazard associated with benzene exposures is its ability to cause changes in blood cells, including anemias and cell abnormalities. Benzene has been demonstrated to cause leukemia in epidemiological studies, and it is recognized as a human carcinogen by NIOSH and other agencies. The EPA currently classifies benzene as a Class A, or confirmed, human carcinogen. The current PEL-TWA for benzene is 1 ppm with an STEL of 5 ppm.

Ethylbenzene

Ethylbenzene exposure can occur by inhalation, ingestion, and skin and eye contact. Like other aliphatic and aromatic hydrocarbons, acute overexposure to ethylbenzene can cause central nervous system depression. Headache, dizziness, nausea, convulsions, coma, and death can result from elevated exposures. Ethylbenzene also causes skin drying and defatting, and eye and mucous membrane irritation can result from overexposure. The current PEL-TWA for ethylbenzene is 100 ppm with an STEL of 125 ppm.

Toluene

Toluene exposure can occur by inhalation, percutaneous absorption, ingestion, and skin and eye contact. Toluene can cause eye, respiratory, and skin irritation. Drying and defatting on the skin can occur with prolonged skin contact. The chief symptom of acute exposure to toluene vapor is depression of the central nervous system

function. Symptoms include headache, dizziness, drowsiness, incoordination, and coma. The current PEL-TWA for toluene is 100 ppm with an STEL of 150 ppm.

Xylene

The major route of xylene toxicity is via inhalation of vapor, with percutaneous absorption and ingestion of liquid playing lesser roles. Xylene can cause irritation of the eyes, nose, and throat. Repeated skin contact may cause drying, defatting, and dermatitis. Acute exposure to vapors via inhalation may cause central nervous system depression, and liver and kidney damage. The current PEL-TWA for xylene is 100 ppm with an STEL of 150 ppm.

2.2 Potential Exposure Routes

Inhalation

Exposure via this route could occur if volatile chemicals become airborne during site activities, especially upon exposure to open air, warm temperatures, and sunlight. This release of vapors may occur during sampling or excavation activities. Inhalation of dusts contaminated with site chemicals is also a possibility. Air monitoring and control measures specified in this plan will minimize the possibility for inhalation of site contaminants.

Skin Contact

Exposure via this route could occur if contaminated soil, water or product contacts the skin or clothing. Dusts generated during soil movement may also settle on exposed skin and clothing of site workers. Protective clothing and decontamination activities specified in this plan will minimize the potential for skin contact with the contaminants.

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 Air Monitoring and Action Levels

As shown in Table 2, air monitoring will be conducted to determine possible hazardous conditions and to confirm the adequacy of personal protective equipment. The results of the air monitoring will be used as the basis for specifying personnel protective equipment and determining the need to upgrade protective measures.

The specific monitoring equipment item(s) to be used on this project will be indicated by Hart Crowser Unit Number on the project Field Equipment & Supplies form. This form is included in this plan by reference. The Unit Number ties each specific piece of equipment to the records maintained in the Equipment Log Books by the Equipment Technician. As detailed below, calibration, maintenance, and repair activities are performed or arranged for each air monitoring equipment item by the Equipment Technician. These activities are conducted at the frequency specified by the manufacturer or more frequently as required by use conditions, and all such calibration/repair records are documented in the Equipment Log Books by the Equipment Technician.

Table 2 - Air Monitoring Action Levels

Monitoring Device	Result	Action Required	Notes
HNU PI 101	5 to 10 Units above Background	Use Half-Mask Respirator	a,b
	10 to 100 Units above Background	Use Full-Face Respirator	a,b
	>100 Units above Background	Stop Work; Contact Project H&S Manager	a,b
MSA 361	Oxygen < 19.5% or > 22%	Stop Work; Contact Corporate H&S Manager	a,b,c
	Hydrogen Sulfide > 1 ppm	Stop Work; Contact Project H&S Manager	
	0 to 5% LEL	Continue Monitoring	d
	5 to 10% LEL	Use Caution; Continue Monitoring	d
	> 10% LEL	Immediate Evacuation; Contact H&S Manager	e

Notes:

- Use appropriate lamp and calibrate unit.
- Air-purifying respirators must be used only when use criteria are met and when appropriate cartridges are available.
- Oxygen deficiency requires confined space entry procedures.
- Use caution to prevent all sources of ignition.
- Contact appropriate fire control personnel as required.
- Half-mask respirators generally acceptable up to 10 times the PEL, full-face respirators up to 100 times the PEL. In no case may the use limits of the respirator be exceeded (i.e., do not use organic vapor cartridges if air concentration is over 1,000 ppm total for all vapors).

Air monitoring will generally be conducted by the Field Health and Safety Manager or other designated individual. The Project Manager is responsible for ascertaining that each designated operator is properly trained in the use of the monitoring equipment. The results of all air monitoring will be recorded on the project Field Health and Safety Report and will be used as the basis for specifying personnel protective equipment and determining the need to upgrade/downgrade protective measures. When completed, these data reports will be filed with the project records.

The following sections describe the types of monitoring equipment which are available for use on Hart Crowser projects. Monitoring procedures and calibration/maintenance are discussed separately for each equipment item.

Photoionization Detector

The Photoionization Detector (PID) will be used when volatile organic chemicals may be present during site activities at unacceptable concentrations. This detector is non-specific, meaning that it does not identify the chemicals present. In addition, since it is calibrated using only a single reference chemical, the PID provides only an estimate of the actual vapor concentration present. If chemical-specific information is necessary, this device must be backed up with other types of sampling equipment.

Monitoring Procedures. Where applicable, air monitoring will be conducted with a HNU PI 101, or equivalent, with 10.2 eV lamp, to measure organic vapor concentrations during site work activities.

The Field Health and Safety Manager or other designated project individual is responsible for verifying that the equipment is calibrated and working properly before on-site use. For the HNU, this will include zeroing the instrument prior to start of work. Records of these activities will be maintained in the Field Health and Safety Report. If there are any problems with the equipment, the item will be removed from use until repair or replacement can be coordinated with the Equipment Technician.

Action Levels. HNU monitoring will be conducted prior to the start of work at each individual work area where volatile chemicals may be present.

- ▶ **If HNU measurements are less than 5 HNU units above ambient background levels,** work can proceed without respiratory protection. In this case, monitoring will be repeated at 15- to 30-minute intervals, or more frequently, if odors or signs of irritation are noted.
- ▶ **If HNU measurements are between 5 and 100 HNU units above ambient background levels** in the worker's breathing zones for five consecutive minutes, then site workers exposed to these levels will use air purifying respirators as specified in Table 2. Repeat monitoring at least every 15 minutes, or sooner, if any odors or signs of irritation are noted.
- ▶ **If HNU measurements exceed 100 HNU units** in employee breathing zones, site work will cease and employees will evacuate the work area pending re-evaluation of the situation by the Corporate H&S Manager. Action will be taken, including plan modification, if required, to address any situations where such results are observed.

Calibration and Maintenance. Calibration and maintenance of the HNU (or equivalent) monitor will be accomplished as follows.

All HNU monitors returned to the Equipment Room will be accompanied with a completed Notice of Returned Equipment form, indicating the equipment condition. The Equipment Technician will perform maintenance/repair as required to correct any problems indicated on this form.

Each time an HNU monitor is returned to the office, the Equipment Technician will check the probe connector pins for damage, verify that the selector switch is operating properly, and ensure that the unit is properly charged. As recommended by the manufacturer, cleanliness of the 10.2 eV lamp will be verified by checking for a negative needle deflection on exposure to water vapor. Any repairs will be documented in the Equipment Log Book.

Each HNU currently in service will be calibrated using isobutylene calibration gas cylinder and regulator as recommended by the manufacturer. Actual calibration gases may be purchased from local vendors. Calibration will consist of a response check and instrument adjustment using a 100 ppm isobutylene standard. Calibration will be performed at least weekly, or more frequent if required by specific project needs. Calibration results will be documented in the Equipment Log Book.

MSA Detector

Monitoring Procedures. Where applicable, air monitoring will be performed with an MSA 361 or equivalent monitor. This device will be used to determine the presence of combustible gases and vapors, oxygen levels (if applicable), and hydrogen sulfide levels (if applicable).

The Field H&S Manager or other designated project individual is responsible for verifying that the equipment is calibrated and working properly before on-site use. The combustible gas and H₂S sensors must be zeroed and the O₂ sensor set to 20.8% prior to use. The alarm must also be enabled before use, and the pump inlet filter must be checked and replaced as necessary. Records of these activities will be maintained in the Field Health and Safety Report. If there are any problems with the equipment, the item will be removed from use until repair or replacement can be coordinated with the Equipment Technician.

Action Levels for Combustible Gases and Vapors. MSA 361 monitoring for combustible gases and vapors will be conducted during initial excavation and drilling activities in areas where potentially flammable chemicals may be present, whenever free chemical product is encountered, during tank removal activities, and during any other activity where combustible gases and vapors may be anticipated.

- ▶ **If combustible vapors are less than 5% of the LEL**, work can proceed with continued monitoring. In this case, monitoring will be repeated at 30-minute intervals, or sooner, if any odors or signs of contamination are noted.
- ▶ **If combustible vapors are between 5% and 10% of the LEL**, work can proceed with caution but monitoring must be performed continuously. In this case, monitoring results will be recorded at 15-minute intervals, or sooner, if any odors or signs of contamination are noted.
- ▶ **If combustible vapors are greater than 10% of the LEL**, site work will cease pending re-evaluation of the situation by the Project H&S Manager. In general, continue field ventilation attempts (with a brush fan) only if the ventilation equipment is non-sparking and approved for use in flammable atmospheres. Action will be taken, including plan modification, if required, to address any situations where such results are observed.

Action Levels for Oxygen Content. MSA 361 monitoring for oxygen content will be conducted prior to and during confined space entry, as described in the Confined Space Entry Procedures, or whenever oxygen deficient or enriched conditions may be expected.

- ▶ **If oxygen content is < 19.5% or > 23%**, immediately stop work, evacuate the area, and contact the Project H&S Manager. When employees are involved in confined space activities or other activities where oxygen deficiency could occur, monitoring must be performed continuously during the initial phase of the job and results must be recorded at a minimum frequency of 15 minutes. If the oxygen level is normal, combustible vapors are absent, and there is no indication these conditions may change, monitoring may be discontinued after a 1 hour period where all readings are at background levels. Otherwise, monitoring must be continued as described above. If any indications of changing conditions are noted, monitoring must be resumed immediately. Action will be taken, including plan modification, if required, to address any situations where such results are observed.

Action Levels for Hydrogen Sulfide. MSA 361 monitoring for hydrogen sulfide content will be conducted whenever site conditions indicate that this gas may be present. As described below, the monitoring frequency will be determined by the results of the initial survey measurement. Action levels are shown in Table 2.

- ▶ **If hydrogen sulfide measurements are less than 1 ppm** in employee breathing zones, work can proceed without respiratory protection. In this case, monitoring will be repeated at 30-minute intervals, or sooner, if any odors or signs of irritation are noted. Monitoring may be discontinued when H₂S remain non-detectable for a 1-hour period.
- ▶ **If hydrogen sulfide measurements exceed 1 ppm** in employee breathing zones, site work will cease and employees will evacuate the work area pending re-evaluation of the situation by the Corporate H&S Manager. This plan will be modified as required to

address any situations where such results are observed. Action will be taken, including plan modification, if required, to address any situations where such results are observed.

Calibration and Maintenance. Calibration and Maintenance of the MSA 361 monitor will be accomplished as follows.

All MSA 361 monitors returned to the Equipment Room will be accompanied with a completed Notice of Returned Equipment form, indicating the equipment condition. The Equipment Technician will perform maintenance/repair as required to correct any problems indicated on this form.

Each time an MSA 361 monitor is returned to the office, the Equipment Technician will ensure that the unit is properly charged, verify that combustible gas and H₂S sensors can be zeroed, and set the O₂ sensor to 20.8%. In addition, the unit will be leak-checked by sequentially blocking the pump inlet and outlet. The MSA battery will also be fully discharged and cycled on a monthly basis in accordance with manufacturer's recommendations. Any repairs will be documented in the Equipment Log Book. Dates of sensor replacement will also be recorded in the Log Book.

Each MSA 361 currently in service will be calibrated using the MSA O₂/combustible gas calibration cylinder and regulator. Calibration will be performed at least weekly, or more frequently if required by specific project needs. In addition, calibration of the combustible gas and oxygen sensors will be performed prior to use and on a daily basis for every project where confined space entry or oxygen deficiency may be involved. Calibration will include an instrument response check and adjustment using an MSA supplied standard of 1.45% methane and 15% oxygen in nitrogen.

Calibration for H₂S will be performed prior to each project where H₂S may occur as a site chemical. The calibration procedure will include an instrument response check and adjustment using an MSA supplied standard of 10 ppm H₂S in nitrogen. Calibration results will be documented in the Equipment Log Book.

2.4 Fire and Explosion Hazard

Potentially explosive conditions may be encountered where petroleum hydrocarbons or other flammable gases or vapors have accumulated. Care will be exercised at all times during field activities where flammables are known or suspected to be present. Field monitoring equipment will be used to determine the percent of the lower explosive limit (LEL) present whenever flammable chemicals are encountered. Table 2 presents fire and explosion risk action levels as a function of LEL measurements.

An ABC dry chemical fire extinguisher with a minimum charge of 10 pounds shall be a part of the sampling equipment brought to the site. If flammable chemical products are encountered as a separate phase or as vapors, constant attention to readings obtained from the combustible gas indicator (MSA 361 or equivalent) will be necessary to avoid exceeding the lower explosive limit. Observe basic precautions such as no smoking or creation of sparks or open flames.

2.5 Heat and Cold Stress

Use of impermeable clothing reduces the cooling ability of the body due to evaporation reduction. This may lead to heat stress. Cold stress, or hypothermia, can result from abnormal cooling of the core body temperature.

Signs of Heat Stress

"Heat stress" is a term that is used to describe progressively more serious symptoms, as follows:

- ▶ An initial rise in skin temperature due to increased blood flow to the skin (skin redness);
- ▶ Increase in heart rate, to more than 30 beats/minute above the resting level;
- ▶ Collapse, or heat exhaustion, due to inadequate blood flow to the brain;
- ▶ Dehydration, due to excessive sweating;
- ▶ Hyperventilation, resulting in a reduction of the normal blood carbon dioxide concentrations;
- ▶ Tingling around the lips, dizziness, cramping of muscles of hands and feet, and blackout; and finally
- ▶ "Heat stroke," characterized by unconsciousness, hot dry skin, and absence of sweating.

Control of Heat Stress

On hot, sunny days (high radiant heat load), if using impermeable work clothing, maintain appropriate work-rest cycles (progressively longer rest breaks in a cool location or the shade as temperature and work tasks increase) and drink water or electrolyte-rich fluids (Gatorade or equivalent) to minimize heat stress effects. Impermeable clothing will only be worn when absolutely necessary for control of hazardous chemicals.

Also, when ambient temperatures exceed 70° F, employees will conduct monitoring of their heart (pulse) rates, as follows:

- ▶ Each employee will check his or her own pulse rate at the beginning of each break period;
- ▶ Take the pulse at the wrist for 6 seconds, and multiply by 10; and
- ▶ If the pulse rate exceeds 110 beats per minute, then reduce the length of the next work period by one-third.

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

Treatment of Heat Stress

Individuals affected by mild forms of heat stress (heat exhaustion, dehydration, or cramping) should take a break in a cool or shaded location, drink liquids, and sit or lay down until feeling better. Shorter work periods should be used until temperature cools off.

Individuals affected by heat stroke are in critical condition. Summon emergency aid immediately, remove clothing, and bathe individual in cool water continually to bring down body temperature.

Signs of Hypothermia

Hypothermia can result from abnormal cooling of the core body temperature. It is caused by exposure to a cold environment, and wind-chill as well as wetness or water immersion can play a significant role. The following discusses signs and symptoms as well as treatment for hypothermia.

Typical warning signs of hypothermia include fatigue, weakness, incoordination, 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.

Treatment of Hypothermia

Current medical practice recommends slow rewarming 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/or body heat from another individual to help restore normal body temperature.

2.6 Other Physical Hazards

Trips/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. All excavations will be temporarily enclosed during work with barrier tape, or similar measures will be used to prevent workers from accidentally falling into an excavation.

Confined Spaces

Confined space entry is not anticipated for this project. Personnel will not enter any confined space, such as excavations, tanks, or trenches, without specific approval of the Project Manager and Corporate H&S Manager. In addition, no entry into a confined space will be attempted until the atmosphere of the confined space is properly tested and documented by the Field H&S Manager or designated representative and a self contained breathing apparatus is available on site. A confined space entry permit must also be issued and followed. All specified precautions must be carefully followed, including upgrading of personnel protective equipment as directed by the Field H&S Manager or designated representative.

Noise

Appropriate hearing protection (ear muffs or ear plugs with a noise reduction rating of at least 25 dB) will be used for individuals working near an active drill rig or other high-noise generating equipment.

2.7 Hazard Analysis and Applicable Safety Procedures by Task

The work tasks and associated hazards, which may be anticipated during the operations described elsewhere in this work plan, and suitable control measures are presented in Table 3.

Table 3 - Hazard Analysis by Task

Work Task	Hazards	Protective Measures ^{a,b}
Site reconnaissance	None anticipated	Level D PPE
Installation of monitoring wells	Splashes, skin contact, moving equipment, inhalation, fire/explosion risk	Level C PPE, caution around moving equipment, air monitoring
Sample collection	Splashes, skin contact, inhalation	Level C PPE

^aProtection levels are defined in Table 4. Level C is typically modified to include respiratory protection only as warranted by contaminants.

^bProtection levels may require upgrade based on site monitoring or other information.

In addition, special task requirements include the following.

Drilling/Excavations

Drilling activities will be conducted with appropriate splash protection as discussed under personnel protective equipment requirements. Noise protection must also be available and used whenever drilling activities are in progress. In addition, exclusion zones will be established for worker protection as discussed below.

Excavation will be accomplished with similar precautions and employees will be cautioned to stand clear of all equipment and open excavations. Employees will not enter any excavations of 4 feet or greater depth without proper shoring or sloping.

Atmosphere Testing/Conditioning for Excavations, Soil Borings, and Well Installations

The following procedures are designed to address the atmosphere testing/conditioning procedures necessary for excavations, soil borings, or well installations, which involve release of flammable and/or toxic gases. All monitoring equipment must be properly calibrated and maintained as noted in the previous discussion of air monitoring procedures. Record all field monitoring results on the Field Health and Safety Report form.

1. If gas or vapor venting occurs from a soil boring, well installation, excavation, or other source, immediately position upwind from the source. If necessary, use respiratory protection as discussed below. **If the odor of natural gas is detected or if it suspected that a pipeline has been hit, immediately stop work, evacuate the area, and contact the proper authorities.**
2. Always keep the following points in mind when soil venting or other release of gas or vapor occurs:
 - ▶ Never work in an area which is above 10% of the combustible gas LEL or above the hydrogen sulfide warning limit, as discussed below.
 - ▶ Never continue to work in an area, even if LEL and hydrogen sulfide tests are acceptable, if you begin to notice strange odors or symptoms of overexposure (such as dizziness, nausea, tearing of the eyes, etc.). If this occurs, always stop work and evacuate the area pending further evaluation.

3. If natural gas or other pipeline material is not involved and the venting continues, stop work and perform appropriate testing using a combustible gas/hydrogen sulfide gas monitor (e.g., MSA 361 or equivalent). Proceed as follows:
 - ▶ If testing indicates no hazard, resume work and continue periodic testing.
 - ▶ If testing indicates combustible gases present below 10% of the LEL, verify the absence of hydrogen sulfide and resume work with continued monitoring. If vapors are detected in the work area, use fans or other means to disperse as appropriate. Consult with the Corporate H&S Manager to determine whether other types of testing may be required to verify that exposure levels are within acceptable limits. Use respiratory protection as necessary, based on testing results and other site-specific information.
 - ▶ If testing indicates combustible gases present above 10% of the LEL, assume that an explosion hazard exists. Do not resume work until testing shows the hazard has been removed. In some cases, this may be accomplished by allowing the gas to dissipate by natural or fan-forced ventilation. It may also be necessary or useful to inert a well or boring by introducing nitrogen or carbon dioxide through a non-conductive line. Water or drilling mud may be used to replace air in some bore holes and thereby eliminate the explosion risk. Verify the absence of hydrogen sulfide and resume work only when testing shows the explosion hazard has been removed. Continue to test on a regular basis, at least every 15 to 30 minutes, to ensure that the atmosphere remains inert.
 - ▶ If testing indicates presence of hydrogen sulfide, apply the same ventilation or inerting procedures as described above. Do not work in areas where the hydrogen sulfide concentration is above the applicable exposure level (the Washington State PEL-TWA for hydrogen sulfide is 10 ppm, with a STEL of 15 ppm) without appropriate respiratory protection. Resume work only when testing shows that the exposure level is within acceptable limits. Continue to monitor on a regular basis, at least every 15 to 30 minutes, to ensure that the atmosphere remains safe.

Soil, Surface Water, and Groundwater Sampling

All soil, surface water, and groundwater sampling activities will be conducted under the assumption that the media is contaminated and appropriate personnel protection will be required.

3.0 PROTECTIVE EQUIPMENT

Table 4 presents a summary of minimum personnel protection requirements based on the potential route of contact and the potential contaminants. These requirements are classified in the designated Level D and C categories as discussed below. In this plan, Level C is presented as a modified protection level, incorporating respiratory protection only where required by site conditions or as specified under the previous discussion of drums. Situations requiring Level A or B protection are not anticipated for this project. As noted previously, should they occur, work will stop and the H&S Plan will be amended as required prior to resuming work.

3.1 Level D Activities

Workers performing general site activities where skin contact with free product or contaminated materials is not likely and inhalation risks are not expected will wear regular work clothes or regular or polyethylene-coated Tyvek®, eye protection, hard hat (as required), nitrile or neoprene-coated work gloves (as required), and safety boots.

3.2 Level C Activities

Workers performing site activities where skin contact with free product or contaminated materials is possible will wear chemical-resistant gloves (nitrile, neoprene, or other appropriate outer gloves, surgical inner gloves) and polyethylene-coated Tyvek® or other chemical-resistant suits or rain gear. Make sure the protective clothing and gloves are suitable for the types of chemicals which may be encountered on site. Use face shields or goggles as necessary to avoid splashes in the eyes or face.

Table 4 - Minimum Personnel Protection Level Requirements

Potential Route of Contact: Types of Contaminants	Required Protection Level	Required Equipment								
		Safety Glasses	Hard Hat	Safety Boots	Tyvek	Poly Tyvek	Nitrile Gloves	Neoprene Gloves	Respirator	
									Half-Face	Full-Face
None Anticipated	Level D(a)	X	b	X						
Minor Skin Contact Possible	Level D(a)	X	b	X	X		X			
Skin Contamination Possible::	Level C(c)									
Organics		X	b	c		X	X			
Inhalation Possible:	Level C(c)									
Organics		X	b	c	X		X		f,g	f,h

Notes:

- Level D protection required when atmosphere contains no known hazard and work functions preclude splashes, immersion, or the potential for unexpected inhalation of or contact with hazardous levels of any chemicals.
- Hard hat is required where risk of striking overhead objects exists.
- Level C protection required when the atmospheric contaminants, liquid splashes or other direct contact will not adversely affect any exposed skin; the types of air contaminants have been identified, concentrations measured, an appropriate respirator cartridge is available; and all air-purifying respirator criteria are met.
- Goggles, face-shield, or full-face respirator required.
- Chemical-resistant synthetic boots required.
- Appropriate respirator cartridges include: organic vapor (MSA GMA or equivalent), combination (MSA GMC-H or equivalent), and others as required by contaminants.
- Half-face respirator required when HNU concentrations range from 5 to 10.
- Full-face respirator required when HNU concentrations range from 10 to 100 and/or eye irritation occurs.

When performing activities in which inhalation of chemical vapors and dusts is a concern, wear half-mask or full-face air-purifying respirators as specified in Table 4. If respirators are used, cartridges should be changed on a daily basis, at minimum. They should be changed more frequently if chemical vapors are detected inside the respirator or other symptoms of breakthrough are noted (irritation, dizziness, breathing difficulty, etc.).

4.0 SAFETY EQUIPMENT LIST

The following Safety Equipment must be available on site:

- ▶ Fire Extinguisher - 10 lb ABC
- ▶ First Aid Kit
- ▶ Eye Wash Kit
- ▶ Mobile Telephone
- ▶ Half-face APR - Organic Vapor/HEPA Cartridge (MSA GMA or equivalent) or Combination Cartridge (MSA GMC-H or equivalent)
- ▶ Hard Hat
- ▶ Tyvek® Coveralls/Polycoated Tyvek® Coveralls
- ▶ PVC (or similar) rainsuit
- ▶ Steel-Toed Boots
- ▶ Nitrile Outer Gloves/Nitrile or Latex Inner Gloves

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 hazardous waste activity location. Only persons with appropriate training and authorization from the Field H&S Manager will enter this perimeter while work is being conducted there. Traffic cones, barrier tapes, and warning signs will be used as necessary to establish the zone boundary. Plastic stanchions will be placed as required to prevent unauthorized access to within 10 feet from the side and a minimum of 25 feet behind the rear of any vehicles or open excavations. Danger signs will be posted in plain view of approach from either direction.

5.2 Contamination Reduction Zone

A contamination reduction zone will be established just outside each temporary exclusion zone to decontaminate equipment and personnel as discussed below. This zone will be clearly delineated from the exclusion zone and support zone using the means noted above. Care will be taken to prevent the spread of contamination from this area. Drums will be filled with spent decontamination fluids and used protective clothing on a daily basis. The drums, after labeling, will be moved to central storage location(s) on site pending disposal.

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. This zone will be clearly delineated from the contaminant reduction zone using the means noted above.

6.0 MINIMIZATION OF CONTAMINATION

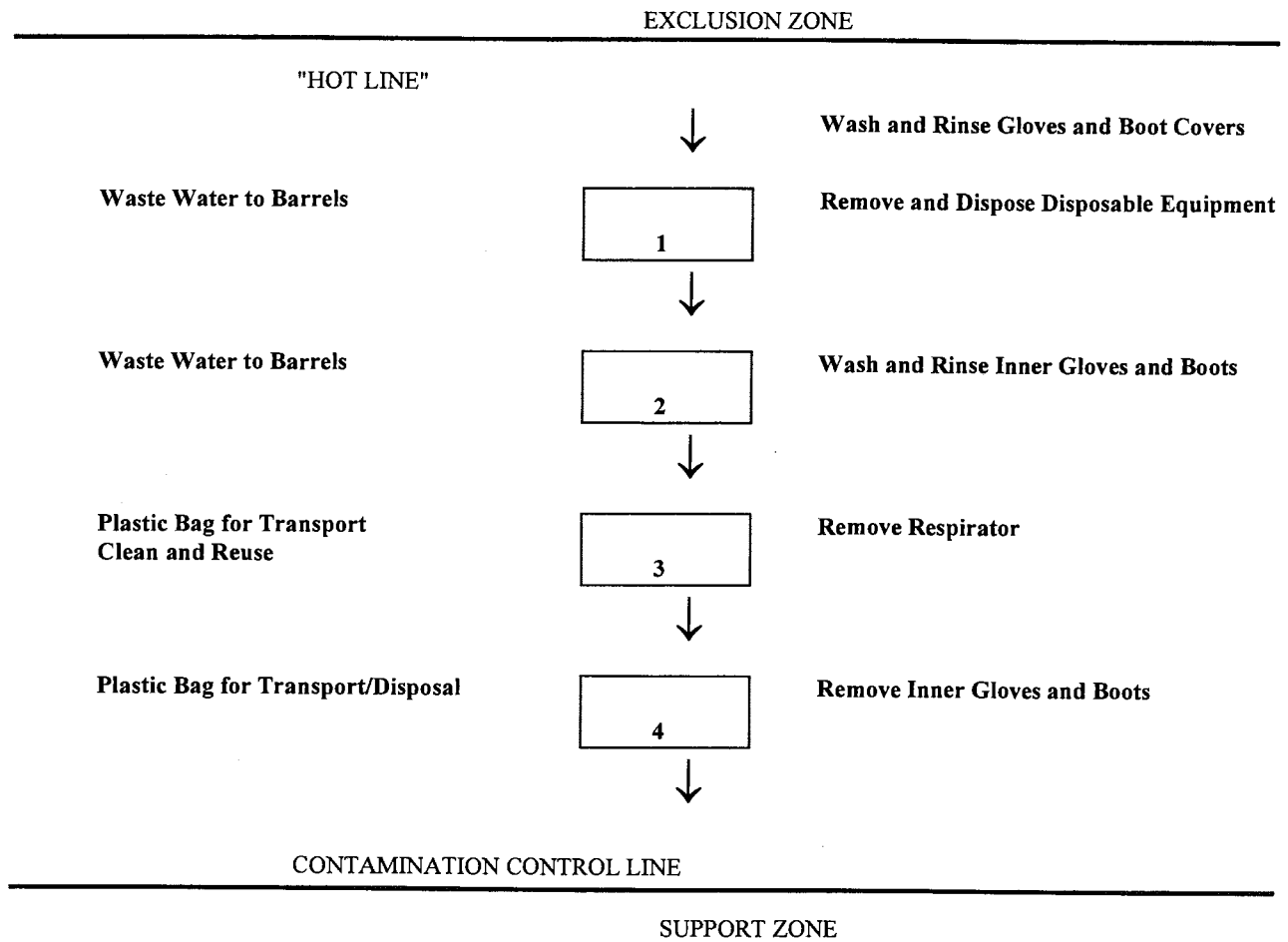
In order to make the work zone procedure function effectively, the amount of equipment and number of personnel allowed in contaminated areas must be minimized. In addition, the amounts of soil, water, or other media collected should not exceed what is needed for laboratory analysis and record samples. 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. Use plastic drop cloths and equipment covers where appropriate. 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. Figure 2 presents a layout for conducting decontamination within the sites zones discussed previously. 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 Alkaline Decon Solution

Figure 2 - Decontamination Layout



7.1 Equipment Decontamination

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 non-disposable equipment will be decontaminated in the contamination reduction zone. Prior to demobilization, all contaminated portions of heavy equipment should be thoroughly cleaned. Heavy equipment may require steam cleaning. Soil and water sampling instruments should be cleaned with detergent solutions in portable buckets.

7.2 Personnel Decontamination

Personnel working in exclusion zones will perform a mini-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 mini-decon and full decon activities.

Mini-decon Procedure:

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 as outlined below will be performed.
4. Remove outer gloves. Inspect and discard if ripped or damaged.
5. Remove respirator (if worn) and clean off sweat and dirt using premoistened towelettes. Deposit used cartridges in plastic bag.
6. Replace cartridges and outer gloves, and return to work.

Full Decontamination Procedure:

1. In the contamination reduction zone, wash and rinse outer gloves and boots in portable buckets.
2. Remove outer gloves and protective suit and deposit in labeled container for disposable clothing.
3. Remove respirator, and place used respirator cartridges (if end of day) in container for disposable clothing.
4. If end of day, thoroughly clean respirator and store properly.
5. Remove inner gloves and discard into labeled container for disposable clothing.
6. Remove work boots without touching exposed surfaces, and put on street shoes. Put boots in individual plastic bag for later reuse.
7. Immediately wash hands and face using clean water and soap.
8. Shower as soon after work shift as possible.

8.0 DISPOSAL OF CONTAMINATED MATERIALS

All disposable sampling equipment and materials will be placed inside of two 10 mil polyethylene bags or other appropriate containers and placed in storage as directed by the client. If storage is unavailable on site, or if other hazardous wastes will not be gathered and collected as part of this effort, then disposable supplies will be removed from the site with the personnel.

9.0 SITE SECURITY AND CONTROL

Site security and control will be the responsibility of the Project Manager. The "buddy-system" will be used when working in designated hazardous areas. Any security or control problems will be reported to appropriate authorities.

10.0 SPILL CONTAINMENT

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

11.0 EMERGENCY RESPONSE PLAN

The Hart Crowser 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 shall 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 (traffic, moving equipment, sharp or hot surfaces, slippery or uneven surfaces, etc.);
- ▶ Possible sources of radiation;
- ▶ Live electrical wires or equipment;
- ▶ Underground pipelines or cables; and
- ▶ Poisonous plants or dangerous animals.

These and other potential problems should be anticipated and steps taken to avert problems before they occur.

The Emergency Response Plan shall be reviewed and rehearsed, as necessary, during the on-site health and safety briefing. This ensures that all personnel will know what their duties shall be if an actual emergency occurs.

11.2 Plan Implementation

The Field H&S Manager shall act as the lead individual in the event of an emergency situation and evaluate the situation. He/she will determine the need to implement the emergency procedures, in concert with other resource personnel including client representatives, the Project Manager, and the Corporate H&S Manager. Other on-site field personnel will assist the Field H&S Manager as required during the emergency.

In the event that the Emergency Response Plan is implemented, the Field H&S Manager or designee is responsible for alerting all personnel at the affected area by use of a signal device (such as a hand-held air horn) or visual or shouted instructions, as appropriate.

Emergency evacuation routes and safe assembly areas shall be identified and discussed in the on-site health and safety briefing, as appropriate. The buddy-system will be employed during evacuation to ensure safe escape, and the Field H&S Manager shall 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 at the beginning of this plan;
- ▶ Route to Nearest Hospital: see list and route map at the beginning of this plan;
- ▶ Site Descriptions: see the description at the beginning of this plan; and
- ▶ If a significant environmental release of contaminants occurs, the federal, state, and local agencies noted in this plan must be immediately notified. If the release to the environment includes navigable waters also notify:
 - National Response Center at (800) 424-8802
 - EPA at (908) 321-6660

In the event of an emergency situation requiring implementation of the Emergency Response Plan (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, etc.), 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 Field H&S Manager for restart of work. The following general emergency response safety procedures should be followed.

11.4 Fires

Hart Crowser, Inc., personnel will attempt to control only very small fires. If an explosion appears likely, evacuate the area immediately. If a fire occurs which cannot be controlled with the 10-pound ABC fire extinguisher located in the field equipment, then immediate intervention by the local fire department or other appropriate agency is imperative. Use these steps:

- ▶ Evacuate the area to a previously agreed upon, upwind location;
- ▶ Contact fire agency identified in the site specific plan; and
- ▶ Inform Project Manager or Field H&S Manager of the situation.

11.5 Medical Emergencies

Contact the agency listed in the site-specific plan 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 on-site 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 or known dangerous confined space without applying confined space entry procedures or without using proper respiratory protection, such as a self contained breathing apparatus (SCBA).
- ▶ 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.

11.6 Uncontrolled Contaminant Release

In the event of a tank rupture or other material spill, attempt to stop and contain the flow of material using absorbents, booms, dirt, or other appropriate material. Prevent migration of liquids into streams or other bodies of water by building trenches, dikes, etc. Drum the material for proper disposal or contact a spill removal firm for material cleanup and disposal, as required. Observe all fire and explosion precautions while dealing with spills.

11.7 Potentially High Chemical Exposure Situations/Inadequate Protective Equipment

In some emergency situations, workers may encounter localized work area where exposure to previously unidentified chemicals could occur. A similar hazard includes the situation where chemicals are present above permissible exposure levels and/or above the levels suitable for the personnel protective equipment at hand on-site. If these situations occur, immediately stop work and evacuate the work area. Do not reenter the area until appropriate help is available and/or appropriate personnel protective equipment is obtained. Do not attempt to rescue a downed worker from such areas without employing confined space entry procedures. Professional emergency response assistance (fire department, HAZMAT team, etc.) may be necessary to deal with this type of situation.

11.8 Other Emergencies

Depending on the type of project, other emergency scenarios may be important at a specific work site. These scenarios will be considered as part of the site-specific plan and will be discussed during the on-site safety briefing, as required.

11.9 Plan Documentation and Review

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

The Project Manager and the Field, Project, and Corporate H&S Managers will critique the emergency response action following the event. The results of the critique will be used in follow-up training exercises to improve the Emergency Response Plan.

12.0 MEDICAL SURVEILLANCE

A medical surveillance program has been instituted for Hart Crowser employees having exposure to hazardous substances. Exams are given before assignment, 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 General H&S Plan.

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.

13.0 TRAINING REQUIREMENTS

Hart Crowser employees who perform site work must understand potential health and safety hazards. All employees potentially exposed to hazardous substances, health hazards, or safety hazards will have completed 40 hours of off-site initial hazardous materials health and safety training or will possess equivalent training by past experience. They will also have a minimum of three days of actual field experience under the direct supervision of a trained supervisor. All employees will have in their possession evidence of completing this training. Employees will also complete annual refresher, supervisor, and other training as required by applicable regulations.

Prior to the start of each work day, the Field H&S Manager will review applicable health and safety issues with all employees and subcontractors working on the site, as appropriate. These briefings will also review the work to be accomplished, with an opportunity for questions to be asked.

14.0 REPORTING, REPORTS, AND DOCUMENTATION

The Field Health and Safety Report will be completed daily by the Hart Crowser Field Health and Safety Manager or designated individual. In the event that accidents or injuries occur during site work, the Project Manager will be informed, who will notify the client immediately. Hart Crowser staff and subcontractors on this site will sign the Record of H&S Communication document (Table 5), which will be kept on site during work activities and recorded in the project files.

Table 5 - Record of Health and Safety Communication*

PROJECT NAME: JH Baxter		PROJECT NUMBER: J-7026-01	
SITE CONTAMINANTS:			
PPE REQUIREMENTS (check all that apply): <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input checked="" type="checkbox"/> Safety glasses </div> <div style="width: 50%;"> <input checked="" type="checkbox"/> Gloves (specify) <u>Nitrile</u> </div> <div style="width: 50%;"> <input checked="" type="checkbox"/> Safety boots </div> <div style="width: 50%;"> <input checked="" type="checkbox"/> Clothing (specify) <u>Tyvek or PolyTyvek</u> </div> <div style="width: 50%;"> <input checked="" type="checkbox"/> Hard hat </div> <div style="width: 50%;"> <input checked="" type="checkbox"/> Respirator (specify) <u>Half-Face with organic vapor cartridge</u> </div> <div style="width: 50%;"> <input type="checkbox"/> Other (specify) _____ </div> </div>			
The following personnel have reviewed a copy of the Site-specific Health and Safety Plan. By signing below, these personnel indicate that they have read the plan, including all referenced information, and that they understand the requirements which are detailed for this project.			
PRINTED NAME	SIGNATURE	PROJECT DUTIES	DATE

*PROJECT MANAGER: PLEASE ROUTE A COPY OF THIS FORM TO THE CORPORATE H&S MANAGER WHEN COMPLETED.

702601\AppendixD(H&SP).doc



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