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**ASI SITE SPECIFIC SAFETY PLAN FOR THE
FEED MATERIALS PRODUCTION CENTER
CONTRACT 602 SAMPLING ON AND ALONG
PADDYS RUN MARCH 19, 1990**

03/19/90

ASI/DOE-FMPC

28

PLAN

ASI SITE SPECIFIC SAFETY PLAN
For The
FEED MATERIALS PRODUCTION CENTER
CONTRACT 602
SAMPLING ON AND ALONG PADDYS RUN

March 19, 1990

APPROVALS

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1.0 TASKS TO BE PERFORMED

1. Surface Water Sampling
2. Sediment Sampling (Emory pipe dredge)
3. Benthic Organism Sampling (Hefter-Dandy Sampler, or Surber)
4. Leachate Sampling

The above tasks are to be performed on or along the sides of the Paddys Run. Paddys Run is an intermittent stream which flows on and off of the government reservation. The lower end of Paddys Run is unrestricted for use by the general public. The hazards associated with sampling its water and sediment is due to physical hazards associated with slips, trips and falls.

Drowning hazards may also be present during or immediately after heavy rains.

Dates of Field Work: Ongoing. These locations will be sampled as time permits during 1990. DOE will be notified of the scheduled dates.

Will Site Activities:

<u>no</u> Disturb Surface Soil	<u>yes</u> Sample Surface Water
<u>no</u> Disturb Subsurface Soil	<u>no</u> Sample Lagoons
<u>no</u> Use Heavy Equipment	<u>no</u> Use Boat
<u>no</u> Enter Confined Space	<u>yes</u> Involve Radioactivity
<u>no</u> Disturb Containerized Matter	<u>no</u> Involve Trenches

2.0 SITE HISTORY

The task sites are located along Paddys Run where slight elevations of U-238 have been detected in the sediment and water. Samples of surface water and sediments are taken periodically to document the effectiveness of on-site efforts to prevent significant deterioration of the off-site waterways and to assess the risk to off-site populations.

3.0 TASK SPECIFIC HAZARD ASSESSMENT

Task 1: Surface Water
Task 2: Sediment Sampling
Task 2: Leachate Sampling/Outfall Sampling
Task 3: Set/collect benthic collection traps.
Hefter-Dendy Samplers

Task 1: Surface Water Sampling and
Task 2: Sediment Sampling

The following hazard assessment is based on historical information. The field team routinely reassesses the hazards before starting work to insure that conditions have not changed. All newly identified hazards will be addressed with the health and safety department to determine the degree of hazard and if any changes to the safety plan are needed.

3.1 Physical Hazards

. Drowning Hazard

Life vests will be worn whenever there is potential to fall into deep or fast moving water. Deep or fast moving water is not anticipated unless there has been recent hard rainfall.

3.2 Chemical/Radiological Hazards

Chemical and radiological hazards are documented through past sampling efforts. The hazards have not been high enough to restrict the use of the stream.

For the purposes of writing this safety plan, there is no chemical/radiological hazard.

3.0 TASK SPECIFIC HAZARD ASSESSMENT (CONTINUED)

Task 3: Leachate Sampling along banks of Paddys Run

Tools: Sample containers such as jars, cubitainers, sediment sampling devices such as pond samplers and stainless steel spoons. An ISCO sampling pump is used to collect time averaged samples from the outfall(s).

3.1 Physical Hazards

Slip, trip and fall
Drowning Hazard

Slip, trip and fall hazards are always present. Care will be taken to avoid hazards and the buddy system will be enforced at all times.

Life vests will be worn whenever there is potential to fall into deep or fast moving water. Deep or fast moving water is not anticipated unless there has been recent hard rainfall.

3.2 Chemical Hazards

No chemical hazards have been identified in the leachate. Gloves will be worn as a precautionary measure to prevent water soluble materials from contacting exposed skin surfaces.

TASK SPECIFIC HAZARD ASSESSMENT (CONTINUED)**Task 3: Set/Collect Benthic Organism Traps or
Collect benthic organisms using Surber sampler**

Benthic organism traps, Hefter-Dendy samplers, are a series of parallel wooden plates which are separated by spacers. In use the devices are secured in the stream using a rope or cable. Sediments and benthic organisms collect in the spaces over time.

Surber samplers are used in streams/ivers to collect benthic organisms. The Surber sampler is a net attached to a pole handle. The device is used to collect sediments containing benthic organisms.

Physical Hazards

Drowning

Life vests will be worn whenever there is potential to fall into deep or fast moving water. Deep or fast moving water is not anticipated unless there has been recent hard rainfall.

Chemical Hazards

No significant chemical hazards have been identified in the sediments from which the benthic organisms will be collected.

4.0 MONITORING

No monitoring is necessary. Heat stress may be a problem during the summer months. Heat stress symptoms, monitoring methods and prevention steps are listed in the appendix for completeness.

5.0 PERSONAL PROTECTIVE EQUIPMENT

<u>ITEM</u>	<u>PPE NEED</u>	<u>JUSTIFICATION</u>
Inner Gloves	Y	Optional
Latex Boots	Y	Optional
Leather-Palm Gloves	Y	Optional
Nitrile Gloves	Y	Optional
Coveralls	Y	Type determined by personal preference.
Plain Tyvek	N	
PE Tyvek	N	
PVC Gloves	N	
Safety Glasses	Y	Minimum Requirement
Safety Goggles	N	Optional
Safety Shoes	Y	Minimum Requirement
Saranex Tyvek	N	
Life Jackets	Y	Where drowning hazard is present

6.0 SITE ACCESS

6.1 Access

General site access is not limited except on government property which is part of the FMPC facility. The remaining area is unrestricted and is accessible to the public.

6.2 Medical Monitoring

In accordance with 29 CFR 1910.120 OSHA requirements, all ASI and subcontractor field personnel are required to participate in a medical monitoring program which includes:

- A baseline medical examination
- Annual medical examination
- Medical examinations may be required after potential exposures.
- Exit medical examination
- WACO respirator physical

6.3 Training Requirements

All ASI and ASI subcontractor personnel assigned to the site tasks will, as a minimum, meet OSHA training requirements including:

- 40-hour OSHA training
- 8-hour annual refresher training
- 8-hour supervisory training (for supervisors)
- 24-hour supervised field experience
- Review of site specified hazards and procedures (tailgate meetings)
- WACO radiation safety training
- WACO respiratory training

6.4 Contamination Zones

No formal contamination zones will be used. The sediments will be treated as though they may contain trace quantities of insoluble uranium-238 for the purposes of consistency with other site related samples.

The contaminant concentrations are almost within the normal background range so a formal contamination reduction zone is not justified.

Reasonable care will be taken to restrict contact with muddy or dirty PPE or sampling equipment to prevent the appearance of contamination spread.

7.0 EXPOSURE SYMPTOMS

Exposure to sediment or surface water samples will not cause acute exposure symptoms.

7.1 First Aid for Exposures

No treatment anticipated for the predicted contaminants and concentrations. See Section 12 for contingency plans. See Section 17 for heat stress treatment.

8.0 SITE ENTRY PROCEDURES

- X Perform tailgate meeting to familiarize team with task specific hazards.
- X Use buddy system.
- X Wear life-jackets if deep water or fast moving water is present.

Note: The ASI Site Safety Officer and any member of the ASI field team have the authority to stop work when imminent or serious safety hazards or conditions exist. Restart of work will be allowed only after the hazard or condition has been abated or reduced to a level deemed acceptable by the SSO (or his designated representative) and Project Manager. If there is a question about what is acceptable, the work should be discontinued and the matter discussed with the Director of Health and Safety, Waste Management Division: William Kwoka, (615) 483-1274 - Work; [REDACTED] - Home. In Mr. Kwoka's absence, please call the Director of Health and Safety, Corporate Office: Greg McAnarney, (505) 889-3038 - Work; [REDACTED] - Home.

9.0 PERSONNEL FUNCTION ONSITE

Name

Function

Team Leader
Designated Site
Safety Officer
Equipment Operator

10.0 SITE EXITING PROCEDURE**10.1 DECONTAMINATION**

As a matter of protocol, the PPE, sampling equipment and other equipment which is visually dirty will be washed to maintain consistency with other site operations.

Good housekeeping practices require that the equipment be frisked after washing to document the lack of contamination.

11.0 INVESTIGATION DERIVED WASTES

Investigation derived wastes are wastes generated in the performance of onsite activities. These wastes include, but are not limited to:

- Disposable PPE such as Tyvek coveralls, gloves booties.
- Excess sample materials such as sediment

All materials associated with sampling should be taken back to FMPC to minimize the potential for confusion near the politically sensitive site.

Investigation derived wastes are the property of the client and are to be left onsite unless otherwise specified in the written contract.

The client will be responsible for proper transport, shipment or disposal unless otherwise specified in the written contract.

12.0 CONTINGENCY PLANS

Injuries

In the event of injuries, site personnel will try to reduce or eliminate the consequences when possible. The process of determining what is appropriate to do requires that each situation be evaluated on a case by case basis.

If it is safe for the worker to attempt rescue, it should be done without delay to minimize the victim's injuries.

12.1 Minor Injuries

Minor injuries (sprains, strains, and cuts) are expected to be treated by onsite personnel using standard first aid practices. ALL INJURIES WILL BE REPORTED TO WMCO MEDICAL AND ASI PROJECT HEALTH AND SAFETY (JOE POLIZIANI).

Heat Cramps/Heat Exhaustion, See SECTION 17.0.

12.2 Serious Injuries Call CONTROL

Serious injuries caused by physical trauma such as falling, heavy equipment, etc., should be stabilized using standard first aid practices. Treatment may include measures to control life threatening injuries and shock. Help must be requested as soon as possible.

CPR should be administered only by persons currently certified in CPR. Prior to performing CPR, the rescuer should consider what caused the victim to collapse.

Heat Stroke, See Section 17.0.

12.3 Injuries Complicated by Contamination

There is no potential for chemical/radiological contamination during the sampling along Paddys Run.

12.0 CONTINGENCY PLANS (CONTINUED)

If an injury occurs:

- Stabilize the victim.
- Notify the ambulance dispatcher of:
 - Extent of injuries.
 - What treatment has been performed (including decontamination)
 - Number of victims.
 - Your location.
 - Telephone number.
- You HANG UP LAST. The dispatcher is trained to be calm and ask for the appropriate information in the order that it appears on his/her form.

2.4 Fire Hazards Telephone CONTROL

No fire hazards are identified.

Small fires which appear to be controllable by field personnel should be controlled only if the safety of the field personnel is not jeopardized. Resources such as water, fire extinguishers, and soil may be used to contain or extinguish small grass fires. If there is doubt about the ability of the field crew to extinguish the fire, call the fire department.

12.5 Chemical/Radiological Releases

No chemical or radiological release potential exists.

12.6 Chemical Splashes

No chemical splash potential exists.

12.0 CONTINGENCY PLANS (CONTINUED)

12.7 Emergency Telephone Numbers

Ambulance: Radio to Control
LOCAL AMBULANCE: 911
Hospital: Radio to Control
Fire: Radio to Control or Call #202
for engineering assistance

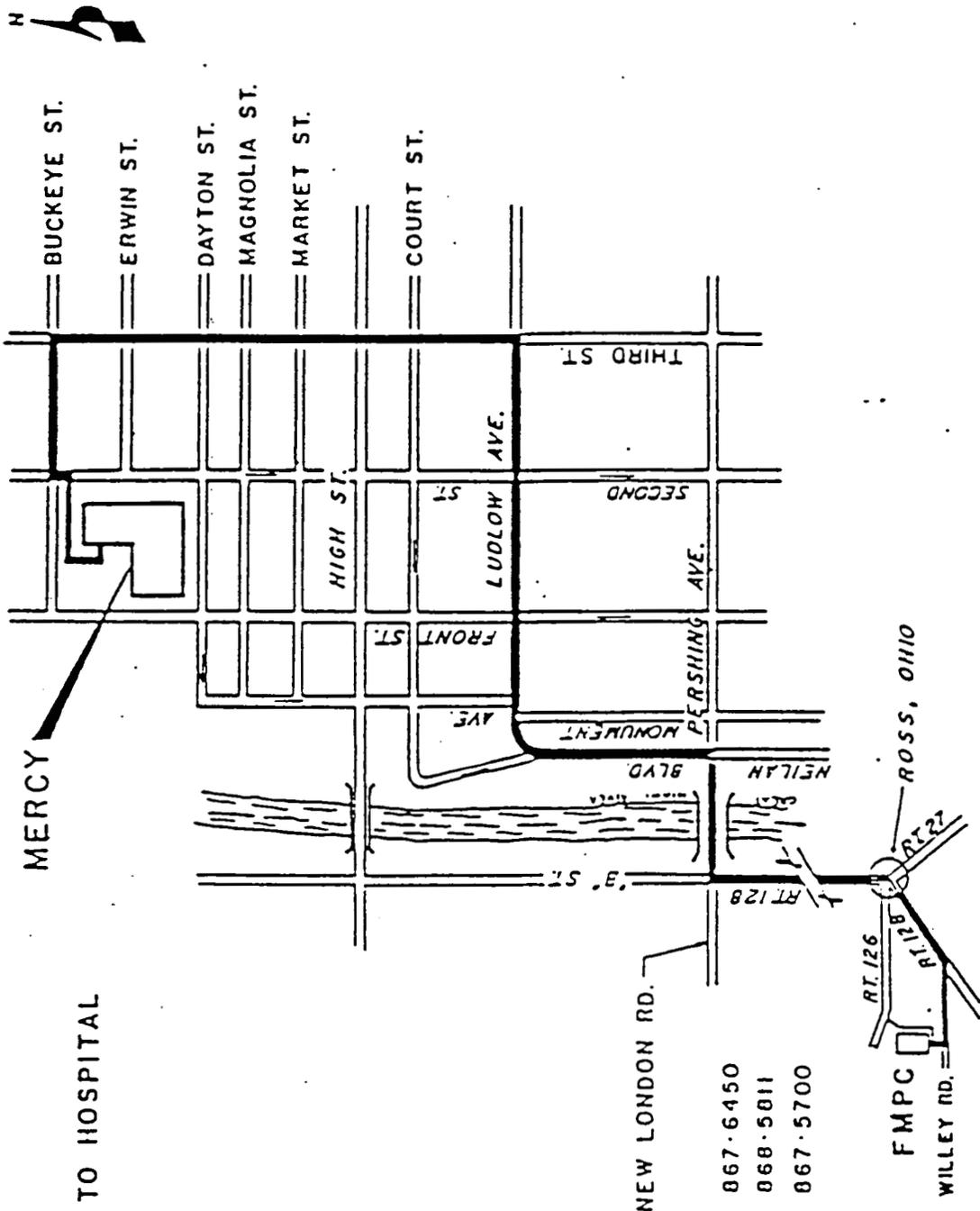
	Work	Home	Radio
Bill Kwoka, Dir. H&S (WMD):	(615)483-1274	[REDACTED]	
Alvin Luttrell, V.P. (WMD):	(615)483-1274	[REDACTED]	
Harry Windecker:	(513)738-3100	[REDACTED]	
Ray Meyer, Site Manager:	(513)738-3100	[REDACTED]	
Randall, Odell, SHSO:	(513)738-3100	[REDACTED]	822
Joe Poliziani, H.P., PHSO:	(513)738-3100	[REDACTED]	810
Bob Galbraith,	(513)738-3100	[REDACTED]	
Wm. Hertel, Field PM (IT):	(513)738-3100	[REDACTED]	817
Susan Birner, Personnel:	(505)883-0959	[REDACTED]	
Greg McAnarny, H&S (Corp.):	(505)883-0959	[REDACTED]	
Leo Singleton, WMCO:	(513)738-8908	-	
Dick Kasperek, WMCO:	(513)738-6899	-	
Mark Turner, H.P.:	(513)738-6899		824
Utility Engineer (WMCO):			202
EMERGENCY RESPONSE	(513)738-6511	or	CONTROL
Industrial Hygiene:	(513)738-6207		357
Radiation Safety (WMCO):	(513)738-6889		355
Fire and Safety (WMCO):	(513)738-6235		303

HOSPITALS

The nearest medical facility is the WMCO infirmary. It is the primary choice for on-site injuries. First aid station and ambulance service is available at the FMPC infirmary. Radio control for assistance. WMCO maintains an emergency response capability which includes an ambulance and EMT trained personnel. The WMCO ambulance will transport the injured workers to the nearest hospital if necessary.

If WMCO ambulances are available for any reason, Control will call for a community ambulance. The field team should confirm that an ambulance has been called.

If radio contact can not be made with WMCO, call 911 for a community ambulance. Estimated response time for the community ambulance is 15-20 minutes. Minor injuries should be transported to the WMCO infirmary using available vehicles.



HAMILTON
 EMERGENCY ROUTE TO HOSPITAL

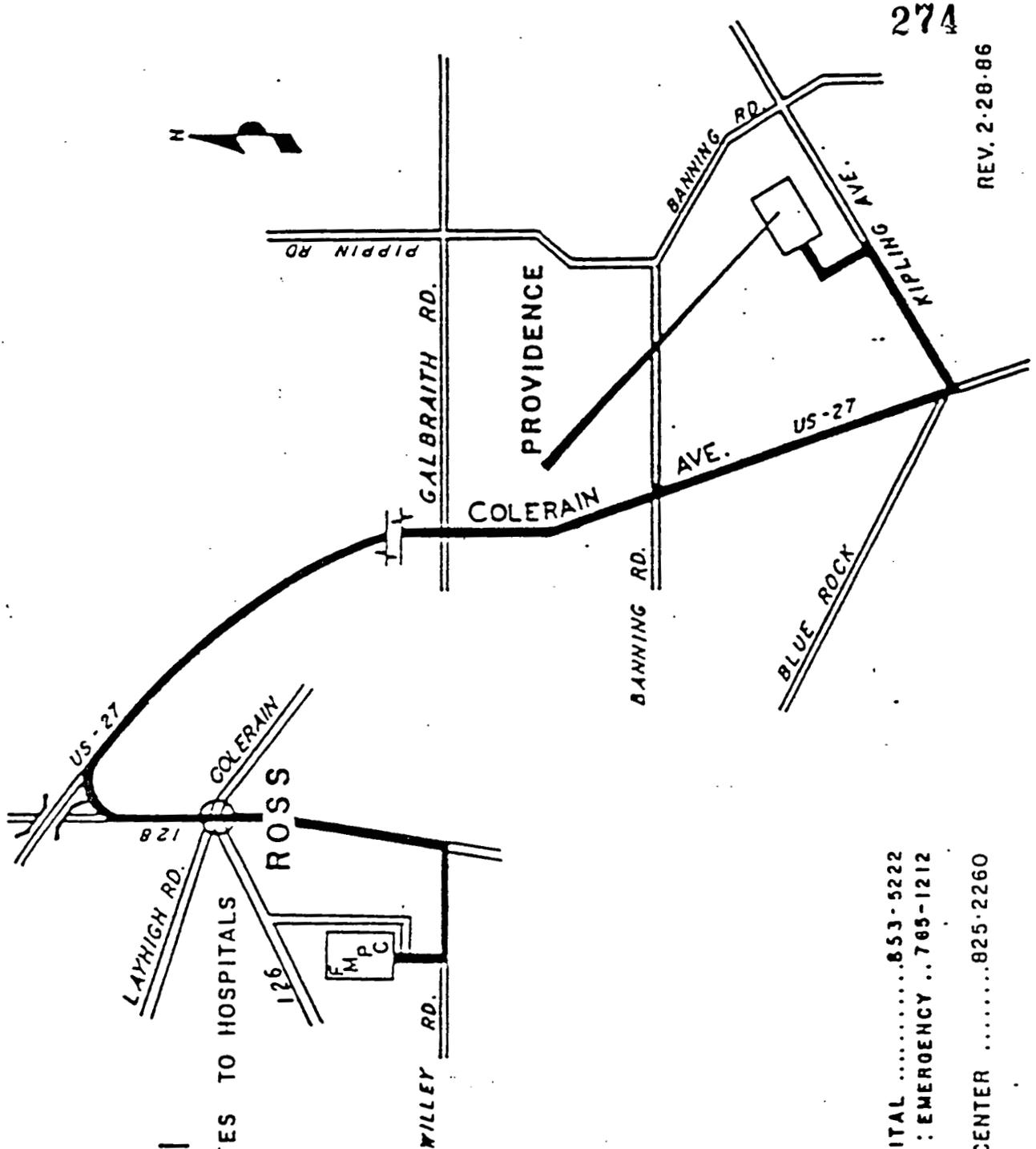
MERCY

- IN HAMILTON
- MERCY OF HAMILTON 867-6450
- HAMILTON POLICE DEPT. 868-5811
- BUTLER COUNTY POLICE 867-5700

NEW LONDON RD.
 FMPC
 WILLEY RD.
 ROSS, OHIO

REV. 3.3.86

MERCY OF HAMILTON



CINCINNATI
 EMERGENCY ROUTES TO HOSPITALS

- IN CINCINNATI
- PROVIDENCE HOSPITAL853-5222
- CINCINNATI POLICE : EMERGENCY ..765-1212
- HAMILTON COUNTY
- COMMUNICATIONS CENTER825-2260

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REV. 2-28-86

PROVIDENCE

13.0 CONFINED SPACE ENTRY

No Confined Space Entry is Permitted.

14.0 PERSONAL PROTECTIVE EQUIPMENT

This discussion of personal protective equipment is generic in nature. Specific site requirements are presented in Section 5.0

14.1 Level-B

Hardhat (optional)
 Face Shield (optional)
 Self contained breathing apparatus (Air line or bottled air)
 Disposable coveralls: Saranex, Tyvek or equivalent
 Inner gloves: Latex or PVC
 Outer gloves: (chemical resistant): Nitrile, butyl etc.
 Chemical resistant boots
 Latex booties (optional)
 Level-B PPE is to be worn in any of the following environments:

- Atmospheres containing chemicals having poor warning properties.
- Unknown atmospheres
- IDLH atmospheres
- Air concentrations exceeding 3X exposure standard
- Contaminants do not pose significant threat of exposure through skin absorption.

14.2 Level-C

Hardhat (optional)
 Face Shield (optional)
 Air purifying respirator cartridges (organic vapors, acid gas, pesticides, radionuclides, particulates)
 5-minute escape apparatus (optional *1)
 Disposable coveralls: Saranex, Tyvek or equivalent
 Inner gloves: Latex or PVC
 Outer chemical resistant: Nitrile, butyl etc.
 Chemical resistant boots
 Outer Disposable booties: latex
 Level-C is intended to be used where:

- Contaminants have good warning properties
- Cartridges are approved for use with the contaminant
- Oxygen concentrations are between 19.5 and 25%
- Toxic contaminant concentrations are not IDLH
- Concentrations are known and continuously monitored

14.0 PERSONAL PROTECTIVE EQUIPMENT (CONTINUED)

- Contaminant concentrations do not exceed 3X exposure

Cartridges will be changed:

- Daily.
- If color indicator shows that the cartridge is spent.
- If breakthrough is detected.

*1 Required if monitoring indicates that breathing zone concentrations are approaching the ASI action limit (1/2 exposure standard).

14.3 Level-D

Hardhat (optional)

Eye protection: safety glasses or goggles

Coveralls

Work boots

Work gloves

Level D PPE is basically a work uniform and provides no protection against chemicals. Level D is intended for sites where there is no risk from contaminants which can enter the breathing zone. Since most nonvolatile chemicals can adhere to particulates and be resuspended in the air, Level D is generally not permitted on contaminated sites. Level D can be used to work in areas where there is no risk of contamination such as upgradient installation of "Background" monitoring wells. Level D is not street clothes.

15.0 CALIBRATION OF SITE ENTRY EQUIPMENT

The work is being performed in unrestricted areas. NO monitoring or instrument calibrations are necessary.

16.0 HEAT STRESS

Heating of the body occurs from three sources:

1. Radiant heating from heat sources or sunlight.
2. Convective heating from contact with a warmer object or liquid.
3. Metabolic heating caused by activity.

Cooling occurs through three mechanisms:

1. Respiration: The air we exhale is warm. As the body overheats, the respirations become more rapid.
2. Radiation: Heat is released at the surface of the skin. As the body overheats, the surficial blood vessels dilate and allows more heat to be lost.
3. Evaporation: Perspiration is released to the skin surface and evaporates. The skin is cooled by evaporative cooling.

Personal protective equipment reduces the body's ability to shed excess heat through radiation and evaporation. Personal protective equipment (for chemicals) can also act like a greenhouse and collect radiant heat.

These facts mean that heat stress can be a serious problem to hazardous waste site workers. The following discussion is intended to familiarize personnel with the symptoms of heat stress.

Heat stress is a progressive condition. Its mildest form is a slight elevation of body temperature. Normal body temperature is generally near 98.6 F. Working in high temperatures may elevate the temperature to 100-101 F. By the time that the body temperature reaches 101 F, the worker generally has a headache. This is not a serious condition and can be treated through increased rest periods and cool fluid intake. The worker should not be allowed to work until the body temperature has been reduced to below 99F.

If work continues when the first symptoms occur, the person may develop Heat Cramps. Heat Cramps are brought about by long exposure to heat. The outside temperature does not have to be much higher than the "normal" environment. The person perspires heavily, often drinking large quantities of water. As the sweating continues, salts are lost by the body bringing about painful muscle cramps.

Treatment: The worker should be given rest, cool fluids, and removed from work for at least the remainder of the day. The person is likely to have an increased susceptibility to heat for the next few days.

16.0 HEAT STRESS (CONTINUED)Heat Exhaustion

Heat exhaustion symptoms include a near normal body temperature and profuse sweating. The temperature may reach 103 F.

Treatment of Heat Exhaustion

Remove the person from field work. Have the person rest in a cool area such as an air conditioned car or shaded area. Provide cool liquids to drink. Avoid beverages which contain caffeine or alcohol. Do not allow the victim to go back to work for at least one or two days.

Heat Stroke

Heat stroke is a life threatening condition. The person's body temperature regulating mechanism fail and his body can not rid itself of excess heat. Heat stroke symptoms include high body temperatures and HOT DRY SKIN. Most cases of heat stroke are reported on hot humid days.

HEAT STROKE VICTIMS MUST BE TRANSPORTED TO A HOSPITAL FOR IMMEDIATE TREATMENT. The individual must not be allowed to drive himself, since cases are on record where the victims condition worsens, he lapses into unconsciousness and dies. Heat stroke victims are not to return to field work without the physician's consent.

PREVENTION OF HEAT STRESS

Become acclimatized to heat for several days whenever possible. Work in the cooler portions of the day. Early morning hours and evening hours are cooler.

Take frequent breaks and consume at least one pint of cool fluid every hour. Replenish electrolytes through the consumption of diluted drinks. The body loses more water than electrolytes. Concentrated salt, electrolyte, or juices can make you more susceptible to heat stress.

16.0 HEAT STRESS (CONTINUED)**Monitoring:**

Heat Stress Monitoring should be performed whenever temperatures exceed 80 F and respiratory protection is required.

Body Temp.: less than 99:	Continue Work
Pulse Rate: < 110 bpm	
Body Temp: >99-100.3 F more	Reduce rate of work or take
Pulse Rate: < 110 bpm	frequent breaks. Consume more cool fluids.
Body Temp: > 100.4 F	Remove from work until temp.
Pulse Rate: < 110 bpm	reduced to 99 F or less.

If the body temperature exceeds 100.4, the pulse rate exceeds 110 bpm at rest, or the blood pressure exceeds 150/90, the person must not continue to work. These conditions have been found to prevent most heat related illnesses. Occasionally, high heat conditions combined with poor eating, sleeping and drinking habits has resulted in heat stroke occurring in less than 20 minutes.

Heat stress monitoring must be performed at least once per hour for documentation, but may have to be increased under severe circumstances.

16.0 HEAT STRESS (CONTINUED)

Table 3 Signs and Symptoms of Heat Stress

- **Heat rash** may result from continuous exposure to heat or humid air.
- **Heat cramps** are caused by heavy sweating with inadequate electrolyte replacement.

Signs and symptoms include:
 - muscle spasms
 - pain in the hands, feet, and abdomen
- **Heat exhaustion** occurs from increased stress on various body organs including inadequate blood circulation due to cardiovascular insufficiency or dehydration. Signs and symptoms include:
 - pale, cool, moist skin
 - heavy sweating
 - dizziness
 - nausea
 - fainting
- **Heat stroke** is the most serious form of heat stress. Temperature regulation fails and the body temperature rises to critical levels. Immediate action must be taken to cool and body before serious injury and death occur. Competent medical help must be obtained. Signs and symptoms include:
 - red, hot, usually dry skin
 - lack of/or reduced perspiration
 - dizziness and confusion
 - strong, rapid pulse
 - coma

Because the incidence of heat stress depends on a variety of factors, all workers, even those not wearing protective equipment, should be monitored.

17.0 APPROVAL AND COMPLIANCE STATEMENT

This site specific safety plan was produced for the use of ASI employees and ASI subcontractors. It was intended for the Feed Materials Production Center, Fernald, Ohio (ASI contract 602). and for:

Surface Soil/Water sampling outside of the production area.

The undersigned persons have read and understood the attached site specific safety plan and agree to follow its provisions*1:

Name (lettered)	Signature	Date
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

The following individuals are not obligated, by contract, to follow ASI safety policies, but have read and understood the safety plan:

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

*1 Compliance with the provisions of this HASP may be audited through announced or unannounced site visits. Be sure that you are implementing the provisions of the safety plan and documenting the reasons for field actions/changes when they are necessary. Site visits may be performed:

- ___ By ASI
- ___ By Client
- ___ By OSHA