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ASI SITE SPECIFIC SAFETY PLAN FOR THE FEED MATERIALS PRODUCTION CENTER CONTRACT 602 SAMPLING ON AND ALONG THE GREAT MIAMI RIVER MARCH 19, 1990

03/19/90

ASI/DOE-FMPC
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PLAN

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ASI SITE SPECIFIC SAFETY PLAN

For The

FEED MATERIALS PRODUCTION CENTER

CONTRACT 602

SAMPLING ON AND ALONG THE GREAT MIAMI RIVER

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/Outfall Sampling

The above tasks are to be performed on or along the sides of the Great Miami River. The Great Miami River is a recreational river which has unrestricted access to the general public. The hazards associated with sampling its water and sediment is due to the physical hazards associated with the equipment being used.

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:

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

2.0 SITE HISTORY

The task sites are located in an unrestricted area of the Great miami River. 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.

3.0 TASK SPECIFIC HAZARD ASSESSMENT

THE TASKS LISTED BELOW ARE TO BE PERFORMED ALONG THE GREAT MIAMI RIVER:

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

TASK 1 &

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

. Boat Operation
. Drowning Hazard

Life vests will be worn whenever there is potential to fall into deep or fast moving water.

3.2 Chemical Hazards

No chemical hazards have been identified in the Great Miami River or its sediments.

3.0 TASK SPECIFIC HAZARD ASSESSMENT (CONTINUED)

Task 2: Leachate Sampling along banks of Great Miami River
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. If deep fast moving water is encountered, the samplers will be tethered to a tree or other solid object on the shore.

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 to the side of the river using a rope or cable. Sediments and benthic organisms collect in the spaces over time.

Surber samplers are used in streams/rivers 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
Boat operation

Life preservers will be worn to prevent drowning if someone falls overboard. Care will be taken to slowly release the traps and to keep hands and feet clear of the coiled rope when the traps are being set. A knife will be available to cut the rope if it entangles a sampler. (No knife is required if metal cables are used to secure the samplers.)

Chemical Hazards

No 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 is not a problem in an open boat even at high ambient temperatures. Heat stress symptoms, monitoring methods and prevention steps are listed in the appendix for completeness.

5.0 PERSONAL PROTECTIVE EQUIPMENT

ITEM	PPE NEED	JUSTIFICATION
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. The area is unrestricted and is accessible to the public. Use of the boat and/or the specific locations to be sampled makes interference by the public very unlikely.

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
- WMCO 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)
- WMCO radiation safety training
- WMCO 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 low enough to fall within the normal background range so a formal contamination reduction zone is not justified.

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_ Obtain permits necessary to operate a boat on the Great Miami River.

_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 boat and other equipment which is visually dirty will be washed to maintain consistency with other site operations. No monitoring is required because contamination if present is comparable to background concentrations.

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 Setion 17.0.

12.2 Serious Injuries Call **911**

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

No potential exists for contamination with materials other than the fuels which power the boat motor.

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 **911**

No fire hazards are identified other than fuel for the boat.

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
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		
Harry Windecker:	(513)738-3100		
Ray Meyer, Site Manager:	(513)738-3100		
Randall, Odell, SHSO:	(513)738-3100		822
Joe Poliziani, H.P., PHSO:	(513)738-3100		810
Bob Galbraith,	(513)738-3100		
Wm. Hertel, Field PM (IT):	(513)738-3100	[redacted]	817
Susan Birner, Personnel:	(505)883-0959		
Greg McAnarny, H&S (Corp.):	(505)883-0959	[redacted]	
Mark Turner, H.P.:	(513)738-6899		824

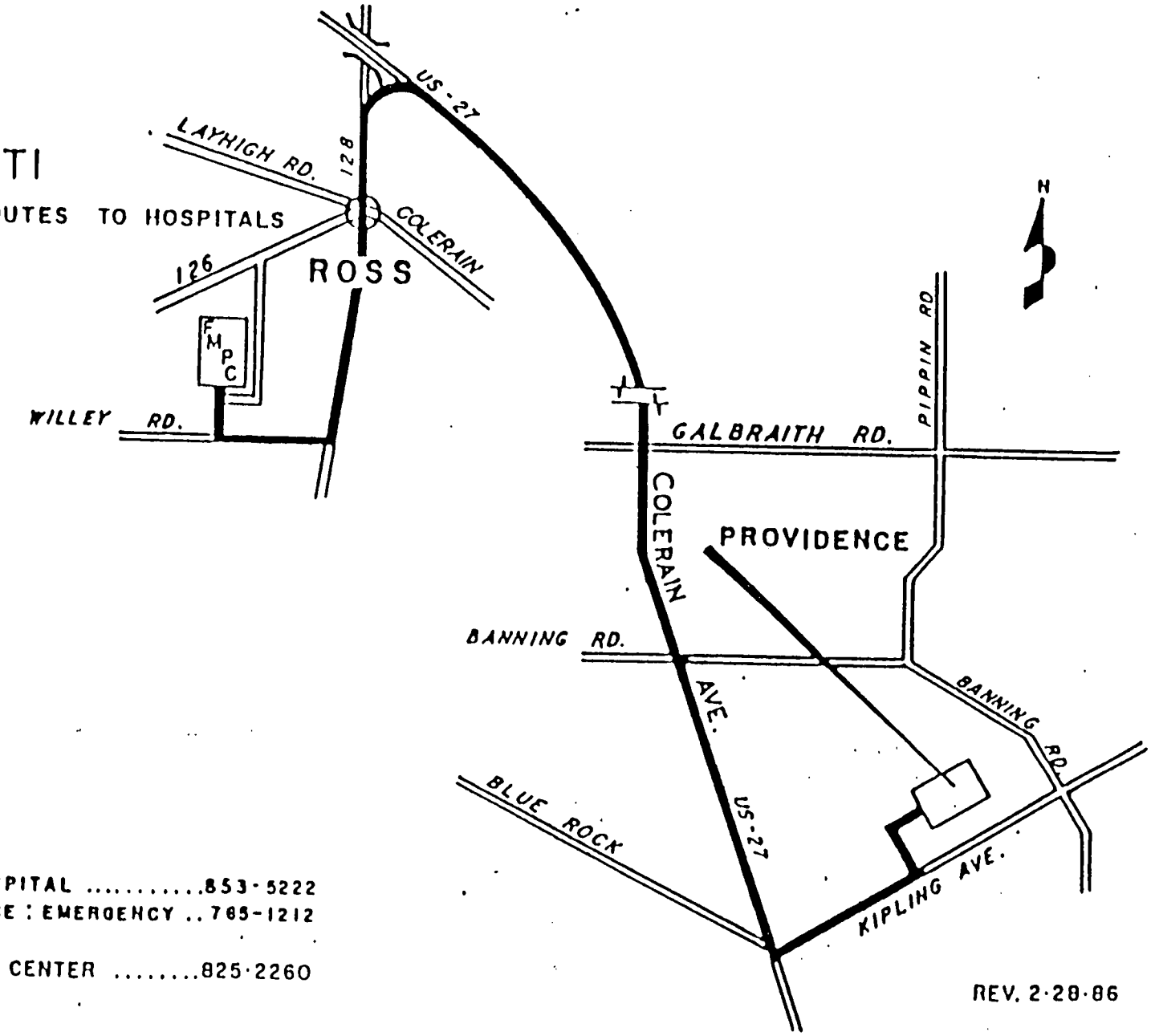
ROUTE TO HOSPITAL FROM SITE
This activity is outside of WMCOs ambulance service range. Call for a community ambulance to transport serious injuries. Transport minor injuries in available vehicles. Small injuries which do not require hospital care should be transported to the WMCO infirmary.

HOSPITALS:
The attached map shows the location of the nearest hospital. To get to the hospital:

_____
_____
_____
_____
_____
_____
_____
_____

CINCINNATI

EMERGENCY ROUTES TO HOSPITALS



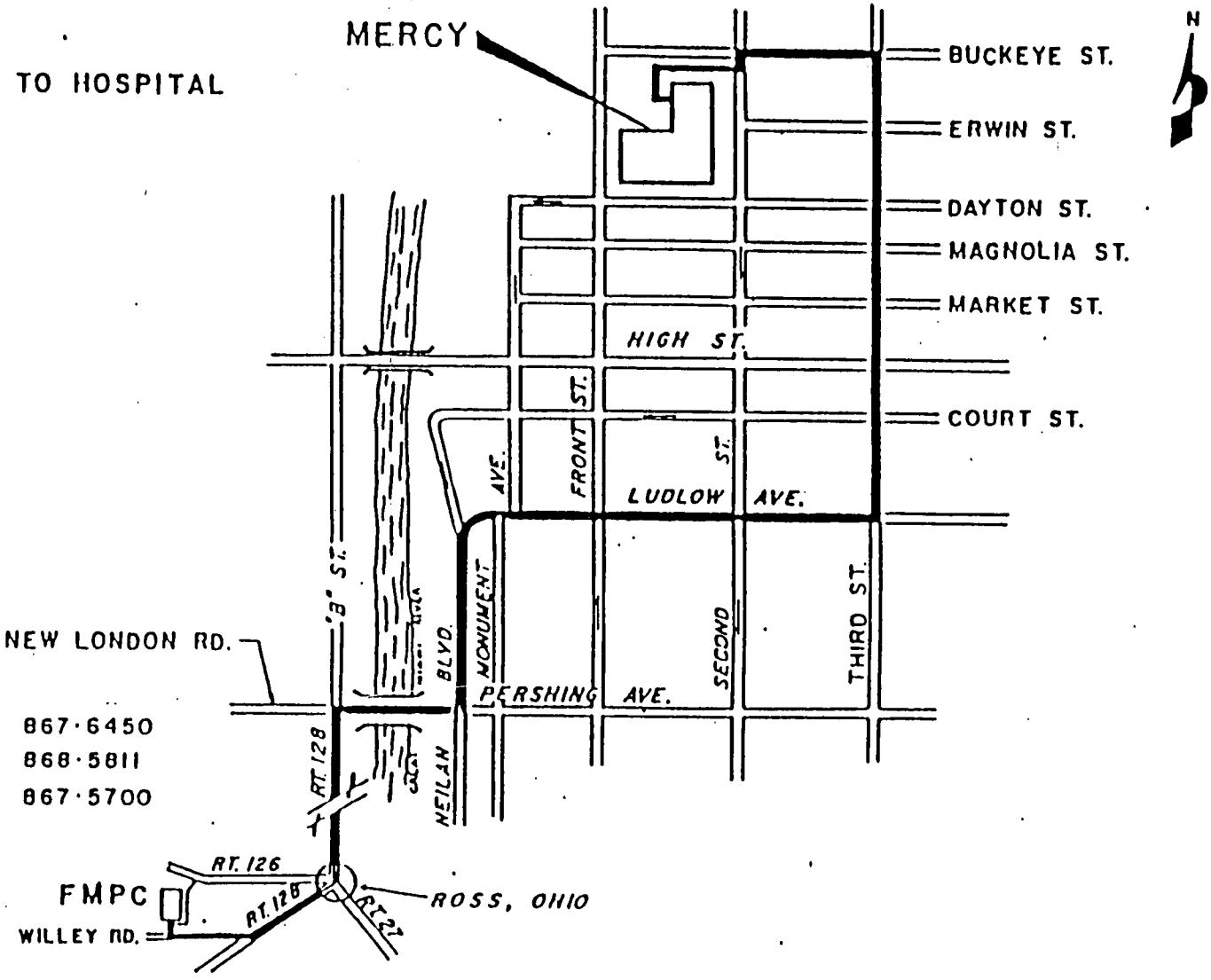
IN CINCINNATI

PROVIDENCE HOSPITAL 853-5222
CINCINNATI POLICE : EMERGENCY ..765-1212
HAMILTON COUNTY
COMMUNICATIONS CENTER 825-2260

PROVIDENCE

HAMILTON

EMERGENCY ROUTE TO HOSPITAL



IN HAMILTON

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

REV. 3·3·86

MERCY OF HAMILTON

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 form 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

Heath 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 suspectable 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	Reduce rate of work or take more
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