US EPA RECORDS CENTER REGION 5
436548

ERCS COMMENTS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V
SITE SAFETY PLAN

Date: December 30, 1996

Project Name: Dayton Electroplate, Inc. Site
1030 Valley Street
Dayton, Montgomery County, Ohio

ERCS Delivery Order #: * 5001-05-111

START Technical Directive Document #: S05-9612-004

U.S. EPA Site I.D.#: *

ERCS Job #: * #8391

Adopted By: _____ Date: _____
ERCS Response Manager, *

Adopted By: _____ Date: _____
E & E Lead START Member, Tom Campbell

Adopted By: _____ Date: _____
U.S. EPA On-Scene Coordinator, Steven Renninger

Adopted By: _____ Date: _____
ERCS Safety Manager

Adopted By: _____ Date: _____
E & E START Safety Officer

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SMITH SOP COMBINED INTO 1/ SEE ATTACHED

GLOSSARY OF ACRONYMS

ANSI	- AMERICAN NATIONAL STANDARDS INSTITUTE
APR	- AIR PURIFYING RESPIRATOR
ACGIH	- AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS
CFR	- CODE OF FEDERAL REGULATIONS
CGI	- COMBUSTIBLE GAS INDICATOR
CLEAN ZONE	- SUPPORT ZONE
CSEP	- CONFINED SPACE ENTRY PERMIT
DECON	- DECONTAMINATION
ERCS	- EMERGENCY RESPONSE CLEAN-UP SERVICES
HNU-PID	- HNU PHOTOIONIZATION DETECTOR
HOT ZONE	- EXCLUSION ZONE
IAW	- IN ACCORDANCE WITH
IDLH	- IMMEDIATELY DANGEROUS TO LIFE & HEALTH
MREM/hr	- MILLI-ROENTGENS EQUIVALENT IN MAN PER HOUR
NIOSH	- NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY & HEALTH
OSC	- ON-SCENE COORDINATOR
OSHA	- OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION LIMIT
OVA	- ORGANIC VAPOR ANALYZER
PAPR	- POWERED AIR PURIFYING RESPIRATORS
PEL	- PERMISSIBLE EXPOSURE LIMIT
PPM	- PARTS PER MILLION
RM	- RESPONSE MANAGER
SCBA	- SELF-CONTAINED BREATHING APPARATUS
SOP	- STANDARD OPERATING PROCEDURE
SPCC	- SPILL PREVENTION CONTROLS & COUNTERMEASURES
START	- SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM
TLV	- THRESHOLD LIMIT VALUE
TWA	- TIME WEIGHTED AVERAGE
U.S. EPA	- U.S. ENVIRONMENTAL PROTECTION AGENCY

INTRODUCTION AND SITE ENTRY REQUIREMENTS

This document describes the health and safety guidelines developed for the Dayton Electroplate, Inc. (DEP) site, to protect on-site personnel, visitors, and the public from physical harm and exposure to hazardous materials or wastes. The procedures and guidelines contained herein were based upon the best available information at the time of the plan's preparation. Specific requirements will be revised when new information is received or conditions change. A written amendment will document all changes made to the plan. Any amendments to this plan will be included in Attachment A. Where appropriate, specific OSHA standards or other guidance will be cited and applied.

All work practices and procedures implemented on site must be designated to minimize worker contact with hazardous materials and to reduce the possibility of physical injury. All work will be performed in accordance with applicable Federal 29CFR 1910 and 1926 Health and Safety Regulations and the Federal 29CFR 1910.120 Hazardous Waste Site Safety Regulations. The States of Indiana, Michigan and Minnesota are State OSHA states and their regulations will be followed as applicable.

DAILY SAFETY MEETINGS

Daily safety meetings will be held at the start of each shift to ensure that all personnel understand site conditions and operating procedures, to ensure that personal protective equipment is being used correctly and to address worker health and safety concerns.

SITE SAFETY PLAN ACCEPTANCE ACKNOWLEDGMENT

The OSC or designated representative shall be responsible for informing all individuals entering the exclusion zone or decontamination zone of the contents of this plan and ensuring that each person signs the Safety Plan Acknowledgment Form in Attachment U. By signing the Safety Plan Acknowledgment Form, individuals are recognizing the potential hazards present on site and the policies and procedures required to minimize exposure or adverse effects of these hazards.

1.0 SITE BACKGROUND AND SCOPE OF WORK

The DEP site is located at 1030 Valley Street, Dayton, Montgomery County, Ohio. The site is an abandoned electroplating facility on a two-acre parcel of land located in a residential/industrial area within the northeast portion of the city of Dayton. Electroplating operations were housed in two buildings, totalling approximately 60,000 square feet, and consisted of four separate plating lines. The area surrounding the buildings consists of paved parking areas surrounded by a chain-link fence. The two buildings also contain drum storage areas, office space, manufacturing and water treatment areas, and process tanks. Electroplating processes at the facility have historically included nickel, chrome, zinc, and clear coating operations. According to a 1994 submission by the facility to the Ohio State Emergency Response Commission (SERC), the facility regularly used hydrofluoric acid, hydrogen chloride, nitric acid, sodium cyanide, and sulfuric acid. A site inspection on October 11, 1996 by U.S. EPA On-Scene Coordinator (OSC) Steve Renninger and members of the Superfund Technical Assessment and Response Team (START), revealed the presence of wastes in approximately 83 vats, 29 tanks, and 230 drums and containers at the site. Laboratory analytical results of the samples collected from the drums confirmed the presence of acidic (pH < 1), caustic (pH > 13), and cyanide bearing (58,000 parts per million [ppm]) materials in close proximity to each other.

1.1 ROLES AND RESPONSIBILITIES

On-Scene Coordinator (OSC):

The OSC, as the representative of U.S. EPA, is responsible for overall project administration and for coordinating health and safety standards for all individuals on site at all times. All U.S. EPA and contractors' health and safety guidelines and requirements as well as all applicable OSHA standards shall be applied. The OSC is the overall site safety officer and will be responsible for the health and safety of on-site visitors. However, each contractor (as an employer under OSHA) is also responsible for the health and safety of its employees. If there is any dispute with regard to health and safety, the following procedures shall be followed:

1) Attempt to resolve the issue on site; and,
2) If the issue cannot be resolved, on-site personnel shall consult off-site health and safety personnel for assistance and the specific task operation in dispute shall be discontinued until the issue is resolved.

Response Manager (RM):

The Response Manager, as the field representative for the ERCS clean-up contractor, has the responsibility for fulfilling the terms of the delivery order. The RM must oversee the project and ensure that all technical, regulatory and safety requirements are met. It is the RM's responsibility to communicate with the OSC as frequently as dictated by the OSC, but at least daily, regarding site clean-up progress and any problems encountered.

Superfund Technical Assessment and Response Team (START):

The Superfund Technical Assessment and Response Team is responsible for providing the OSC with assistance and support in regard to all technical, regulatory and safety aspects of site activity. The START is also available to advise the OSC on matters relating to sampling, treatment, packaging, labeling, compatibility, transport, and disposal of hazardous materials, but is not limited to the above-mentioned.

Site Health and Safety Officer (HSO):

The ERCS and START Site Safety Officers will be assigned to the site on a full-time basis with functional responsibility for implementing the Site Health and Safety Plan as it applies to ERCS and START personnel. The Response Manager is the designated ERCS HSO. The Lead START Member is the designated START HSO unless otherwise appointed. Site audits may be conducted by the ERCS Health and Safety manager, START personnel and/or the U.S. EPA. Specific Duties Include:

a. Assume responsibility for health and safety of ERCS and/or START personnel.
b. Supervise confined space entries.
c. Document safety problems.
d. Supervise decontamination of personnel and equipment.
e. Ensure that monitoring equipment is calibrated/operational.
f. Conduct personal air monitoring on all ERCS and/or START employees as outlined in 29CFR 1910.120(h)(4).
g. Perform respiratory fit tests.
h. Inventory/inspect PPE prior to personnel entries.
i. Prepare summary letter of personal air sampling results.
j. Select protective equipment levels based upon chemical properties, method of contact and air sample results.
k. Prepare and maintain OSHA Log within 3 days of an accident.
l. Ensure all ERCS and/or START personnel are fit for duty.
m. Competent person for excavation/trench entry jobs.
n. Inspect first aid kits/fire extinguishers/SCBA's.

Other:

Any persons who observe safety problems should immediately report observations/concerns to appropriate key personnel listed in Section 1.2.

SUBCONTRACTORS

COMPANY:_____

CONTACT NAME:_____ PHONE:_____

ADDRESS:_____

_____

SCOPE OF WORK:_____

_____.

TRAINING REQUIRED:_____CONTRACTOR

PREQUALIFIED? [___] YES [___] NO

COMPANY:_____CONTACT NAME:_____

_____ PHONE:_____ADDRESS:_____

_____

SCOPE OF WORK:_____

_____

TRAINING REQUIRED:_____CONTRACTOR

PREQUALIFIED? [___] YES [___] NO

COMPANY:_____ CONTACT NAME:_____

_____ PHONE:_____ ADDRESS:_____

_____SCOPE OF

WORK:_____

_____TRAINING REQUIRED:__

_____CONTRACTOR

PREQUALIFIED? [___] YES [___] NO

1.2 Key Personnel

U.S. EPA On-Scene Coordinator (OSC)/ Site Safety Officer:

Steven L. Renninger
U.S. EPA - ERT
26 W. Martin Luther King Dr.
Cincinnati, Ohio 45268
(513)569-7539

Principle ERCS Contractor:

SMITH TECHNOLOGIES CORP.
* 2080 S. CARBOY RD
MT. PROSPECT, IL 60056
847.437-3408

Response Manager (RM): * IAN HOOVER

Subcontractors:

ERCS Health & Safety Officer: * ALLEN FRANC.

START Health & Safety Officer: Tom Campbell

Superfund Technical Assessment and Response Team (START):

Ecology & Environment, Inc.
6777-N Engle Road
Middleburg Heights, Ohio 44130
216/243-3330

START Representatives:

*Tom Campbell
Anne Busher
Karen Waldron
Mark Durno
Andrew Chartrand
Anne Marie Mayer
Jeff Kimble

*Designates START member on-site.

Other:

1.3 Site Background

The DEP site is located at 1030 Valley Street, Dayton, Montgomery County, Ohio. The site is an abandoned electroplating facility on a two-acre parcel of land located in a residential/industrial area within the northeast portion of the city of Dayton. Electroplating operations were housed in two buildings, totalling approximately 60,000 square feet, and consisted of four separate plating lines. The area surrounding the buildings consists of paved parking areas surrounded by a chain-link fence. The two buildings also contain drum storage areas, office space, manufacturing and water treatment areas, and process tanks. Electroplating processes at the facility have historically included nickel, chrome, zinc, and clear coating operations. According to a 1994 submission by the facility to the Ohio SERC, the facility regularly used hydrofluoric acid, hydrogen chloride, nitric acid, sodium cyanide, and sulfuric acid. A site inspection on October 11, 1996 by U.S. EPA OSC Steve Renninger and members of START, revealed the presence of wastes in approximately 83 vats, 29 tanks, and 230 drums and containers at the site. Laboratory analytical results of the samples collected from the drums confirmed the presence of acidic (pH < 1), caustic (pH > 13), and cyanide bearing (58,000 ppm materials in close proximity to each other.

1.4 Scope of Work for ERCS Contractor

a) Review and comment on the site health and safety plan developed by the START.

b) Mobilize to site, prepare for initiation of site activities and secure site.

c) Sample drums, vats, tanks and containers for waste categorization and disposal acceptance.

d) Stage, bulk, and overpack hazardous wastes (drums, small containers).

e) Prepare wastes and arrange for transportation and disposal of contaminated materials and debris.

f) Decontaminate metal and recycle all usable scrap.

g) Restore the site to conditions as per OSC's request.

h) and other tasks as designated by the OSC.

1.5 Scope of Work for START

The START is to maintain the CERCLA paperwork; monitor the clean-up contractor performance; assist the OSC in providing site safety direction; prepare the Region V removal action site safety plan; prepare a site contingency plan; conduct air monitoring; prepare sampling plans; conduct multimedia sampling; conduct compatibility testing and compositing of samples; prepare POLREPS; provide photo/video documentation of site activities; organize site files according to OSC appendices; contain releases; prepare outline of after-action report.

2.0 TASK SAFETY AND HEALTH RISK ANALYSIS

2.1 Task-Specific Hazards and Controls

This section is to be addressed in the daily safety meeting as each task is to be attempted. Each Task-Specific Safety Assessment is designed to develop awareness to chemical and physical hazards specific to each task. It would be impractical to repeat in complete detail each control measure and SOP for each job task. Sources and Hazards will be addressed for each job task with reference made to applicable control measures in Sections 2.2, 2.3 and SOPs. The tables in Section 2.2 and 2.3 should be posted in the break area and command post. When the Task-Specific Safety Assessments are discussed, additional hazards may need to be addressed.

2.2 Chemical Hazards

CHEMICAL	TLV/PEL/ IDLH	Physical Characteristics	Odor Threshold	Routes of Exposure	PPE Polymers	Symptoms Acute/Chronic	First Aid
Polychlorinated biphenyls (PCBs)	1.0 mg/m^3 1.0 mg/m^3	colorless oily liquid, may be yellowish	NA	IN/IH/SK/A	APR Viton, Saranex Suits, Neoprene	IR1 / H / N DZ / V / F	Fresh Air Rinse w/ H2O Seek medical attention
Chromic Acid	0.001 mg/m^3 0.001 mg/m^3 30 mg/m^3	orange/brown liquid;solid as flakes or powder, color dark red	NA	IN/IH/SK	Neoprene; Saranex	IR1	Water Wash
Cyanide	5 mg/m^3 5 mg/m^3 50mg/m^3	white granular solid	N/A almond-like smell	IH/DA/A/IN/SK	SCBA SAR Nitrile; Saranex	H / V / N / F / LC Cessation of breathing	Fresh Air, Amyl Nitrate Water Wash, Drink Water or Milk
Hydrochloric Acid	5 ppm 5 ppm 100 ppm	clear, colorless liquid	1 ppm	IN/IH/SK	Neoprene/ Nitrile; Saranex	IR1/ skin irritant	Fresh Air, Water Wash, Seek Medical Attention
Hydrogen Cyanide	4.7 ppm 10 ppm 50 ppm	colorless or pale blue gas	1 ppm N/A	IN/IH/SK/A	Nitrile; Saranex; SCBA SAR	LC / V / H / W asphyxiate, convulsions	Fresh Air, Water Wash, Drink Water
Potassium Cyanide	5 mg/m^3 5 mg/m^3 50 mg/m^3	white granular solid	N/A almond-like smell	IN/IH/A/SK	SCBA SAR Nitrile; Saranex	IR1 / H / V / N / F / LC asphyxiate, cessation of breathing	Fresh Air, Soap/Water Wash, Medical Attention

2.2 Chemical Hazards Cont'd

CHEMICAL	TLV/PEL/ IDLH	Physical Characteristics	Odor Threshold	Routes of Exposure	PPE Polymers	Symptoms Acute/Chronic	First Aid
Sodium Cyanide	5 mg/m^3 5 mg/m^3 50 mg/m^3	White granular or flaky solid	N/A almond-like smell	IN/IH/A/SK	SCBA; Nitrile; Saranex	IR1 / H / N DZ / V / F	Fresh Air, Soap/Water Wash, Seek Medical Attention
Nickel	1.0 mg/m^3 1.0 mg/m^3	Metal: a lustrious silvery solid	N/A	IN/IH/SK/A	SCBA Nitrile; Saranex	IR1 / N / V / W	Fresh Air, Soap/Water Wash, Seek Medical Attention

The above listing should not be taken as a complete assessment of the hazards posed by materials at the Dayton Electroplate, Inc. site. The known and unknown mixed chemical hazards at this site prevent a clear determination of the specific effects of discrete compounds. Therefore, personnel must be alert for symptoms of possible exposure such as unusual smells, stinging, burning eyes, nose and throat, skin irritation, as well as feeling extremely well, depressed, sleepy or tired. Symptoms must be immediately reported to the site supervisor.

See Attachment C for Chemical Hazard Information and MSDS.

List of Abbreviations:

Routes of Exposure:

IN = Ingestion
IH = Inhalation
SK = Skin Contact
DA = Dermal Absorption
A = Ocular

Symptoms:

H = Headache
V = Vomiting
N = Nausea
F = Fatigue
W = Weakness
BH = Blushing
ST = Stupor
DZ = Dizziness
CD = Contact Dermatitis
DB = Difficulty Breathing
MT = Muscle Twitch
DI = Diarrhea
BL = Blisters
IR1 = Irritation of Eye, Mouth, Throat

TASK SPECIFIC SAFETY ASSESSMENT

JOB TASK: Site Mobilization

PERSONAL PROTECTIVE EQUIPMENT: Level D

HAZARD	SOURCES	CONTROL MEASURES	REF.
Slip, trip,fall	Scattered Debris	Buddy System, clear path of travel, good lighting, flag or mark openings, maintain awareness of surroundings	J
Cuts	Scattered Debris, Scrap Metal	Buddy System, Protective gloves, Steel-toed boots	J
Punctures	Scattered Debris, Scrap Metal	Buddy System, Steel-toed boots, Protective gloves.	J
Heat/Cold Stress	Weather, Exertion	Buddy System, Awareness of heat/cold stress symptoms, Frequent breaks.	E

JOB TASK: Air Monitoring

PERSONAL PROTECTIVE EQUIPMENT: Level B, C, or D

HAZARD	SOURCES	CONTROL MEASURES	REF.
Slip, trip,fall	Scattered Debris	Buddy System, clear path of travel, good lighting, flag or mark openings, maintain awareness of surroundings	J
Cuts	Scattered Debris, Scrap Metal	Buddy System, Protective gloves, Steel-toed boots	J
Punctures	Scattered Debris, Scrap Metal	Buddy System, Steel-toed boots, Protective gloves.	J
Heat/Cold Stress	Weather, Exertion	Buddy System, Awareness of heat/cold stress symptoms, Frequent breaks.	E

TASK SPECIFIC SAFETY ASSESSMENT

JOB TASK: Site Preparation

PERSONAL PROTECTIVE EQUIPMENT: Level D

HAZARD	SOURCES	CONTROL MEASURES	REF.
Slip, trip,fall	Scattered Debris, wet surfaces, Floor openings,equipment	Buddy System, keep areas organized and clear path of travel, good housekeeping, good lighting, flag or mark OR COVER openings, maintain awareness of surroundings and stage equipment out of general walking and work areas.	J
Cuts	Scattered Debris	Buddy System, Protective gloves, Steel-toed boots, Be aware of sharp edges.	J
Punctures	Scattered Debris	Buddy System, Steel-toed boots, Protective gloves.	J
Heat/Cold Stress	Weather, Exertion	Buddy System, Awareness of heat/cold stress symptoms, Frequent breaks.	E

JOB TASK: Decontaminate Tanks/Vats

PERSONAL PROTECTIVE EQUIPMENT: Level B

HAZARD	SOURCES	CONTROL MEASURES	REF.
Cuts and Punctures	Power tools, scattered debris, sharp edges	Buddy system, caution, steel toed boots, heavy work gloves and safe work practices.	M
Splash	Material in Tanks, vats, drums	Proper PPE (saranex and/or acid suits, nitrile gloves or equivalent) caution, buddy system, eye wash available, absorbent material available.	G,H,I M
Slip, trip, and fall	Scattered debris, slick surfaces, uneven or high areas, ladders.	Buddy system, caution, use absorbent materials when necessary.	I,Q
Cold Stress	Water being used to decon tanks/vats. TEMPERATURE	Buddy system, frequent breaks. DRINK WARM LIQUIDS. DRESS IN LAYERS. CHANGE WET CLOTHING IMMEDIATELY.	E

ADDITIONS TO TASK HAZARD ANALYSIS PGS 10-16

PG 11 SITE PREPARATION

ERGONOMICS	LIFTING BENDING HEAVY MATERIALS	UTILIZE PROPER LIFTING TECHNIQUES. USE MECHANICAL DEVICES WHENEVER POSSIBLE FOR ITEMS > 50 LBS. USE THE BUDDY SYSTEM.
EXPOSURE	BUILDING INTERIOR	AREAS WITH WASTE PRESENT ARE NOT TO BE ENTERED WITHOUT PROPER PPE. PRE SCREEN ALL AREAS WITH MONITORING EQUIP PRIOR TO ENTRY. PPE BASED ON AIR MON RESULTS.
DEBRIS HANDLING HAZARDS	DEBRIS HEAVY EQUIP OPERATION SHARPS (BIO HAZARDS) RODENTS	AVOID MANUALLY HANDLING DEBRIS IF POSSIBLE. WEAR HEAVY DUTY LEATHER OUTER GLOVES UTILIZE EXPERIENCED OPERATORS UTILIZE SPOTTER TO AVOID CONTACT W/ BERMS + WALLS. IF BIO MATERIAL IS ~~[illegible]~~ ENCOUNTERED, LEAVE WITH + NOTIFY SUPERVISOR. USE CAUTION @ ALL TIMES

TASK SPECIFIC SAFETY ASSESSMENT

JOB TASK: Drum Overpacking

PERSONAL PROTECTIVE EQUIPMENT: Level B

HAZARD	SOURCES	CONTROL MEASURES	REF.
Pinch points	Heavy equipment, drums and overpacks.	Buddy system, safe work practices, constant communication with others, steel-toed boots and heavy work gloves, keep hands clear of tight areas.	N,O,K Q
Splash	Drum and container contents	Buddy system, splash shields, caution, constant communication, absorbent materials in area, drums staged on plastic, inspect container prior to handling.	N,O,Q
Slip, trip and fall	Slick surfaces, drums, overpacks, plastic on floor	Buddy system, caution, use floor dry often as necessary, maintain awareness of surroundings	N,O,Q
Heavy Loads	Drums and overpacks.	Buddy system, caution, drum dollies, ergonomic lifting, use heavy equipment when necessary, proper drum braking technique.	N,O,Q
Contact with Heavy Equipment	Heavy Equipment	Buddy System, proper communication with operator, only authorized personnel in area. [illegible]	K
Noise	Heavy Equipment	Wear ear plugs.	I,K,O, R,T
Heat/Cold stress	Weather	Buddy system, frequent breaks, awareness of symptoms, personnel monitoring	E

TASK SPECIFIC SAFETY ASSESSMENT

JOB TASK: Drum Handling

PERSONAL PROTECTIVE EQUIPMENT: Level B - Unknown Material
Level C - Identified materials, with adequate air monitoring

HAZARD	SOURCES	CONTROL MEASURES	REF.
Pinch points	Heavy equipment, drums and overpacks.	Buddy system, safe work practices, constant communication with others, steel-toed boots and heavy work gloves, keep hands clear of tight areas.	N,K,L Q
Slip, trip and fall	Slick surfaces, drums, overpacks, plastic on floor, debris	Buddy system, caution, use floor dry often as necessary, maintain awareness of surroundings	N,K,L Q
Heavy Loads	Drums and overpacks.	Buddy system, caution, drum dollies, ergonomic lifting, use heavy equipment when necessary, proper drum braking technique.	N,L,K Q
Contact with Heavy Equipment	Heavy Equipment	Buddy System, proper communication with operator, only authorized personnel in area. UTILIZE SPOTTER.	K
Heat/Cold stress	Weather	Buddy system, frequent breaks, awareness of symptoms, personnel monitoring	E
Explosive Conditions	Drum Contents	Monitor drum area with LEL meter prior to and during drum operations. Inspect drums for signs of bulging (pressure buildup). Use sparkproof tools during drum access.	H,O,Q
Noise	Heavy Equipment	Wear ear plugs	I,K,O, R,T
Exposure	Drum Contents	Wear proper PPE at all times. Be aware of leaks, bulges. Pay attention when opening drums, transferring waste etc.	N,O,Q

PERFORM AIR MONITORING
PERIODICALLY DURING ALL
DRUM ACTIVITY TO DETERMINE
EXPOSURE LEVELS IF ANY.

KEEP AIRLINE HOSES, ETC. ORGANIZED & CLEAR OF WALKWAYS. PRACTICE GOOD HOUSEKEEPING.

TASK SPECIFIC SAFETY ASSESSMENT

JOB TASK: Drum Sampling (INCLUDE VATS + CONTAINERS)

PERSONAL PROTECTIVE EQUIPMENT: Level B

HAZARD	SOURCES	CONTROL MEASURES	REF.
Splash	container contents	Buddy system, splash shields, caution, constant communication, absorbent materials in area, drums staged on plastic, inspect container prior to handling.	G,H,P N,Q
Slip, trip and fall	Slick surfaces, drums, overpacks, transformers and capacitors, plastic on floor	Buddy system, caution, use floor dry or absorbent materials as necessary, maintain awareness of surroundings.	G,H,P N,Q
Cuts and punctures	Sharp edges, metal cuttings	Buddy system, caution, safe work practices, steel-toed boots, heavy work gloves	G,H,P N,Q
Ergonomics	Lifting and bending	Buddy System, use proper lifting techniques	*TBD, F,N,Q

JOB TASK: Drum Staging

PERSONAL PROTECTIVE EQUIPMENT: Level C/D pending air monitoring

HAZARD	SOURCES	CONTROL MEASURES	REF.
Pinch points	Heavy equipment, drums and overpacks.	Buddy system, safe work practices, constant communication with others, steel-toed boots and heavy work gloves	N,P,O Q,K
Ergonomics	Lifting and bending	Buddy system, use proper lifting techniques. USE MECHANICAL EQUIP WHENEVER POSSIBLE.	*TBD, F,N,Q
Slip, trip and fall	Drums, overpacks	Buddy system, caution	O,N,P Q
Contact with Heavy Equipment	Heavy Equipment	Buddy System, maintain eye contact and proper communication with eqpt. operator, only authorized personnel in area, avoid walking behind operating equipment.	K

* = To Be Determined

Pg 14 Drum Sampling

Exposure	Unknown materials	Wear proper PPE at all times. Monitor work area for exposure limit
Explosive atm	Drum contents	Monitor for % LEL prior to drum access. Inspect drums prior to handling. Utilize sparkproof tools

Pg 15 Hazardous Categorization

Exposure	Unknown materials	Utilize fume hood at all tim during sample handling. Use "B" respirator if fume hood is not used. Monitor NRL area periodically. Ventilate room as needed
Spills	Spilled samples	Have spill control equip readily available. If spill occurs outside fume hood vacate area + don necessary PPE for clean-up operations

TASK SPECIFIC SAFETY ASSESSMENT

JOB TASK: Hazcatting

PERSONAL PROTECTIVE EQUIPMENT: Level B/C pending air monitoring; Level D with fume hoods

HAZARD	SOURCES	CONTROL MEASURES	REF.
Splash	Liquids from samples	Buddy system, caution, safe work practices, proper PPE, splash shields.	N,P,G H,Q
Slip, trip and fall	Drums and overpacks	Buddy system, absorbent materials available, caution	N,P,G Q,H

JOB TASK: Liquid Transfer

PERSONAL PROTECTIVE EQUIPMENT: Level B/C pending air monitoring

HAZARD	SOURCES	CONTROL MEASURES	REF.
Pinch points	Heavy equipment, drums, vats, containers and overpacks	Buddy system, caution, steel toed boots, heavy work gloves and safe work practices.	N,P,K Q
Splash	Material in Tanks, vats, drums	Proper PPE (saranex and/or acid suits, nitrile gloves or equivalent) caution, buddy system, eye wash available, absorbent material available.	G,H,N P,Q
Ergonomics	Lifting and bending	Buddy system, use proper lifting techniques	*TBD F
Slip, trip, and fall	Drums and overpacks PUMP HOSES + AIRLINES	Buddy system, caution . ORGANIZE ~~HOSES~~ AND AIRLINES TO MINIMIZE TRIP HAZARDS.	G,H,N P,Q
Fire	Sparks and Flammable Materials	Keep fire extinguishers near all work areas, ground metal, utilize proper flammable liquid transfer procedures.	H
Heavy Equipment	Heavy Equipment	Maintain eye contact with eqpt operator, avoid walking behind operating eqipment.	K

WATCH FOR SPATTER.

* TBD = To Be Determined

Pg 15 LIQUID TRANSFER / PRODUCT REMOVAL

SPILLS	CONTAINED MATERIAL	HAVE SPILL CONTROL EQUIP READILY AVAILABLE IN WORK AREAS. INSPECT PUMPS / HOSE CONNECTIONS TO ENSURE SECURE CONNECTIONS. DESIGNATE STAGING AREA AWAY FROM AREAS EXPOSED TO ELEMENTS. BERM AROUND PERIMETER OF STAGING TO CONTAIN SPILLS.

PERFORM TEST CUT TO VERIFY DE[illegible] OF MATERIAL [illegible] FIRE WATCH.

TASK SPECIFIC SAFETY ASSESSMENT

JOB TASK: Cutting Vats and Tanks			
PERSONAL PROTECTIVE EQUIPMENT: Level B			
HAZARD	**SOURCES**	**CONTROL MEASURES**	**REF.**
Cuts and Punctures	Power tools, scattered debris, sharp edges, metal cuttings	Buddy system, caution, steel toed boots, heavy work gloves and safe work practices.	R
Burns	Hot metal after cutting, sparks from chop saws	Buddy system, caution, safe work practices, steel-toed boots, heavy leather work gloves and leather apron, EYE PROTECTION (CUTTING SHIELD)	R
Slip, Trip and Fall	Scattered debris, slick surfaces, uneven or high areas, ladders.	Buddy system, caution, use absorbent materials when necessary.	R
Heat Stress	Heat from cutting torches	Buddy system, frequent breaks.	E
Hot cutting	Metal being cut from tanks	Air monitoring before cutting, RM to survey area before any cutting	R
Fire	Sparks, Flammable Materials	Keep fire extinguishers near work areas, Check areas with PID and CGI prior to initiating cutting operations.	R
Noise	Cutting and Power Tools	Wear earplugs	R
Ergonomics	Lifting and bending	Buddy system, use proper lifting techniques	*TBD, F

* TBD = To Be Determined

EXPOSURE VAT TANK CUTTING AVOID TORCHING IF POSSIBLE. PERFORM TEST CUT TO ENSURE MINIMAL EXPOSURE. CONDUCT AIR MONITORING. WEAR PROPER RATING EYE PROTECTION IF TORCHING IS USED.

3.0 PERSONNEL TRAINING

[1] Initial Training

a. 40-Hour Training

All field employees receive forty hours of classroom training on safe work practices and hazardous waste sites.

b. Supervisor/Managers

Manager and Supervisors receive eight hours of training on safe management of hazardous waste sites. All training complies with 29CFR 1910.120.

The following individuals are Site Supervisors:

[1] OSC Steve Renninger

[2] Rm ? * JAY Hoover.

[2] Site Specific Training

a. All assigned personnel will receive site specific training on routes of exposure and adverse health effects associated with the chemicals listed on the attachment.

b. At least one member of each work crew shall have training in the use of portable fire extinguishers in accordance with 29CFR 1910.157G.

c. IAW 29CFR 1910.120, all personnel newly assigned to hazardous waste work will receive 3 days of on the job training by an experienced supervisor. This typically is achieved by coordinating the work schedule so that they perform 25% of the expected workload the first day; 50% the second day, and 75% the third day.

d. Each person entering the site shall sign a statement attesting to the fact that they have read and understand the Site Specific Safety Plan.(Attachment U)

[3] Annual Refresher

All field employees receive eight hours of refresher training on the above topics within the anniversary date of their initial 40 hour class.

[4] First Aid/CPR

All USEPA and START employees and at least 1 ERCS member will receive initial and recertification training. Treatment limited to Good Samaritan/minor first aid. All traumatic/major first aid, and cardiac problems will be referred to medical facilities.

[5] Subcontractor Requirements

All subcontractors entering the contamination reduction zone and exclusion zone will have adequate training satisfying 29 CFR 1910.120.

4.0 PERSONAL PROTECTIVE EQUIPMENT

The following is a brief description of the personal protective equipment which may be required during various phases of the project. The U.S. EPA terminology for protective equipment will be used; Levels A, B, C and D.

Respiratory protective equipment shall be NIOSH-approved and use shall conform to OSHA 29 CFR Part 1910.134 Requirements. Each employer shall maintain a written respirator program detailing selection, use, cleaning, maintenance and storage of respiratory protective equipment. The written Respirator Program will be maintained at the local and regional offices.

4.1 Level A Protection Shall Be Used When:

- The extremely hazardous substance requires the highest level of protection for skin, eyes and the respiratory system;
- Substances with a high degree of hazard to the skin are known or suspected;
- Chemical concentrations are known to be above IDLH levels; or,
- Biological hazards requiring Level A are known or suspected.

4.1.1 Level A Protective Equipment at a Minimum Shall Consist of:

Specific protective equipment for each level of protection is as follows:

Protective Gear - Level A (Check and list required type)

Supplied Air	N/A
5-minute Egress	N/A
Spare Air Tanks	N/A
Encapsulated Suit (type)	N/A
Inner Gloves (type)	N/A
Boot Covers (booties)	N/A
Outer Chemical Gloves (type)	N/A
Outer Work Gloves (type)	N/A
Safety Shoes/Boots (type)	N/A
Hard Hat	N/A
Respiratory Inserts	N/A
Other (List_____)	N/A

Modifications: N/A

Level A protection is not expected to be required at this site.

4.2 Level B Protection Shall Be Used When:

- The substance(s) has been identified and requires a high level of respiratory protection but less skin protection;
- Concentrations of chemicals in the air are IDLH or above the maximum use limit of an APR with full-face mask;
- Oxygen deficient or potentially oxygen deficient atmospheres (< 19.5%) are possible; and/or,
- Confined space entry may require Level B.
- Incomplete identification of gases and vapors, but not suspected to be harmful to skin or skin absorbable.

4.2.1 Level B Protective Equipment at a Minimum Shall Consist of:
Protective Gear - Level B (Check and list required type)

Supplied Air	SCBA/Cascade System/Survivair
5-minute Egress	IDLH Atmosphere
Chemical Resistant/Protective Coveralls	Saranex, Sijal Suit, Barricade
Full Body Apron or Others (type)	N/A
Inner Gloves (type)	Latex/Nitrile
Outer Chemical Gloves (type)	Nitrile or Neoprene/Viton w/ PCBs
Outer Work Gloves (type)	Jersey or Leather
Safety Shoes/Boots (type)	Steel-toe/Steel Shank-Neoprene
Boot Covers (booties)	Latex
Hard Hat	Plastic
Respiratory Inserts	N/A
Other (List hearing protection)	ear plugs

Modifications: Flame retardent coveralls are to be worn during all hot work/welding/cutting operations. PROPER CUTTING SHIELD FOR HOT WORK.

NOTE: Use of Level B personal protective equipment requires that one (1) person must be available as backup ready to provide emergency assistance.

4.3 Level C Protection Shall Be Used When:

- The same level of skin protection as Level B, but a lower level of respiratory protection is required;
- The types of air contaminants have been identified, concentrations measured, and an air-purifying respirator is available that can remove contaminants; or,
- The substance has adequate warning properties and all criteria for the use of APR respirators has been met.

4.3.1 Level C Protective Equipment at a Minimum Shall Consist of:

Protective Gear - Level C (Check and list required type)

MSA Air Purifying Respirator or PAPR MSA full-face APR or equiv.
Cartridges (type) GMC-H or equivalent
Escape Mask N/A
Chemical Resistant/Protective Coveralls Saranex/Barricade,Sijal suit
Full Body Apron or Other (type) N/A
Inner Gloves (type) Latex/Nitrile
Outer Chemical Gloves (type) Nitrile or Neoprene/Viton w/ PCBs
Outer Work Gloves (type) Jersey or Leather
Safety Shoes/Boots (type) Steel-toe/Steel shank - CHEMICAL PROTECTIVE OPR BOOT
Hard Hat Plastic
Respiratory Inserts N/A
Other (List hearing protection) ear plugs
Modifications: flame retardent coveralls are to be worn during all hot work/welding/cutting operations. PROPER CUTTING SHIELD FOR HOT WORK.

4.4 Level D Protection Shall Be Used When:

- The atmosphere contains no known hazard; and,
- Work functions preclude splashes, immersion or the potential for unexpected inhalation of, or contact with, hazardous concentrations of harmful chemicals.

4.4.1 Level D Protection Equipment at a Minimum Shall Consist of:

Protective Gear - Level D (Check and list required type)

Chemical Resistant/Protective Coveralls N/A
Rain Suit Available
Safety Shoes/Boots (type) Steel-toe/Steel shank
Boot Covers (booties) Latex
Work Gloves (type) Jersey
Hard Hat Plastic
Face Shield Available
Safety Glasses Required
Modifications: ~~N/A~~ MODIFIED LEVEL "D" TYPE WILL INCLUDE TYVEK COVERALLS, LATEX BOOTIES, AND NITRILE OUTER GLOVES. Specific operating procedures for PPE and Respiratory Protection are in Attachment D.

4.5 Decisions to Upgrade/Downgrade PPE

[1] All decisions to downgrade from Level B to C or D must be accompanied by air monitoring results. The Regional Safety Managers (ERCS, START) must be advised of on-site decisions to downgrade. All decisions must be documented with an Addendum to the Plan.

[2] The following conditions will necessitate reevaluation of PPE use.

a. commencement of a new work not previously identified
b. change of job tasks during a work phase
c. change of season/weather
d. contaminants other than those identified in Safety Plan
e. change in ambient levels of contaminants
f. change in work which affects degree of chemical contact

[3] Action Levels (See Section 6.0)

5.0 MEDICAL SURVEILLANCE

5.1 Pre-Employment Physical

a. Pre-employment and periodic update medical examinations are required for persons working at hazardous waste sites.
b. All physicals must be completed and documented prior to assignment to this site.
c. All physical exams will be conducted following parameters established by the respective employee's Corporate Physicians.

5.2 Site Specific Physical Examination

a. A current fitness for duty statement will be kept on site for all personnel.

5.3 Annual Physical Exam

The medical examination must have been within a 12-month period prior to on-site activity and repeated annually.

5.4 Accidental/Suspected Exposure Physical

a. Following any accidental or suspected uncontrolled exposure to site contaminants, personnel should be scheduled for a special physical examination.

b. The physical examination will be specific for the contaminants and the associated target organs or physiological system.

c. Questions regarding the type of physical can be directed to the employer's Directors of Health and Safety or their Corporate Physicians. See Section 10.2 for their respective phone numbers.

d. Exposure to blood/body fluids requires adherence to 29CFR 1910.1030 (Blood-borne pathogens).

5.5 Contractor Physical Examination Requirements

All subcontractors entering the contamination reduction or exclusion zone will have adequate medical surveillance satisfying 29CFR 1910.120.10 (f).

6.0 AIR MONITORING AND ACTION LEVELS

According to 29 CFR 1910.120 (h) Air Monitoring shall be used to identify and quantify airborne levels of hazardous substances and health hazards in order to determine the appropriate level of employee protection needed on-site.

6.1 Routine Air Monitoring Requirements

- Upon initial entry to rule out IDLH conditions;
- When the possibility of an IDLH condition or flammable atmosphere has developed;
- When work begins on a different portion of the site;
- Contaminants other than those previously identified are being handled;
- A different type of operation is initiated;
- Employees are handling leaking drums or containers or working in areas with obvious liquid contamination; and,
- During confined space work.

Air monitoring will consist at a minimum of the criteria listed below. All air monitoring data will be documented and submitted to the OSC and available in the command post site files for review by all interested persons. Air monitoring instruments will be calibrated and maintained in accordance with the manufacturer's specifications. Calibration and maintenance performed will be entered in the site log and/or instrument log book.

6.2 Site Specific Air Monitoring Requirements

INSTRUMENT	COMPOUNDS TO DETECT	FREQUENCY	COMMENTS/ ACTION LEVEL
Combustible Gas Indicator (CGI)	Explosive/ Flammable Atmospheres	Regularly in work zones, during drum opening, liquid transfer, and prior to cutting vats or tanks.	5% LEL continue 5-10% LEL, proceed with caution; >10% LEL, exit
PID/FID	Organic Vapors and Gases	Regularly in work zones, during drum opening, liquid transfer, and prior to cutting vats or tanks.	Unidentified contaminants* >Bkgrnd - <1ppm over bkgrnd Level D ≥ 1 over Bkgrnd - < 5 ppm over bkgrnd - Level C ≥5 over Bkgrnd - 500 ppm over Bkgrnd - Level B >500 ppm - Level A
Detector Tubes	Various	~~N/A~~ As needed	Varies with specific substance ~~N/A~~
Radiation Meter	Radiation	Screening as needed.	Bkgrnd - 3 times bkgrnd - continue; 2 mREM/hr - proceed with caution under direction of health physician
Oxygen Meter	Oxygen	Entry into work zones; confined spaces	<19.5% and >23.5% O_2
Other: HCN Monitox	Hydrogen Cyanide (HCN)	Regularly in work zones, prior to and during drum, vat, container sampling, liquid transfer	Action Level: ~~10~~ 4.7 ppm (monitox alarm); IDLH: 50 ppm

PEL | TLV

6.3 Personnel Monitoring

Explain strategy or why not required: Not Required due to contaminants present at the site and levels of protection established. DIRECT READING INSTRUMENTS WILL BE USED TO PERIODICALLY SCREEN BREATHING ZONE.

6.3.1 Sampling Methods (media type, analyses, NIOSH Method Number, etc.): ~~NA~~ N/A
DIRECT READING INSTRUMENTS WILL BE FIELD CHECKED DAILY.

6.3.2 Describe calibration procedures: ~~NA~~

6.3.3 Analytical laboratory to be used: NA

6.4 Noise Monitoring: [XXX] Yes [ ] No

Describe monitoring strategy: Ear protection provided for hearing conservation program when 8-hour TWA is > 85 decibels DBA.

6.5 Cold Stress Monitoring: [XXX] Yes [ ] No

Describe monitoring strategy: Continuous heat/cold stress monitoring of personnel. Breaks will be taken as needed. Drinks provided. Monitor per ACGIH methods.

6.6 Perimeter: [XXX] Yes [ ] No

Describe: Air monitoring will be performed to make sure no contamination is leaving the site along any of the perimeters.

Other: [XXX] Yes [ ] No

Describe: Continuous air monitoring with PID/FID, CGI and monitox during all phases of waste handling.

6.7 Name(s) of Monitoring Technician(s):
Tom Campbell, Karen Waldron, Anne Busher, Mark Durno, Jeff Kimble, Andrew Chartrand, Anne Marie Mayer - START members

6.8 Location of Monitoring Records:

Copies of monitoring records will be retained in the air monitoring job file upon the completion of the job. Additional copies will be maintained in the Health and Safety Department.

7.0 SITE CONTROL AND STANDARD OPERATING PROCEDURES

7.1 Work Zones

The primary purpose for site controls is to establish the hazardous area perimeter, to reduce migration of contaminants into clean areas and to prevent access or exposure to hazardous materials by unauthorized persons. At the end of each work day, the site should be secured or guarded, to prevent unauthorized entry. Site work zones will include: *

7.1.1 Clean Zone/Support Zone

This uncontaminated support zone or clean zone will be the area outside the exclusion and decontamination zones and within the geographic perimeters of the site. This area is used for staging of materials, parking of vehicles, office and laboratory facilities, sanitation facilities, and receipt of deliveries. Personnel entering this zone may include delivery personnel, visitors, security guards, etc., who will not necessarily be permitted in the exclusion zone. All personnel arriving in the support zone will upon arrival, report to the command post and sign the site entry/exit log. There will be one controlled entry/exit point from the clean zone to the decontamination zone.

[1] Location of Clean Zone * _____ e.g. complete @ time of set up.

7.1.2 Decontamination Zone

The decontamination zone will provide a location for removal of contaminated personal protective equipment and final decontamination of personnel and equipment. All personnel and equipment should exit via the decon area. A separate decontamination area will be established for heavy equipment.

[1] The decontamination zone is a buffer zone between contaminated and clean areas.
[2] Identified by yellow banner guard.
[3] Decon line is located * _____ complete @ time of set up.

7.1.3 Exclusion Zone/Hot Zone

The exclusion zone will be the "hot-zone" or contaminated area inside the site perimeter. Entry to and exit from this zone will be made through a designated point and all personnel will be required to sign the hot zone entry/exit log located at the decon area. Appropriate warning signs to identify the exclusion zone should be posted (i.e. "DANGER - AUTHORIZED PERSONNEL ONLY", "PROTECTIVE EQUIPMENT REQUIRED BEYOND THIS POINT", etc.) Exit from the exclusion zone must be accompanied by personnel and equipment decontamination as described in Section 8.0.

[1] Will be identified by red banner guard/orange fencing.

[2] This area will be defined as * _____ e.g. complete @ time of set up.

[3] General Safety Rules for Exclusion Zone
- a. wear the appropriate level of PPE defined in plan
- b. do not remove any PPE or break the integrity to pick, scratch, or touch parts of your body
- c. no smoking, eating or drinking
- d. no horseplay
- e. no matches or lighters in this zone
- f. implement the communication and line of sight system

7.2 General Field Safety Rules

- All visitors must be sent to the command post and referred to the OSC.
- It is EPA policy to practice administrative hazard control for all site areas by restricting entrance to exclusion zones to essential personnel and by using operational SOPs.
- Whenever possible, avoid contact with contaminated (or potentially contaminated) surfaces. Walk around (not through) puddles and discolored surfaces. Do not kneel on the ground or set equipment on the ground. Stay away from any waste drums unless necessary. Protect equipment from contamination by bagging.
- Eating, drinking, or smoking is permitted only in designated areas in the support zone.
- Hands and face must be thoroughly washed upon leaving the decon area.
- Beards or other facial hair that interferes with respirator fit will preclude admission to the hot zone.
- All equipment must be decontaminated or discarded upon exit from the exclusion zone, as determined by the OSC or designate.
- All personnel exiting the exclusion zone must go through the decontamination procedures described in Section 8.0.
- Safety Equipment described in Section 4.0 will be required for all field personnel in the exclusion zone.
- Personnel will only travel in vehicles where individual seats (for each occupant are provided. Seat belts will be worn as required.
- Fire extinguishers will be available on site and in all areas with increased fire danger such as the refueling area.
- A minimum of two personnel will always be on site whenever heavy equipment is operated. Only necessary personnel need to be on or around heavy equipment.
- Employees will not interfere with or tamper in any way with air monitoring equipment.
- Backhoes or other equipment with booms shall not be operated within 10 feet of any electrical conductor.
- Visitor log will be maintained at the command post or with the security guard. All personnel coming on site will sign in and out on a daily basis.
- Security will be maintained at the site by closing all gates during normal work hours. The OSC will assume responsibility for personnel entering site. Site will be locked up in the evening.
- EPA OSC will allow only those individuals authorized to enter the site. If unauthorized members of the public are found on site, contact security immediately and do not leave the individual unattended.

- Visitors are not allowed in the work areas without authorization and not without appropriate levels of PPE as determined by site safety personnel. Access to the properties is restricted to the EPA and authorized representatives. Persons other than the residents must sign in at the Command Post and receive authorization to enter the site.

- Buddy System
  [1] The buddy system is mandatory at anytime that personnel are working in the exclusion zone, remote areas, on tanks, or when conditions present a risk to personnel.

  [2] A buddy system requires at least two trained/experienced people who work as a team and maintain at a minimum audible and/or visual contact while operating in the exclusion zone.

- Communication Procedures
  [1] Radios will be used for on site communications and Channel _1_ will be the designated channel.
  [2] The crews should remain in constant radio or visual contact while on site.
  [3] The site evacuation signal will be 3 blasts on the air or vehicle horn.

8.0 DECONTAMINATION PROCEDURES

In general, everything that enters the exclusion zone at this site must either be decontaminated or properly discarded upon exit from the exclusion zone. All personnel, including any state and local officials, must enter and exit the hot zone through the decon area. Prior to demobilization, contaminated equipment will be decontaminated and inspected by the OSC or OSC designee before it is moved into the clean zone. Any material that is generated by decontamination procedures will be stored in a designated area in the exclusion zone until disposal arrangements are made.

All personnel must be documented on the "HOT ZONE ENTRY/EXIT LOG" when entering and exiting the exclusion zone.

NOTE: The type of decontamination solution to be used is dependent on the type of chemical hazards. The decontamination solution for this site is Alconox (or equivalent) and water. Decontamination solution will be changed daily (at a minimum) and collected and stored on site until disposal arrangements are finalized.

8.1 Procedures for Equipment Decontamination

Following decontamination, and prior to exit from the hot zone, the OSC or a designated alternate will be responsible for ensuring that the item has been sufficiently decontaminated. This inspection will be included in the site log.

Equipment decontamination will consist of the following steps:
Use water and alconox (or equivalent) solution to wipe off gross contamination.

8.2 Procedure for Personnel Decontamination

This decontamination procedure applies to personnel at this site wearing Level B and C protection. These are the minimum acceptable requirements:

Station 1: Equipment Drop
Deposit equipment used on-site (tools, sampling devices and monitoring instruments, radios, etc.) on plastic drop cloths. These items must be decontaminated or discarded as waste prior to removal from the exclusion zone.

Station 2: Outer Boot and Outer Glove Wash and Rinse
Scrub outer boots, outer gloves and/or splash suit with decon- tamination solution or detergent water. Rinse off using water.

Station 3: Outer Boot and Glove Removal
Remove outer boots and gloves. If outer boots are disposable, deposit in container with plastic liner. If non-disposable, store in a clean dry place.

Station 4: Tank Change
If person leaves exclusion zone to change air tank, this is the last step in the decontamination procedure. Air tank is exchanged, new outer gloves and boot covers donned, joints taped, and person returns to hot zone.

Station 5: Outer Garment Removal
If applicable, remove SCBA back-pack and remain on air as long as possible. Remove Chemical Resistant Outer Garments and deposit in container lined with plastic. Decontaminate or dispose of splash suits as necessary.

Station 6: Respiratory Protection Removal
Remove hard-hat, face-piece, and if applicable, deposit SCBA on a clean surface. APR cartridges will be discarded as appropriate. Wash and rinse respirator at least daily. Wipe off and store respiratory gear in a clean, dry location. (See Attachment D)

Station 7: Inner Glove Removal
Remove inner gloves. Deposit in container for disposal.

Station 8: Field Wash
Thoroughly wash hands and face with soap and water. Shower as soon as possible.

Eating, drinking, chewing gum/tobacco, smoking, or any practice that increases the probability of hand-to-mouth transfer and/or ingestion of materials is prohibited in any areas where the possibility of contamination exists, and is permitted only in the designated break area.

Personnel will not wear or bring dirty/decontaminated clothing into the break areas.

8.3 Emergency decontamination will consist of the following steps:
(Any blood contaminated material will be bagged, labeled and accompany the individual to the hospital). All PPE will be bagged in garbage bags. Dry decon will be used.

8.4 The following decontamination equipment is required:
Garbage bags, duct tape, paper towels, water, alconox (or equivalent). ~~Boot wash~~ SORBENT BAGS, BOOT WASH TUBS.

8.5 Disposition of Decontamination Wastes

[1] All equipment and solvents used for decontamination shall be decontaminated or disposed of with the established waste streams.
[2] Commercial laundries or cleaning establishments that decontaminate or are used to launder contaminated clothing shall be informed of the presence and potentially harmful effects of the contaminants.
[3] All PPE will be disposed of in garbage bags and duct taped shut. All waste generated will be stored on-site until
proper waste disposal arrangements are made.

9.0 HAZARD COMMUNICATION PROGRAM

Each contractor will be responsible for maintaining a copy of their Hazardous Communication Program and MSDS on site. The following items are specific to this job site:

9.1 Material Safety Data Sheets

[1] Material Safety Data Sheets will be maintained at the Command Post in the Health and Safety Binder.
[2] MSDS will be available to all employees for review during the work shift.
[3] See Attachment C and/or the ERCS Health and Safety Binder.

9.2 Container Labeling

[1] All containers received on site will be inspected by the contractor using the material to ensure the following:
a. all containers clearly labeled
b. appropriate hazard warning
c. name and address of the manufacturer

9.3 The following chemicals were brought to the site:

START: ERCS:

9.4 Employee Training and Information

[1] Prior to starting work, each employee will attend a health and safety orientation and will receive information and training on the following:
a. an overview of the requirements contained in the ——— Hazard Communication Standard
b. Hazardous chemicals present at the site
c. the location and availability of the written Haz Comm Program
d. physical and health effects of the hazardous chemicals
e. methods of preventing or eliminating exposure
f. emergency procedures to follow if exposed
g. how to read labels and review MSDS to obtain information
h. location of MSDS file and location of hazardous chemical list

See ERCS/START Health and Safety Binder for Hazard Communication Program and applicable MSDS.

10.0 EMERGENCIES/ACCIDENTS/INJURIES

It is essential that site personnel be prepared for an emergency. Emergencies can take many forms: illnesses or injuries, chemical exposure, fires, explosions, spills, leaks, releases of harmful contaminants, or sudden changes in the weather. The following sections outline the general procedures for emergencies. Emergency information should be posted as appropriate.

10.1 Emergency Contacts for the EDK Iron Works Site

Fire: Dayton Fire Department: Chief Bob Zickler
911

Fire Prevention Bureau: Andrew Steele
513-443-4527

Police: Dayton Police Department: Chief Ronald Lowe
911
937-222-9511 non ER
937-449-1082 office
937-443-4610 Dispatch Supervisor
937-449-1145 Operations Supt. Mark Stusek
937-449-1292 1st Dist. Cmdr. Barbara Bent

Sheriff: Montgomery County
513-225-4357
513-228-4357

Montgomery County: 911 (ER) Coord. Bill Ring
Haz. Materials Team 513-443-4500 (non ER)

Dayton Ambulance Service: 911

Hospital: Miami Valley Hospital E.R.
ER: 513-208-2444
Address: One Wyoming St.
Dayton, OH

Telephone: 513-208-8000 ER Chemical Trauma Capabilities? Yes

Poison Control Center: 1-513-222-2227

*Directions from Site to Hospital :
From the site, turn right (east) onto Valley Street. Turn right onto Stanley Avenue. Take Interstate 75 South to State Route 35 East. Follow S.R. 35 to the Main Street/ Jefferson exit. Follow the signs to South Main Street. Continue approximately ½ mile on S. Main Street to Miami Valley Hospital.

NOTE: Maps and directions to the hospital will be posted in all vehicles on-site and in the decontamination zone.

The route to the hospital was verified by: ? *

The following individuals have been trained in CPR and First Aid:

OSC Steve Renninger Karen Waldron
Tom Campbell

* At least one ERCS crew member on-site during all working hours must have CPR/First Aid training.

10.2 Additional Emergency Numbers

Montgomery County EMA/LEPC: Ed Kovar	513-854-4822
Montgomery Co. HazWaste Coordinator: Bill Ring	513-854-4822
Montgomery Co. Air Pollution Ag.: James Gross	513-225-4435
Dayton Power & Light	911 (ER)
Dayton Water Department	513-443-3550
Dayton Environmental Engineer: Dusty Hall	513-443-3725
Dayton Sewer Maintenance	513-443-4905
National Response Center	800-424-8802
U.S. EPA Region V - E.R. Branch	312-353-2318 (24 hr)
Center for Disease Control	404-488-4100 (24 hr)
AT&F (Explosives Information)	800-424-9555
Chemtrec	800-424-9300

Ecology & Environment, Inc. Contacts

E & E Regional Office (Cleveland)	216-243-3330
E & E MEDTOX Emergency Medical 24-hr Hotline	501-221-0463 904-462-3277/3281
Corporate H & S - Dr. Paul Jonmaire (home)	716-684-8060
E & E Emergency Operations Center 24-hr Hotline	716-684-8940 716-684-8060
START Program Leader Region V - Thomas Kouris	312-578-9243

ERCS Contacts

* : Regional Office - ALLEN FRANC (CHICO)	847-437-3408
ERCS Hotline	800-334-0004
Corp. H&S - TOM SUMNER	504-254-3600

EPA

U.S. EPA On-Scene Coordinator: Steve Renninger		513-569-7539 216-835-5200
OEPA SWDO (Dayton, OH)	: Elisabeth Rothschild	513-285-6080
	Jim Crawford	513-285-6068
	Dan Riestenberg	
	Dale Parmer	
State Representative	Tom Roberts	
Federal Occupational Health Unit		312-353-0379

10.3 Emergency Equipment Available On-Site
Communications Equipment Location

Public Telephones: ?

Private Telephones: ?

Mobile Telephones: ?

Two-Way Radios: OSC will keep one radio, RM will keep one radio, START will keep one radio, ERCS crew will keep one radio. - IF ERCS [illegible] WORKING IN DIFFERENT AREAS [illegible] RADIOS

Emergency Alarms/Horns: Three blasts on air horn.

Medical Equipment

First Aid Kits: START vehicles, EPA Command Post, Decon Trailer
Inspection Date: ? By: ?

Stretcher/Backboard: N/A

Eye Wash Station: In decon area (within 100 feet of hot zone)

Safety Shower: In decon trailer

Fire-Fighting Equipment

Fire Extinguishers: START vehicle, OFFICE DECON TRAILERS, IN WORK ZONES.

Inspection Date: ? By: ?
Other: N/A

Spill or Leak Equipment - ?

Absorbent Boom/Pads: ? LOCATED IN STAGING AND WORK AREAS.

Dry Absorbent: ?

Spill drum: Absorbent, etc.

Additional Emergency Equipment

10.4 Accident Reporting/Investigations (See Attachment F for proper procedures.)

11.0 EMERGENCY RESPONSE CONTINGENCY PLAN

11.1 Project Personnel Responsibilities During Emergencies

ON-SCENE COORDINATOR (OSC)

As the administrator of the project, the OSC has primary responsibility for responding to and correcting emergency situations. The OSC will:

- Take appropriate measures to protect personnel including: withdrawal from the exclusion zone, total evacuation and securing of the site or up-grading or down- grading the level of protective clothing and respiratory protection.
- Take appropriate measures to protect the public and the environment including isolating and securing the site, preventing run-off to surface waters and ending or controlling the emergency to the extent possible.
- Ensure that appropriate Federal, State and local agencies are informed, and emergency response plans are coordinated. In the event of fire or explosion, the local fire department should be summoned immediately. In the event of an air release of toxic materials, the local authorities should be informed in order to assess the need for evacuation. In the event of a spill, sanitary districts and drinking water systems may need to be alerted.
- Ensure that appropriate decon treatment or testing for exposed or injured personnel is obtained.
- Determine the cause of the incident and make recommendations to prevent the recurrence.
- Ensure that all required reports have been prepared.

RESPONSE MANAGER (RM)

The RM must immediately report emergency situations to the OSC, take appropriate measures to protect site personnel and assist the OSC as necessary in responding to and mitigating the emergency situation.

TECHNICAL ASSESSMENT AND RESPONSE TEAM (START)

The START must immediately report emergency situations to the OSC, take appropriate measures to protect site personnel and assist the OSC as necessary.

11.2 Medical Emergencies:

Any person who becomes ill or injured in the exclusion zone must be decontaminated to the maximum extent possible when practicable. If the injury or illness is minor, full decontamination should be completed and first aid administered prior to transport. If the patient's condition is serious, at least partial decontamination should be completed (i.e., complete disrobing of the victim and redressing in clean coveralls or wrapping in a blanket.) First aid should be administered while awaiting an ambulance or paramedics. All injuries and illnesses must immediately be reported to the OSC.

Any person transporting an injured/exposed person to a clinic or hospital for treatment should take with them directions to the hospital and information on the chemical(s) they may have been exposed to. This information is included in Table 2.3. Any vehicle used to transport contaminated personnel, will be cleaned or decontaminated as necessary.

11.3 Fire or Explosion:

In the event of a fire or explosion, the Dayton Fire Department should be summoned immediately. Upon their arrival the OSC or designated alternate will advise the fire commander of the location, nature and identification of the hazardous materials on- site.

If it is safe to do so, site personnel may:

- Use fire fighting equipment available on site.
- Remove or isolate flammable or other hazardous materials which may contribute to the fire.

11.4 Spills, Leaks or Releases:

In the event of a spill or a leak, site personnel will:

- Locate the source of the spillage and stop the flow if it can be done safely.
- Begin containment and recovery of the spilled materials.

11.5 Evacuation Routes and Resources:

Evacuation routes have been established by work area locations for this site. All outside work areas have been provided with two designated exit points. Evacuation should be conducted immediately, without regard for equipment under conditions of extreme emergency. See site map for evacuation routes.

- Evacuation notification will be three blasts on an air horn, vehicle horn, or by verbal communication via radio.
- Keep upwind of smoke, vapors or spill location.
- Exit through the decontamination corridor if possible.
- If evacuation is not via the decontamination corridor, site personnel should remove contaminated clothing once they are in a location of safety and leave it near the exclusion zone or in a safe place.
- The OSC will conduct a head count to insure all personnel have been evacuated safely.
- In the event that emergency site evacuation is necessary, all personnel are to:

    1. Escape the emergency situation;

    2. Decontaminate to the maximum extent practical; and,

    3. Meet at the U.S. EPA command post.

- In the event that the U.S. EPA command post is no longer in a safe zone, meet: at the corner of Valley Street and Stanley Avenue.

12.0 CONFINED SPACE

A confined space is defined as a space or work area not designed or intended for normal human occupancy, having limited means of access and poor natural ventilation, and or any structure, including buildings or rooms which have limited means of egress. Examples include tanks, vats, and basements. Confined spaces identified at this site are listed below. If a confined space entry is conducted, it will be done in accordance with procedures presented in an amendment to this plan.

Type of Confined Space	Location On-Site	Comments
NO CONFINED SPACES EXPECTED AT THIS SITE.		

ATTACHMENT A

SITE SAFETY PLAN AMENDMENTS

SITENAME: _____ ID# _____

AMENDMENT NUMBER: _____

DATE: _____

TYPE OF AMENDMENT: _____

REASON FOR AMENDMENT: _____

_____

_____

_____

ALTERNATE SAFEGUARD PROCEDURES: _____

_____

_____

_____

REQUIRED CHANGES IN PPE _____

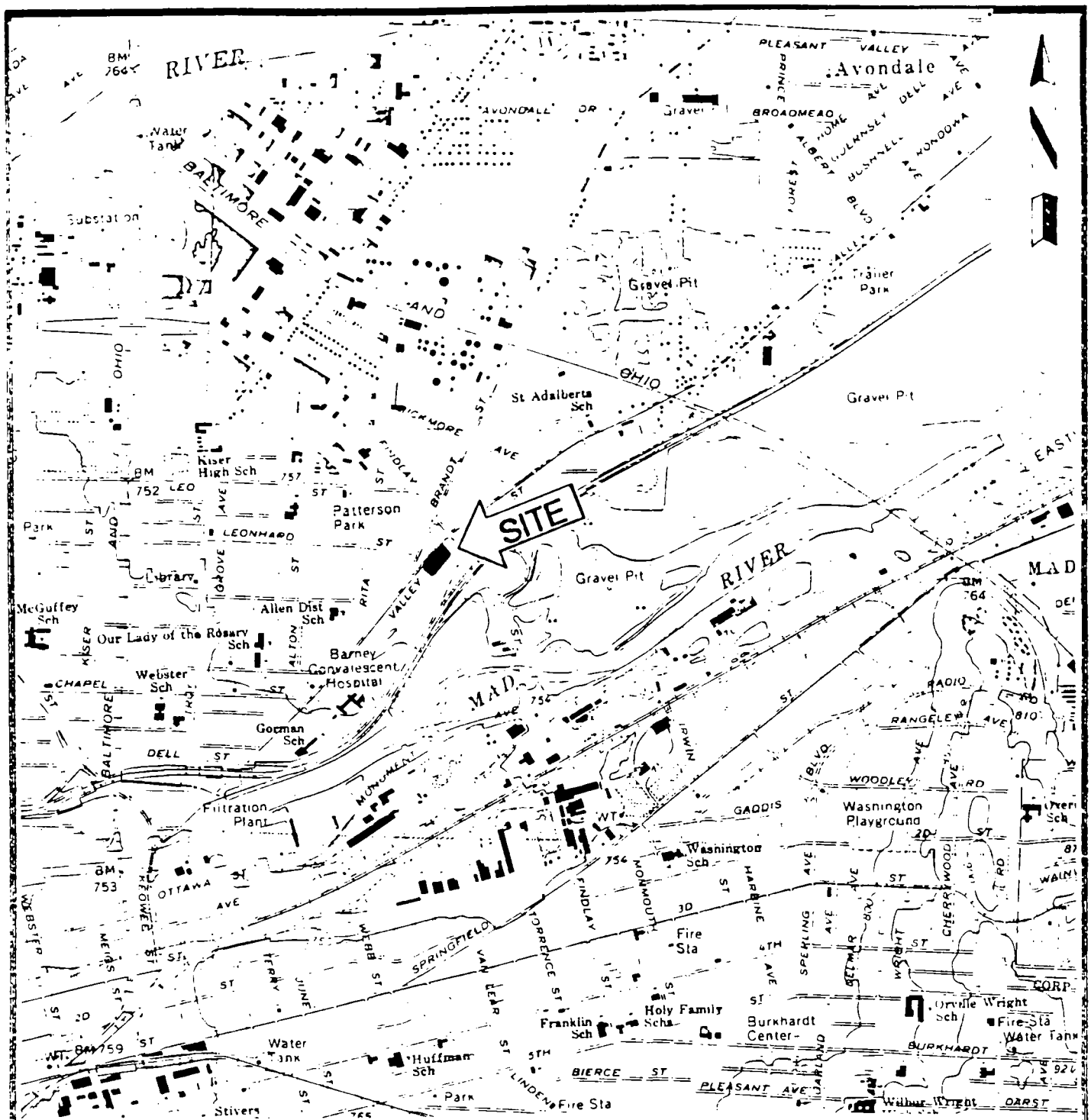
_____

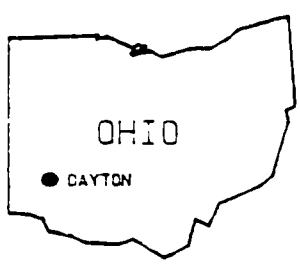
_____

_____

ERCS Response Manager	(Date)	ERCS Safety Officer	(Date)
E & E TAT Member	(Date)	E & E RSO	(Date)
U.S. EPA OSC	(Date)	U.S. EPA Safety Officer	(Date)

ATTACHMENT B
SITE MAPS

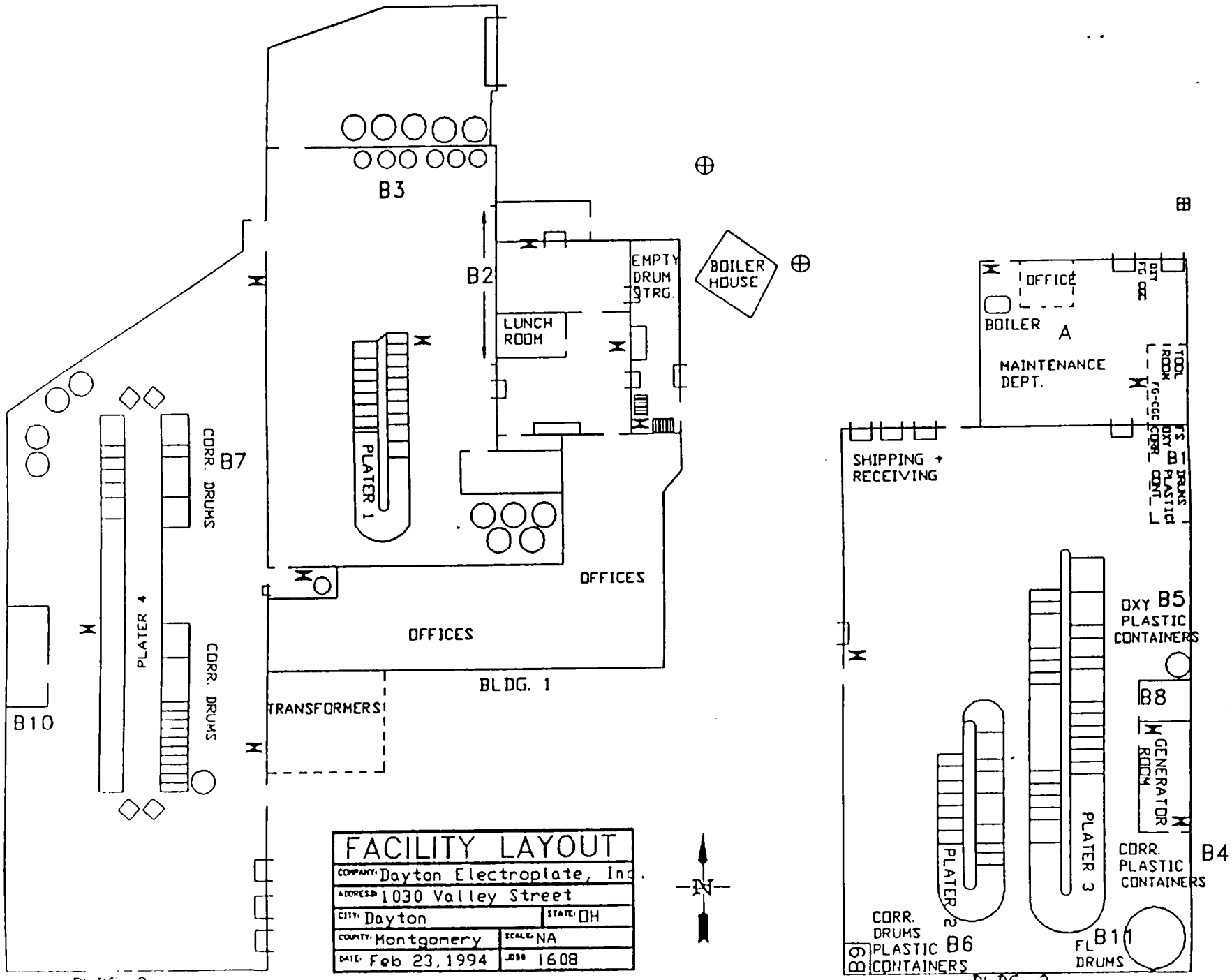


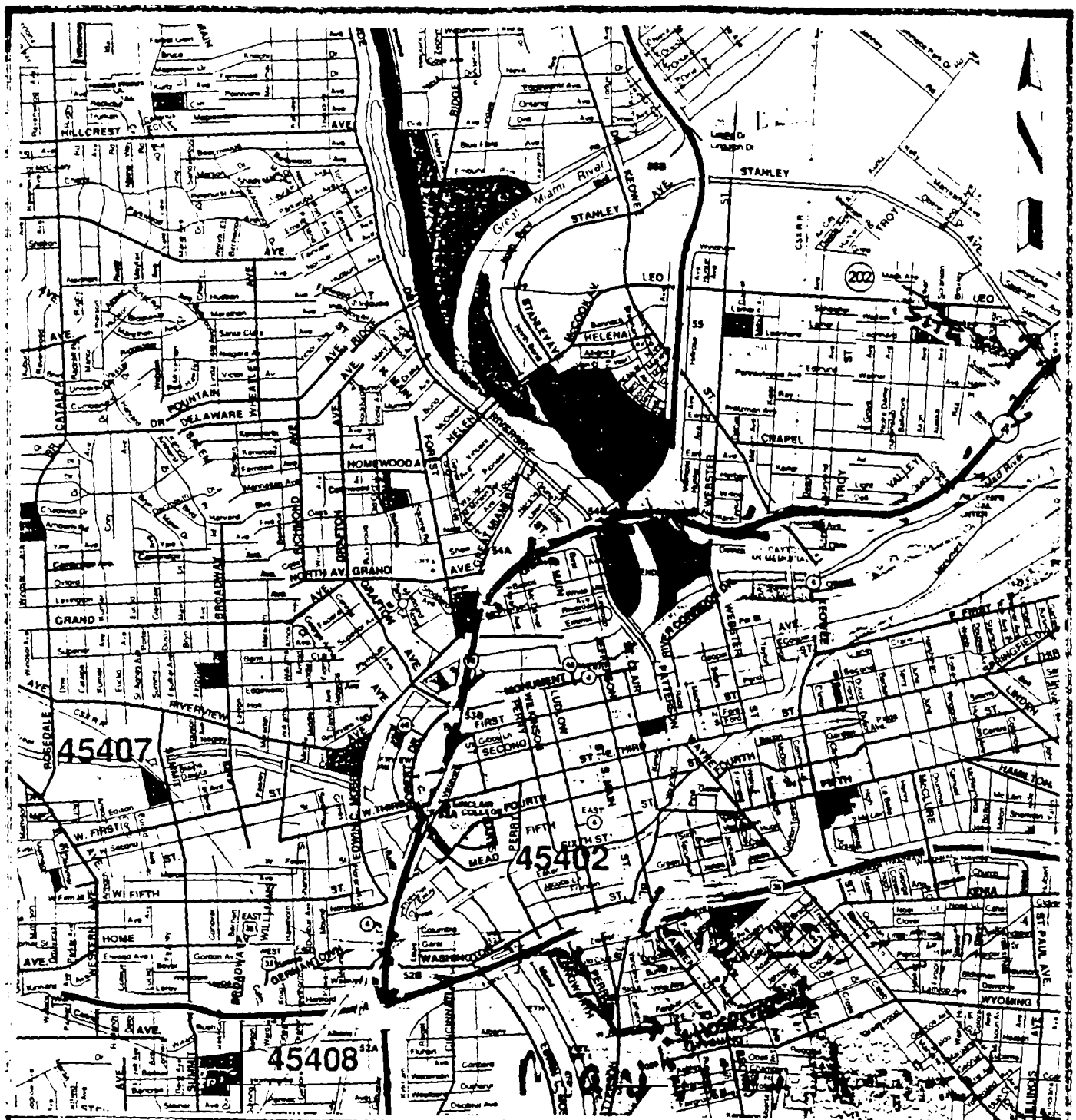


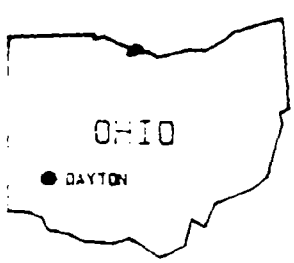
Quadrangle Location

ecology and environment, inc.
Superfund Technical Assessment and Response Team
Region V
6777 Engle Rd., Middleburg Hts., Ohio 44130

TITLE Site Location Map	FIGURE 1
SITE Dayton Electroplate, Inc. Site	SCALE 1:24,000
CITY Dayton STATE Ohio	PAN 6P1801SI
SOURCE USGS MAP, 7.5 Minute Series, Dayton North, OH Quadrangle	DATE 1965 REVISED 1981


B3
B2
EMPTY DRUM STRG.
BOILER HOUSE
LUNCH ROOM
PLATER 1
CORR. DRUMS
B7
PLATER 4
CORR. DRUMS
B10
OFFICES
OFFICES
BLDG. 1
TRANSFORMERS
FACILITY LAYOUT
COMPANY: Dayton Electroplate, Inc.
ADDRESS: 1030 Valley Street
CITY: Dayton
STATE: OH
COUNTY: Montgomery
SCALE: NA
DATE: Feb 23, 1994
JOB: 1608
N
BLDG. 3
OFFICE
BOILER
A
MAINTENANCE DEPT.
TOOL ROOM
SHIPPING + RECEIVING
B1
OXY B5
PLASTIC CONTAINERS
B8
GENERATOR ROOM
PLATER 2
PLATER 3
CORR. PLASTIC CONTAINERS
B4
CORR. DRUMS
PLASTIC B6
CONTAINERS
FL B11
DRUMS
BLDG. 2





Location

ecology and environment, inc.
Superfund Technical Assessment
and Response Team
Region V
6777 Engle Rd., Middleburg Hts., Ohio 44130

TITLE Hospital Route Map

FIGURE 3

SITE Dayton Electroplate, Inc. Site

SCALE 1 inch = 0.5 mile

CITY Dayton STATE Ohio

PAN 6P1801SI

SOURCE Rand McNally Map Services Company
Dayton, OH Map

DATE 1995

REVISED

ATTACHMENT C
CHEMICAL HAZARD INFORMATION

ATTACHMENT D

PERSONAL PROTECTIVE EQUIPMENT AND RESPIRATORY PROTECTION SOP'S

INSPECTION OF PERSONAL PROTECTIVE CLOTHING

[1] Determine that clothing material is correct for specified task
- a. compatibility chart
- b. chemical hazard chart in Safety Plan
- c. MSDS

[2] Visually inspect material for:
- a. imperfect seams
- b. non-uniform coatings
- c. tears
- d. discoloration/degradation
- e. malfunctioning closures

[3] Hold up to light and check for pinholes.

[4] Flex material:
- a. observe for cracks
- b. other signs of shelf deterioration

[5] If the material has been used previously, inspect inside and out for signs of chemical penetration/degradation
- a. discoloration
- b. swelling
- c. stiffness

[6] During the work task:
- a. evidence of discoloration/degradation
- b. closure failure
- c. tears
- d. punctures
- e. seam discontinuities

RESPIRATORY PROTECTION

General Guidelines

[1] All personnel required to use respirators will select and use the respirators based upon guidelines established by OSHA, NIOSH, and the corporate Respiratory Protection Program.

[2] All individuals required to wear respirators will have received a documented pre-issue qualitative fit test for the MSA or SurvivAir full-face.

[3] Each individual will be responsible for conducting a positive/negative fit check each time the respirator is donned.

[4] Each individual shall be responsible for cleaning his/her own respirator at least once daily and is permitted to leave the work area to wash his/her own respirator as needed.

[5] Cartridges or filters shall be changed after each daily use or whenever an increase in breathing resistance/odor is detected, or if they become wet. All changes will be made in uncontaminated areas.

[6] No employee shall wear a respirator until he/she has been examined by a physician and determined to be physically able to wear respiratory protection. This examination shall be documented at the site.

[7] All personnel must be qualitively fit test every six months.

Air Purifying Respirator Inspection and Checkout

[1] Visually inspect the entire unit for any obvious damages, defects, or deteriorated rubber.

[2] Make sure the facepiece harness is not damaged.

[3] Inspect lens for damage and proper seal in facepiece.

[4] Exhalation Valve
Pull off plastic cover and check valve for debris, tears, or deformities in the neoprene valve.

[5] Inhalation Valve
Screw off cartridges/canister and visually inspect neoprene valves for tears. Make sure than inhalation valves and cartridge receptacle gaskets are in place.

[6] Insure that the speaking diaphragm retainer ring is hand tight.

[7] Make sure than you have the correct cartridge.

[8] Don and perform positive and negative pressure check.

Storage of Air Purifying Respirators

[1] OSHA requires that respirators be stored to protect against:

* Dust
* Sunlight
* Heat
* Extreme Cold
* Excessive Moisture
* Damaging Chemicals
* Mechanical Damage

[2] Respirators must be stored in a clean area which is not likely to be contaminated by the work in progress.

[3] Respirators should not be hung from their headbands for prolonged periods of time.

SCBA Inspection and Checkout

[1] Monthly Inspection

a. check cylinder label for current hydrostatic test date
b. inspect cylinder for large dent or gouges
c. inspect cylinder gauge for damage
d. complete routine inspection
e. fill out inspection documentation card

[2] Routine Inspection

a. Pre-Operational
   * high-pressure hose connector is tight on cylinder fitting
   * by-pass valve is closed
   * mainline valve is closed
   * regulator outlet is not covered or obstructed

b. Backpack and Harness Assembly
   * inspect backpack/harness straps for wear, damage, secure
   * check wear and function of belts
   * check backplate and cylinder holder for damage

c. Cylinder and High Pressure Hose Assembly
   * check cylinder to insure firmly attached to backplate
   * open cylinder valve; listen or feel for leakage around packing and hose connection
   * check high pressure hose for damage or leaks

d. Regulator

* cover regulator outlet with palm of hand
* open mainline valve
* remove hand from regulator outlet
* open by-pass valve slowly to assure proper function
* close by-pass valve
* open mainline valve
* note pressure reading on regulator gauge
* close cylinder valve while keeping hand over regulator outlet
* slowly remove hand from outlet and allow air to flow
* note pressure when low pressure warning alarm sounds; it should be 550-650 psi
* close mainline valve
* check regulator for leaks by blowing air into regulator for 5-10 seconds
* draw air from outlet for 5-10 seconds
* if a positive pressure or vacuum cannot be maintained, there is a leak.

e. Facepiece & Corrugated Breathing Hose

* inspect head harness and facepiece for damage, serrations, and deteriorated rubber
* inspect lens for damage and proper seal in facepiece
* inspect exhalation valve for damage and dirt buildup
* stretch breathing hose and carefully and inspect for holes and deterioration
* inspect connector for damage and presence of washer
* perform negative pressure test with facepiece donned

f. Storage

* refill cylinder to 2216 psi
* close cylinder valve
* tightly connect high pressure hose to cylinder
* bleed pressure from high pressure hose by opening mainline valve
* close by-pass valve
* close mainline valve
* fully extend all straps
* store facepiece in a clean plastic bag for protection

ATTACHMENT E
HEAT/COLD STRESS

ATTACHMENT F

ACCIDENT REPORTING/INVESTIGATIONS

- All injuries or accidents must be reported to the Response Manager or Site Safety Officer immediately.
- The Response Manager will conduct an immediate investigation of the accident and document all results on the Supervisor's Accident Investigation Report and State Worker's Compensation Form.
- The Response Manager will assign a supervisory individual to accompany all injured personnel to the clinic and follow guidelines as outlined.
- Copies of all Supervisor's Accident Reports will be sent to the Director of Health and Safety for ERCS personnel and copies of accident reports will be sent to START Regional offices when dealing with START personnel.

ATTACHMENT G
WASTE SAMPLING

ATTACHMENT H

FLAMMABLE/COMBUSTIBLE and CORROSIVE LIQUID TRANSFER

ATTACHMENT I
HIGH PRESSURE WASHER USE

ATTACHMENT J
SITE WALKTHROUGHS/ENTRY

ATTACHMENT K
HEAVY EQUIPMENT HAZARDS

ATTACHMENT L
HAZARDOUS WASTE STORAGE

ATTACHMENT M

COMPATIBILITY TESTING and COMPOSITING of SAMPLES

ATTACHMENT P
DRUM SAMPLING

ATTACHMENT R

DRUM WELDING/CUTTING/CRUSHING

ATTACHMENT Q
DRUM HANDLING

ATTACHMENT S
ELEVATED WORK AREAS

ATTACHMENT T
TRUCK LOADING

ATTACHMENT ~~U~~ V
SITE SAFETY PLAN
ACKNOWLEDGMENT FORM

SITE SAFETY PLAN ACKNOWLEDGMENT FORM

I have been informed and understand and will abide by the procedures set forth in the Safety and Health Plan and Amendments for the Dayton Electroplate, Inc. site.

Printed Name	Signature	Representing	Date