VARIANCE FROM WASTE CLASSIFICATION RENEWAL APPLICATION

ENVIRITE OF OHIO, INC.

2050 CENTRAL AVENUE SE
CANTON, OH 44707
OHD980568992

EQ METALS RECOVERY, LLC/

fka/AJYL RECOVERY SERVICES, LLC
1533 ALLEN AVENUE SE
CANTON, OH 44707
OHD986982155

DECEMBER 10, 2018

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I. Introduction

A. Variance from Waste Classification Issued by the Ohio EPA

On June 12, 2009, the director of Ohio EPA granted Envirite of Ohio, Inc. (Envirite) and EQ Metals Recovery, LLC (EQ Metals)/fka/AJYL Recovery Services, LLC a final variance from classification as waste. The variance allows Envirite and EQ Metals to use and manage recycled materials more like process intermediates and products than waste.

B. Variance Renewal Requirement

Please accept this submittal per the variance Sections XIII (1) and XIV, wherein applicants must submit to the director a complete application for a renewal variance, meeting the requirements of OAC rule 3745-50-23, at least one hundred eighty days before the expiration date of variance.

II. General Discussion of Activities

A. Description of Envirite of Ohio, Inc., OHD980568992

The Envirite facility is located on approximately 12 acres in Canton Township, OH, at 2050 Central Avenue SE. The facility consists of a commercial wastewater treatment plant which is fully regulated under the Clean Water Act, a Hazardous Waste storage and processing facility operating under State and Federal RCRA permits and the Ohio EPA-issued variance, several laboratories, offices, and other associated support areas.

The Envirite facility began processing wastes in 1981 as a commercial wastewater treatment facility. In 1987, additional permitted hazardous waste processing capabilities were added. The facility operates under a federal RCRA Permit, a final Ohio Hazardous Waste Operating Permit, a USEPA-granted delisting exclusion as well as the appropriate air, storm water, and POTW discharge permits. For further detail, select components of Envirite's current Part B Application, including Facility Description, Procedures to Prevent Hazards, and Contingency Plan, are included as **Appendices J through L** of this submittal.

B. Description of EQ Metals Recovery, LLC/fka/AJYL Recovery Services, LLC, OHD986982155

EQ Metals, a wholly owned subsidiary of Envirite, is a commodity metal recovery firm located at 1533 Allen Avenue SE in Canton, OH. The facility accepts recyclable materials with recoverable amounts of valuable metals and specializes in blending and

drying non-waste (when recycled) solids and sludges. Indirect convection heat technology is used for drying. Five industrial batch ovens are currently in service at EQ Metals. Oven process information and flow diagrams are included at **Appendix B**, while oven manufacturer specifics are included as **Appendix H** of this submittal. EQ Metals accepts materials shipped from Envirite in compliance with the variance from waste classification. All materials received at EQ Metals contain valuable quantities of copper, chromium, cobalt, nickel, tin, zinc, or precious metals. There is no waste disposal at the site.

Other EQ Metals processes, not currently in operation, can include ion exchange and electrowinning of liquid solutions, universal waste management, computer electronics recycling, and plastics sizing/granulation. EQ Metals employed small-scale units for these processes at the time the variance was granted in 2009. EQ Metals does not currently accept, store, or process liquid solution concentrates. EQ Metals will resume operation of these viable recycling processes when economically feasible and will communicate with the Ohio EPA in advance of resuming the activities.

Appendices A through I of this submittal provide details of EQ Metals' waste analysis plan, processes/procedures, air emissions/storm water information, containment for liquid materials, site drawings, product safety data sheets, and current closure cost estimate.

C. Discussion of Recycling and Reclamation Efforts

Envirite's business is the treatment and/or reclamation of metal-bearing inorganic hazardous wastes. Certain metal-bearing listed, characteristic, and non-hazardous wastes contain significant concentrations of valuable metals and are made amenable to recovery. Envirite recovers materials from both liquid and solid wastes containing a range of metals including copper, chromium, cobalt, nickel, tin and zinc along with precious metals.

Envirite has technology capable of converting and concentrating these wastes into materials suitable for reuse and/or reclamation. These technologies include the analysis, wastewater treatment, physical/chemical separation, and digestion of metal-bearing materials. The wastewater treatment activity, which removes valuable metal from metal-bearing wastewaters, and concentrates them into sludge form, can occur at various generator sites engaged in CWA-regulated operations or at the Evirite facility.

The Envirite process can generate two primary products: 1.) a solid substitute for virgin ores for use as feedstock by primary and secondary smelting operations, and 2.) a concentrated plating solution that can be used as a raw feedstock directly into an electowinning recovery process, producing a high-grade purified metal, or employed as an ingredient in the manufacture of metal chemical products. The EQ Metals facility

receives the reclaimed concentrate materials from Envirite for further reclamation as outlined above and within **Appendix B** of this submittal.

D. Rationale for Variance Renewal

Without the variance, some activities at EQ Metals would be regulated as hazardous waste management and would require a hazardous waste facility installation and operation permit. For example, per OAC 3745-51-02(C)(3) and column 3 of the Table in this rule, sludges exhibiting a characteristic of being hazardous are not wastes when reclaimed, whereas spent materials and sludges listed in rule OAC 3745-51-31 or 3745-51-32 are wastes when reclaimed. Listed sludge materials produced by Envirite are the same in chemistry/physical properties and are generated in the same process as characteristic sludges and non-hazardous materials. Largely, materials being reclaimed originate within the metal finishing industry and are either listed hazardous wastes, are precursors to listed hazardous wastes, or are mixture/derived-from listed hazardous wastes.

Envirite's recycling business unit has grown substantially over the past nine years as a result of the 2009 variance and the unit relies on continuance of the variance. Envirite and EQ Metals request renewal of the 2009 variance, provided recyclable materials meet criteria outlined in Tables 3a and 3b of this submittal, in order to avoid classifying these valuable materials as wastes.

E. Benefits to Customers, Environment and State of Ohio from Recycling Activities

Renewal of the variance will allow continued recycling of materials that otherwise would be treated for disposal or sent off site as hazardous waste to third party processors with state-issued variances. The recovery of Envirite's concentrate reduces or eliminates long term waste management liability and minimizes waste reporting obligations. Envirite's recycling process significantly reduces the tonnage of materials treated or "delisted" and disposed in Subtitle D landfills.

Buyers prefer Envirite's finished product over virgin mined ore. In every case, the recycled materials are sold as valuable commodity metal products.

As an existing permitted facility, Envirite has developed an agency-approved waste analysis plan, a facility and equipment inspection program, and a contingency/preparedness/spill prevention Plan. Envirite and EQ Metals employees meet or exceed all training requirements defined under RCRA/OSHA hazardous waste worker and OAC 3745-54-16. Additionally, employees at both sites receive job-specific health & safety training outlined in **Appendix M**.

Envirite operates an onsite, accredited laboratory that has the ability to thoroughly analyze and test prospective and received materials as well as all finished products to ensure only materials with true, legitimate recyclable value will enter the commercial product market.

III. Evaluation of Specific Variance Criteria

A. Criterion One; The degree of processing the material has undergone and the degree of further processing that is required.

1. Processing provided by Envirite

a. Hazardous Waste Treatment and Storage

Envirite is authorized to receive, store, and process hazardous wastes in various physical forms and has both inside tankage and outside permitted storage. Through wastewater treatment, for example, metal can be removed from solution and concentrated into valuable, newly-generated sludge form. Through chemistry and pH-controlled filtration, valuable metals can be selectively precipitated. Certain sludges and solids can be digested for introduction to electrowinning and other processes designed to produce pure metal.

b. Material Characterization and Selection

Incoming waste/material streams are individually evaluated by Envirite's on site laboratory. Each stream received at Envirite is subjected to the stringent waste review process detailed in Envirite's agency-approved Part B Permit Application.

Materials/Wastes received by Envirite may or may not be candidates for the generation of Envirite's solid or liquid recycled concentrate. The finished concentrate is market-quality driven. Envirite possesses the unique ability to divert streams that have metal value into the generation of a finished product, or de-characterize/delist streams as dictated by the Ohio Hazardous Waste Operating Permit and the EPA-granted delisting exclusion.

Any materials not amenable to recycling are sent to traditional storage, treatment and ultimate disposal. Recycling facilities without this ability must arrange for off-site transportation and disposal, or may attempt to make the material fit into their recovery processes, the end result of which is a dilution of quality materials to compensate for unwanted contaminates.

2. Additional Processing Required

Although both the solid and liquid concentrate manufactured by Envirite's permitted facility are marketable at the point of generation, additional processing maximizes the end user value. The solid concentrate is dried, further concentrating metal values, and blended at the EQ Metals facility. The liquid concentrate requires several steps commonly applied in the plating industry. These processes are depicted in flow diagrams included with this submittal as **Appendix B.**

B. Criterion Two; The value of the material after it has been reclaimed

1. Factors Influencing Value of Material from Envirite

a. Current Market Price for Pure Metal/Metal Salts

Compensation for metal-bearing materials is based on a percentage of the commodity price for the given metal multiplied by the pounds of contained metal. The commodity price is tied to one or more of the public exchanges such as the London Metal Exchange (LME) or in the United States the Commodity Exchange (COMEX). The percentage of the commodity price paid is based upon the degree to which the material needs to be processed to reach the "pure" metallic state.

b. Reclaimed Material Value

The value of all candidate material is determined through pre-shipment sample testing and profiling. Once identified and approved for receipt as a recycling candidate, an approval is issued to the generator/customer. Envirite then screens samples taken from each shipment to verify conformance to the original profile and to ensure variance conditions are met. Final product values are determined through sampling and testing of finished product, which ensures only materials with legitimate recyclable value enter the commercial market.

C. Criterion Three; The degree to which the reclaimed material is like an analogous raw material

1. Solid Concentrates

Envirite's typical solid metal concentrate has no discernible odor and a consistency ranging from a clay-like filer cake to a free-flowing substance with a particle size distribution ranging from fine granules to large nugget size chunks. The color will vary depending on the metal(s) contained. The moisture content of the finished

product will typically range from 1% to 10% depending upon customer preference and shipping considerations.

Solid Concentrates – minimum metal concentrations are as follows:
Nickel/Tin = 2%
Copper = 2%
Zinc, Chromium, Cobalt = 2%

2. Liquid Concentrates

Electrolytic refineries use metal-bearing solutions to produce the highest quality metal products. Typically, these refined materials are 95-99.99% of the desired metal. Envirite's liquid concentrate is acidic and is identical in characteristic to an electrolytic solution found in the acid leaching processes used in mining operations or manufactured electro-plating solutions.

Liquid Concentrates – minimum metal concentrations are as follows:
Nickel/Tin/Copper = 3%
Electro-less Nickel/Copper = .01%

Envirite's Solid and Liquid concentrates can be used by smelters and chemical manufacturers that utilize metal-bearing materials to manufacture a wide variety of products ranging from paint pigments to metal catalysts. Mostly, Envirite's concentrate is purchased by smelters where end use is in the manufacturing of stainless steel and other steel alloys. Table 2 outlines the typical metal concentrations of analogous virgin mined ores.

D. Criterion Four; The extent to which an end market for the reclaimed material is guaranteed.

Envirite has shipped recovered material to, entered into contracts with, or has active purchase quotes from all of the suppliers listed in Table1. Envirite's finished product is of higher quality and locally available, as compared to the virgin ore product alternatives. As with most raw products, global demand for both precious and non-precious metals has significantly increased. This increased demand has created a shortage of materials that are typically available from mining. Being preferred over mined ore, materials produced by Envirite's recycling processes are in demand worldwide. More effective than a specific contractual guarantee, the quality of Envirite's finished product and overall market demand provides the assurance of recycling.

E. Criterion Five; The extent to which the material is handled to minimize loss.

All materials received at Envirite are managed in compliance with the existing Ohio Hazardous Waste Operating Permit and City of Canton Industrial Waste Discharge Permit. Envirite is the only recycling facility with the unique ability to divert streams that have metal value into the generation of a finished product, or treat or "delist" waste streams having no market value.

Again, Envirite has developed an Agency approved process, a facility that is fully regulated, and employs a staff that exceeds training typically required by facilities with similar recycling operations. Envirite extends the same management approach to the offsite recovery operations at EQ Metals and employees there receive the same rigorous training as Envirite employees.

IV. Legitimate Recycling of Hazardous Secondary Materials

A. Federal Register/Vol. 83, No. 104, Wednesday May 30, 2018

Based on orders issued by the United States Court of Appeals for the District of Columbia Circuit on July 7, 2017, the Environmental Protection Agency (EPA) revised regulations associated with the definition of solid waste (DSW) under the Resource Conservation and Recovery Act. Effective May 30, 2018, the final rule:

1. Vacated the 2015 verified recycler exclusion for hazardous waste that is recycled off-site,
2. Reinstated the transfer-based exclusion from the 2008 rule,
3. Upheld containment and emergency preparedness provisions of the 2015 rule,
4. Vacated Factor 4 of the 2015 definition of legitimate recycling, and
5. Reinstated components of the 2008 rule which require certain considerations in determining overall legitimacy of recycling activity.

B. 40 CFR §260.43 Legitimate Recycling of Hazardous Secondary Materials

The legitimacy provision of EPA's DSW was designed for entities to distinguish between genuine recycling and "sham" recycling, an activity that can occur with intent to avoid managing material as hazardous waste.

The following criteria, taken from FR/Vol. 83, No. 104, pp. 24667 and 24668, establish Envirite's legitimate recycling of hazardous secondary materials:

1. Legitimate recycling must involve a hazardous secondary material that provides a useful contribution to the recycling process or to a product or intermediate of the recycling process.

   Question 1: Do the hazardous secondary materials recycled by Envirite contribute valuable ingredients to a product or intermediate, and are

the materials the source of a valuable constituent recovered in the recycling process per §260.43(a)(1)?

Answer 1: Yes. Metal-bearing hazardous secondary materials recycled by Envirite contain high concentrations of valuable metals, including Copper, Chromium, Cobalt, Nickel, Tin, Zinc, and precious metals. Value or commodity price of these recovered metal constituents is dictated by global demand as observed through public exchanges such as London Metals Exchange or Commodities Exchange.

2. The recycling process must produce a valuable product or intermediate. The product or intermediate is valuable if is sold to a third party.

Question 2: Does the recycling process produce a valuable product that is sold to a third party per §260.43(a)(2)?

Answer 2: Yes. All recycled materials are sold for profit to third parties as shown in **Table 1** below. Envirite's metal concentrate is of higher quality than the alternative mined-ore product and is preferred by smelters, secondary smelters, chemical manufacturers, and other metal purchasing suppliers. Strong demand guarantees value in Envirite's metal product and ensures legitimate recycling.

3. The generator and the recycler must manage the hazardous secondary material as a valuable commodity when it is under their control. Where there is an analogous raw material, the hazardous secondary material must be managed, at a minimum, in a manner consistent with the management of the raw material or in an equally protective manner. Where there is no analogous raw material, the hazardous secondary material must be contained. Hazardous secondary materials that are released to the environment and are not recovered immediately are discarded.

Question 3: Does Envirite and EQ Metals manage hazardous secondary material as a valuable commodity per §260.43(a)(3)?

Answer 3: Yes. All materials received and generated at Envirite are managed in compliance with the hazardous waste operating permit. After testing to verify materials meet variance conditions, materials are transferred from Envirite to EQ Metals, where materials are removed from DOT–compliant containers for further processing, including drying and blending. After processing, the finished metal product is sampled again for testing at Envirite's laboratory to verify product specifications are met. The finished metal product is packaged within new DOT-compliant containers, with product labeling per OSHA's Hazard Communication/Global

Harmonization Standards, for shipment to buyer locations. Also, product safety data sheets are provided to buyers of the finished product. Examples of product label and safety data sheets are shown in **Appendix G** of this submittal.

4. The following factor must be considered in making a determination as to the overall legitimacy of a specific recycling activity:
   a. The product of the recycling process does not:
      i. Contain significant concentrations of any hazardous constituents found in appendix VIII of part 261 that are not found in analogous products, or
      ii. Contain concentrations of hazardous constituents found in appendix VIII of part 261 at levels that are significantly elevated from those found in analogous products, or
      iii. Exhibit a hazardous characteristic (as defined in part 261 subpart C) that analogous products do not exhibit.

Question 4: Does the product of Envirite's recycling process contain significant concentrations of any hazardous constituents found in appendix VIII of part 261 that are not found in analogous products, or concentrations of the constituents elevated from those found in analogous products, and does the product exhibit a hazardous characteristic (as defined in part 261subpart C) that analogous products do not exhibit?

Answer 4: The product of Envirite's recycling process contains significant concentrations of chromium compounds and nickel compounds, which are constituents found in appendix VIII of part 261. However, chromium and nickel are desired constituents. The analogous products, such as mined ore used as smelter feedstock for ultimate use in the manufacturing of steel alloys, contain chromium and nickel compounds as well. Because Envirite's product contains trivalent chromium, as opposed to the more toxic hexavalent chromium, the product is not expected to exceed the 5 mg/L RCRA characteristic threshold for chromium. The more concentrated the metal, the more likely a material will exhibit a RCRA characteristic. In this case, though, the more concentrated the metal, the more valuable the material.

Meeting the above legitimacy criteria in recycling hazardous secondary material, for the purpose of exclusion at 40 CFR §261.4(a)(24), demonstrates the genuine, legitimate nature of Envirite's recycling program.

V. Closing Discussion

EPA's new regulations allow facilities to perform similar operations with less regulatory oversight than required by the Ohio EPA-issued variance. Preamble to EPA's new Definition of Solid Waste, published prior to the 2008 ruling, cited six primary mismanagement practices that resulted in past contamination: accumulation and storage, illegal disposal or abandonment of secondary materials or residuals, transportation, sham recycling, contaminated products, and the ultimate mismanagement of residuals.

As Envirite's recycling activities will occur in the same fully permitted operations that are utilized to manage hazardous wastes, every concern of the EPA above is specifically addressed. Envirite also operates a state of the art transportation fleet with properly trained drivers in place to safely transport materials from Envirite to EQ Metals.

Simply stated, renewal of the variance will maintain Envirite's unique ability to satisfy the goal set forth by EPA "that takes advantage of the positive economic forces, and compensates for the negative ones, in order to produce an optimal amount of recycling." (Federal Register/Vol.72, No. 57, 14182).

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Chuck Zuerner — Signature

12-10-2018 — Date

Chuck Zuerner
General Manager
Envirite of Ohio, Inc. and EQ Metals Recovery, LLC

Table 1

Table 1: Metal Purchasing Suppliers

A. Primary Smelters

Company	Location	Metals Recovered
Glencore/Xstrata Copper	Worldwide	Copper, Nickel, Zinc, Precious Metals
Vale Inco	Worldwide	Copper, Nickel, Cobalt, Precious Metals

B. Secondary Smelters

Company	Location	Metals Recovered
Nickelhuette Aue GmbH	Aue, Saxony, Germany	Nickel, Copper, Chrome
Hussey Copper	Leetsdale, PA	Copper, Nickel, Silver
ECS Texas	Terrell, TX	Tin, Lead, Precious Metals
Inmetco	Ellwood City, TX	Nickel, Chrome, Iron

C. Metal Refiners

Company	Location	Metals Recovered
Cookston Electronics	Altoona, PA	Tin, Lead, Silver
Solumet Metal & Powder Inc.	Varennes, Quebec	Copper, Nickel, Cobalt, Molybdenum, Chrome

D. Chemical Manufactures/Distributors

Company	Location	Metals Recovered
Metal Solutions, Inc.	Scottsdale, AZ	Tin
Veiolia Technical Serv.	Valprasio, IN	Tin, Copper
Cronimet Specialty Metals USA	Greenville, PA	Nickel, Cobalt, Tungsten, Titanium, Molybdenum
Recycling Coordinators Inc.	Akron, OH	Nickel, Cobalt, Copper, Chrome, Molybdenum, Tungsten, Titanium
Amlon/Alfa Omega	Longview, TX	Nickel, Cobalt, Copper, Chrome
Elemet	Hudson, NY	Nickel, Copper, Chrome, Molybdenum
Auris Noble	Akron, OH	Precious Metals, Silver

E. Calciners/Dryers

Company	Location	Metals Recovered
EQ Metals Recovery, LLC	Canton, OH	Chromium, Cobalt, Copper, Nickel, Tin, Cobalt, Zinc, Precious Metals
Agmet	Cleveland, OH	Nickel, Copper, Tin

Table 2

Table 2: Ore Grades and Sources

Ore	Major Mineral Sources	Normal Ore Grade	Major Metal Producers
Copper	Chile, USA, Canada, Japan, Russia, Zambia, Zaire	0.4 - 3.0%	Chile, USA, Canada, Germany, Japan, Russia, Zambia, Zaire
Gold	Russia, S. Africa, USA, Canada, Australia	0.0007 - 0.003%	Russia, S. Africa, USA, Canada, Australia
Nickel	Canada, Finland, Russia, Indonesia, New Caledonia	0.1 - 2.0%	Canada, Russia, Japan, New Caledonia, United Kingdom
Silver	Canada, USA, Mexico, Russia, Peru	0.01 - 0.1%	Canada, USA, Mexico, Russia, Peru
Tin	Malaysia, Bolivia, Indonesia, Thailand, UK	0.5 - 3.0%	Malaysia, Thailand, UK
Zinc	Canada, USA, Australia, Peru, Japan, Italy	5.0 - 15.0%	USA, Japan, Canada, Australia, Germany

Table 3a

Table 3a. Minimum and Average Constituent Values of Envirite's Solid Metal Concentrates

Constituent	*Minimum Value*	*Average Range*
% Moisture	0	55-75
% Nickel/Tin	2	2 - 40
% Insoluble Salts Chlorides, Sulfates, Phosphates	0	1 - 75
Other Non Target Metal	0	1 - 25

Constituent	*Minimum Value*	*Average Range*
% Moisture	0	55-75
% Copper	2	2 - 40
% Insoluble Salts Chlorides, Sulfates, Phosphates	0	1 - 75
Other Non Target Metal	0	1 - 25

Constituent	*Minimum Value*	*Average Range*
% Moisture	0	55-75
% Cobalt, Zinc, Chromium	2	2 - 40
% Insoluble Salts Chlorides, Sulfates, Phosphates	0	1 - 75
Other Non Target Metal	0	1 - 25

Table 3b

Table 3b. Minimum and Average Constituent Values of Envirite's Liquid Metal Concentrates

Constituent (Electrolytic)	*Minimum Value*	*Average Range*
% Water	70	70 - 95
%Nickel/tin/Copper	3	3 - 10
% Insoluble Salts Chlorides, Sulfates, Phosphates	0	1 - 75
Other Non Target Metal	0	1 - 25
Acid	3	3 - 25

Constituent (Electroless)	*Minimum Value*	*Average Range*
% Water	70	70 - 95
%Nickel/Copper	0.01	.01 - 2
% Insoluble Salts Chlorides, Sulfates, Phosphates	0	10 - 25
Other Non Target Metal	0	1 - 3

Appendix A

EQ Metals Waste Analysis Plan

Appendix A. Waste Analysis Plan

A.1 Plan Purpose

This Waste Analysis Plan has been formulated for EQ Metals Recovery, LLC to provide information that must be known to store, process and properly manage the materials containing commodity metals and to ensure legitimate recycling.

A.2 Physical and Chemical Analysis and Reference to Envirite

All recyclable material testing is performed by Envirite of Ohio, Inc. under its existing, agency-approved waste analysis plan (WAP). The Envirite laboratory is fully accredited and is staffed to manage any volume of samples in support of EQ Metals. The full WAP document and the Envirite laboratory procedures/methods manual are available for reference.

A.3 Materials Profiling and Acceptance

The EQ Metals Facility Manager oversees recycling opportunities and maintains customer contact. The Facility Manager will work with generators, or their agents, to provide detailed chemical and physical information regarding the material, and a complete description of the process generating the waste. This information will be submitted on a Material Profile Form (**Figure A-1**), or its equivalent, which will be signed and certified by the generator, their agent or designee. Information required from the generator includes a hazardous waste charaterization. Information provided by the generator must be sufficient to determine the acceptability of the material, and to determine that the material can be safely recycled in accordance with regulatory requirements and facility capabilities.

Additionally for any recycling opportunity, the Facility Manager will:

1. Review the Material Profile Information form and associated documentation, e.g., SDS, analytical data etc.;
2. Prepare and submit pre-acceptance samples to the Envirite laboratory for analytical testing as necessary;
3. Assign a unique customer code, and profile stream number;
4. Ensure safe and timely submittal of samples to the Envirite laboratory.

All recycle opportunities are reviewed by the facility manager as well as by Envirite technical staff, including waste approvals/materials coordinators and members of the Envirite management team to ensure the safe, compliant management of recyclable materials. Candidate materials for acceptance at EQ Metals are evaluated based on the economic recovery significance of the commodity metal, however this group considers

factors beyond economics, such as hazardous waste codes that apply to the material, the generating process, the nature and quantity of the waste, compatibilities, and overall capability of the facility to accept the waste.

A.4 Receiving at the Envirite Facility

Upon arrival of a shipment at the Envirite facility, the manifest or bill of lading is inspected for completeness and accuracy. Information provided in the corresponding Material Profile (**Figure A-1**) and any associated analysis or/SDS are used for this purpose. Samples of the shipment are extracted from the as-received transport container(s) at the Envirite facility for both confirmation to the material profile and for testing to calculate metal value. Only materials meeting variance thresholds are transported to EQ Metals. Off-spec metals concentration variations or non-conforming shipments are quarantined upon receipt. Management is notified and the generator is contacted to determine the specific type and cause of the variation. Arrangements are made with generators of non-conforming shipments for management options other than recycling.

A.5 Receiving at the EQ Metals Facility

Before receiving any shipment at EQ Metals, as outlined above, materials are profiled and tested by Envirite's laboratory. No materials received at EQ Metals are regulated as hazardous wastes (when recycled). These materials include liquid and solid concentrates received in containers and (e.g., drums, totes, gaylord boxes etc.), roll-off boxes and tankers. Laboratory documentation of commodity metal concentration and other important information, such as profile tracking and receipt ID's that tie material to its origin, accompanies each shipment to EQ Metals. Upon arrival at EQ Metals, each shipment of concentrate material is assigned a lot number. A lab ticket is created which incorporates the lot number and other information such as weights, volume, processing dates, etc.

A.6 Testing after Processing

After processing of the blended, recovered product, the material is sampled and tested to verify customer specifications are met. Also, pricing for the commodity product is set by this final testing.

Figure A – 1

Profile Tracking # _____

US ecology WASTE PROFILE FORM

For assistance in completing this document or for additional information on service offerings, please visit our website at www.usecology.com, or call 800-592-5489.

US Ecology will choose the appropriate facility and method of waste management for your waste from the technologies offered at each operation.

If you wish to direct this waste to a specific facility(s) or treatment technology please indicate here:

Waste Common Name:

Section 1 – Generator & Customer Information

Generator EPA ID # _____

NAICS/SIC Code _____

Generator _____

Facility Address _____

City _____ State _____ Zip _____

24-hour Emergency Response Number

_____

Mailing Address _____

City _____ State _____ Zip _____

Generator Contact _____

Title _____

Phone _____ Fax _____

E-mail _____

Internal Use Only: EQ Division _____

EQ Customer No. _____

Invoicing Company _____

Address _____

City _____ State _____ Zip _____

Country _____

Invoicing Contact _____

Phone _____ Fax _____

Technical Contact _____

Phone _____ Fax _____

Cell Phone _____

E-mail _____

Section 2 – Shipping & Packaging Information

2.1) Shipping Volume & Frequency:

a) Volume of Waste to be Shipped: _____

b) Frequency: ❑ One time ❑ Month ❑ Year ❑ Other: _____

2.2) DOT Information

a) Is this a U.S. Department of Transportation (USDOT) Hazardous Material? ❑ Yes ❑ No

b) If "Yes", indicate the proper shipping name per 49CFR 172.101 Hazardous Materials Table:

_____

Section 3 – Special Properties

3.1) Color _____

3.2) Odor ❑ None ❑ Ammonia ❑ Amines ❑ Mercaptans ❑ Sulfur ❑ Organic Acid ❑ Amines/Ammonia

❑ Other: _____

3.3) Consistency at 70^{0}F: ❑ Solid ❑ Dust/Powder ❑ Debris ❑ Sludge ❑ Liquid ❑ Gas/Aerosol ❑ Varies

3.4) What is the pH? ❑ ≤2 ❑ 2.1-4.9 ❑ 5 – 10 ❑ 10.1 – 12.4 ❑ ≥12.5 ❑ N/A

3.5) What is the flash point? ❑ <90^{0}F ❑ 90-139^{0}F ❑ 140-199^{0}F ❑ >200^{0}F ❑ N/A

3.6) Does this waste exhibit any of the following properties? **(check all that apply)**

❑ **None**	❑ Free Liquids	❑ Metal Fines	❑ Water Reactive	❑ Biohazard
❑ Shock Sensitive	❑ Oily Residue	❑ Dioxins	❑ Furans	❑ Aluminum
❑ Asbestos – non-friable	❑ Asbestos – friable	❑ Other Radioactive	❑ Air Reactive	❑ Isocyanates
❑ Biodegradable Sorbents	❑ Pyrophoric	❑ Reactive Sulfide	❑ Reactive Cyanide	❑ Explosives
❑ Temperature Controlled Organic Peroxide		❑ NORM	❑ TENORM	

Section 4 – Composition and Generating Process

4.1) Provide a physical and chemical composition of the waste (e.g. soil, water, PPE, debris, etc.). List the percent ranges of the material, either estimated or known.

_____ _____ to ____% _____ _____ to ____%

_____ _____ to ____% _____ _____ to ____%

4.2) Provide a description of the generating process. *Remediation & IDW Sites: please provide a site history.*

_____

_____

_____

4.3) Are there any known previous handling or treatment issues involving this waste? ❑ Yes* ❑ No

*If yes, describe: _____

Section 5 – Hazardous Wastes

As determined by 40 CFR, Part 261 and State Rules: **Please list applicable waste code(s):**

.1) Is this waste exempted from RCRA? ❑ Yes, please provide exemption: _____ ❑ No

5.2) Is this an EPA RCRA listed hazardous waste (F, K, P or U)? ❑ Yes: _____ ❑ No

a) For F006–F009, F012, does this come from a generator that conducts a cyanide plating process? ❑ Yes ❑ No

5.3) Is this an EPA RCRA characteristic hazardous waste (D001-D043)? ❑ Yes: _____ ❑ No

5.4) Do any State Specific Hazardous Waste Codes apply? ❑ Yes: _____ ❑ No

If you answered 'no' to 5.2, 5.3 and 5.4, please proceed to Section 6.

5.5) EPA Source Code: _____ EPA Form Code: _____

5.6) Waste Code Determination Is Based On: ❑ Generator Knowledge ❑ Analysis ❑ MSDS

Analysis and/or MSDS may be required for review and approval for hazardous and non-hazardous waste streams.

5.7) Does this waste exceed Land Disposal Restriction levels? ❑ Yes ❑ No

a) Is this stream a wastewater (WW) or non-wastewater (NWW)? ❑ WW ❑ NWW

b) If this waste stream is greater than 50% soil, does it meet the alternative soil treatment standards of 40CFR 268.49? ❑ Yes ❑ No

c) Does this waste contain greater than 50% debris, by volume? (Debris is greater than 2.5 inches in size.) ❑ Yes ❑ No

d) If the debris is larger than 3 ft x 3 ft x 3 ft, please provide the approximate dimensions and weight:

_____

5.8) If this is a characteristic hazardous waste, does it contain Underlying Hazardous Constituents? ❑ Yes* ❑ No

*If Yes, please list: _____

For a complete list of UHC constituents, please refer to 40 CFR 268.48

Section 6 – Non-Hazardous Wastes

Please list applicable waste code(s):

6.1) Do any State Specific Non-Hazardous Waste Codes apply? ❑ Yes ❑ No _____

6.2) Is this a Universal (UNIV) waste or a Recyclable Good (RG)? ❑ UNIV ❑ RG ❑ N/A

6.3) Is this waste used oil as defined by 40 CFR Part 279? ❑ Yes ❑ No

a) If yes, is the total halogen content of the used oil waste stream greater than 1,000 ppm? ❑ Yes ❑ No

b) If yes, what is the source of the halogen content?

- ❑ This is a metalworking oil/fluid containing chlorinated paraffins.
- ❑ This is used oil contaminated with chlorofluorocarbons from refrigeration units.
- ❑ This oil contains halogenated solvents. List specific solvents: _____
- ❑ Other, describe: _____

Section 7 – TSCA Information

7.1) What is the concentration of PCBs in the waste? ❑ None ❑ 0-49 ppm ❑ 50-499 ppm ❑ 500+ ppm

7.2) Does the waste contain PCB contamination from a source with a concentration ≥ 50 ppm? ❑ Yes ❑ No ❑ Unknown

If you answered "none" or "0-49 ppm"' to 7.1 and "no" to 7.2, please proceed to Section 8.

7.3) Has this waste been processed into a non-liquid form? ❑ Yes* ❑ No

*If yes, what was the concentration of PCBs prior to processing? ❑ 0-499 ppm ❑ 500+ ppm

7.4) Is this non-liquid PCB waste in the form of soil, rags, debris, or other contaminated media? ❑ Yes ❑ No

7.5) Are you a PCB capacitor manufacturer or a PCB equipment manufacturer? ❑ Yes ❑ No

7.6) Has the PCB Article (e.g., transformer, hydraulic machine, PCB-contaminated electrical equipment) been drained/flushed of all PCBs and decontaminated in accordance with 40 CFR 761.60(b)? ❑ N/A ❑ Yes ❑ No

Section 8 – Clean Air Act Information

8.1) Is this waste subject to regulation under 40 CFR, Part 264, Subpart CC (VOC > 500 ppmw)? ❑ Yes ❑ No

8.2) Is this waste subject to regulation under 40 CFR, Part 63, Subpart DD (VOHAP > 500 ppmw)? ❑ Yes ❑ No

8.3) Is the site, or waste, subject to any other NESHAP/MACT standard(s)? ❑ Yes* ❑ No

*If Yes this document serves as notification that this waste contains chemicals _____, _____ required to be managed in accordance with Part ❑ 61 ❑ 62 ❑ 63 Subpart _____ of NESHAP/MACT standards.

8.4) Does this waste stream contain Benzene? ❑ Yes ❑ No

If you answered "no" to 8.4, please proceed to Section 9.

8.5) Does the waste stream come from a facility subject to 40 CFR 61, Subpart FF (Benzene NESHAP)?

❑ Yes, please provide the SIC/NAICS code: _____ ❑ No

If you answered "no" to questions 8.5, please proceed to Section 9.

8.6) Does your facility manage the waste subject to Benzene NESHAP in a manner other than shipping off-site?

❑ Yes, please specify: _____ ❑ No

8.7) Is the generating source of this waste a facility with Total Annual Benzene (TAB) ≥10 Mg/year? ❑ Yes ❑ No

8.8) Does the waste contain >10% water? ❑ Yes ❑ No

8.9) What is the TAB quantity for your facility? _____ Mg/Year

8.10) What is the total Benzene concentration in your waste? _____ Percent or _____ ppmw.

Supporting analysis must be attached. Do not use TCLP analytical results. Acceptable laboratory methods include 8020, 8240, 8260, 602 and 624.

Section 9 – Certification

I certify that all information (including attachments) is complete and factual and is an accurate representation of the known and suspected hazards, pertaining to the waste described herein. I authorize EQ's personnel to add supplemental information to the waste approval file, provided I am contacted and give verbal permission. I authorize EQ's personnel to obtain a sample from any waste shipment for purposes of verification and confirmation. I agree that, if EQ approves the waste described herein, all such wastes that are transported, delivered, or tendered to EQ by Generator or on Generator's behalf shall be subject to, and Generator shall be bound by, the attached Standard Terms and Conditions.

If I am an agent acting on behalf of the generator, I also certify that I have permission to sign any and all waste characterization paperwork on the generator's behalf and that I can produce such certification in writing upon request.

Generator Signature _____ Printed Name _____

Company _____ Title _____ Date _____

STANDARD TERMS AND CONDITIONS

The Agreement between the Customer and EQ – The Environmental Quality Company and/or its member companies (hereinafter "EQ") related to or associated with Delivered Waste, as herein defined, shall be governed by the following Standard Terms and Conditions in addition to the terms and conditions contained in any Waste Profile Form, Customer Approval Quote Confirmation, Generator Approval Notification, Notice of Waste Approval Expiration, and/or Credit Agreement associated with such Delivered Waste.

The Customer may use its standard forms (such as purchase orders, acknowledgments of orders, and invoices) to administer its dealings under this Agreement for convenience purposes, but all provisions thereof in conflict with these terms and conditions shall be deemed stricken.

Definitions

The following definitions shall apply for purposes of this Agreement:

"Acceptable Waste" shall mean any hazardous waste, as defined under applicable State or federal law, determined by EQ as acceptable for treatment and/or disposal in accordance with this Agreement.

"Delivered Wastes" shall mean all wastes (i) which are transported, delivered, or tendered to EQ by the Customer; (ii) which the Customer has arranged for the transport, delivery or tender to EQ; or (iii)) which are transported, delivered, or tendered to EQ under a Credit Agreement between the Customer and EQ.

"Non-Conforming Wastes" shall mean wastes that (a) are not in accordance in all material respects with the warranties, descriptions, specifications or limitations stated in the Waste Profile Form and this Agreement; (b) have constituents or components of a type or concentration not specifically identified in the Waste Profile Form (i) which increase the nature or extent of the hazard and risk undertaken by EQ in treating and/or disposing of the waste, or (ii) for whose treatment and/or disposal a Waste Management Facility is not designed or permitted, or (iii) which increase the cost of treatment and/or disposal of waste beyond that specified in EQ's price quote; or (c) are not properly packaged, labeled, described, or placarded, or otherwise not in compliance with United States Department of Transportation and United States Environmental Protection Agency regulations.

Control of Operations.

EQ shall have sole control over all aspects of the operation of any treatment and/or disposal facility of EQ receiving Delivered Wastes under this Agreement (hereinafter, "Waste Management Facility"), including, without limitation, maintaining EQ's desired volume of Acceptable Wastes being delivered to any Waste Management Facility by the Customer or any other person or entity.

Identification of Waste.

For each waste material to be transported, delivered, or tendered to EQ under this Agreement, the Customer shall provide, or cause to be provided, to EQ a representative sample of the waste material and a completed Waste Profile Form containing a physical and chemical description or analysis of such waste material, which description shall conform with any and all guidelines for waste acceptance provided by EQ. On the basis of EQ's analysis of such representative sample of the waste material and such Waste Profile Form, EQ will determine whether such wastes are Acceptable Wastes. EQ does not make any guarantee that it will handle any waste material or any particular quantity or type of waste material, and EQ reserves the right to the decline to transport, treat and/or dispose of waste material. The Customer shall promptly furnish to EQ any information regarding known, suspected or planned changes in the composition of the waste material. Further, the Customer shall promptly inform EQ of any change in the characteristic or condition of the waste material which becomes known to the Customer subsequent to the date of the Waste Profile Form.

Non-Conforming Wastes.

In the event that EQ at any time discovers that any Delivered Waste is Non-Conforming Waste, EQ may reject or revoke its acceptance of the Non-Conforming Waste. The Customer shall have seven (7) days to direct an alternative lawful manner of disposition of the waste, unless it is necessary by reason of law or otherwise to move the Non-Conforming Waste prior to expiration of the seven (7) day period. If the Customer does not direct an alternative disposal, at its option, EQ may return any such Non-Conforming Wastes to the Customer, and the Customer shall pay or reimburse EQ for all costs and expenses incurred by EQ in connection with the receipt, handling, sampling, analyses, transportation and return to the Customer of such Non-Conforming Wastes. If it is impossible or impractical for EQ to return the Non-Conforming Waste to the Customer, the Customer shall reimburse EQ for all costs, of any type or nature whatsoever, incurred by EQ, solely because such Delivered Waste was Non-Conforming Waste (including, but not limited to, all costs associated with any remedial steps necessary, due to the nature of the Non-Conforming Waste, in connection with material with which the Non-Conforming Waste may have been commingled and all expenses and charges for analyzing, handling, locating, preparing for transporting, storing and disposing of any Non-Conforming Waste).

Customer Warranty - Acceptable Wastes.

All Delivered Wastes shall be Acceptable Wastes and shall conform in all material respects to the description and specifications contained in the Waste Profile Form. The information set forth in the Waste Profile Form or any manifest, placard or label associated with any Delivered Wastes, or otherwise represented by the Customer or the generator (if other than the Customer) to EQ, is and shall be true, accurate and complete as of the date of receipt of the involved waste by EQ.

Customer Warranty - Title to Wastes.

Either the Customer or the generator (if other than the Customer) shall hold clear title, free of any all liens, claims, encumbrances, and charges to Delivered Waste until such waste is accepted by EQ.

Customer Warranty - Compliance with Laws.

The Customer shall comply with all applicable federal, state and local environmental statutes, regulations, and other governmental requirements, as well as directives issued by EQ from time to time, governing the transportation, treatment and/or disposal of Acceptable Wastes, including, but not limited to, all packaging, manifesting, containerization, placarding and labeling requirements.

Customer Warranty - Updating Information.

If the Customer receives information that Delivered Waste or other hazardous waste described in the Waste Profile Form, or some component of such waste, presents or may present a hazard or risk to persons, property or the environment which was not disclosed to EQ, or if the Customer or generator (if other than the Customer) has changed the process by which such waste results, the Customer shall promptly report such information to EQ in writing.

Customer Indemnity.

The Customer shall indemnify, defend and hold harmless EQ, and its affiliated or related companies, and all of their respective present or future officers, directors, shareholders, employees and agents from and against any and all losses, damages, liabilities, penalties, fines, forfeitures, demands, claims, causes of action, suits, costs and expenses (including, but not limited to, reasonable costs of defense, settlement, and reasonable attorneys' fees), which may be asserted against any or all of them by any person or any governmental agency, or which any or all of them may hereafter suffer, incur, be responsible for or pay out, as a result of or in connection with bodily injuries (including, but not limited to, death, sickness, disease and emotional or mental distress) to any person (including EQ's employees), damage (including, but not limited to, loss of use) to any property (public or private), or any requirements to conduct or incur expense for investigative, removal or remedial expenses in connection with contamination of or adverse effect on the environment, or any violation or alleged violation of any statues, ordinances, orders, rules or regulations of any governmental entity or agency, caused or arising out of (i) a breach of this Agreement by the Customer, (ii) the failure of any warranty of the Customer to be true, accurate and complete, or (iii) any willful or negligent act or omission of the Customer, or its employees or agents in connection with the performance of this Agreement.

Force Majeure

EQ shall not be liable for any failure to accept, receive, handle, treat, and/or dispose of Delivered Waste due to an act of God, fire, casualty, flood, war, strike, lockout, labor trouble, failure of public utilities, equipment failure, facility shutdown, injunction, accident, epidemic, riot, insurrection, destruction of operation or transportation facilities, the inability to procure materials, equipment, or sufficient personnel or energy in order to meet operational needs without the necessity of allocation, the failure or inability to obtain any governmental approvals or to meet Environmental Requirements (including, but not limited to voluntary or involuntary compliance with any act, exercise, assertion, or requirement of any governmental authority) which may temporarily or permanently prohibit operations of EQ, the Customer, or the Generator, or any other circumstances beyond the control of EQ which prevents or delays performance of any of its obligations under this Agreement.

Governing Laws

This Agreement shall in all respects be governed by and shall be construed in accordance with the laws of the State of Michigan applied to contracts executed and performed wholly within such state.

Bulk Disposal Charges

Quoted bulk disposal charges for solid materials will be billed by the cubic yard, if the waste density is less than 2,000lbs./cubic yard. If waste density is greater than 2,000 lbs./cubic yard, then bulk disposal charges will be billed by the ton, regardless of the approved container.

Appendix B

EQ Metals Process Information & Flow Diagrams

Appendix B. Process Information

B.1 Introduction

The EQ Metals recycling facility is composed of several operating units, which are employed in various combinations in the processing of commodity metals, detailed as follows:

Operating Unit	**Designation**	**Status**
Convection Dryers	Oven	Existing
Ion Exchange	IEU	Pending
Electrowinning Unit	EWU	Pending
Plastics Granulating	GRIND	Pending
Computer Dismantling	DISA	Pending

B.2 Drying

The EQ Metals drying units consist of high efficiency, natural gas fired, non-contact convection dryer. Recoverable materials are placed in steel trays and placed in the dryer. Drying to the desired moisture content usually occurs within 48 hours. The typical operating temperature is 475 degrees Fahrenheit. A filter cake drying process flow diagram is included here in Appendix B as **Figure 1** and a convection oven specific process flow diagram is included as **Figure 2**. As this is a passive drying system, no emissions or dust are generated during the drying process. The Air Pollution Control Division of Canton City Public Health has determined through numerous Air PTIO submittals by EQ Metals that the drying units qualify for the "de minimis" exemption pursuant to Ohio Administrative Code rule 3745-15-05(B) as shown in **Appendix D**.

B.3 Electrowinning

Two forms of liquid solutions are received at EQ Metals for electrowinning. Single metal concentrate solutions can be directly fed into the electrowinning cells. Solutions such as Electroless baths and material with mixed dissolved metals will be processed through ion exchange. Once the dissolved metal has been placed onto the ion exchange column, an extraction fluid is used to remove the target metal from the ion exchange unit. This single metal concentrate is then routed to the electrowinning cells. Upon completion of the electrowinning process, the extraction fluid can be reused at EQ metals or returned to the Envirite facility for reuse in the acid leaching process. The metal is then removed from the electrowinning system as an extremely pure, finished metal product. **Figure 3** of Appendix B shows the electrowinning process flow. The diagram will be modified for more detail before operations resume.

B.4 Plastic Granulation

Various grades of pre-shredded plastic materials are received at EQ Metals for separation and sizing. Also, plastics from the recycling of computer and computer parts are segregated into marketable plastic types. Pre-sized plastic, primarily consisting of high density polyethylene, is fed into the EQ Metals granulation system. Size reduction results in an extruder-quality plastic material ranging from 1/8 – 3/8 inch. Plastic is fed into the granulation system via mechanical conveyor. Sized plastic pieces are extracted pneumatically at the base of the granulator and air transferred into super sacks.

B.5 Computer Dismantling

Computers and a variety of other electronic equipment are received at AJYL for recycling. AJYL does not resell surplus parts. One-hundred percent of the material received are dismantled and segregated into several recyclable feed steams, as follows:

- Steel
- Aluminum
- Copper Wire
- Precious Metals
- Plastics
- Glass

Upon request, hard drives and sensitive computer parts with the potential for data extraction can go through certified destruction, prior to recycling.

FIGURE 1

Filter Cake/
Metal Hydroxides
(55–75% moisture)

ROLL–OFF CONTAINER

Transferred by small trackhoe

DRYING TRAYS

DRYING TRAYS

Transferred by forklift

Room Air

Natural Gas

Water Vapor
Combustion Products

CONVECTION OVENS #2, #3, #4, #5, and #6 (BATCH OPERATION)

Dried Product
(1–10% moisture)

DRYING TRAYS

DRYING TRAYS

Cleaned Air Discharge

Cartridge Filter Dust Collector

Transferred by forklift

BAGGING STATION W/PARTIAL ENCLOSURE AND HOPPER

Dried Product in one cubic yard bags

Transferred by forklift

Dried Product
(1–10% moisture)

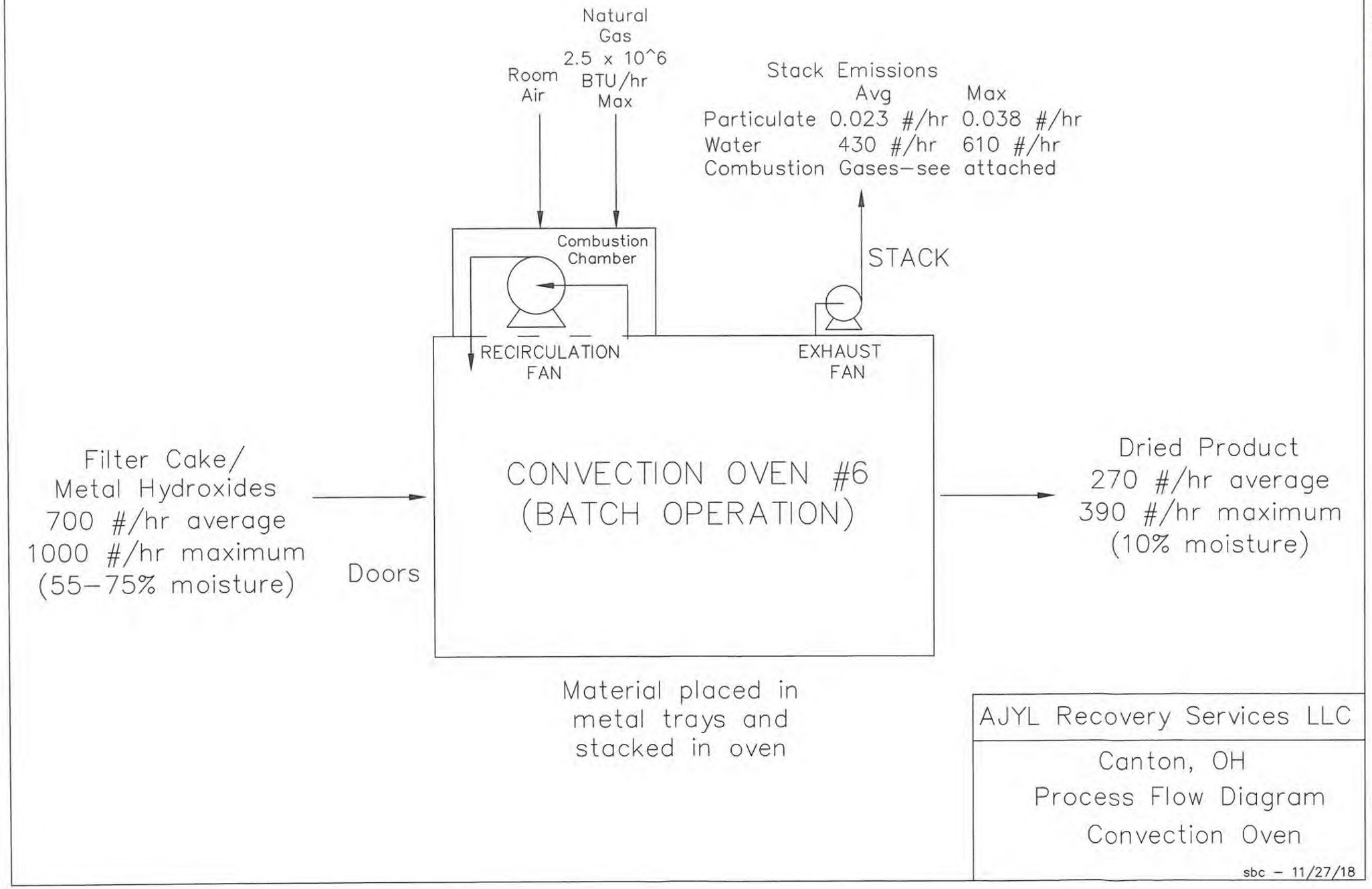
PRODUCT STORAGE AND SHIPMENT TO CUSTOMERS

EQ Metals Recovery
Canton, OH

Process Flow Diagram
Filtercake Drying

sbc – 11/27/18

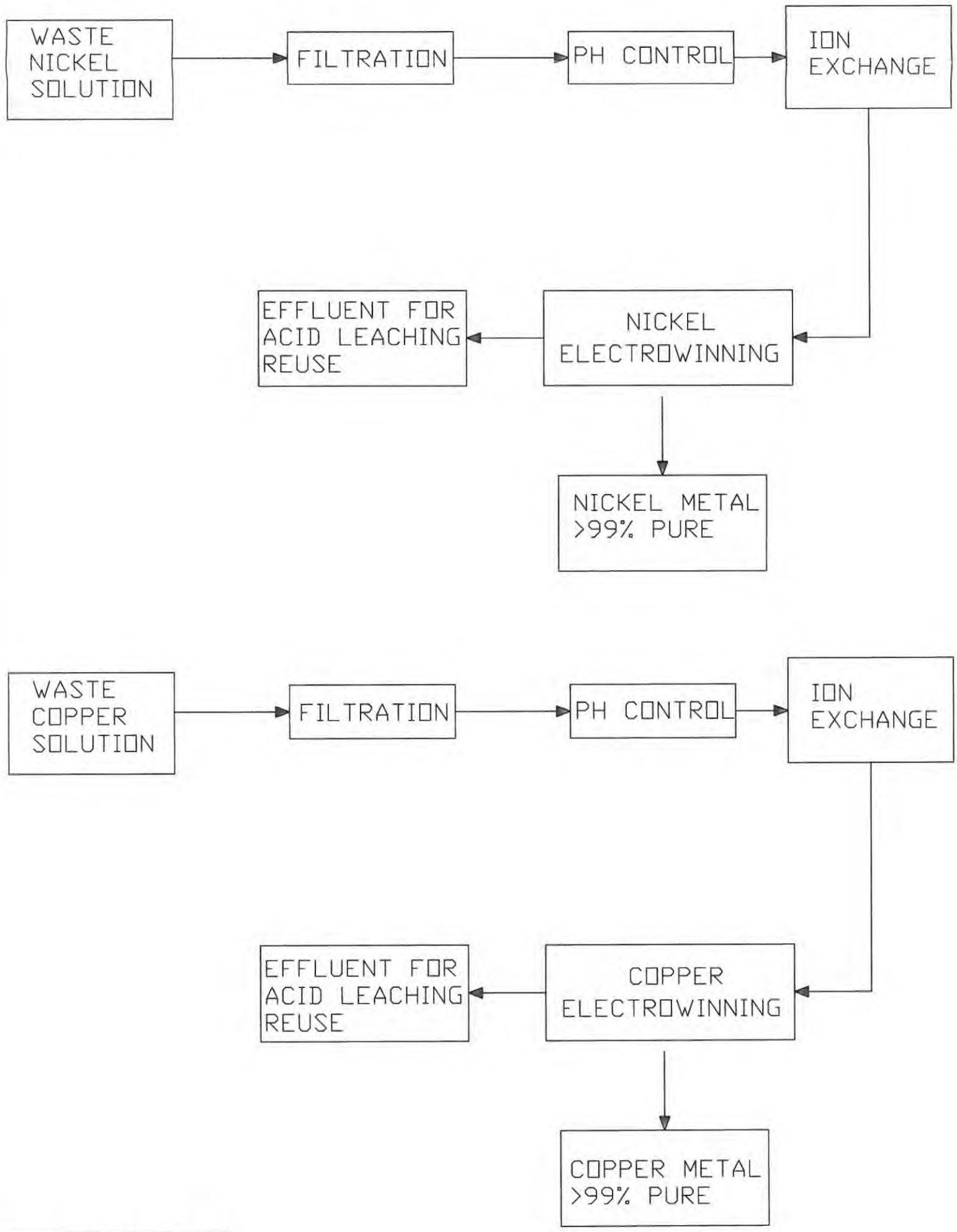
FIGURE 2


Natural Gas
2.5 x 10^6 BTU/hr Max
Room Air
Stack Emissions
Avg Max
Particulate 0.023 #/hr 0.038 #/hr
Water 430 #/hr 610 #/hr
Combustion Gases–see attached
Combustion Chamber
STACK
RECIRCULATION FAN
EXHAUST FAN
Filter Cake/
Metal Hydroxides
700 #/hr average
1000 #/hr maximum
(55–75% moisture)
Doors
CONVECTION OVEN #6
(BATCH OPERATION)
Dried Product
270 #/hr average
390 #/hr maximum
(10% moisture)
Material placed in metal trays and stacked in oven
AJYL Recovery Services LLC
Canton, OH
Process Flow Diagram
Convection Oven
sbc – 11/27/18

EQ METAL RECOVERY LLC

ELECTRO WINNING PROCESS FLOW DIAGRAM

FIGURE 3



December 06, 2018
Rev. 0
sbc

Appendix C

EQ Metals Procedures to Prevent Hazards

Appendix C - Procedures to Prevent Hazards

C.1 Security

EQ Metals has a total of four entrance doors and three overhead truck access doors, one of which is for loading/unloading dock access. All access doors are equipped with both a key and dead bolt locking system. All truck access doors are equipped with electric or mechanical opening systems that can only be operated from the inside of the building. The EQ Metals key system is compatible with the Envirite key system for access in any emergency. The Envirite of Ohio, Inc. Emergency Response (per the Envirite Contingency Plan) will also be responsible for any emergency situation at EQ Metals.

C.2 Inspections

The following inspection schedule lists the items to be inspected, potential problem areas and required frequency of inspection. The inspection schedule and documentation is kept at the facility.

A. Area Subject to Spills – Tank containment areas; check for cracks or defects and leaks on the floor inside the containment area. Frequency - Daily
B. Processing Equipment – Any defects in the processing equipment, the electroplating cells, storage tanks, piping, pumps and valves, gaskets or nozzles. Frequency - Daily
C. Electrical Equipment – The rectifiers and the cable connections to the electrodes to check for any corrosion to avoid sparks. Frequency - Daily
D. Containers and Container Staging – Check containers for leaks and the storage area floor. Frequency – Daily
E. Safety and Emergency Equipment – Frequency – Weekly
F. Dryer – Inspection prior to each use and change out of each batch.
G. Ventilation Equipment – Frequency - Daily

Figure C-1 attached shows the Inspection Log Sheet. When items are identified for remedial action, a work order is initiated and sent to the Envirite maintenance Staff. The Envirite Supervisor then prioritizes and authorizes all work orders according to safety and environmental hazards.

A separate inspection form is used for daily and weekly checks associated with the excavator used for transferring inbound solid concentrate to drying trays. A copy of the form is attached as **Figure C-2**.

C.3 Required Equipment

The following list of emergency equipment will be maintained at the facility:

- Fire Extinguishers (4)
- 85-Gallon Over-packs (2)
- Floor Dry or suitable spill absorption material (10 bags)
- Brooms and shovels (As needed)

C.4 Internal Communications/External Communications

A telephone is available in the EQ Metals office to provide a method of summoning emergency assistance from off-site fire, police and emergency response teams. This telephone is a wireless system and the receiver is carried by the site supervisor.

C.5 Fire Equipment

The fire alarm system is maintained by Vector Security. Fire extinguishers are located inside the plant for prompt response to fires. The fire extinguishers are inspected monthly by an outside certified contractor. A lock box with entry key is positioned at the main entrance to the facility for access by the local fire department.

C.6 Spill Control Equipment

Beyond equipment at the site described in C.3 above, additional spill containment and cleanup equipment is immediately available at the Envirite facility.

C.7 Spill Containment

The entire plant has been designed to contain and control spills by providing containment areas around the potential spill areas such as storage tanks, storage areas etc.

Twelve-inch deep steel trays are provided at the bottom of each Electro-winning unit to contain any spill.

Liquid wastes are received in drums, totes or bulk and are transferred into the processing tank via air diaphragm pumps. Bulk processing tanks are inside secondary containment. All containerized liquid must be staged in Department of Transportation approved containers.

C.8 Personnel Protection

A safety program is a necessity for any work environment. This is especially true for facilities involved in the processing of hazardous materials. The purpose of EQ Metals safety program (see the list of safety programs at Appendix M) is to define the principles under which the work within the plant is accomplished and to make the employees of the plant aware of safe working conditions. All staff working at EQ Metals are Envirite of Ohio, Inc. employees and have received all required RCRA and OHSA hazardous waste

worker training as well as task-appropriate safety training from the Appendix M list. All Envirite programs are extended to EQ Metals.

C.9 Reactive and Incompatible Wastes

All liquid waste materials are segregated and staged in closed drums, totes and containers and stored inside the building. At this time, there are no incompatible wastes approved for transfer to EQ Metals.

Appendix C - Figure 1
EQ Metals Recovery Equipment and Inventory
Inspection Log Sheet

Inspectors Name: _____ Date of Inspection: _____
Inspectors Signature: _____ Time of Inspection: _____

Place a "Y" (for YES) in the appropriate box if the listed criteria have been obtained.
Place an "N" (for NO) if the listed criteria has not been obtained – explanation required.

TANKS / CONTAINMENT AREAS / EQUIPMENT

Equipment / Storage Tanks	Criteria	Assessment	Work Order
Liquid storage tanks and secondary containment area	No visible leaks		
Containers, bags, boxes, drums	Properly labeled, no leakage		
Liquid processing equipment	Inspect all tanks, piping, cells, valves, gaskets and nozzles for defects		
Electrical equipment	Inspect rectifier cable and connections for corrosion		
Solid processing equipment, ventilation	Inspect dryer, bagger and air controls for defects prior to use each day		

SAFETY EQUIPMENT

System Criteria	Insure that the minimum amount of safety equipment is on site at all times	Work Order
Fire Extinguishers	Minimum of (4)	
85 gallon over-packs	Minimum of (2)	
Floor-dry or absorbent material	Minimum of (10) bags	
Brooms and shovels	Minimum of (2) each	

OBSERVATIONS:

_____

_____

_____

_____

_____

_____

EXCAVATOR OPERATOR DAILY & WEEKLY INSPECTIONS

All boxes to be checked when completing this form.

NAME: _____ **Engine Hours:** _____

WEEK COMMENCING: _____

DAILY PRE-USE CHECKS	M	T	W	T	F	S	S
Engine Oil Level							
Fuel Level/Leaks							
Coolant Level							
Hydraulic Oil Level							
Hydraulic System Leaks							
Grease Attachments							
Grease Base Machine							
Inspect Seat Belts							
Inspect for Cracks							
Check Operation of Switches							
Check Operation of Console							
Inspect Bucket/Attachment							
Window Damage							
Cab Condition							

WEEKLY CHECKS	
A. Battery & Water Level	
B. Windscreen Reservior	
C. Lube Machine	
D. Transmission Levels	
E. Drain Fuel Sediment Bowl	
F. Drain Fuel Tank of Water	
G. Check Fan Belt	
H. Check A/C Belt	
I. Check Track Tension	
J. Check for Loose Track Plates	
K. Bucket & Dipper Arm Pins	

WEEKLY SAFETY INSPECTIONS

The operator must inspect the excavator before each use and all equipment used in conjuction with it.

Equipment with Excavator (check box)

	Size (if applicable)	Good Working Order
Buckets		
Lifting Eye		
Other		

CAB Certificates	Yes/No
Examination of Certificates 6/12 Months	
Operator's Manual	
Data Logger	

Further checks to meet the needs of the manufacturer's instruction as per machine manual
ALL DEFECTS MUST BE REPORTED. Those affecting safe operation must be reported immediately to Maintenance.

Description of findings:

Reported To: Date:

Repairs Completed or Comments

Completed by: Date:

Operator's Comments:

Operator's Signature:

Operation Management:

Bobcat E42 Excavator

Appendix D

EQ Metals Air Emissions and Storm Water No Exposure Information

Appendix D-EQ Metals Air Emissions Information

Appendix D. Air Emissions / Storm Water

A.1 Air Emissions

As shown within Appendix D, the Canton City Health Department, Division of Air Pollution Control, determined through the PTI application process that drying oven emission units qualify for the de minimis exemption pursuant to Ohio Administrative Code rule 3745-15-05(B).

A.2 Storm Water "No Exposure"

No operations occur and no materials are stored outside the EQ Metals facility. The most recent "No Exposure Certification" for exclusion from NPDES Stormwater Permitting is included here within Appendix D.

AIR POLLUTION CONTROL DIVISION

OHIO EPA AGENCY 15 • APC CONTRACTUAL REPRESENTATIVE SERVING ALL OF STARK COUNTY

CANTON CITY HEALTH DEPARTMENT

420 MARKET AVENUE NORTH
CANTON, OHIO 44702-1544
PHONE: (330) 489-3385 • FAX: (330) 489-3335
WEB: WWW.CANTONHEALTH.ORG

Public Health
Prevent. Promote. Protect.

TERRI A. DZIENIS
APC ADMINISTRATOR

JAMES M. ADAMS, RS, MPH
HEALTH COMMISSIONER

ELECTRONIC MAIL

September 19, 2017

Lisa Hopper
US Ecology
2050 Central Avenue SE
Canton, OH 44707

RE: US Ecology ; 1533 Allen Avenue SE, Canton, OH 44707
COMPLIANCE NOTIFICATION
AIR PERMIT
STARK COUNTY
1576055019

SUBJECT: DETERMINATION OF PERMITTING AND EXEMPTION STATUS FOR CONVECTION OVEN #5

Dear Lisa Hopper,

This letter is to inform you that on July 28, 2017 your hard-copy Permit-to-Install and Operate (PTIO) application for the installation of a natural gas-fired convection drying oven #5 (i.e. emissions unit) was received by the Canton City Health Department. The Air Pollution Control Division has completed a review of the application and has determined that this emissions unit qualifies for the de minimis exemption pursuant to Ohio Administrative Code (OAC) rule 3745-15-05(B), which states:

> *Except as provided in paragraphs (C), (D) and (H) of this rule and division (B) of section 3704.011 of the Revised Code, any air contaminant source [i.e. emissions unit] is exempt from Chapter 3704 of the Revised Code and rules adopted thereunder [OAC 3745], unless the potential emissions of any one of the following exceeds ten pounds per day: particulate matter, sulfur dioxide, nitrogen oxides, organic compounds, carbon monoxide, lead or any other air contaminant.*

This rule exempts any source that emits less than ten pounds per day of air contaminants from obtaining a permit or being subject to the air rules in Ohio Revised Code (ORC) 3704 and OAC 3745. The emissions unit therefore qualifies for the de minimis exemption using the information provided in the PTIO application to calculate emissions in pounds per day from this emissions unit at its maximum uncontrolled potential to emit.

The emissions unit is rated to have a maximum capacity (C) of 2,100,000 British thermal units per hour and is capable of drying a maximum of 900 pounds of material per hour. Emission calculations were determined based on emission factors for an uncontrolled small boiler found in AP-42, Chapter 1.4 Natural Gas Combustion [07/98] and the following formula. The following table shows the results of that calculation.

$$EF * \frac{1\ scf}{1{,}020\ Btu} * C * \frac{24\ hrs}{day} = X$$

Pollutant		Emission Factor (EF), lb/10^6 scf	Maximum Emissions (X), lbs/day
Sulfur Dioxide (SO_2)		0.6	0.0296
Carbon Monoxide (CO)		84	4.1506
Nitrogen Oxides (NO_x)		100	4.9412
Volatile Organic Compounds (VOC)		5.5	0.2718
Total Organic Compounds (TOC)		11	0.5435
Total Particulate Matter (PM)*	Gas	7.6	0.3755
	Product	0.039	0.4212
	Total		0.7967
Lead		0.0005	0.0000
Hazardous Air Pollutants (HAPs)		1.88	0.0929

*The total PM is the sum of particulate matter from the combustion of natural gas (gas) and particulate matter from product drying (product). The product EF is from AP-42 Table 12.6-2.

In conclusion, the new 2,100,000 Btu/hr, natural gas-fired convection oven #5 emits less than ten pounds per day uncontrolled at a maximum operating hours of 24 hours per day, which qualifies for the de minimis exemption in OAC 3745-15-05(B). Therefore, a PTIO is not necessary to operate this emissions unit, and no further requirements, including recordkeeping, are required for this emissions unit.

Thank you for your time and cooperation. If you have any questions, please do not hesitate to contact me by phone at (330) 489-3385 or by e-mail at dhampton@cantonhealth.org.

Sincerely,

David Hampton
Air Pollution Control Engineer
Canton City Health Department

ec: Chuck Zuerner, AJYL Recovery Services LLC
Anthony Dugan, US Ecology

- END -

2050 Central Avenue SE, Canton, OH 44707
P 330.456.6238 F 330.456.2801

July 26, 2017

Mr. Greg Clark
Air Pollution Control Engineer
Canton City Health Department
420 Market Avenue North
Canton, OH 44702-1544

Dear Mr. Clark:

In July of 2008, AJYL Recovery Services LLC (AJYL) submitted a permit to install application for a convection drying oven. Subsequently, the Canton APC Division stated this unit was covered by exemption under OAC 3745-31-03(B)(1)(c). In April of 2010 and in June of 2011, AJYL submitted information on its second and third dryers. In April of 2015, AJYL provided information on Convection Drying Oven #4, which replaced the original unit installed in 2008. Ovens #2, #3, and #4 also were covered under the exemption. At this time, AJYL will add a fourth dryer, identified as Convection Drying Oven #5. Oven #5 is of the same make and model as existing dryers #3 and #4. Units #3, #4, and #5 are rated at a maximum capacity of 2,100,000 BTU/hr and unit #2 is rated at maximum 1,500,000 BTU/hr. Total maximum capacity of all four dryers will be 7,800,000 BTU/hr as compared to 5,700,000 BTU/hr currently. Installation of Convection Drying Oven #5 is planned for August 2017.

By my review, the exemption at OAC 3745-31-03 (B)(1)(c) covers this unit as well. Enclosed please find PTIO Permit Application for Convection Drying Oven #5, oven manufacturer schematic, calculations showing the estimated emissions from the new oven, plant layout drawing, and a process flow diagram. At your convenience, please review the enclosed information to confirm this dryer will also fall under the exemption cited above. If you need any additional information, please do not hesitate to contact me by phone at 330-617-4315 or by email at Chuck.zuerner@usecology.com.

Regards,

Chuck Zuerner
General Manager
AJYL Recovery Services LLC

Enclosures

cc: Lisa Hopper, Anthony Dugan

OF M BURNER

OhioEPA

Division of Air Pollution Control
Application for Permit-to-Install or Permit-to-Install and Operate

Section I – General Application Information

This section should be filled out for each permit to install (PTI) or Permit to Install and Operate (PTIO) application. A PTI is required for all air contaminant sources (emissions units) installed or modified after January 1, 1974 that are subject to OAC Chapter 3745-77. A PTIO is requir for all air contaminant sources (emissions units) that are not subject to OAC Chapter 3745-77 (Title V). See the application instructions for additional information.

For OEPA use only:	☐ Installation ☐ Modification ☐ Renewal	☐ Request Federally enforceable restrictions ☐ General Permit ☐ Other

1. Is the purpose of this application to transition from OAC Chapter 3745-77 (Title V) to OAC Chapter 3745-31 (PTIO)?

   ☐ yes ☒ no

2. **Establish PER Due Date** - Select an annual Permit Evaluation Report (PER) due date for this facility (does not apply to facilities subject to Title V, OAC Chapter 3745-77). If the PER has previously been established and a change is now desired, PER Change Request form must be filed instead of selecting a date here.

Due Date:	For Time Period:
☐ February 15	January 1 through December 31
☐ May 15	April 1 through March 31
☐ August 15	July 1 through June 30
☐ November 15	October 1 through September 30

   ☐ PER not applicable (Title V) or due date already established
   ☐ PER Request Permit Change form attached

Federal Rules Applicability - Please check all of the appropriate boxes below.

New Source Performance Standards (NSPS)
New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.
☒ not affected ☐ subject to Subpart: _____
☐ unknown ☐ exempt - explain below

National Emission Standards for Hazardous Air Pollutants (NESHAP)
National Emissions Standards for Hazardous Air Pollutants are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).
☒ not affected ☐ subject to Subpart: _____
☐ unknown ☐ subject, but exempt - explain below

Maximum Achievable Control Technology (MACT)
The Maximum Achievable Control Technology standards are listed under 40 CFR 63 and OAC rule 3745-31-28.
☒ not affected ☐ subject to Subpart: _____
☐ unknown ☐ subject, but exempt - explain below

Prevention of Significant Deterioration (PSD)
These rules are found under OAC rule 3745-31-10 through OAC rule 3745-31-20.
☒ not affected ☐ subject to regulation
☐ unknown

Non-Attainment New Source Review
These rules are found under OAC rule 3745-31-21 through OAC rule 3745-31-27.
☒ not affected ☐ subject to regulation
☐ unknown

112 (r) - Risk Management Plan
These rules are found under 40 CFR 68.
☒ not affected ☐ subject to regulation
☐ unknown

Title IV (Acid Rain Requirements)
These rules are found under 40 CFR 72 and 40 CFR 73.
☒ not affected ☐ subject to regulation
☐ unknown

Please explain why you checked "exempt" in this question for one or more federal rules. Identify each exemption and whet the entire facility and/or the specific air contaminant sources included in this permit application is exempted. Attach an additional page if necessary.

4. Express PTI/PTIO - Do you qualify for express PTI or PTIO processing?

☐ yes ☒ no

If yes, are you requesting express processing per OAC rule 3745-31-05?

☐ yes ☐ no

5. **Air Contaminant Sources in this Application** - Identify the air contaminant source(s) for which you are applying below. Attach additional pages if necessary. Section II of this application and an EAC form should be completed for each air contaminant source.

Emissions Unit ID*	**Company Equipment ID** (company's name for air contaminant source)	**Equipment Description** (List all equipment that are a part of this air contaminant source)
	Convection Drying Oven #5	Convection Drying Oven

* This ID would have been created when a previous air permit was issued. If no previous permits have been issued for this air contaminant source, leave this field blank. If this air contaminant source was previously identified in STARShip applications as a "Z" source (e.g., Z001), please provide that identification and a new ID will be assigned when the PTI/PTIO is issued.

6. Trade Secret Information - Is any information included in this application being claimed as a trade secret per Ohio Revised Code (ORC) 3704.08?

☐ yes (A "non-confidential" version must also be submitted in order for this application to be deemed complete.)
☒ no

7. Permit Application Contact - Person to contact for questions about this application:

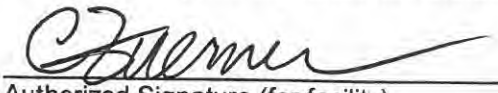
Anthony Dugan — Name
EHS Manager — Title

2050 Central Avenue SE, Canton, OH 44707 — Address (Street, City/Township, State and Zip Code)

330-617-4309 — Phone
330-456-2801 — Fax
anthony.dugan@usecology.com — E-mail

8. **Authorized Signature** – OAC rule 3745-31-04 states that applications for permits to install or permits to install and operate sha be signed:
   (1) In the case of a corporation, by a principal executive officer of at least the level of vice president, or his duly authorize representative, if such representative is responsible for the overall operation of the facility.
   (2) In the case of a partnership by a general partner.
   (3) In the case of sole proprietorship, by the proprietor, and
   (4) In the case of a municipal, state, federal or other governmental facility, by the principal executive officer, the ranking elected official, or other duly authorized employee.

Under OAC rule 3745-31-04, this signature shall constitute personal affirmation that all statements or assertions of fact made in the application are true and complete, comply fully with applicable state requirements, and shall subject the signatory to liability under applicable state laws forbidding false or misleading statements.



Authorized Signature (for facility) — July 26, 2017 (Date)

Chuck Zuerner (Print Name) — General Manager (Title)

Emissions Estimates for Natural Gas Convection Oven #5
7/14/2017

	Average	*Maximum*	
Nat Gas	1,050,000 BTU/hr	2,100,000 BTU/hr	average estimated at half of maximum
@1020	1029 SCF/hr	2059 SCF/hr	

Calculated estimates using current AP-42 values for natural gas combustion (Supplement D, 7/98) and particulate emissions from ore dryer.

	AP-42 Factor	factor in lb emissions/10^6 SCF gas combusted and lb/ton of material dried				
		Average		Maximum		
		#/hr	tons/yr	#/hr	tons/yr	
SOx	0.6	0.000618	0.002	0.001235	0.004	AP-42, Table 1.4-2
CO	84	0.0865	0.270	0.1729	0.540	AP-42, Table 1.4-1, Small boiler, uncontrolled
CO_2	120,000	123.5294	385	247.0588	771	AP-42, Table 1.4-2
NOx	100	0.1029	0.321	0.2059	0.642	AP-42, Table 1.4-1, Small boiler, uncontrolled
VOC	5.5	0.00566	0.018	0.01132	0.035	AP-42, Table 1.4-2
TOC	11	0.0113	0.035	0.0226	0.071	AP-42, Table 1.4-2
PM-total (gas)	7.6	0.00782	0.024	0.01565	0.049	AP-42, Table 1.4-2
PM-total (product)	0.039	0.00975	0.030	0.01755	0.055	used PM-10 factor from Table 12.6-2 x 50%
		0.01757	0.055	0.03320	0.104	
PM-10 (gas)	5.7	0.00587	0.018	0.01174	0.037	AP-42, Table 1.4-2
PM-10 (product)	0.026	0.00650	0.020	0.01170	0.037	AP-42, Table 12.6-2
		0.01237	0.039	0.02344	0.073	
PM-2.5 (gas)	1.9	0.00196	0.006	0.00391	0.012	AP-42, Table 1.4-2
PM-2.5 (product)	0.026	0.00650	0.020	0.01170	0.037	used PM-10 factor from AP-42, Table 12.6-2
		0.00846	0.026	0.01561	0.049	
Lead	0.0005	0.0000005	1.61E-06	1.03E-06	3.21E-06	AP-42, Table 1.4-2
HAP's	1.88					AP-42, Table 1.4-3 (total for listed organic HAP's)
HAP's	0.00556					AP-42, Table 1.4-4 (total for listed metal HAP's)
	1.888	0.00194	0.006	0.00389	0.012	
Hexane (highest HAP)	1.800	0.00185	0.006	0.00371	0.012	AP-42, Table 1.4-3 (highest HAP)

Tons/year calculated at maximum expected operations (5 days/week, 24 hours/day, 52 weeks/year)
Used TOC for estimate of OC

Organic HAPs	Metal HAPs
2.40E-05	2.00E-04
1.80E-06	1.20E-05
1.60E-05	1.10E-03
1.80E-06	1.40E-03
2.40E-06	8.40E-05
1.80E-06	3.80E-04
2.10E-03	2.60E-04
1.20E-06	2.10E-03
1.80E-06	2.40E-05
1.20E-06	
1.80E-06	0.00556
1.80E-06	
1.20E-06	
1.20E-03	
3.00E-06	
2.80E-06	
7.50E-02	
1.80E+00	Hexane
1.80E-06	
6.10E-04	

Process flow rates

Ideal/maximum production
- 35000 pound load
- 1 batches per load
- 40 hour batch (heating & cooling)
- 875 pounds/hour
- Use 900 pounds per hour for maximum in permit application
- 0.45 tons/hour

Average production
- 30000 pound load
- 1.5 batches per load
- 40 hour batch (heating & cooling)
- 500 pounds/hour
- Use 500 pounds per hour for average in permit application
- 0.25 tons/hour

No AP-42 factors for exact operation, so used particulate emissions from an ore dryer in a lead smelting operation.
This is somewhat similar to the drying of this nickel material before it is sent to a smelter.

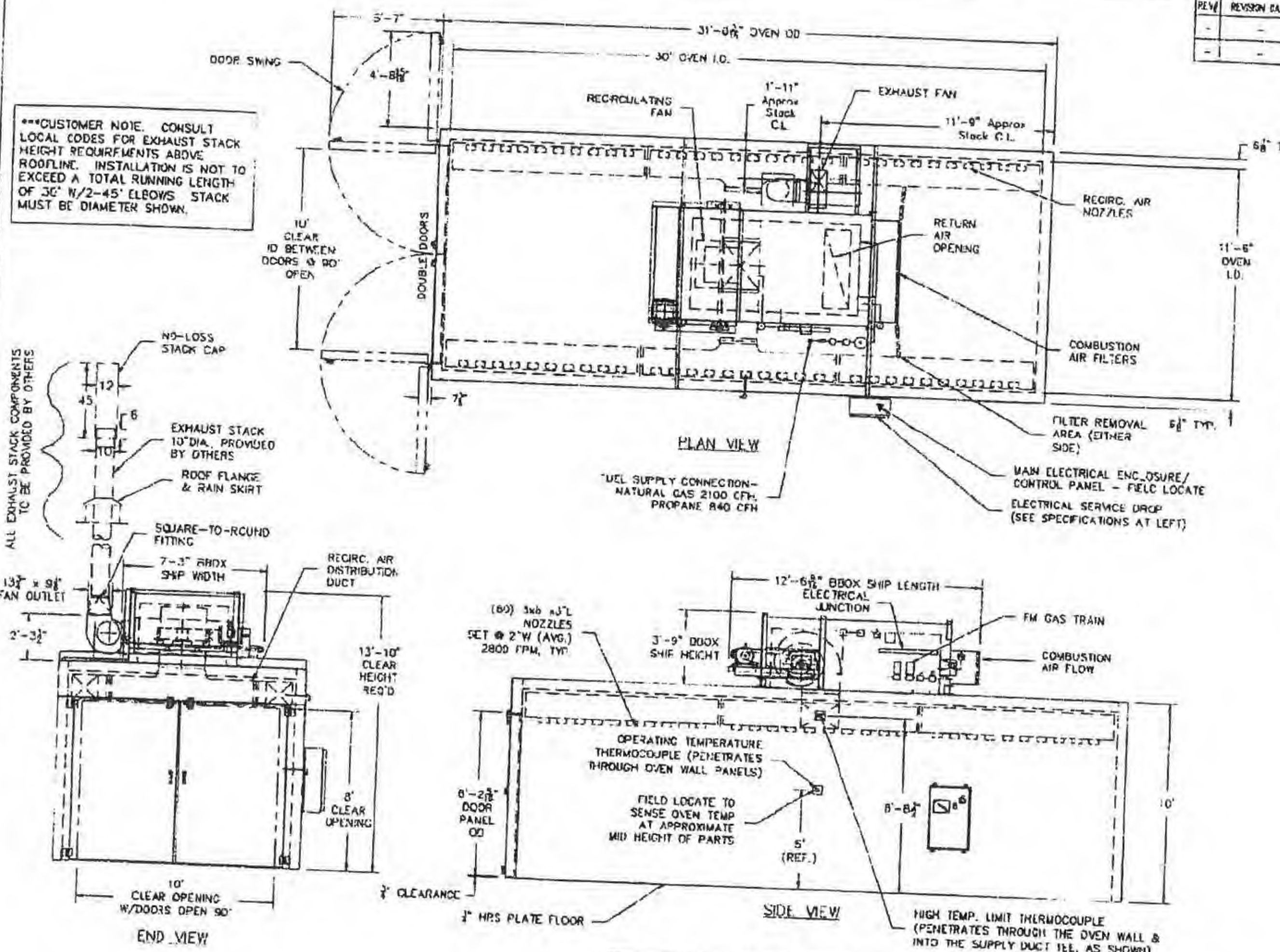
	1.70E-05	but most dryers involve moving the material, and in this dryer the material is stationary in metal pans so these estimates should far exceed the actual emissions, if any.
	5.00E-06	
	3.40E-03	
	1.88	

Mass balance for water (all in lbs/hr)

	Avg	Max	
Material In	500	900	
Average Moisture	50%	50%	
Water In	250	450	
Material Out (calc)	278	500	Use 280 and 500
Average Moisture	10%	10%	
Water in Product	28	50	
Water out Stack	222	400	

	Avg	Max
Material In	500	900
Average Moisture	50%	50%
Water In	250	450
Material Out (calc)	294	529
Average Moisture	15%	15%
Water in Product	44	79
Water out Stack	206	371

	Avg	Max
Material In	500	900
Average Moisture	50%	50%
Water In	250	450
Material Out (calc)	313	563
Average Moisture	20%	20%
Water in Product	63	113
Water out Stack	188	338



REV#	REVISION DATE	BY	REVISION INFORMATION
-	-	-	-
-	-	-	-

BATCH OVEN SPECIFICATIONS:

RECIRCULATING FAN MOTOR	21"FC, 14,000 SCFM @ 1.4" SP 10 HP 1750 RPM, ODP
EXHAUST FAN MOTOR	CP-PLR 122, 1300 ACFM, 1"SP @70T 3/4 HP 1750 RPM, ODP
BURNER CAPACITY	3.5 FT. MAXON NP-I 2,100,000 BTU/hr
GAS TRAIN	FACTORY MUTUAL, 1-1/2" NPT
SUPPLY GAS PRESSURE	14"W.C. (MINIMUM, @full Flow) 5 PSI (MAXIMUM)
DOWN-REGULATOR (IF REQ'D)	BY OTHERS
FUEL HEATING VALUE	NATURAL GAS or PROPANE 1000 BTU/CU.FT. 2500 BTU/CU.FT.
ELECTRICAL SERVICE	480V/3PH/60HZ (BRANCH SERVICE PROTECTION IS TO BE PROVIDED BY OTHERS)
ELECTRICAL CONTROL PANEL	"UL" LISTED, 16.7 FLA, 40 AMP DISCONNECT
CONTROL OPTIONS	ALLEN-BRADLEY PLC W/6 USER DEFINED RECIPIES
ALTITUDE	LESS THAN 1000 FT.
MAX. POWDER LOADING	30 LB/BATCH
MAX. SOLVENT LOADING	0.54 GAL/BATCH
MINIMUM PRE-IGNITION PURGE	12 MINUTES @ 1300 CFM EXHAUST
OPERATING TEMPERATURE	175°F. MIN. – 450°F. MAX.
WALL, ROOF, B.BOX PANELS	20 GA. ALUMINIZED OVER 6" INSULATION
OVEN FLOOR	1/4" HRS PLATE FLOOR
EXHAUST STACK/ROOF FLASHING	BY OTHERS
CLEAR WORK OPENING	10'W x 8'H x 30'L
FIRE PROTECTION	BY OTHERS
ACCESS LADDERS, MEZZANINES, PERSONNEL GUARD RAILS	BY OTHERS

NOTES:

NOTE: THE ELECTRICAL CONTROL PANEL IS SHIPPED LOOSE AND CAN BE INSTALLED ON THE OVEN OR REMOTELY. LOCATE THE OVEN CONTROL PANEL WITHIN REACH OF THE THERMOCOUPLE AND ELECTRICAL JUNCTION BOX.
(50 FT. SHIELDED CABLE & 100 FT. THERMOCOUPLE WIRE PROVIDED.)
(LOCATION SHOWN IS REPRESENTATIONAL ONLY.)

APPROVAL DRAWINGS

Please sign & return RAPID ENGINEERING LLC one copy to: 1100 SEVEN MILE RD. N.W. COMSTOCK PARK, MI 49321

Approved by: [signature]
US Energy
Company Name Date 4/12/17

Please Return Approval Within 2 Working Days To Maintain Acknowledged Ship Date.

REL#	RELEASE DATE	BY	RELEASE INFORMATION
1	04/12/17	JSJ	SENT FOR APPROVAL

PLOTTED: April 12, 2017, 9:36 AM

DESCRIPTION: 100830 17 BATCH OVEN LAYOUT – I.I.Y. DOORS ONE END, TOP-MOUNT BURNER BOX

FOR: EQ OHO INC.
–

COMMENTS

FILE LOCATION: –

PROCESSING NOTE:

RAPID ENGINEERING LLC
COMSTOCK PARK, MICH 49321

SCALE	DRAWN	DATE	DWG #	REVISION	SHEET
3/16" = 1'	JSJ	04/11/17	20520421	-	C1
PLOT RATIO 1:64	CHECKED	ID # -17-06-0054	WO # 17-06-0054A		

Appendix D-EQ Metals Storm Water No Exposure Information

OhioEPA

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Craig W. Butler, Director

AJYL RECOVERY SERVICES LLC
JASON EVENS
1533 ALLEN AVENUE SE
CANTON, OH 44707

November 28, 2014

Re: No Exposure Certification for Exclusion from Industrial NPDES Storm Water Permitting

Dear Storm Water Discharger:

Ohio EPA has received your No Exposure Certification for conditional exemption from National Pollutant Discharge Elimination System (NPDES) storm water permitting. The certification is non-transferrable. If a new operator assumes control of your facility, the new operator must immediately complete and submit a new No Exposure Certification to obtain the exemption. This letter acknowledges receipt of a No Exposure Certification for the following

AJYL RECOVERY SERVICES LLC
1533 ALLEN AVENUE SE
CANTON, OH 44707

Ohio NOE
Certification No: 3GRN00404*EG

U.S. EPA's December 8, 1999 NPDES Storm Water Phase II rulemaking included a requirement that a written certification of no exposure be submitted to the appropriate NPDES permitting authority at least once every five years. Please make note to submit a complete industrial No Exposure Certification to Ohio EPA within five years from your last certification date. If you plan to change facility operations such that it is no longer eligible for the no exposure exemption, you must submit the appropriate permit application at least 180 days prior to commencing discharge of potentially contaminated storm water.

If you require further assistance on this matter, please contact one of the following members of my staff:

Mike Joseph	(614) 752-0782	michael.joseph@epa.state.oh.us
Anthony Robinson	(614) 728-3392	anthony.robinson@epa.state.oh.us
Jason Fyffe	(614) 728-1793	jason.fyffe@epa.state.oh.us

Sincerely,

Ed Swindall

Ed Swindall, Supervisor
Permit Processing Unit
Division of Surface Water

Ohio Environmental Protection Agency

OHIO ENVIRONMENTAL PROTECTION AGENCY
50 WEST TOWN STREET, COLUMBUS, OH 43215

NO EXPOSURE CERTIFICATION FOR EXCLUSION FROM NPDES STORM WATER PERMITTING

Submission of this No Exposure Certification constitutes notice that the entity identified in Section A does not require permit authorization for its storm water discharges associated with industrial activity in the State of Ohio under Ohio EPA's Industrial Storm Water General Permit due to the existence of a condition of no exposure.

A condition of no exposure exists at an industrial facility when all industrial materials and activities are protected by a storm resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff. Industrial materials or activities include, but are not limited to, material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-products, final products, or waste products. Material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product or waste product. A storm resistant shelter is not required for the following industrial materials and activities:

- drums, barrels, tanks, and similar containers that are tightly sealed, provided those containers are not deteriorated and do not leak. "Sealed" means banded or otherwise secured and without operational taps or valves;
- adequately maintained vehicles used in material handling; and
- final products, other than products that would be mobilized in storm water discharges (e.g., rock salt).

A No Exposure Certification must be provided for each facility qualifying for the no exposure exclusion. In addition, the exclusion from NPDES permitting is available on a facility-wide basis only, not for individual outfalls. If any industrial activities or materials are or will be exposed to precipitation, the facility is not eligible for the no exposure exclusion.

By signing and submitting this No Exposure Certification form, the entity in Section A is certifying that a condition of no exposure exists at its facility or site, and is obligated to comply with the terms and conditions of Ohio Administrative Code (OAC) 3745-39-04(G).

ALL INFORMATION MUST BE PROVIDED ON THIS FORM.

Detailed instructions for completing this form and obtaining the no exposure exclusion are provided on pages 3 and 4.

A. Facility Operator Information

1. Name: AJYL RECOVERY SERVICES, LLC 2. Phone: (800) 715 - 5805

3. Email: JASON.EVENS@USECOLOGY.COM

4. Mailing Address: a. Street 1533 ALLEN AVENUE SE

b. City: CANTON c. State OH d. Zip Code: 44707

B. Facility/Site Location Information

1. Facility Name: AJYL RECOVERY SERVICES, LLC

2. a. Street Address: 1533 ALLEN AVENUE SE

b. City: CANTON c. County: STARK

d. State: **Ohio** e. Zip Code: 44707

3. Is this a Federal facility? ☐ YES ☒ NO

4. Facility Location: Latitude: 40.781788 Longitude: -81.379562

5. a. Was the facility or site previously covered under an NPDES storm water permit or No Exposure Certification? ☒ YES ☐ NO

b. If yes, enter the Ohio EPA NPDES facility permit number or Ohio EPA No Exposure Certification number: 3GRN00404*DG

6. SIC/Activity Codes: Primary: 3341 Secondary (if applicable): 5093

7. Total size of site associated with industrial activity: 1.48 acres

8. a. Have you paved or roofed over a formerly exposed, pervious area in order to qualify for the no exposure exclusion? ☐ YES ☒ NO

b. If yes, please indicate approximately how much area was paved or roofed over. Completing this question does not disqualify you for the no exposure exclusion. However, this information may be used in considering whether storm water discharges from your site are likely to have an adverse impact on water quality, in which case you could be required to obtain permit coverage.

Less than one acre ☐ One to five acres ☐ More than five acres ☐

C. Exposure Checklist

Are any of the following materials or activities exposed to precipitation, now or in the foreseeable future? (Please check either "Yes" or "No" in the appropriate box.) **If you answer "Yes" to any of these questions (1) through (11), you are <u>not</u> eligible for the no exposure exclusion.**

	Yes	No
1. Using, storing or cleaning industrial machinery or equipment, and areas where residuals from using, storing or cleaning industrial machinery or equipment remain and are exposed to storm water	☐	☒
2. Materials or residuals on the ground or in storm water inlets from spills/leaks	☐	☒
3. Materials or products from past industrial activity	☐	☒
4. Material handling equipment (except adequately maintained vehicles)	☐	☒
5. Materials or products during loading/unloading or transporting activities	☐	☒
6. Materials or products stored outdoors (except final products intended for outside use [e.g., new cars] where exposure to storm water does not result in the discharge of pollutants)	☐	☒
7. Materials contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers	☐	☒
8. Materials or products handled/stored on roads or railways owned or maintained by the discharger	☐	☒
9. Waste material (except waste in covered, non leaking containers [e.g., dumpsters])	☐	☒
10. Application or disposal of process wastewater (unless otherwise permitted)	☐	☒
11. Particulate matter or visible deposits of residuals from roof stacks and/or vents not otherwise regulated (i.e., under an air quality control permit) and evident in the stormwater outflow	☐	☒

D. Certification Statement

I certify under penalty of law that I have read and understand the eligibility requirements for claiming a condition of "no exposure" and obtaining an exclusion from Ohio NPDES storm water permitting.

I certify under penalty of law that there are no discharges of storm water contaminated by exposure to industrial activities or materials from the industrial facility or site identified in this document (except as allowed under OAC 3745-39-04(G)(2)).

I understand that I am obligated to submit a no exposure certification form once every five years to the Ohio EPA director and, if requested, to the operator of the local municipal separate storm sewer system (MS4) into which the facility discharges (where applicable). I understand that I must allow the Ohio EPA director, or MS4 operator where the discharge is into the local MS4, to perform inspections to confirm the condition of no exposure and to make such inspection reports publicly available upon request. I understand that I must obtain coverage under an Ohio NPDES permit prior to any point source discharge of storm water from the facility.

Additionally, I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly involved in gathering the information, the information submitted is to the best of my knowledge and belief true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Print Name: JASON EVENS

Print Title: GENERAL MANAGER

Signature: 

Date: 11 10 2014

Mo Day Year

Email: JASON.EVENS@USECOLOGY.COM

Instructions for the NO EXPOSURE CERTIFICATION for Exclusion from NPDES Stormwater Permitting

Who May File a No Exposure Certification

OAC 3745-39-04 prohibits point source discharges of storm water associated with industrial activity to waters of the State without first obtaining a National Pollutant Discharge Elimination System (NPDES) permit. However, NPDES permit coverage is not required for discharges of storm water associated with industrial activities identified at OAC 3745-39-04(B)(15)(a)-(i) and (k) if the discharger can certify that a condition of "no exposure" exists at the industrial facility or site.

Storm water discharges from construction activities identified in OAC 3745-39-04(B)(15)(j) and (B)(16) are not eligible for the no exposure exclusion. Additional guidance on the no exposure exclusion can be obtained by viewing the following USEPA guidance manual: http://www.epa.gov/npdes/pubs/noxguide.pdf

Obtaining and Maintaining the No Exposure Exclusion

This form is used to certify that a condition of no exposure exists at the industrial facility or site described herein. This certification must be re-submitted at least once every five years. The industrial facility operator must maintain a condition of no exposure at its facility or site in order for the no exposure exclusion to remain applicable. If conditions change resulting in the exposure of materials and activities to storm water, the facility operator must obtain coverage under an Ohio NPDES storm water permit immediately.

Where to File the No Exposure Certification Form

Ohio Environmental Protection Agency
Division of Surface Water
Storm Water Unit
P.O. Box 1049
Columbus, Ohio 43216-1049

Upon approval, Ohio EPA will process and mail a letter acknowledging receipt of your No Exposure Certification.

Completing the Form

You must type or print, using uppercase letters, in appropriate areas only. Enter only one character per space (i.e., between the marks). Abbreviate if necessary to stay within the number of characters allowed for each item. Use one space for breaks between words. One form must be completed for each facility or site for which you are seeking to certify a condition of no exposure. Please make sure you have addressed all applicable questions and have made a photocopy for your records before sending the completed form to the above address.

Section A. Facility Operator Information

1. Provide the legal name of the person, firm, public organization, or any other entity that operates the facility or site described in this certification. The name of the operator may or may not be the same as the name of the facility. The operator is the legal entity that controls the facility's operation, rather than the plant or site manager.
2. Provide the telephone number of the facility operator.
3. Provide the email address of the facility operator.
4. Provide the mailing address of the operator (P.O. Box numbers may be used). Include the city, state, and zip code. All correspondence will be sent to this address.

Section B. Facility/Site Location Information

1. Enter the official or legal name of the facility or site.
2. Enter the complete street address (if no street address exists, provide a geographic description [e.g., Intersection of Routes 9 and 55]), city, county, state, and zip code. Do not use a P.O. Box number.
3. Indicate whether the industrial facility is operated by a department or agency of the Federal Government (see also Section 313 of the Clean Water Act).
4. Enter the latitude and longitude of your facility or site. Coordinates should be taken from the approximate center of the site. The latitude and longitude must be provided in decimal format (6 decimals) as indicated in the following example (i.e., Latitude: 39.958832, Longitude: -83.001022). These coordinates can be determined through the use of global positioning system (GPS) receivers and web-based tools. An example of a web-based tool to determine your facility/site's latitude and longitude is Google Maps. Here are instructions for Google Maps:
   1. Go to http://maps.google.com
   2. Zoom the map to the location of your site.
   3. Right-click on the map at the approximate center of your site.
   4. Select "What's here?" from the context menu.
   5. Left-click on the green arrow. The latitude and longitude of your site will be displayed in the box.
5. Indicate whether the facility was previously covered under an NPDES stormwater permit. If so, include the Ohio EPA NPDES facility permit number.
6. Enter the 4-digit SIC code which identifies the facility's primary activity and second 4-digit SIC code identifying the facility's secondary activity, if applicable. SIC codes can be obtained from the Standard Industrial Classification Manual, 1987. Another source is the following website provided by the Occupational Health and Safety Administration: http://www.osha.gov/oshstats/sicser.html.
7. Enter the total size of the site associated with industrial activity in acres. Acreage may be determined by dividing square footage by 43,560, as demonstrated in the following example.

   Example: Convert 54,450 ft^2 to acres

   Divide 54,450 ft^2 by 43,450 square feet per acre:

   54, 450 ft^2 ÷ 43,560 ft^2/acre = 1.25 acres.
8. Check "Yes" or "No" as appropriate to indicate whether you have paved or roofed over a formerly exposed, pervious area (i.e., lawn, meadow, dirt or gravel road/parking lot) in order to qualify for no exposure. If yes, also indicate approximately how much area was paved or roofed over and is now impervious area.

Instructions for the NO EXPOSURE CERTIFICATION for Exclusion from NPDES Stormwater Permitting

Section C. Exposure Checklist

Check "Yes" or "No" as appropriate to describe the exposure condition at your facility. If you answer "Yes" to **ANY** of the questions (1) through (11) in this section, a potential for exposure exists at your site and you cannot certify to a condition of no exposure. You must obtain (or already have) coverage under an Ohio NPDES storm water permit. After obtaining permit coverage, you can institute modifications to eliminate the potential for a discharge of storm water exposed to industrial activity, and then certify to a condition of no exposure.

Section D. Certification Statement

This application is to be signed as follows:

In the case of a corporation, by a responsible corporate officer. For these purposes, a responsible corporate officer means:

(i)A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or

(ii)The manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

In the case of a partnership, by a general partner.

In the case of a sole proprietorship, by the proprietor.

In the case of a municipal, State, or other public facility, by either the principal executive officer, the ranking elected official or other duly authorized employee.

For Additional Information

Additional information, general storm water permits and associated forms can be found on our website at:
http://www.epa.ohio.gov/dsw/storm/index.aspx.

Any questions about the No Exposure Certification and completing this form can be directed to the Central Office Storm Water Unit at (614) 644-2001.

Appendix E

EQ Metals Secondary Containment

Appendix E - Secondary Containment

E.1 Liquid Material Containment

The EQ Metals facility has no interior floor drains and no industrial sewer discharge point. Also, no activities occur outside of the building.

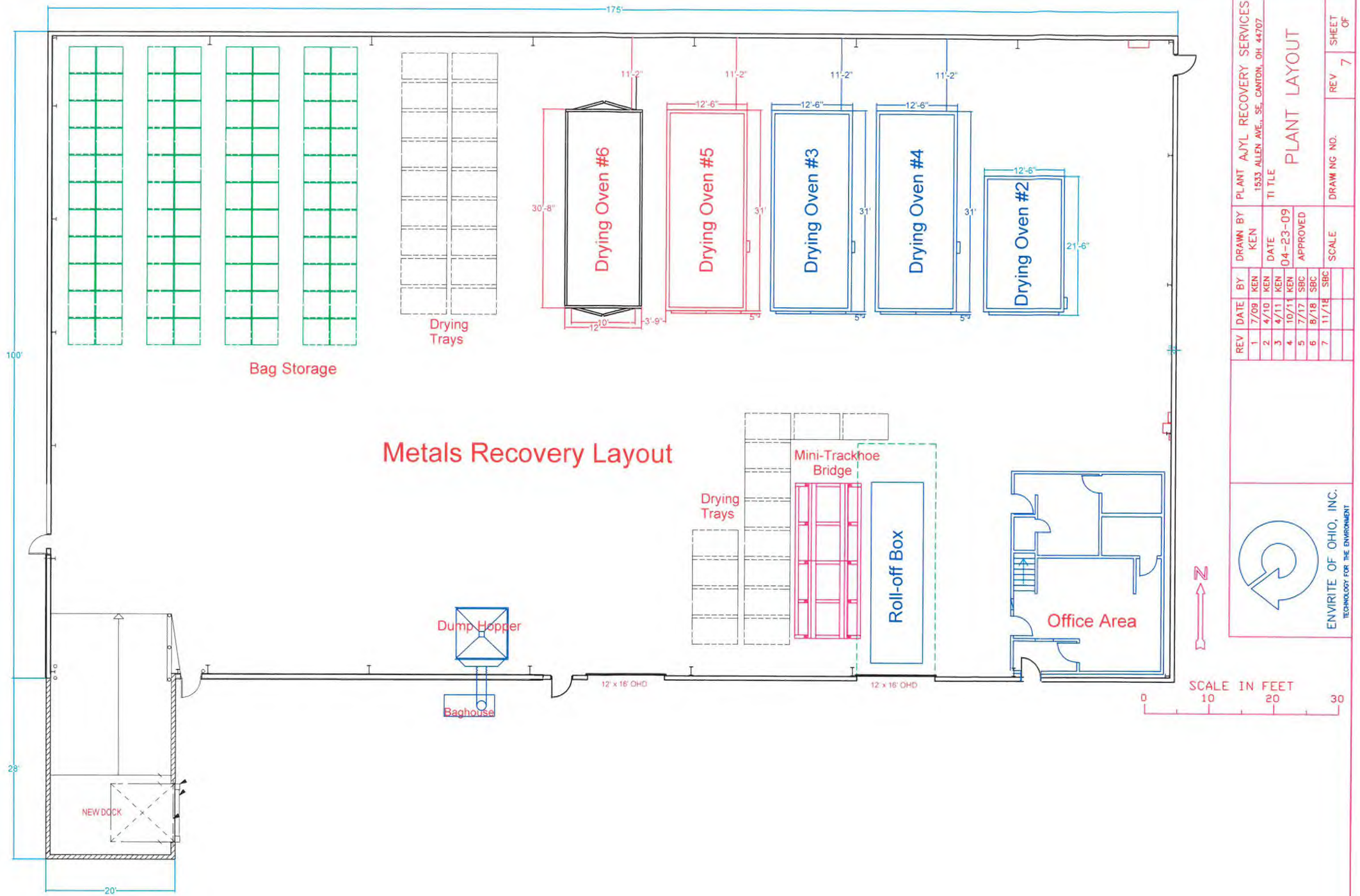
Currently, EQ Metals does not accept liquid materials for processing. When liquids processing operations resume, all tanks and process equipment will be equipped with secondary containment systems. The two specific containment systems to be employed by EQ Metals are epoxy coated concrete and lined carbon steel containment pans.

EQ Metals will define secondary containment systems and will communicate with the Ohio EPA before reestablishing liquids processing operations.

Appendix F

EQ Metals Drawings (Site Layout, Evacuation Routes)

Metals Recovery Layout

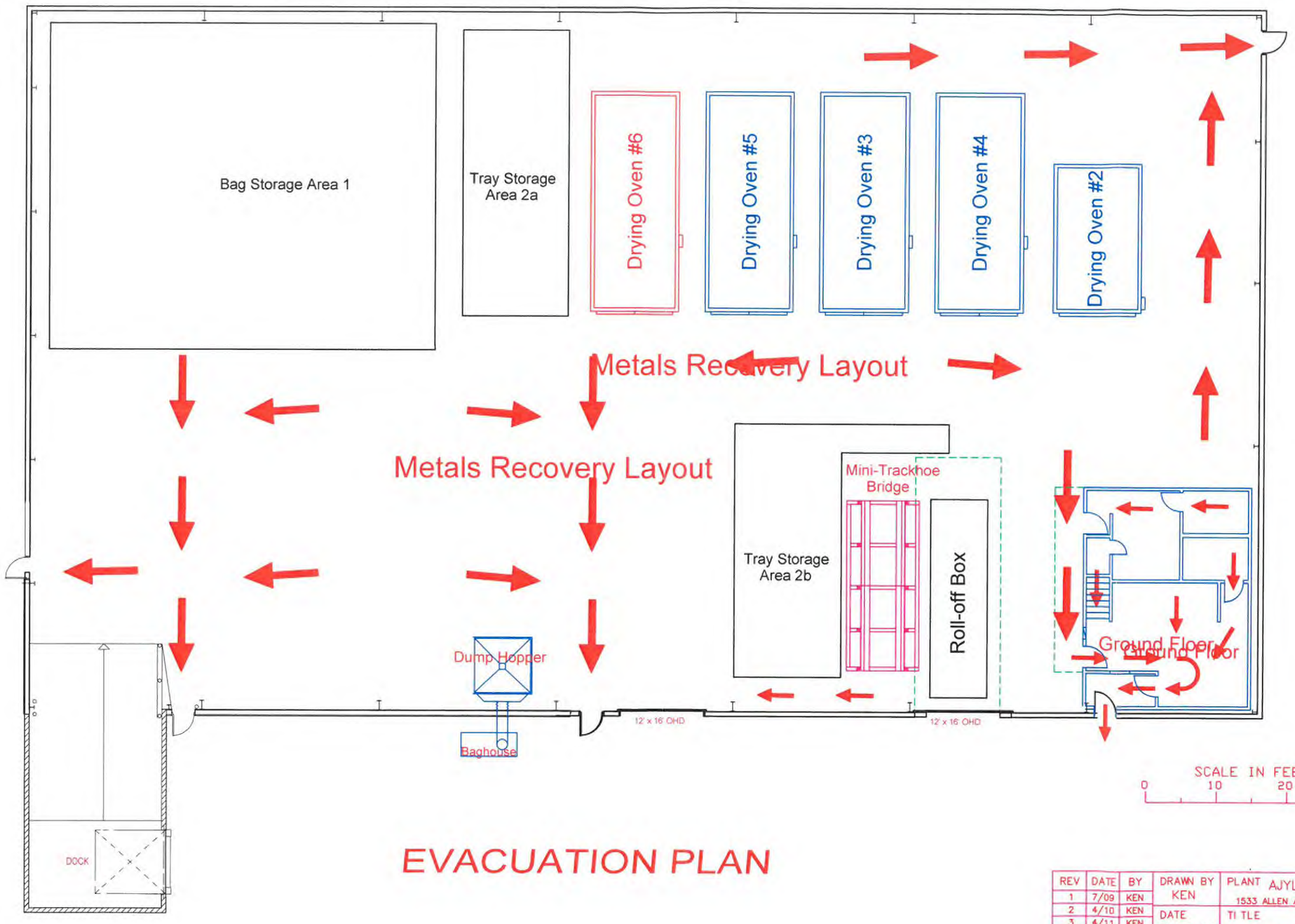


REV	DATE	BY
1	7/09	KEN
2	4/10	KEN
3	4/11	KEN
4	10/11	KEN
5	7/17	SBC
6	8/18	SBC
7	11/18	SBC

DRAWN BY KEN
DATE 04-23-09
APPROVED
SCALE

PLANT AJYL RECOVERY SERVICES
1533 ALLEN AVE., SE, CANTON, OH 44707
TITLE
PLANT LAYOUT
DRAWING NO.
REV 7
SHEET OF

ENVIRITE OF OHIO, INC.
TECHNOLOGY FOR THE ENVIRONMENT



EVACUATION PLAN

REV	DATE	BY
1	7/09	KEN
2	4/10	KEN
3	4/11	KEN
4	10/11	KEN
5	7/17	SBC
6	2/18	SBC
7	11/18	SBC

DRAWN BY KEN

DATE 04-23-09

APPROVED

SCALE

PLANT AJYL RECOVERY SERVICES
1533 ALLEN AVE., SE, CANTON, OH 44707

TITLE
PLANT LAYOUT

DRAWING NO.

REV 7

SHEET OF

Appendix G

EQ Metals Product Label and Safety Data Sheet

Appendix G. Product Label and Safety Data Sheet

A.1 Product Labels

All finished product materials produced by EQ Metals are properly packaged in DOT-compliant containers and are labeled with OSHA HazCom/GHS-compliant labels as shown in **Figure G – 1.**

A.2 Safety Data Sheets

OSHA HazCom/GHS-compliant safety data sheets are provided to all consumers of EQ Metals products. A product safety data sheet representing EQ Metals product is shown in **Figure G – 2**.

Figure G—1

Mixed Metal Product

EQ Metals (US Ecology)
1533 Allen Ave SE
Canton, Ohio 44707
Site: 330-456-6238
Reference Site SDS Form # QES-FM-137-OHO

Emergency Number: 800-839-3975
(US Ecology 24 Hr. Emergency Response Number)

Precautionary Statement:

Do not breathe dust/fume/gas/mist/vapors/sprays.
Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use personal protective equipment as required.
Wear respiratory protection.
Use only outdoors or in a well-ventilated area.
Avoid release to environment.
IF SWALLOWED: Call a POISON Center/doctor if you feel unwell.
Rinse Mouth.
IF ON SKIN: Wash with plenty of soap and water.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician.
IF IN EYES: Rinse cautiously with water for several minutes.

Hazard Statement:

Harmful is swallowed.
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye damage.
Harmful if inhaled.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Suspected of causing genetic defects.
May cause cancer.
May damage fertility or an unborn child.
Causes damage to organs (Lungs) through prolonged or repeated exposure if inhaled.
Very toxic to aquatic life with long lasting effects.

QES-FM-138-OHO

Lot # _____ **Weight** _____

Figure G-2

US ecology

SAFETY DATA SHEET

Original Issue Date: 8/15/2013 **Revision Date**: 8/29/2018 **Revision No.**: 3 **Prepared by**: US Ecology

SECTION 1 – SOURCE INFORMATION

1.1 Product Identifiers

Product Name: Mixed Metal Product

1.2 Relevant Identified Uses

Common Uses: Feedstock for Smelters and Secondary Smelters

1.3 Details of Product Manufacturer/SDS Supplier

Company Name: EQ Metals (US Ecology)
Address: 1533 Allen Avenue SE
Canton, OH 44707
Technical Information
Phone: (330) 456-6238

1.4 Emergency Telephone Number

Emergency Phone: (800) 839-3975 (US Ecology 24 Hour Emergency Response)

SECTION 2 – HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Acute toxicity, Oral (Category 4), H302
Acute toxicity, Inhalation (Category 4), H332
Serious eye damage (Category 1), H318
Skin sensitization (Category 1), H317
Skin irritation (Category 2), H315
Respiratory sensitization (Category 1), H334
Germ cell mutagenicity (Category 2), H341
Carcinogenicity (Category 1A), H350
Reproductive toxicity (Category 1B), H360
Specific target organ toxicity - repeated exposure, Inhalation (Category 1), Lungs, H372
Acute aquatic toxicity (Category 1), H400
Chronic aquatic toxicity (Category 1), H410

2.2 GHS Label elements, including Precautionary Statement

Pictogram:

Figure G-2

Signal Word: Danger

Hazard Statements	
H302	Harmful if swallowed
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H332	Harmful if inhaled
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H360	May damage fertility or the unborn child.
H372	Causes damage to organs (Lungs) through prolonged or repeated exposure if inhaled.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)	
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves.
P281	Use personal protective equipment as required.
P284	Wear respiratory protection
P285	In case of inadequate ventilation wear respiratory protection.
P301 + P312 + P330	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 + P310	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician.
P305 + P351 + P338 + P310	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
P308 + P313	If exposed or concerned: Get medical advice/ attention.
P333 + P313	If skin irritation or rash occurs: Get medical advice/ attention.
P362	Take off contaminated clothing and wash before reuse.
P391	Collect spillage.
P403	Store in a well-ventilated place
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

SECTION 3- COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

CAS Number: Not applicable to mixtures
Molecular Weight: Not applicable to mixtures

3.2 Components (of Mixture)

Component	CAS Number	Classification	Concentration (%)
Nickel Hydroxide	12054-48-7	Acute Tox. 4; Skin Irrit. 2; Resp. Sens. 1, Muta. 2; Carc. 1A; Repr. 1B; STOT RE 1; Aquatic Acute 1; Aquatic Chronic 1	5-25
Nickel Oxide	1314-06-3	Skin Sens. 1; Carc. 1A; STOT RE 1; Aquatic Chronic 4;	1-5
Copper Hydroxide	20427-59-2	Acute Tox. Oral 4; Acute Tox. Inhalation 2; Eye Dam. 1; Aquatic Acute 1; Aquatic Chronic 2;	2-25
Copper II Oxide	1317-38-0	Aquatic Acute 1; Aquatic Chronic 3	1-5
Cobalt Hydroxide	21041-93-0	Acute Tox. 4; Eye Irrit. 2A; Resp. Sens. 1; Skin Sens. 1; Carc. 2; Aquatic Acute 1; Aquatic Chronic 1	0-10
Tin Oxide	21651-19-4	NA	0-30
Nitrate, Sulfate of Mg, Ca, Na, K	NA	NA	Balance
Water	7732-18-5	NA	1-10

SECTION 4 – FIRST AID MEASURES

4.1 Description of first aid measures

General advice
If any doubt about exposure, move out of dangerous area and consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water for at least 15 minutes and seek medical attention.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and seek medical attention.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling section (see section 2.2).

4.3 Indication of any immediate medical attention and special treatment needed
No data available

SECTION 5 – FIRE-FIGHTING MEASURES

5.1 Extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
No data available

5.3 Advice for firefighters
Wear self-contained breathing apparatus for firefighting.

5.4 Further information
No data available

SECTION 6 – ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up
Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections
For disposal see Section 13.

SECTION 7 – HANDLING AND STORAGE

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Provide appropriate exhaust ventilation at places where dust is formed. Store away from heat, flame or other sources of ignition. Store away from oxidizers and acids. For precautions see section 2.2.

Figure G-2

7.2 Conditions for safe storage, including any incompatibilities

Keep container in a dry and well-ventilated place. Storage class (TRGS 510): Non-combustible, acute toxic Cat. 1 and 2 / very toxic hazardous materials.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Component	OSHA PEL	NIOSH REL	ACGIH TLV
Nickel Hydroxide	1.0 mg/m^3	0.015 mg/m^3	0.20 mg/m^3
Nickel Oxide	1.0 mg/m^3	0.015 mg/m^3	0.20 mg/m^3
Copper Hydroxide	1.0 mg/m^3	1.0mg/m^3	1.0 mg/m^3
Copper II Oxide	Not Listed	0.10 mg/m^3	0.20 mg/m^3
Tin Oxide	Not Listed	2.0 mg/m^3	2.0 mg/m^3
Nitrate, Sulfate of Mg, Ca, Na, K	Not Listed	Not Listed	Not Listed
Water	Not Listed	Not Listed	Not Listed

8.2 Exposure controls

Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Personal protective equipment

Eye/face protection

Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection

Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a) Appearance Form	powder
b) Odor	No data available
c) Odor Threshold	No data available
d) pH	No data available
e) Melting point/freezing point	No data available
f) Initial boiling point and Boiling range	No data available
g) Flash point	No data available
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability or explosive limits	No data available
k) Vapor pressure	No data available
l) Vapor density	No data available
m) Relative density	3-4 g/cm3 at 20 °C (68 °F)
n) Water solubility	Slightly soluble
o) Partition coefficient n-octanol/water	No data available
p) Auto-ignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	No data available
s) Explosive properties	No data available
t) Oxidizing properties	No data available

9.2 Other safety information

No data available

SECTION 10 – STABILITY AND REACTIVITY

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

Strong acids

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Copper oxides, Nickel oxides, Tin Oxides.

SECTION 11 – TOXICOLOGY INFORMATION

Figure G-2

11.1 Information on toxicological effects
Components (of Mixture)

Nickel Hydroxide
Acute toxicity
LD50 Oral - Rat - male and female - 1,540 mg/kg
(OECD Test Guideline 401)
LC50 Inhalation - Rat - 4 h - 1,200 mg/m3
Remarks: Behavioral: Excitement. Lungs, Thorax, or Respiration: Dyspnea. Skin and Appendages: Other: Hair.
LD50 Dermal - Rat - > 2,000 mg/kg

Nickel Oxide
Acute toxicity
LD50 Oral - Rat - female - > 11,000 mg/kg
(OECD Test Guideline 425)
Inhalation: No data available
Dermal: No data available
LD50 Subcutaneous - Mouse - 50 mg/kg

Copper Hydroxide
LD50 Oral - Human - 200 mg/kg
LC50 Inhalation - Rat - male and female - 4 h - 0.451 mg/l
(OECD Test Guideline 403)
LC50 Inhalation - Rat - male and female - 4 h - 0.56 mg/l
LD50 Dermal - Rabbit - > 3,160 mg/kg
LD50 Dermal - Rat - > 2,000 mg/kg
(OECD Test Guideline 402)

Copper Oxide
LD50 Oral - Rat - > 2,500 mg/kg
(OECD Test Guideline 423)
Inhalation: No data available
LD50 Dermal - Rat - > 2,000 mg/kg
(OECD Test Guideline 402)
No data available

Cobalt Hydroxide
Acute toxicity
LD50 Oral - Rat - male and female - 1,060 mg/kg
(OECD Test Guideline 401)
Inhalation: No data available
Dermal: No data available

Tin Oxide
Acute toxicity, Oral:
Non-toxic – LD50 greater than 2.0g/kg bodyweight
Acute toxicity, inhalation:
Non-toxic – LC50 greater than 2.04mg/l (maximum test concentration attainable)
Chronic exposure to tin dioxide dust may cause Stannosis (pneumoconiosis)

No Acute Toxicity Data is available for the mixture

Skin corrosion/irritation

Skin – Rabbit
Result – Mild skin irritation – 4 h
(OECD Test Guideline 405)

Serious eye damage/eye irritation
Eyes - Rabbit
Result: Risk of serious damage to eyes.
(OECD Test Guideline 405)

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity

Carcinogenicity - Rat - Intramuscular
Tumorigenic: Carcinogenic by RTECS criteria. Lungs, Thorax, or Respiration: Tumors. Musculoskeletal: Tumors.

Carcinogenicity - Rat - Intramuscular
Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Musculoskeletal: Tumors. Tumorigenic: Tumors at site or application.

IARC: 1 - Group 1: Carcinogenic to humans (Nickel di-hydroxide)

NTP: Known to be human carcinogen (Nickel di-hydroxide)

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Additional Information

RTECS: GL7600000
Symptoms of systemic copper poisoning may include: capillary damage, headache, cold sweat, weak pulse, and kidney and liver damage, central nervous system excitation followed by depression, jaundice, convulsions, paralysis, and coma. Death may occur from shock or renal failure. Chronic copper poisoning is typified by hepatic cirrhosis, brain damage and demyelination, kidney defects, and copper deposition in the cornea as exemplified by humans with Wilson's disease. It has also been reported that copper poisoning has led to hemolytic anemia and accelerates arteriosclerosis.

RTECS: QR7040000
Nickel hydroxide is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes and skin. Cough, Shortness of breath, Headache, Nausea. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Stomach - Irregularities - Based on Human Evidence

SECTION 12 – ECOLOGICAL INFORMATION

12.1 Toxicity
No data available

12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life.

SECTION 13 – DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging
Dispose of as unused product.

SECTION 14 – TRANSPORTATION INFORMATION

14.1 DOT (US)
Not dangerous goods, not regulated

IATA
Not dangerous goods, not regulated

IMDG/IMO
Not dangerous goods, not regulated

Figure G-2

SECTION 15 – REGULATORY INFORMATION

.5.1 SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:

Copper Hydroxide	CAS-No. 20427-59-2	Revision Date 2007-07-01
Nickel Hydroxide	CAS-No. 12054-48-7	Revision Date 1993-04-24
Cobalt Hydroxide	CAS-No. 21041-93-0	Revision Date 2007-03-01
Copper oxide	CAS-No. 1317-38-0	Revision Date 2007-07-01
Nickel Oxide	CAS-No. 1313-99-1	Revision Date 1993-04-24

SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard

Massachusetts Right to Know Components

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right to Know Components

Copper Hydroxide	CAS-No. 20427-59-2	Revision Date 2007-07-01
Nickel Hydroxide	CAS-No. 12054-48-7	Revision Date 1993-04-24
Tin Oxide	CAS-No. 21651-19-4	Revision Date 2007-03-01
Cobalt Hydroxide	CAS-No. 21041-93-0	Revision Date 2007-03-01
Copper oxide	CAS-No. 1317-38-0	Revision Date 2007-07-01
Nickel Oxide	CAS-No. 1313-99-1	Revision Date 1993-04-24

New Jersey Right to Know Components

Copper Hydroxide	CAS-No. 20427-59-2	Revision Date 2007-07-01
Nickel Hydroxide	CAS-No. 12054-48-7	Revision Date 1993-04-24
Tin Oxide	CAS-No. 21651-19-4	Revision Date 2007-03-01
Cobalt Hydroxide	CAS-No. 21041-93-0	Revision Date 2007-03-01
Copper oxide	CAS-No. 1317-38-0	Revision Date 2007-07-01
Nickel Oxide	CAS-No. 1313-99-1	Revision Date 1993-04-24

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16 – OTHER INFORMATION

16.1 HMIS Rating

Health hazard: 2
Chronic Health Hazard: *
Flammability: 0
Reactivity: 0
Physical Hazard: 0

16.2 NFPA Rating

Health hazard: 2
Fire Hazard: 0

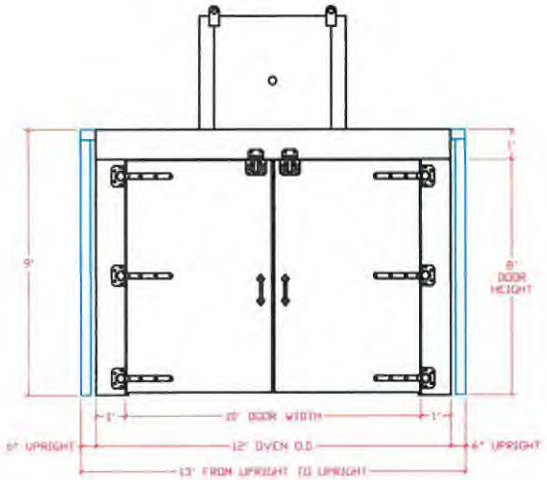
Reactivity Hazard: 0

6.3 16.3 Warranties and Disclaimers

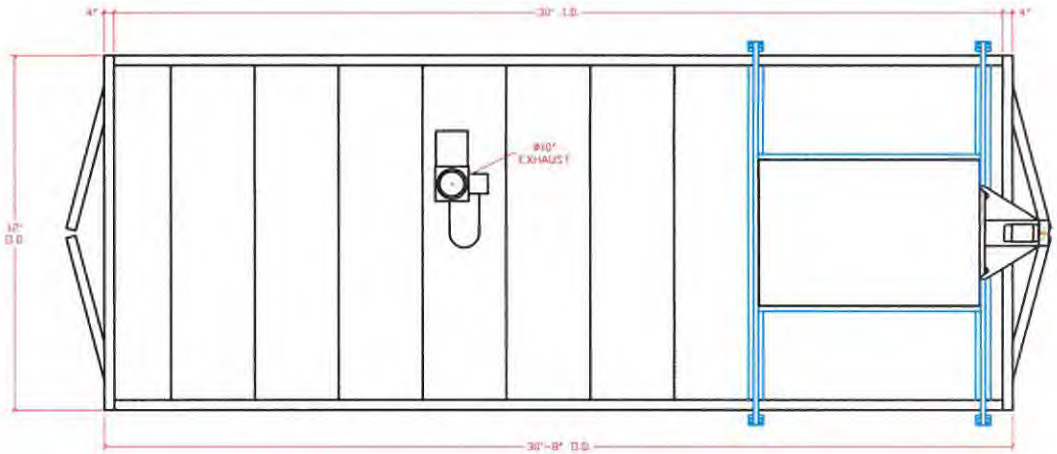
The information contained herein has been compiled from sources deemed reliable and is accurate to the best of US Ecology's knowledge and belief; US Ecology does not make any representations or warranties as to the accuracy, timeliness, suitability, completeness, relevance, or validity thereof, takes no responsibility therefore, and cannot be held liable for any errors or omissions. The information contained herein attempts to address the most common scenarios that may be encountered regarding the use of this SDS, but cannot address or provide guidance for every situation that may arise. This data is provided for guidance only; all information contained herein should be independently verified and confirmed, and each distinct scenario encountered should be viewed as unique and evaluated individually. US Ecology does not accept any liability for any loss or damage whatsoever caused in reliance upon the data listed herein.

Appendix H

EQ Metals Drying Oven Details



REAR ELEVATION



TOP ELEVATION

THIS DRAWING IS FOR CUSTOMER APPROVAL.
MANUFACTORING OF EQUIPMENT WILL NOT BEGIN UNTIL A SIGNED PRINT IS RETURNED.
DELAYS IN RECEIPT OF SIGNED APPROVAL MAY AFFECT DELIVERY DATE.

APPROVED BY: _____ DATE: _____

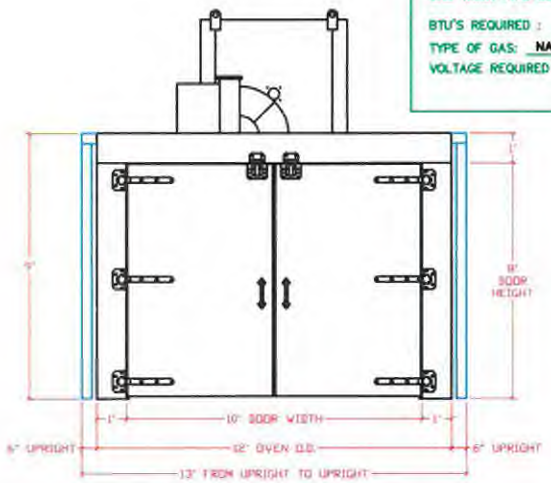
REQULATED GAS PRESSURE REQUIRED: 4" – 7" W.C.

GAS TRAIN PIPE SIZE: 2" NPT

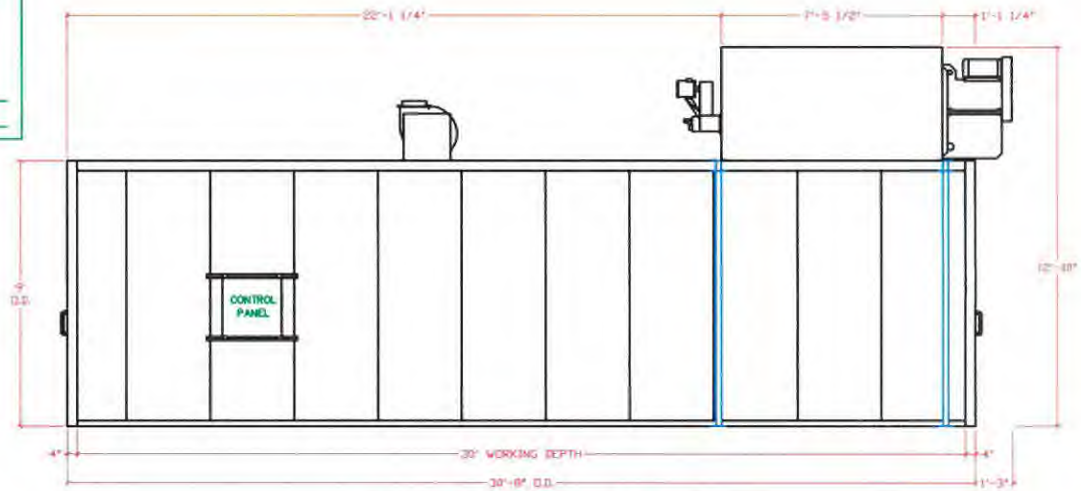
BTU'S REQUIRED : 2,500,000

TYPE OF GAS: NATURAL

VOLTAGE REQUIRED AT CONTROL PANEL: 480V 3-PH & 120V 1-PH



FRONT ELEVATION



RIGHT SIDE ELEVATION

OVEN EMPIRE MFG

TITLE: INDUSTRIAL BATCH OVEN WITH TOP BURNER BOX

MODEL #: OEMBNE-10-08-20-DT

DRAWING TYPE: APPROVAL

REVISION: 0

CUSTOMER: US ECOLOGY

NOTES

01) 18 GAUGE ALUMINIZED STEEL, INTERIOR AND EXTERIOR
02) TONGUE & GROOVE PANEL CONSTRUCTION
03) 1 – 2,500,000 BTU BURNER, WITH A 3/4 HP MOTOR, 208-240/480V
04) 1 – 24" RECIRCULATING FAN WITH A 15 HP MOTOR, 208-240/480V, 60C, 3-PH, WITH A CAPACITY OF 14,400 CFM @ 1" SP
05) 1 – 12" EXHAUST FAN WITH A 3/4 HP MOTOR, 208-240/480V, 3-PH, 60C, WITH A CAPACITY OF 1,800 CFM @ 1/4" SP
06) 1 – 480V CONTROL PANEL COMPLETE WITH MOTOR STARTERS, DISCONNECT, FLAME SAFETY TEMPERATURE CONTROLLER, HIGH LIMIT CONTROLLER, AND FLAME SAFETY CONTROLS.
07) 1 – GAS MANIFOLD MEETING NFPA86, HIGH & LOW GAS PRESSURE SWITCHES, DOUBLE BLOCK GAS VALVES WITH POC, AND DOUBLE BALL VALVES.
08) 1 – MODULATING MOTOR WITH A 4-20 mA SIGNAL FROM THE TEMPERATURE CONTROLLER
09) 1 – AIR FLOW SWITCH FOR THE RECIRCULATING BLOWER.
10) 1 – AIR FLOW SWITCH FOR THE EXHAUST BLOWER
11) 1 – AIR FLOW SWITCH FOR THE COMBUSTION BLOWER
12) ALL ELECTRICAL AND PLUMBING TO CONFORM TO LOCAL CODES.
13) CUSTOMER TO SUBMIT PLANS TO FIRE PREVENTION BUREAU PRIOR TO OPERATING THE OVEN.
14) ELECTRICAL HOOK UP BY OTHER. HOOK UP SHALL BE IN ACCORD. WITH NEC-70, NFPA 86

Oven Empire Manufacturing
3211 E. Eloika Lake Rd
Deer Park, WA 99006
(509) 292-0891
brad@oemoven.com www.oemoven.com

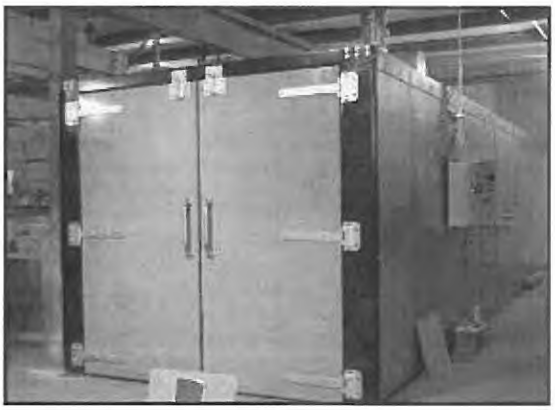
SALES QUOTATION
10/31/2018

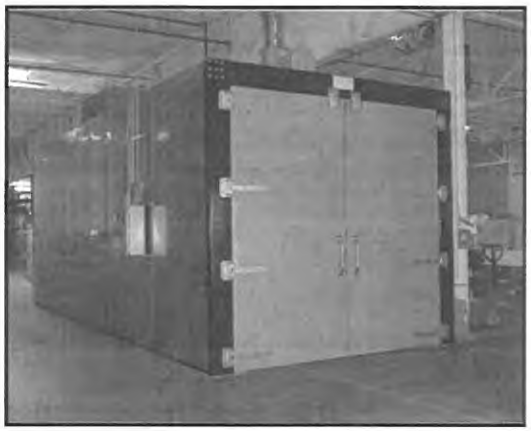
Industrial Batch Oven with Double Doors on One End and Top Burner Box

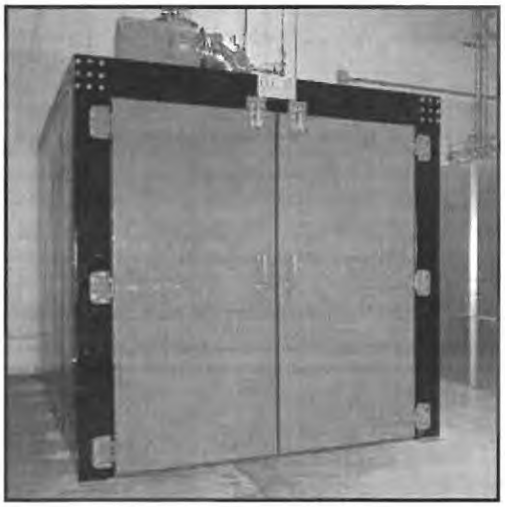
Model # OEMB-10-08-30-TB-2BURNER

For Curing at Temperatures of 250 to 450 degrees F
Oven is shipped completely knocked down on skids

Inside Working Dim.	***10'0" Wide***	***x***	***8'0" High***	***x***	***30'0" Long***
Overall Approx. Dim.	**12'0" Wide**	**x**	**12'10" High**	**x**	**30'8" Long**







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Deer Park, WA 99006
(509) 292-0891
brad@oemoven.com www.oemoven.com

SALES QUOTATION
10/31/2018

Heat Input:

- (2) 1,200,000 BTU/HR direct fired, partial pre-mix, flame retention head, power gas burners, each with a combustion air blower with a 1/6 HP motor, 120V, single phase
- Each burner is fully modulating with an 8:1 turndown ratio

Re-circulating blower:

- Heavy duty recirculating fan providing 14,400 cfm (approx. 6 air changes per minute).
- 24" plug wheel with a premium efficient 15 HP motor (208-240/480V, 3 phase)
- Approximately 18.0 FLA @ 480V 3-phase

Exhaust blower:

- Spark resistant belt driven blower providing 1,800 cfm
- 10" fan with a 3/4 HP premium efficient motor (208-240/480V, 3 phase)
- Approximately 1.1 FLA @ 480V 3-phase

Construction Features:

- **Airflow:**
  - Combination side and up airflow duct with adjustable louvers for airflow balancing. Air is heated in the burner box and gets drawn down to the side duct that runs across the entire length of the oven.
  - Return air is drawn up through the top rear of the oven.
  - Both ducts will have adjustable louvers to balance the airflow inside of the oven.
  - Recirculated air is drawn into the burner box where it is heated by the burner's flame. The plug blower pushes the air into a bridge plenum that distributes the air to the side wall duct along the entire length on both sides of the oven.
  - Wire meshed filter for intake air with adjustable sliding door
  - Adjustable damper on exhaust duct

- **Walls and ceilings:**
  - 4" tongue and groove insulated panels, filled with mineral wool insulation.
  - Panels have slotted side and middle support channels for extra support and minimal heat transfer.
  - Panels rest on heavy duty floor channels with welded angles to anchor the oven to the floor
  - 18 Ga. aluminized steel interior and exterior for maximum corrosion resistance, heat resistance, and rigidity.
  - (1) Set of uprights to support the burner box

- **Door Construction:**
  - Industrial heavy duty insulated doors, 10' wide x 8' high, complete with high temperature door gaskets, high temperature door seals, explosive venting door latches, heavy duty door handles, and all door hardware
  - Door leafs are attached to a heavy duty door jamb and door header assembly with industrial grade strap hinges

Controls:

- 480V 3-phase U.L listed electrical panel for motor control and flame safety monitoring.
  - LED indicating lights
- Digital temperature controller with:

- Universal input for thermocouple
- 0 – 10 Vdc output for burner modulating control.
- Alarm relay ouputs

- Digital temperature controller for high temperature limit with:
  - Universal input for thermocouple
- Honeywell S87 burner flame safeguard control system with:
  - Electronic control of direct spark ignition
  - Single trial for main burner ignition (then shutdown and lockout)
  - External high voltage spark generator powered by 120VAC
  - Fuse protection for internal transformer and temperature controller
  - Continuous flame monitoring
- Motor control start/stop push buttons, indicating lights, magnetic motor starters, and overloads for the recirculating and exhaust blower
- High temperature thermocouple, type J

Safety Equipment:

- Powered forced air exhaust blower.
- Airflow proving switches for the recirculating blower exhaust blower, and combustion blower.
- Adjustable purge timer for complete air exchange inside of the oven prior to igniting the burner.

Price for the above oven, F.O.B. Los Angeles, CA.....$ 59,680.00

Options for the Above Oven:

Temperature Initiated Batch Timer – Batch timer with audio alarm and visual indicator. This option includes a door mounted timer, alarm buzzer, buzzer silencer, "batch complete" visual indicator, and on/off switch. The batch timer will not start counting down until the oven reaches a set temperature.
Price for the above option.....$ 700.00

End of Shift Mode – This option automatically turns off the oven after completion of a batch. This allows the operator to put a batch in the oven and NOT have to monitor the current batch. The batch timer is initiated once the oven reaches a set temperature, i.e. 400*F. At the end of the batch time, the burner will shut off. Once the oven has cooled down below 200*F, all the blowers will automatically shut off.
Price for the above option.....$ 650.00

4.3" LCD Touchscreen Temperature Controller

- This option includes the features of the temperature initiated batch timer and end of day shift.
  - The timers are built in the touchscreen controller and are not individually door mounted timers
- Network interface – Email/SMS on alarm, FTP, Web, remote access (VNC)
- Data logging – All information can be accessed via usb or over the network.
- Automatic ramp/soak programming with up to 64 steps per program

Price for the above option.....$ 2,100.00

Oven Doors – 10' wide x 8' high, 2nd set for a pass thru oven
Price for the above option.....$ 3,110.00

Conveyor Notches – Notches in the door header to accommodate conveyor tracks.
Price for the 1st notch.....$ 1,400.00

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Deer Park, WA 99006
(509) 292-0891
brad@oemoven.com www.oemoven.com

Price for each additional notch.....$ 300.00

Electrical installation, start up and balance, and training of the above oven.

- Mount the control panel to the side wall of the oven with unistrut.
- Install and wire the air pressure switches for the recirculating blower and exhaust blower.
- Install and wire the thermocouple
- Wire the recirculating blower and exhaust blower to the control panel
- Run all the control wires from the main control panel to the sub panel on the burner.
- **Customer is responsible for bringing building power and terminating to the control panel.**
- Adjust the duct louvers inside of the oven to balance the airflow and pressure inside of the oven.
- Commission the burner
- Training of the above oven

Price for the above installation.....$ 6,305.00

Temperature Data Recorder – Priced per application

Terms: 50% with order; 50% prior to ship
Lead time: 6 – 7 weeks upon receipt of order, signed drawing, and down payments

The following is not included in the above prices:

1. Installation of the above equipment or utility hook up (unless clearly noted).
2. Painting, finish coats or corrosion protection.
3. Any 3rd party certifications (ul, etl, fm, fire or bldg) or performance bonds.
4. Professional services: permitting, structural, seismic or others.
5. Fire sprinkler or fire detection system
6. Support platform or access catwalks
7. Grounding system, instruction panels & emergency signs
8. Applicable taxes or freight to the jobsite

Please feel free to contact me with any further questions you may have regarding this project.

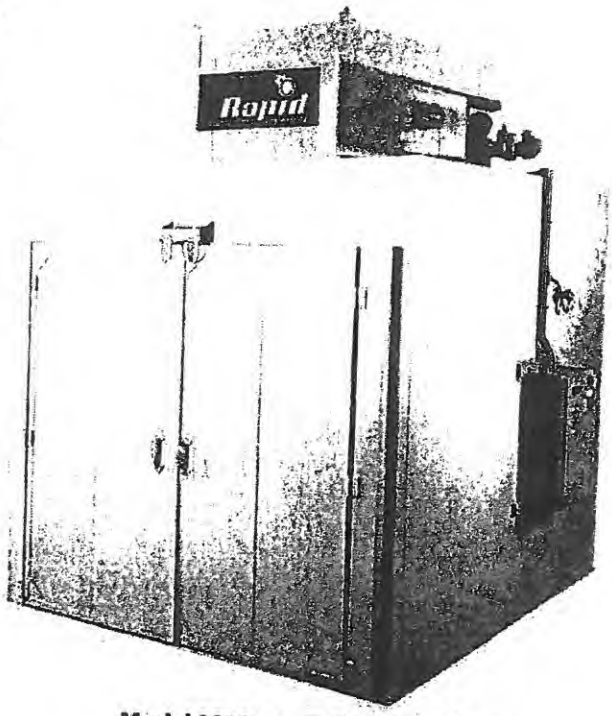
Sincerely,

Brad Baum

Rapid™ Engineering LLC

Install-It-Yourself Batch Oven Kits

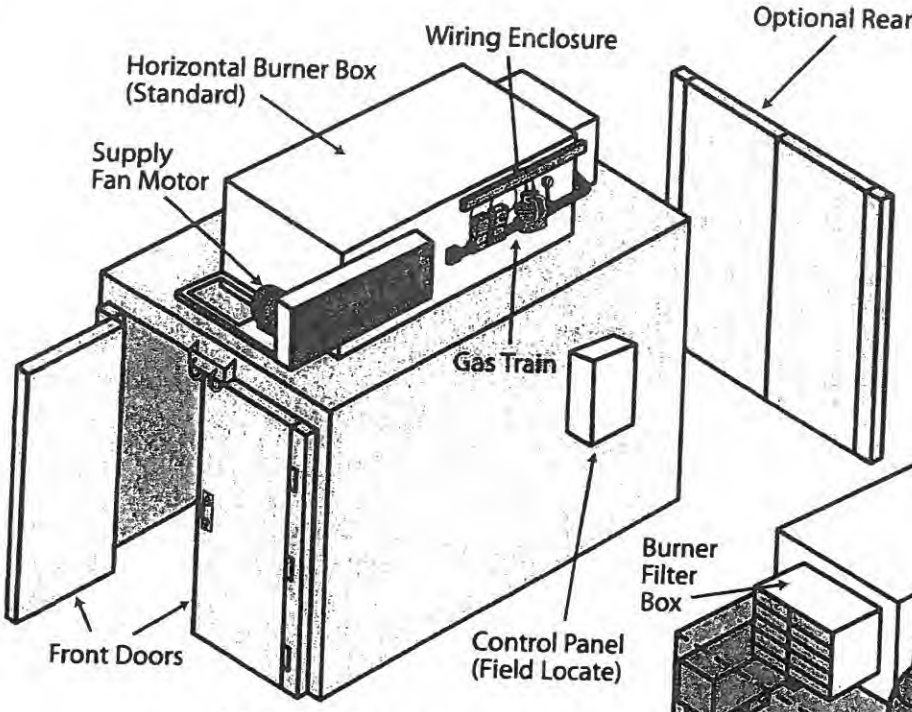
- Flexibility with standard, assembled or install-it-yourself ovens for preheating, drying and curing for applications up to 500° F (260° C).
- Durability provided from quality components such as aluminized steel, insulated-panel walls and roofs, industrial grade fans and state-of-the-art controls.
- Energy-efficient direct-fired burners having a 20:1 turndown ratio.
- Better oven balance, cleanliness and space usage from unique duct design.
- Dependable operation when installed, used and maintained properly.
- Lower installation costs by installing it yourself.
- Versatility provided by custom designs and sizes.



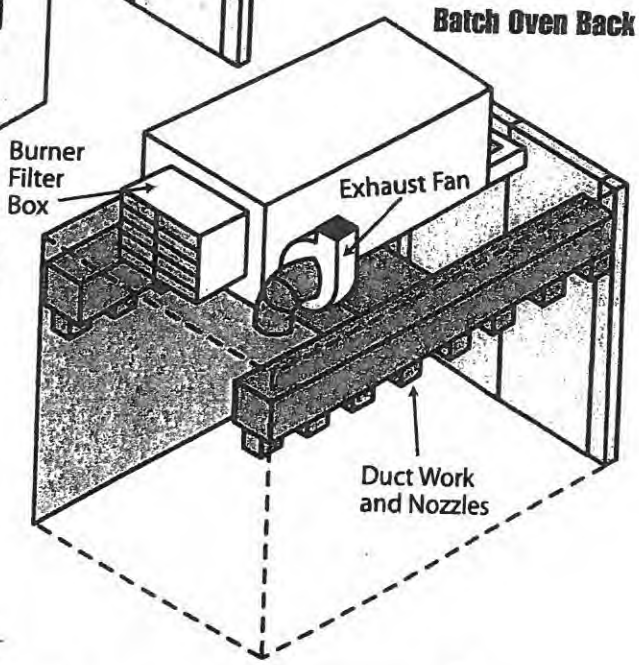
Model 8810 assembled oven shown

You'll Value Our Experience!

www.RapidBatchOvens.com
www.RapidFinishingEquipment.com
1.800.536.3461



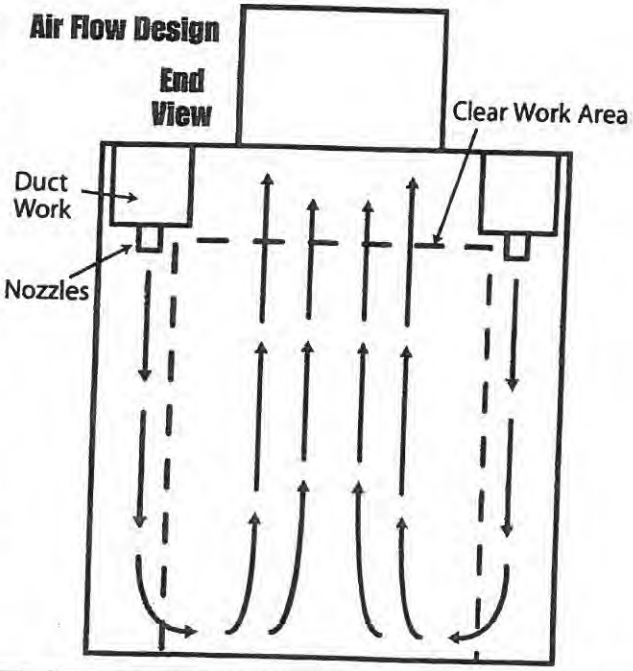
Batch Oven Front



Standard Features

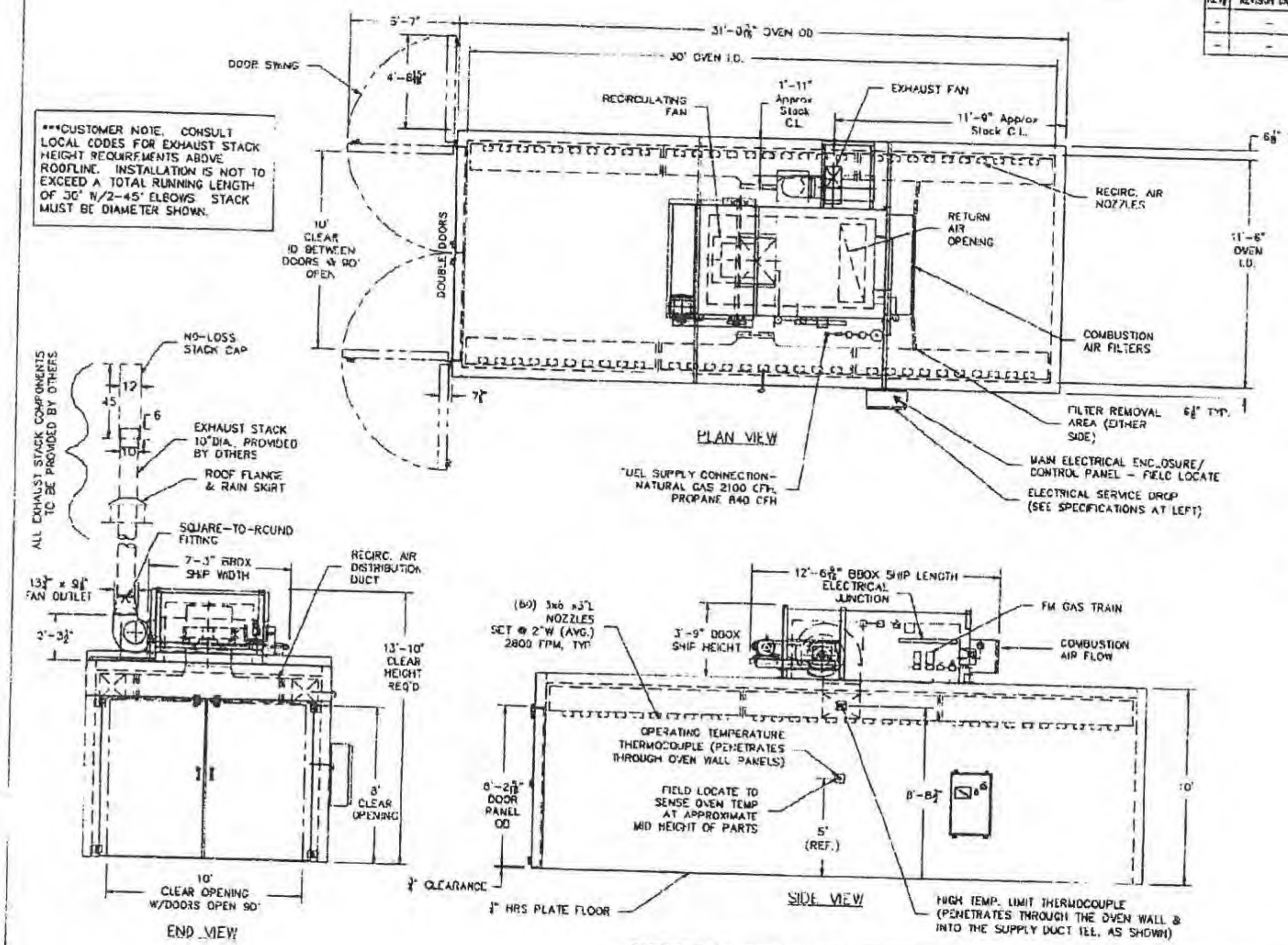
- 6" (15.2 cm) thick aluminized steel, insulated-panel construction
- Top mounted burner box system for natural gas or propane
- Double doors on one end
- Ceiling-mounted ductwork distribution
- Powered exhaust fan
- Automatic purge cycle
- UL-listed electrical control panel
- 460 VAC, 3Ø, 60 Hz
- Digital temperature controller
- Electronic burner and high-temperature limit controls
- Flame safety control with UV scanner
- Controls designed to be Factory Mutual (FM) compliant
- Automatic shutdown when a pre-set cool down temperature is achieved
- Designed and built to comply with industry standards

Air Flow Design



REV	REVISION DATE	BY	REVISION INFORMATION
-	-	-	-
-	-	-	-

***CUSTOMER NOTE. CONSULT LOCAL CODES FOR EXHAUST STACK HEIGHT REQUIREMENTS ABOVE ROOFLINE. INSTALLATION IS NOT TO EXCEED A TOTAL RUNNING LENGTH OF 30' W/2-45° ELBOWS STACK MUST BE DIAMETER SHOWN.



BATCH OVEN SPECIFICATIONS:	
RECIRCULATING FAN MOTOR	21"FC. 14,000 SCFM @ 1.4" SP 10 HP 1750 RPM, ODP
EXHAUST FAN MOTOR	GP-PLR 122, 1300 ACFM, 1"SP @70T 3/4 HP 1750 RPM, ODP
BURNER CAPACITY	3.5 FT. MAXON NP-I 2,100,000 BTU/hr
GAS TRAIN	FACTORY MUTUAL, 1-1/2" NPT
SUPPLY GAS PRESSURE DOWN REGULATOR (IF REQ'D)	14"W.C. (MINIMUM, @Full Flow) 5 PSI (MAXIMUM) BY OTHERS
FUEL HEATING VALUE	NATURAL GAS or PROPANE 1000 BTU/CU.FT. 2500 BTU/CU.FT.
ELECTRICAL SERVICE	480V/3PH/60HZ (BRANCH SERVICE PROTECTION IS TO BE PROVIDED BY OTHERS)
ELECTRICAL CONTROL PANEL	"UL" LISTED. 16.7 FLA, 40 AMP DISCONNECT
CONTROL OPTIONS	ALLEN-BRADLEY PLC W/6 USER DEFINED RECIPIES
ALTITUDE	LESS THAN 1000 FT.
MAX. POWDER LOADING	30 LB/BATCH
MAX. SOLVENT LOADING	0.54 GAL/BATCH
MINIMUM PRE-IGNITION PURGE	12 MINUTES @ 1300 CFM EXHAUST
OPERATING TEMPERATURE	175°F. MIN. - 450°F. MAX.
WALL, ROOF, B.BOX PANELS	20 GA. ALUMINIZED OVER 6" INSULATION
OVEN FLOOR	1/4" HRS PLATE FLOOR
EXHAUST STACK/ROOF FLASHING	BY OTHERS
CLEAR WORK OPENING	10'W x 8'H x 30'L
FIRE PROTECTION	BY OTHERS
ACCESS LADDERS, MEZZANINES, PERSONNEL GUARD RAILS	BY OTHERS

NOTES:
1) THE SAFETY STANDARD FOR INDUSTRIAL OVENS, NFPA 86, REQUIRES THIS OVEN BE LOCATED SO AS TO KEEP TEMPERATURES AT COMBUSTIBLE FLOORS, CEILINGS, AND WALLS BELOW [illegible]. EQUIPMENT OWNER AND END USER ARE RESPONSIBLE FOR THE RISKS ASSOCIATED WITH POTENTIAL EXPOSURE OF NEARBY COMBUSTIBLE SURFACES TO TEMPERATURES EXCEEDING [illegible], FOR AVOIDING THE OCCURRENCE OF SUCH EXPOSURE, AND FOR SATISFYING ALL LOCAL, NATIONAL AND OTHER APPLICABLE CODES.
2) PROPER OPERATIONAL CHECKS OF FLAME DETECTOR MUST BE MADE IF USED FOR 24 HR/DAY OPERATION.
3) REFER TO SAFETY LABEL ON CONTROL PANEL FOR FURTHER CONDITIONS OF USE OF THIS EQUIPMENT.

NOTE. THE ELECTRICAL CONTROL PANEL IS SHIPPED LOOSE AND CAN BE INSTALLED ON THE OVEN OR REMOTELY. LOCATE THE OVEN CONTROL PANEL WITHIN REACH OF THE THERMOCOUPLE AND ELECTRICAL JUNCTION BOX.
(50 FT. SHIELDED CABLE & 100 FT. THERMOCOUPLE WIRE PROVIDED.)
(LOCATION SHOWN IS REPRESENTATIONAL ONLY.)

APPROVAL DRAWINGS

Please sign & return one copy to: RAPID ENGINEERING LLC 1100 SEVEN MILE RD. N.W. COMSTOCK PARK, MI 49321

Approved by: Brad Cummock

US Encoaty

Company Name Date 4/12/17

Please Return Approval Within 2 Working Days To Maintain Acknowledged Ship Date.

REL#	RELEASE DATE	BY	RELEASE INFORMATION
1	04/12/17	JSJ	SENT FOR APPROVAL

PLOTTED: April 12, 2017, 2:36 AM

DESCRIPTION: 100830 17 BATCH OVEN LAYOUT - I.I.Y. DOORS ONE END. TOP-MOUNT BURNER BOX

FOR: EQ OHIO INC.

COMMENTS:

FILE LOCATION: -

PROCESSING NOTE:

RAPID ENGINEERING LLC
COMSTOCK PARK, MICH 49321

SCALE	DRAWN	DATE	DWG #	REVISION	SHEET
3/16" = 1'	JSJ	04/11/17	20520421	-	C1
PLOT RATIO 1:64	CHECKED -	ID # 17-06-3054	WO # 17-06-0054A		

Appendix I

EQ Metals Closure Cost Estimate (and current supporting LOC)

US ecology

2050 Central Avenue SE, Canton, OH 44707
P 330.456.6238 F 330.456.2801

June 08, 2018

Ms. Melissa Cheung
Ohio EPA - DERR
Engineering, Remediation, and Authorization Section
Lazarus Government Center
50 W. Town St., Suite 700
Columbus, OH 43215

Certified Mail 7013 0600 0001 9978 7857

Dear Ms. Cheung:

Enclosed please find the following financial assurance document(s) for the AJYL Recovery Services LLC facility located at 1533 Allen Avenue SE in Canton, Ohio, 44707 (OHD986982155):

- An updated closure cost estimate in the amount of $24,482, from $24,049, which is based on the Ohio EPA's 1.8% inflation factor to be used for operating year 2018.

Please note an original amendment (no. 10) to our Standby Letter of Credit, in the amount of $24,482, will be sent directly to your attention from Comerica Bank.

If you should have questions, please do not hesitate to call me at (330) 617-4315.

Sincerely,

Chuck Zuerner
General Manager
Envirite of Ohio, Inc.
AJYL Recovery Services, LLC

cc: A. Dugan

Table 8-4

AJYL RECOVERY SERVICES CLOSURE COST ESTIMATE

Modified 6/04/18

Implicit price deflator change (past 12 months) = 1.0180

	Type	Cost/ Unit	Units	Processing Areas Number of Units	Processing Areas Total Cost	Container Storage Number of Units	Container Storage Total Cost	BY ITEM	MAX UNITS
1 Cost of off-site	Containers	$0.850	gal		$0	2,750	$2,338	$2,338	2,750
2 treatment/disposal	Bulk bags/solids	$113.42	ton		$0	120	$13,610	$13,610	120
3 of waste inventory	Bulk liquids	$0.454	gal	4,750	$2,157		$0	$2,157	4,750
4 Cost of off-site treatment/disposal of decontamination liquids	Bulk liquids	$0.454	gal	903	$410		$0	$410	903
5 Transportation cost	Bulk liquids	$283.55	load	1.1	$321	0.6	$156	$476	2
6	Bulk solids	$283.55	load	0.0	$0	6.0	$1,701	$1,701	6
7 Cost of analytical work and sampling		$170.13	samp	8	$1,361	4	$681	$2,042	12
8 Labor costs		$35.73	hours	6.7	$238	42.3	$1,509	$1,747	49
TOTAL COST					$4,486		$19,996	**$24,482**	

Volume of decontamination liquids based on 36 gallons decontamination liquid per ton (solids storage) and 0.19 gallons of decontamination liquid per gallon (liquid storage) from Envirite internal test results.

Ohio Environmental Protection Agency

Please Note: Pages of this application which contain financial assurance mechanism details specific to policy or account numbers have been removed from this web-available version of the document.

To review redacted copies of these removed pages, please contact DERR's record management staff at (614) 644-2924.

Thank you.

Appendix J

Envirite Facility Description (from Part B Application)

SECTION 1

ENVIRITE OF OHIO, INC.
CANTON, OHIO

FACILITY DESCRIPTION

REVISION 15.3
DECEMBER 2015

FACILITY DESCRIPTION
TABLE OF CONTENTS
SECTIONS

TABLE OF CONTENTS (Continued)

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

LIST OF DRAWINGS

1.1 GENERAL DESCRIPTION

Reference: OAC 3745-50-44

Address: Envirite of Ohio, Inc.
2050 Central Ave., S.E.
Canton, Ohio 44707

Latitude: 40 degrees, 46 minutes, 27 seconds N
Longitude: 81 degrees, 22 minutes, 13 seconds W

USEPA ID No.: OHD980568992

Envirite of Ohio is an environmental service firm engaged in the business of applying the best available treatment and recovery technologies to the management of industrial wastes. The facility accepts liquid, semi-solid and solid industrial wastes, transported in bulk liquid tank trucks, or in various types of containers for solid and semi-solid waste.

The first Envirite facility began operations in Thomaston, Connecticut, in 1975. The second facility, in York, Pennsylvania, began operations in 1980. The third and fourth facilities in Canton, Ohio, and Harvey, Illinois, began operations during 1981. This application is being filed for the Canton, Ohio facility only. A general location map is attached as Figure 1-1.

The Liquids Processing Unit (LPU), regulated under the Clean Water Act, produces two (2) end-products. The first, a water discharge, or, "effluent," is carefully monitored for compliance with regulations of the City of Canton POTW prior to discharge into the sanitary sewer system. The second end-product is a semi-solid residue resembling moist clay. The Solids Processing Unit (SPU) yields only one end-product, that being the semi-solid residue. There is no resultant discharge to the sewer system.

There is no waste disposal on the site. The semi-solid process residues are retained on-site pending analytical verification. Once confirmed, all residues are transported off-site to Agency approved land disposal facilities.

The processing areas of the facility are totally enclosed, and can operate 24 hours per day. Storage and treatment tanks are fully enclosed and connected to fume scrubber systems. Incompatible wastes are segregated in different areas of the plant, with separate sump areas for spill containment.

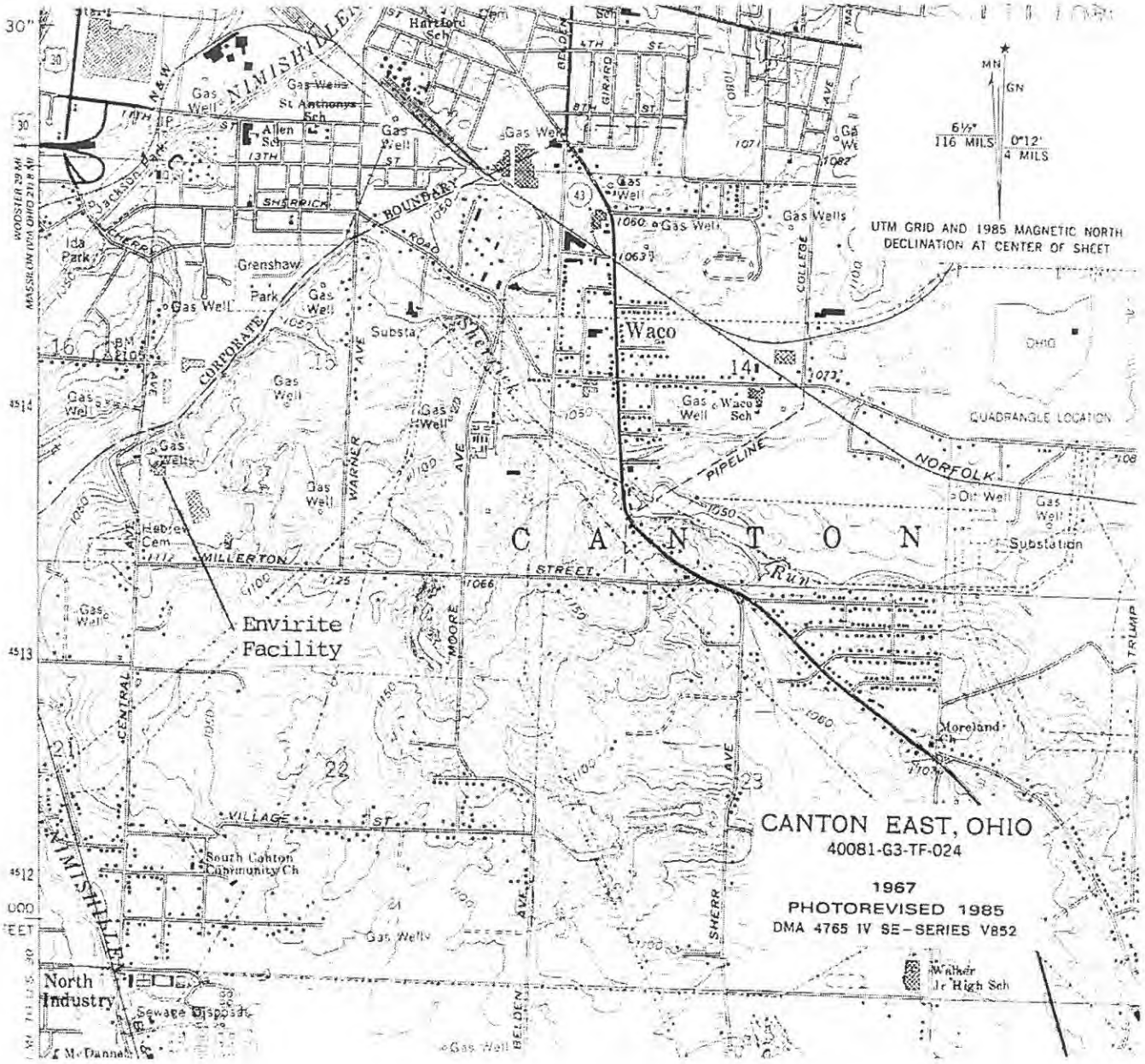
No waste destined for on-site treatment is accepted into the facility until a sample has been fully evaluated by the laboratory. Most importantly, a sample of every such waste is processed in the laboratory using treatment methods identical to those employed in the plant. The quality of the resulting liquid and solid products of the treatment simulation must meet rigorous quality standards before a treatment proposal is made to the waste generator.

Upon arrival, every shipment is screened to assure that the material can be safely and properly treated. The waste analysis plan required under OAC 3745-50-44(A)(3) and OAC 3745-54-13(B) is described more fully elsewhere in this submittal.

Incoming materials destined for storage and transshipment will be evaluated per the waste analysis plan in Section 2.

FIGURE 1-1 GENERAL LOCATION MAP

ENVIRITE OF OHIO, INC.
CANTON, OHIO



1.2 INDUSTRIES SERVED

Envirite of Ohio's main business is the application of state-of-the-art waste minimization technologies to predominantly inorganic waste streams. These wastes originate primarily from a broad range of metal-finishing industries such as:

INDUSTRY	PRODUCT OR GOOD
Electroplaters	Furniture and other consumer goods
Electroless Platers	Fixtures and decorative finishes for household and automotive
Surface Finishers	Household appliances
Jewelry Manufacturing	Precious and non-precious jewelry
Steel Producers	Steel for various manufacturing activities
Non-Ferrous Metals Manufacturing	Metals for various manufacturing activities
Automobile Manufacturing	Automobiles and after-market products
Electronics and Computers	Computers, stereos, video equipment
Aircraft Manufacturing	Defense and commercial pleasure aircraft
Hardware Manufacturing	Hardware, fixtures, and home improvement products
Wholesale/Retail Commercial Distribution Facilities	Wholesale/retail commercial products

Typical wastes generated by these industries include:

Acids and acidic rinses	Pre-treated wastes
Caustics and caustic rinses	Waste slurries
Chrome solutions	Sludges
Rinsewaters	Emergency response residues
Contaminated soils	Obsolete and/or discarded commercial chemical products

These wastes are generally absent of organic compounds such as oils, solvents, or paints. An extensive waste analysis plan, detailed in Section 2, assures that excessive quantities of such contaminants are not accepted by this facility's inorganic treatment processes.

Other wastes not amenable for on-site treatment will be stored in separate areas in preparation for shipment to an approved off-site location. These wastes can consist of organics, flammables, "F","K","P", and "U" code materials from a wide range of industries and generators. The acceptance of these wastes for storage and transshipment enables Envirite to better service their customers by handling all types of their waste materials.

1.3 CHEMICAL AND PHYSICAL ANALYSES OF WASTES: OAC 3745-50-44(A)(2)

Envirite of Ohio treats a variety of wastes within a specific range of the universe of hazardous wastes. There can be a wide variation of waste characteristics within a US EPA hazardous waste code or category. This is particularly true for wastes from non-specific sources (F waste codes) and characteristic wastes (D waste codes).

To present a characterization of the typical wastes stored for treatment by Envirite of Ohio, the wastes have been tabulated using the USEPA Hazard Codes and basis for designation. Table 1-1 shows the waste characteristics, the common name or description, the basis for the hazardous designation, and the US EPA waste codes. It also includes typical constituent levels for the parameters of concern.

In addition, Appendix 1-A contains several actual sample analyses from Envirite of Ohio customers. These are represented as individual samples, and are not intended to show average nor maximum values.

Other wastes that are destined only for storage and transshipment will be evaluated per the waste analysis plan in Section 2 for compatibility and proper storage. These wastes can contain any waste codes permitted in Part A in Section 8.

TABLE 1-1 WASTE ANALY 3 - HAZARD CLASSIFICATION

ENVIRITE OF OHIO, INC.
CANTON, OHIO

Waste Description	EPA Hazard Code						EPA Waste Codes	Basis for Hazard Designation	Typical Range of Hazardous Constituents (%)													
	I	C	R	E	T	H			As	Cd	Cu	Cr	CN	Ni	Pb	Se	Ag	S-	Zn	Oil	Acid	Base
Wastes from Electroplating	-	-	X	-	X	-	F006,F007,F008, F009,F019	Cd,Cr+6,Ni,CN(Salts) CN(Complexed)	1	10	30	30	20	30	1	1	30	1	30			
Wastes from Metal Heat Treating	-	-	X	-	X	-	F011,F012	CN(Salts), CN(Complexed)	1	1	30	30	10	30	1	1	30	1	30			
Wastes from Inorganic Pigment Production	-	-	-	-	X	-	K002,K003,K004, K005,K006,K007, K008	Cr+6,Pb, CN(Complexed)	1	1	30	10	1	1	1	1	10	1	10			
Wastes from Iron and Steel Production	-	X	-	-	X	-	K061,K062	Cr+6,Pb,Cd	1	1	1	1	1	15	15	1	1	1	50			
Wastes from Secondary Lead Smelting	-	-	-	-	X	-	K069,K100	Cr+6,Pb,Cd	1	1	1	1	1	1	30	1	1	1	1			
Hazardous due to TCLP Characteristic Only (Metals)	-	-	-	X	-	-	D004,D005,D006, D007,D008,D009, D010,D011	TCLP,As,Ba,Cd,Cr,Pb, Hg,Se,Ag												5		
Hazardous due to TCLP Characteristic Only (Organics)							D018,D019,D021, D022,D023,D024, D025,D026,D027, D028,D029,D030, D034,D035,D036, D038,D039,D040	TCLP low level Organics												5		
Hazardous due to Corrosivity only	-	X	-	-	-	-	D002	pH<2 or >12.5	(Meets TCLP Characteristic Limits)											5		
Hazardous due to TCLP Characteristic and Corrosivity	-	X	-	X	-	-	D002,D004,D005, D006,D007,D008, D009,D010	pH<2 or >12.5 and TCLP Characteristic												5	50	50
Reactive Wastes	-	-	X	-	-	-	D003	Reactive Cyanides Reactive Sulfides					10					15		5		40
Rinses, Baths, Water Washes, Cleaners, Wastewater Treatment Solids	-	-	-	-	-	-	None	None	(Meets TCLP Characteristic Limits)													
Waste Oxidizers	X	-	-	-	-	-	D001	Oxidizers														
Multisource Leachate	-	-	-	-	X	-	F039	See OAC 3745-270-48	(Lechate which has percolated through restricted land disposal wastes)													
For waste codes received for storage and transshipment the EPA hazard codes and basis for hazard designation are found in OEPA 3745-51-30 to 33																						

***OEPA Hazard Codes (3745-51-30) - USEPA Hazard Codes (40CFR 261.30)**

1.4 BACKGROUND AND HISTORY OF DELISTING

Envirite of Ohio's Liquid Processing Unit (LPU) and Solids Processing Unit (SPU) are operated under federal and state granted "delistings." That is, the residues remaining after these treatment processes are determined to have been rendered non-hazardous and are, therefore, removed from the list of hazardous wastes, or "delisted." Of all treatment facilities nationally, Envirite is one of only two (2) commercial facilities which possess this ability.

All process residues from the delisted processes are retained on-site pending full laboratory confirmation of residue quality.

On June 18, 1981, Envirite Corporation submitted a petition to EPA pursuant to 40 CFR 260.22 to delist the treatment residues generated by three (3) of its four (4) waste management facilities. A separate delisting petition was filed with the Pennsylvania Department of Environmental Resources for Envirite's York facility because that state had authorization to conduct its own RCRA program at that time. On December 16, 1981, the EPA published in the Federal Register its approval of the petition (Vol. 46, page 61281), thereby granting a temporary exclusion of the treatment residues from regulation under the Resource Conservation and Recovery Act. On November 5, 1981, the Pennsylvania DER issued a Determination of Non-Applicability under the provisions of the Pennsylvania Solid Waste Management Act, and Chapter 75, Subpart 260 of Act 97.

Subsequently, EPA requested additional information required under the HWSA amendments of 1984 to determine whether any hazardous constituents or characteristics, other than those for which the wastes were originally listed, were present in Envirite's treatment residues. On November 14, 1985, Envirite filed a second delisting petition which included this additional information. On November 7, 1986, EPA granted a final delisting to Envirite Corporation for residues produced from the treatment of fifteen (15) categories of waste (Federal Register, Volume 51, page 41323).

The Ohio Environmental Protection Agency also has recognized this delisting in OAC 3745-51-30(E)(3).

Envirite of Ohio can operate either or both the LPU and the SPU under the requirements of final federal and state exclusions or "delistings."

Envirite of Ohio may, at its own election, choose to manage its processed residuals as hazardous wastes. This may occur either because the residues do not attain the stringent non-hazardous

parameters, or because the facility accepts other waste codes contained in its operating permit, but not included under the terms of the delisting. Envirite may also choose to render characteristic wastes non-hazardous by treating to levels less than the characteristically hazardous levels. Equipment would be decontaminated between the treatment of listed and characteristic wastes.

1.5 TOPOGRAPHIC MAP: OAC 3745-50-44(A)(19)

The topographic map required under this section is identified as Drawing A-5007-C attached. Additional information is shown on the existing Site Plan (Drawing A-5005-C) found in Section 3 of this application.

1.6 SEISMIC STANDARD: OAC 3745-54-18(A)

Neither the existing nor proposed facilities addressed by this application are located within two hundred (200) feet (61 meters) of a fault that has been displaced during Holocene time.

1.7 FLOODPLAIN STANDARD: OAC 3745-54-18(B) and OAC 3745-50-44(A)(11)(C)

Appendix 1-B shows the Flood Insurance Rate Map for the County of Stark, Ohio. This exhibit is panel 115 of 200 with a community panel number of 390780 0115 A.

The 100-year floodplain level is shown to be approximately 1025 feet where Sherrick Run crosses Central Avenue. The finish floor elevation of Envirite's facility is 1077.50 feet. With a 52.5 foot elevation difference, the facility is clearly out of the 100 year floodplain.

1.8 TRAFFIC INFORMATION: OAC 3745-50-44(A)(10)

The Envirite facility is located in close proximity to major state and interstate highways. It is located on Central Avenue, southeast of the intersection of Interstate Route 77 and U.S. Route 30. It is also near Ohio Route 43.

On Site

All traffic into the site is controlled. The driveways and parking areas are paved, and large enough to safely accommodate two-way traffic. Lights are provided for night operation.

The majority of loads are delivered via a semi-tractor trailer combinations, utilizing van trailers for containerized wastes, roll-off or dump trailers for semi-solid wastes, and tankers for bulk liquid deliveries. The facility expects to either receive or dispatch approximately fifty (50) trucks per day in the course of its regular business.

With a total of nine liquids unloading spaces, six solids unloading spaces, and adequate room along the driveway to allow additional tractor-trailers to park on-site, traffic flow at the facility will not be a problem.

The access driveway is 25-35 ft. wide, composed of a bituminous paved surface with eight inches of crushed stone as a base. All roadways constructed on the site are intended for heavy truck traffic, and are therefore designed to accommodate full 80,000-pound gross vehicle weights.

Although Envirite of Ohio owns and operates its own fleet of vehicles, deliveries from selected other transporters are also accepted if they comply with facility procedures and safety policies.

Off Site

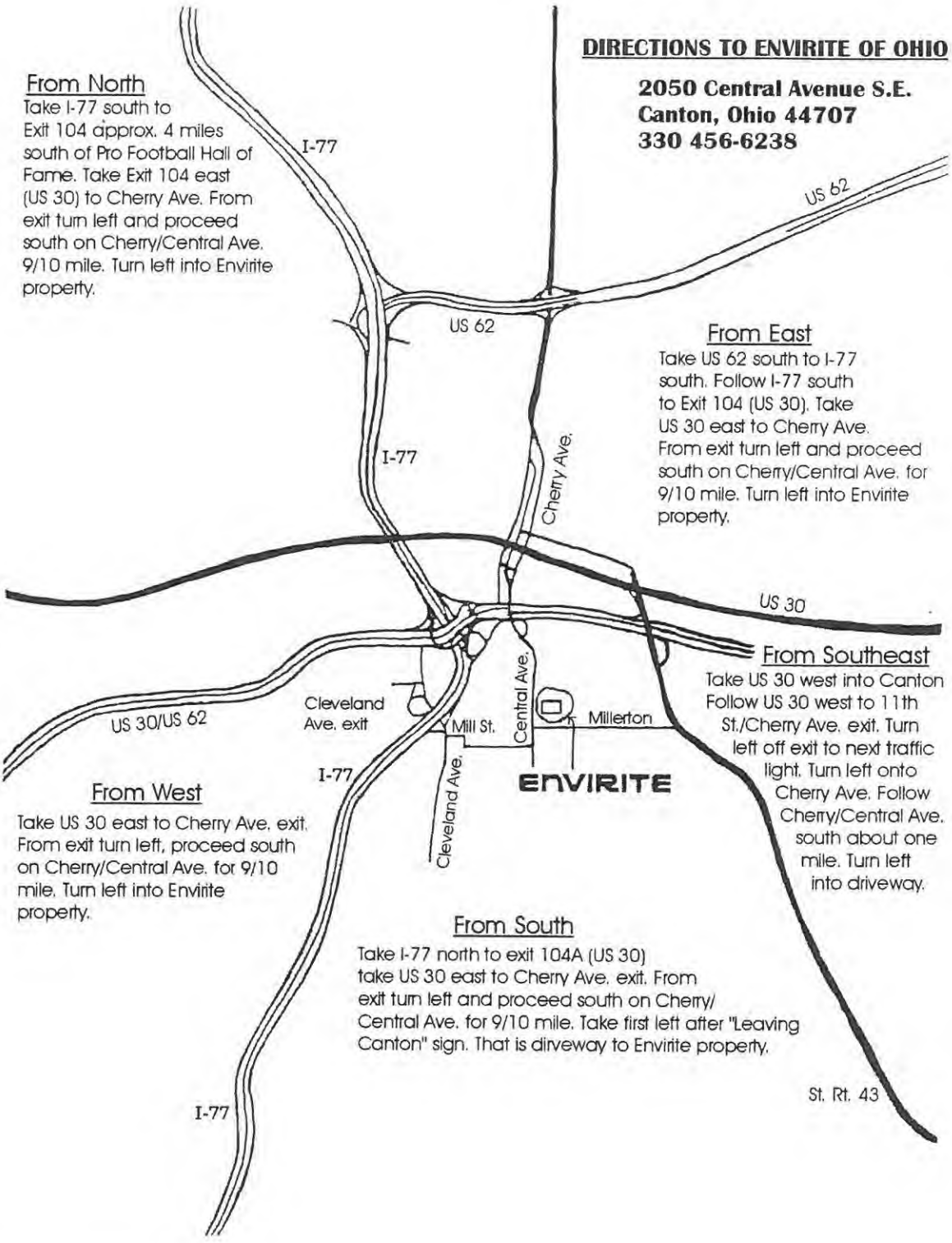
The customers served by the Canton facility are located in all compass directions. The primary routes into the facility are via Interstate Route 77 for north and south traffic, and via U.S. Route 30 for east and west traffic. Most traffic enters and exits the facility via the northern access route. Vehicles exit from Interstate Route 77 (either from the north or south) onto U.S. 30 East. From U.S. 30 traffic exits onto Cherry Avenue (Central Avenue outside of the City limits and proceeds 0.9 mile south to Envirite.

The diagram shown on Figure 1-2 indicates the route in which the vehicles will pass while traveling the 0.9 mile route south from U.S. Route 30 to the Envirite facility.

Traffic controls in this area include a posted 35 mph speed limitation within the city, posted bus routes, one guarded railroad crossing, one crosswalk and no parking (both sides).

FIGURE 1-2 LOCAL TRAFFIC PATTERNS

ENVIRITE OF OHIO, INC.
CANTON, OHIO



1.9 WIND ROSE: 703.183(s)(5)

The following wind direction vs. wind speed information has been taken from the National Oceanic and Atmospheric Administrations's Climatography of the United States No. 90 (1965-1974). For wind coverage analysis, the weather data were summarized according to the average annual occurrence of wind conditions by velocity and direction.

The wind rose included as Figure 1-3 is from the Akron-Canton airport, which lies approximately 14 miles north of the Canton facility, and which is in closest proximity for available wind roses. The Akron-Canton Airport lies at latitude 40°55' North and longitude 81°26' West. From examination of the wind rose, the prevailing winds at the facility have the highest frequency from the south through west directions.

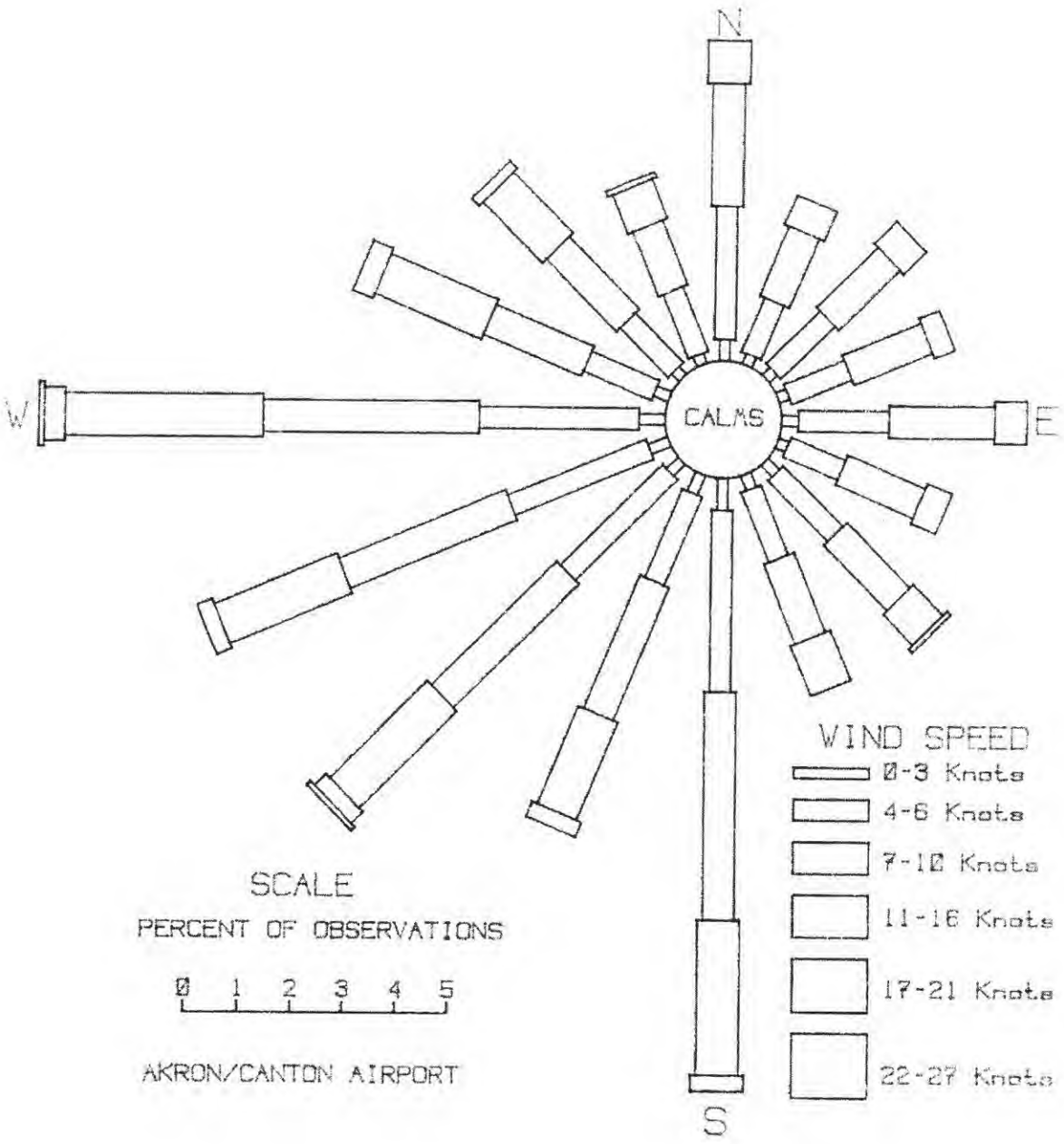
WIND DIRECTION VS. WIND SPEED
(PERCENT FREQUENCY OF OBSERVATIONS)

	WIND SPEED (Knots)										
WIND DIRECTION	0-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	OVER 40	TOT.	AVG SPEED
N	.4	2.5	2.3	.8	.0					5.9	7.2
NNE	.2	1.1	1.4	.6	.0					3.3	7.7
NE	.2	1.4	1.6	.6	.0					3.9	7.7
ENE	.2	1.2	1.6	.4	.0	.0				3.4	7.6
E	.3	1.7	2.0	.6	.0	.0				4.5	7.4
ESE	.2	1.1	1.6	.5	.0					3.5	7.8
SE	.3	1.6	1.7	.8	.1	.0				4.5	7.8
SSE	.3	1.4	1.6	1.0	.0					4.8	8.0
S	.6	3.4	4.3	2.9	.3	.0				11.6	8.6
SSW	.4	1.8	2.7	2.0	.3	.0				7.2	9.1
SW	.3	2.7	3.3	3.6	.3	.1	.0			9.2	9.0
WSW	.4	2.8	3.4	2.5	.3	.0	.0			9.4	8.8
W	.5	3.0	4.1	3.7	.4	.1	.0		.0	11.8	9.3
WNW	.3	1.4	2.0	2.2	.4	.0	.0			6.4	9.9
NW	.2	1.3	1.9	1.6	.2	.0				5.2	9.3
NNW	.2	1.3	1.3	.8	.1	.0				3.7	8.2
CALM	2.2									2.2	
TOTAL	7.1	29.7	36.8	23.6	2.5	.3	.0		.0	100.0	8.4 (9.7 MPH)

All Weather:All Wind Observations

FIGURE 1-3 WIND ROSE

ENVIRITE OF OHIO, INC.
CANTON, OHIO



1.10 COMPLIANCE WITH OTHER FEDERAL LAWS

[Note: Compliance with Sections 1.10.1 through 1.10.5 has not changed and information is from the original permit application]

1.10.1 Coastal Zone Management Act

The State of Ohio does not yet have a federally approved program in affect at this time regarding the Coastal Zone Management Act. Further the Envirite facility located in Stark County, Ohio is far outside of any applicable coastal zones. Based on these facts the facility is not affected by this law. Contact Mr. Dan Halterman, Ohio Department of Natural Resources, Division of Water, Telephone No. (614) 265-6717.

1.10.2 Wild and Scenic Rivers Act

The Envirite facility has no discharges into any streams or rivers which have been listed on the state or national list pertaining to The Wild and Scenic Rivers Act. For this reason the facility is not effected by this act. Contact Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Telephone No. (614) 265-6453.

1.10.3 Endangered Species Act

The operation of the Envirite facility in Stark County does not impact any endangered species inside or outside of Canton, Ohio. Contact Mr. Mike Colvin, Environmental Review Administrator, Ohio Department of Natural Resources, Division of Federal Recreational Services, Telephone No. (614) 265-6413.

1.10.4 Fish and Wildlife Coordination Act

The goals of this act are to assure that proper communication and coordination occurs between Federal agencies and the U.S. Fish and Wildlife Service on Federally sponsored or approved actions. In this case, the question is whether or not the Envirite facility threatens any Fish and Wildlife service trusts. For Canton the trust of interest would be fish, migratory birds and wetlands. The facility does not effect wetlands directly or migratory birds indirectly because it is not located near a wetland. The facility is located above the 100 year floodplain. Contact Mr. Mike Colvin, Environmental Review Administrator, Ohio Department of Natural Resources, Division of Federal Recreational Services, Telephone No. (614) 265-6413.

1.10.5 National Historic Preservation Act

The Envirite Facility in Stark County does not interfere with or impede the goals of this act. Contact Ms. Catherine Stroup, Ohio Historical Society, Telephone (614) 297-2300.

1.10.6 Clean Water Act

Envirite of Ohio is covered by a local industrial discharge permit for its discharge to the City of Canton wastewater treatment plant. Envirite's permit number is 900020-99. The facility is currently in compliance with the conditions of this permit. A Federal Pretreatment program for Centralized Waste Treatment Facilities was finalized on December 22, 2000. These new regulations give Envirite of Ohio three years to come into compliance with the new limitations. Contact Mr. Tracy Mills, Superintendent, Canton Water Pollution Control Center, Telephone No. (330) 489-3080.

1.10.7 Clean Air Act

Envirite of Ohio has several air permits for specific sources and fugitive emission sources. Other sources are on registration status. The facility is in compliance with all permits. Since Ohio is a delegated State for the Clean Air Act, compliance with the State program is compliance with the Clean Air Act. Contact Mr. Dan Aleman, Stark County Air Pollution Control Division, Telephone (330) 489-3385.

1.11 PLANT PHOTOGRAPHS

Included as Appendix 1-C are photographs showing several views of the interior and exterior of the Canton facility. These views are labeled to show what area of the plant is visible. The areas displayed in these photographs are shown in Section 3 of this application on Drawings P-5001-C and A-5005-C.

1.12 SOLID WASTE MANAGEMENT UNITS

The Canton, Ohio facility is a storage and treatment facility only. It is not and has not been a disposal facility. The majority of the facility is roofed or paved. The liquids processing area has a secondary containment system to collect any spills or leaks. The waste storage bins of the Solids Processing Unit are constructed with secondary containment. The remaining area of the SPU has trench drains and sumps to collect any spills or wash down water.

The container storage areas consist of reinforced concrete pads for dump trailer or roll-off box storage, connected with asphalt roadways and aprons. These aluminum or steel containers have liquid tight endgates and are tarped when full. The containers hold treated solids for 4-7 days while awaiting the laboratory results to indicate the treated material is non-hazardous and the storage area is intended for non-hazardous solids only. There have been occasions, in the past, when small quantities of non-hazardous solids have leaked or spilled from trailers. The method in which the unit is operated makes any spills readily apparent. Standard operating procedure is to clean up any spills immediately. The physical condition of the concrete and asphalt is very good. Surface water is prevented from entering the concrete diked area.

In order for a release of hazardous substance to occur from this area, the following chain of events would have to occur.

1. The treated solid was not properly treated and remained hazardous.

2. The tailgate of the truck leaked and the covering tarp did not prevent precipitation from entering the container.

3. There was enough liquid generated in the container that it leaked onto the concrete.

The chance of these things happening in order and simultaneously is very low. These container management areas are not likely to have a release of hazardous constituents under current operational procedures.

The land that is currently Envirite of Ohio property was originally farmland. Subsequently, the top layers of soil were strip mined for coal. The land on which the Envirite buildings were constructed is a hard rocky shale. No buildings were located there when Envirite began site development in 1980. It is unlikely that past property ownership or use caused any release

of waste material or that any waste material was disposed at this site.

A Preliminary Review/Visual Site Inspection Report, dated September 30, 1991, was prepared for Region V of the U.S. Environmental Protection Agency by the Northeast District Office of the Ohio Protection Agency. This report involved a site visit to locate all Solid Waste Management Units (SWMU's) and Areas of Concern (AOC's), review of the existing facility data, responses to questions by facility representatives, conversations with other local authorities, and a literature search. The conclusions given in the report for each of the nine identified SWMU's was that there was no evidence of past releases, and that the release potential to soil, groundwater, surface water, air, or subsurface gas was low due to the nature of the wastes and the design and integrity of the management unit.

Appendix K

Envirite Procedures to Prevent Hazards (from Part B Application)

SECTION 4

ENVIRITE OF OHIO, INC.
CANTON, OHIO

PROCEDURES TO PREVENT HAZARDS

REVISION 15.3

DECEMBER 2015

PROCEDURES TO PREVENT HAZARDS

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4.1 SECURITY

CFR Reference: Part 270.14(b)(4) & 264.14
OEPA Reference: OAC 3745-54-14

Envirite of Ohio prevents unknowing entry, and minimizes the possibility of unauthorized entry, of persons or livestock into the facility in the following ways:

A. The entire active site is secured by a six foot high vinyl/galvanized steel fence with two (2) electrically operated gates controlled by an electronic entrance system. This system requires that outside transporters, vendor deliveries, and plant visitors must be cleared for entrance by facility personnel. Entrance to the facility is via the north gate only.

B. All of the processing activities at the Envirite of Ohio facility occur indoors. At all times when the site is not attended by an operating staff, its vehicle entrances are secured by locked gates and all access doors leading into the treatment areas are locked.

C. All access doors leading into the treatment areas are clearly posted with signs reading "Danger - Hazardous Materials - Authorized Personnel Only." or "Danger - Unauthorized Personnel Keep Out." The same legend is posted along the security fence at all approaches to the facility. Figure 5-2 shows the sign locations.

D. When not staffed by operating personnel, the facility is protected by a 24-hour electronic security system. The system features include:

   1. Building perimeter and area surveillance systems. These systems include the use of motion detectors located throughout the facility's hallways and office areas. All office entrance doors to the facility have been fitted with electrical contact switches to monitor for unwanted intrusion into the facility. These systems are tied into a central monitoring station located off site.
   2. 24-hour central station monitoring with fire response. This service responds immediately to any signal from the plant alarm system.
   3. AC/DC power transfer and backup battery power supply.

4.2 INSPECTIONS

CFR Reference: Part 270.14(b)(5) & 264.15
OEPA Reference: OAC 3745-54-15

Envirite of Ohio employs a detailed, written inspection program for all equipment, structures and grounds. All equipment important for detecting, preventing or responding to environmental or human health hazards is included in the inspection program.

The frequency of inspection for each item depends upon the rate of possible deterioration. The frequency of inspection is set at the intervals recommended by the equipment manufacturer, 40 CFR 270, and Section 3745-50-44 of the Ohio Administrative Code so that failure of equipment will not occur due to undetected deterioration between inspections. The inspection schedules list the items to be inspected, potential problem areas, and required frequency of inspection.

The inspection schedule is kept at the facility for all monitoring equipment, safety and emergency equipment, security devices and operating equipment related to preventing, detecting or responding to hazards. The inspections are summarized in Table 4-1, and the individual Inspection Log Sheets used are attached as Appendix 4-A. The following is a general list of the areas to be inspected.

A. Areas subject to spills - tank containment and tanker unloading areas; check for cracks or defects in corrosion resistant coating; drains leading to interior sumps must not be obstructed. Rinse hoses must be in proper working condition. Frequency - daily.

B. Discharge control equipment - acid and alkaline sump pumps operating properly. Sumps empty and clean. Fume scrubbers operating properly. Frequency - daily.

C. Processing equipment - The level of waste in each tank is monitored throughout the work day and tank volumes are recorded on the control board in the laboratory. Since all tank filling operations are done on a batch basis and under control of an operator, overfill protection consists of visually monitoring the level of the tank. Prior to filling any tank, the amount of material in the tank is noted. Material transfer then only occurs to the point of maximum storage capacity. The amount of material in the liquid tanks are monitored by a float attached to a scaled board. In the SPU, the amount of waste present in the bin is judged by the operator prior to unloading a trailer of incoming

waste. The operator then designates to the truck driver into what bin the waste should be unloaded. Any defects in tank construction or piping, or the removal of a tank from service are posted on the board. Frequency - daily.

D. Tank construction - check for leaking valves, gaskets or nozzles. Check for defective sampling valves, manway covers, gaskets or bolts. Inspect tank walls and bottom for cracks, bulges, discoloration and signs of mechanical damage. Inspect tank support structure. Inspect liquid volume indicators. Frequency - weekly.

E. Storage bins in the solids processing unit (SPU) - inspect daily for cracks, abrasions, and corrosion. Inspect the blenders weekly for debris accumulation, safety guard placement, condition of mixer and items associated with the motor.

F. Containers and container storage - Check containers for leaks, and the storage area floor and walls for structural integrity. Frequency - weekly.

G. Safety and emergency equipment, security devices and similar equipment are inspected and maintained in good working order. Frequency - as noted on Inspection Log Sheet.

In order to properly evaluate the various pieces of equipment cited in the Inspection Plan, the operators are referred to the preventative maintenance tables in Appendix 4-B. These tables describe the particular piece of equipment to be inspected, lubrication required, how to clean the equipment, and which items require periodic replacement, including the frequency of replacement required.

When items are noted for remedial action, the appropriate space is marked on the inspection form and a work order is immediately issued. The maintenance supervisor then prioritizes and authorizes all work orders according to safety hazards, environmental hazards, operational problems, and general maintenance. Safety problems and environmental hazards are given immediate priority. Operational problems and general maintenance are assigned in order of need. Upon completion of the item noted, the work order form is completed by the maintenance department and returned to the maintenance supervisor. The supervisor then completes the inspection log accordingly. The work order form utilized in recording this maintenance is shown on Figure 4-1. All inspection reports and logs are retained for at least three years.

TABLE 4-1 (continued)

SOLIDS PROCESSING UNITS (SPU) #1 and #2		
Types of Equipment	Types of Problems	Frequency
Waste Storage Bins	Visible cracks, damage, loss of integrity	Daily
Leak Detection Probes	Malfunction, accumulation of waste	Daily
Secondary Containment/Sumps	Cracks, leaks, damage, accumulation of waste	Daily
Floor	Cracks, accumulation of waste	Daily
Blenders	Malfunction	Daily
Cranes	Malfunction	Daily
Emergency Stop	Malfunction	Daily
Limit Switches	Malfunction	Daily
Access Pads	Accumulation of waste	Daily
Dust Collectors	Torn bags, accumulated product, visible emissions	Weekly
Vibratory Screen and Debris Container	Visible damage, leaks, malfunction	Daily (when operating)

TABLE 4-1 (continued)

LIQUIDS PROCESSING UNIT (LPU--non-RCRA)		
Types of Equipment	Types of Problems	Frequency
Storage/Treatment Tanks, Valves, Piping, and Supports	Visible leaks, cracks, corrosion, accumulation of waste	Daily
Level Gauges and High Level Alarms	Malfunction	Daily
Air Scrubbers	pH in range, circulation and nozzle plugging	Daily
Pumps-Offload, Transfer, Sump	Excessive vibration and noise, low oil, leaks or leaking seals	Daily
Secondary Containment/Sumps	Cracks, leaks, damage, accumulation of waste	Daily
Filters	Damaged cloths, dirty plates or drum, leaks, malfunction	Daily
Mechanical Agitators	Excessive vibration and noise, low oil, leaking seals, loose keyway/shear pin	Weekly
Dust Collector	Torn bags, accumulated product, visible emissions	Weekly
Air Blower/Sparger	Worn or loose belts, low oil	Monthly

TABLE 4-1 (continued)

CONTAINER MANAGEMENT UNIT		
Types of Equipment	Types of Problems	Frequency
Fire Extinguishers and Alarms	In place, charged, operational	Monthly
Floors, Secondary Containment/Sumps	Cracks, leaks, damage, accumulation of waste	Daily
Pumps & Hoses	Excessive vibration and noise, low oil, leaks or leaking seals or fittings	Daily
Forklift	From Operator's Daily Checklist	Daily
Aisle Space	Blockage, tripping hazards	Daily
Containers	Leaks, corrosion, damage, open containers	Weekly
Spill Response Decon Equipment	Item stocked and functional	Weekly

DRY SOLIDS HANDLING SYSTEM		
Types of Equipment	Types of Problems	Frequency
Pug Mill	Excessive vibration and noise, low oil, leaks or leaking seals	Daily
Secondary Containment/Sumps	Cracks, leaks, damage, accumulation of waste	Daily
Pumps	Excessive vibration and noise, low oil, leaks or leaking seals	Daily
Level Gauges	Malfunction	Daily
Hopper, Valves, Piping, and Supports	Visible leaks, cracks, corrosion, accumulation of waste	Daily
Dust Collectors	Torn bags, accumulated product, visible emissions, high pressure drop	Weekly
Vacuum Blower	Worn or loose belts, low oil	Monthly

FIGURE 4-1 WORK ORDER FORM

ENVIRITE OF OHIO, INC.
CANTON, OHIO

Work Order No. **Page 1**

Task No.		**Request Date**	
Tenant		**Request Time**	
Assigned By		**Originator**	
Assigned To		**Telephone No.**	
Scheduled Start Date		**Extension**	
Scheduled Finish Date		**WO Type**	
Perform by Warranty		**Completion Date**	_____
Priority		**Completion Time**	_____
Expense Class			

Craft	Crew Size	Estimated Labor Hours

Equipment No.	Equipment Description	Location	Sub-location 1	Sub-location 2	Sub-location 3
		-	-	-	-

Item No.	Equipment No.	Description	Qty Required	Date Used	Qty Used

List extra parts and comments here

Employee Code	Equipment No.	Work Date	First Name	Last Name	Regular Hours	Overtime Hours

Safety Notes

Equipment No.

Task Instructions

4.3 REQUIRED EQUIPMENT

CFR Reference: Part 264.32 - 264.34
OEPA Reference: OAC 3745-54-32, 33, and 34.

The location of all required equipment is shown on Figure 5-4 and is listed in Table 5-7. All required equipment is maintained and inspected according to the facility inspection plan in Section 4.2 to insure its adequacy in an emergency situation.

4.3.1 Internal Communications

See Section 5.1 of the Contingency Plan.

4.3.2 External Communications

See Section 5.1 of the Contingency Plan.

4.3.3 Fire Equipment

Fire extinguishers are located throughout the plant, laboratories and offices for prompt response to fires. The fire extinguishers are tested and inspected on a regular basis as noted on the inspection schedule in Appendix 4-A. The location of extinguishers are shown in Figure 5-4.

4.3.4 Spill Control Equipment

Adequate supplies of spill containment, cleanup equipment, and decontamination equipment are maintained. Their locations and a complete list are shown in Figure 5-4 and Table 5-8.

4.3.5 Water for Fire Control

The facility has two city fire hydrants located on the grounds to supply water for fire control. The first hydrant is located on Central Ave. and has a static head pressure of approximately 90 PSI. The second hydrant is located approximately 90 feet to the east and 30 feet higher than the hydrant on Central Ave. The static pressure at this hydrant is approximately 75 PSI. (Reference attached sheet provide by the City of Canton Water Department, Appendix 4-C)

Water to the facility is supplied by a 4 inch connection running from the 12 inch main to the facility. The connection is made at a node near the second hydrant.

The facility itself has no fire water base streams internally. A small sprinkler system has been located in the mechanical equipment room where the facility boiler is located as a precautionary measure. The facility is not required to maintain a full scale automatic sprinkler system. Calculations have been provided verifying that adequate flow is provided for the sprinkler system in the mechanical equipment room (reference appendix 4-C).

4.4 FIRE PREVENTION

CFR Reference: Part 264.32, 264.35
OEPA Reference: OAC 3745-54-32 & 35

The facility is designed and operated to minimize the potential for fires. The plant area is of masonry and metal construction. The wastes handled are inorganic metal-bearing wastes which are not flammable.

The plant is designed with ample aisle space to allow access by fire fighters. Aisles in the liquids processing unit, the solids processing unit, filter area, tank areas, and storage areas are kept free of materials that could obstruct or cause tripping hazards. Any new processes will also be constructed and operated with ample aisle space for access by fire fighters. Aisles are shown on Figure 5-4.

4.5 SPILL CONTAINMENT

CFR Reference: Part 264.193
OEPA Reference: OAC 3745-55-93

The entire plant has been designed to contain and/or control spills within the building and in the unloading areas by the use of built-in floor depressions and sumps. The waste processing areas are divided into separate drainage sections for isolation of spillage. Floor depressions and collection sumps are provided for this purpose.

The truck unloading area is divided into three areas or pads. Each unloading pad is sloped toward the building. The referenced drains and sumps have no connections to sanitary or storm drains. In fact, neither the active portion of the facility nor the truck unloading areas are supplied with floor drains which are linked to sanitary or storm water sewer systems.

A summary of spill containment capacity with respect to the maximum volume of material stored in each process area is presented in Table 4-2. The maximum volume of process material in an area of the plant is that amount which can be stored if all tanks are filled.

The secondary containment system provided consists of sloped reinforced concrete surfaces, depressed areas, and collection sumps. The entire area is designed to withstand pressure gradients, settlement and climate conditions. The exposed concrete surfaces are covered with two or three coat protective coating systems. The acid sump areas are lined with fiberglass for additional protection. The containment areas are regularly inspected and repaired or recoated as necessary.

TABLE 4-2 SUMMARY OF TOTAL CONTAINMENT CAPACITY

ENVIRITE OF OHIO, INC.
CANTON, OHIO

PROCESS AREA	Ex or Pro *	TANK/CONTAINER VOLUME (gallons)		TOTAL CONTAINMENT CAPACITY (gallons)	PERCENT CONTAINMENT	
		TOTAL	LARGEST		TOTAL	LARGEST
Acid Storage	Ex	89,600	11,200	31,419	35%	280%
Acid Unloading Pads (Five Tankers)	Ex	25,000	5,000	31,419	126%	628%
Alkaline Storage and Reactor Area	Ex	118,733	16,000	16,434	17%	103%
Alkaline Unloading Pads (Five Tankers)	Ex	25,000	5,000	16,434	266%	329%
SPU Storage Bins	Ex	100,800	16,800	100,800+	100+%	100+%
SPU Blenders	Ex	6,400	3,200	3,271	51%	102%
CMU Area #1	Pro	25,520	330	2,753	10.8%	100+%
CMU Area #2	Pro	10,560	330	1,167	11.1%	100+%
CMU Area #3	Pro	10,560	330	1,167	11.1%	100+%
CMU Area #4	Pro	19,800	5,000	5,386	27.2%	108%
CMU Area #5	Pro	1,320	33000	151	10.3	100+%
CMU Area #6	Pro	1,320	330	151	10.3	100+%
CMU Area #7	Pro	1,320	330	151	10.3	100+%
DSHS	Pro	---	---	2,207	--	--

*Ex (Existing Area) or Pro (Proposed Area)

4.6 PERSONNEL PROTECTION

CFR Reference 270.14(b)(8)(v)
OEPA Reference OAC 3745-50-44(A)(8)(e)

4.6.1 General

A. All new employees complete a training program upon employment. The training program is summarized in Section 6 of this document.

B. Safety training sessions are held at regular intervals. Contents of these sessions include evacuation drills, proper use of safety equipment, and safe work practices.

C. Each employee must complete a First Aid Training course if a part of the confined space rescue team.

D. All employees must use personal protective equipment as specified in Section 8 of Envirite's SafetyManual whenever in active portions of the facility.

E. No smoking is allowedat the facility except in designated outside areas. Signs reading "no smoking" are conspicuously placed throughout these locations.

4.6.2 Prevention of Physical Injuries

A. Unloading Areas

1) Personal protective equipment as specified in the Envirite SafetyManual must be used in the unloading areas.

2) Tanker must be vented before hatch is opened.

3) Spills must be cleaned promptly if any leakage or dripping from hatch cover occurs.

4) Use caution when hooking and unhooking hoses on truck, and open valves slowly in case hookup leaks. Note if any tanker valves are leaking.

B. Acid and Alkaline Pumping Area

1) Make sure all hose connections are tight before opening valves or turning on pumps.

2) Use extra caution when disconnecting transfer hoses as some run off or dripping will occur.

3) Check pumps frequently when transferring waste streams to ensure they are pumping properly, and are not leaking.

C. Batch Make-up Area

1) Wear goggles when sampling or making up batches. (Note: Goggles are required in all processing areas of the plant)

2) Do not stick your head into a reactor when making up batches as noxious or toxic fumes may be present.

3) Use caution if adding chemicals to reactors through manhole.

4) Beware of splashing when agitator is turned on.

D. Filter Area

1) Be alert for any fumes that may be given off when filtering begins.

2) Use caution around vacuum filter's knife blade.

3) Beware of sludge spills on floor as some sludges are very slippery.

4) When making up precoat slurry, lift with your legs and not with your back. Try to position the precoat bags close to the manhole of the precoat tank T-24 so you do not have to carry the 50 pound bags.

5) Use caution when pressure filter plate conveyor is in operation.

E. Welding Area

1) Welding goggles or mask must be worn when using oxy-acetylene or arc welder. Spectators should be cautioned about looking directly at weld or arc.

2) Safety gloves and apron should be worn while cutting or welding.

3) The color red shall be used for acetylene and other fuel gas hose. The color green shall be used for oxygen hose. The color black shall be used for inert gas and air hose.

4) Welders and cutters must close valves on oxygen and acetylene cylinders, and bleed off pressure at the end of the workshift to prevent malfunction of regulators.

4.6.3 Prevention of Chemical Burns

A. Routine Plant Operation

1) Avoid putting fingers in the nose, mouth, or eyes while working.

2) Thoroughly clean hands when convenient and always before eating or leaving work. Fingernails should be kept short to aid cleanliness.

3) Gloves should be worn if handling waste streams, grit or sludge.

4.6.4 Prevention of Injuries from Noxious Gases or Vapors and Oxygen Deficiency

In the operation of an industrial waste treatment works, the greatest hazard from noxious gases and vapors and oxygen deficiency will be found:

A. In the enclosed tanks, especially those which have not yet been rinsed thoroughly with water;

B. In spill areas where the uncontrolled mixture of acid and alkaline wastes might occur;

C. In sumps and other plant areas located below grade;

D. In underground structures, such as storm sewers, sewer regulator chambers, or check valve pits where an oxygen deficiency may occur;

E. In sewers where ventilation is limited by sections flowing full;

F. Gaseous cylinder and feed line leaks.

The most common noxious gases and vapors encountered in an industrial treatment plant are:

A. Hydrogen Sulfide - a poisonous gas generated whenever acids contact sulfide compounds such as sodium sulfide. In low concentrations, it has the smell of rotten eggs. In higher concentrations, it may become undetectable by smell. Above 4.3% in air, it is a fire and explosion hazard. The eight-hour threshold limit value for hydrogen sulfide is 10 ppm.

B. Nitrogen Dioxide - a poisonous gas. The eight-hour threshold limit value for nitrogen dioxide is 5 ppm. 100 ppm is dangerous for even short exposures. Nitrogen dioxide is formed by the reaction of nitric acid with metal hydroxide sludges and on contact with other strong acids. Exposure to nitrogen dioxide may cause only slight respiratory inflammation immediately but more sever symptoms can recur hours later.

C. Sulfur Dioxide - may be released when sodium bisulfite solution is mixed with strong acid. It is used to treat hexavalent chrome wastes. Sulfur dioxide is an irritating, suffocating gas. The eight-hour threshold limit value for sulfur dioxide is 5 ppm. Less than 1 ppm will be detectable by smell.

D. Chlorine - chlorine gas is an irritant to the eyes and respiratory tract. It settles in low places since it is heavier than air. It may escape by leakage from the hypochlorite tank or feed lines with the gas settling in the low areas nearby. The eight-hour threshold limit value for chlorine is 1.0 ppm.

E. Ammonia - Ammonia is an irritant to the respiratory tract and eyes. Dilute quantities of this gas may be given off via the solids filtration process. The eight-hour threshold limit value for ammonia is 25 ppm.

F. Solvent Vapors - Solvent vapors from lubricating oils, benzene, naphtha, and similar solvents and petroleum products may cause suffocation or the possibility of explosion. These vapors may be present in tankers upon entering.

G. Methane - Methane is a flammable gas found in sewers or enclosed areas of the plant due to leaking natural gas lines. It may cause suffocation due to oxygen deficiency.

H. Hydrogen Gas - Hydrogen gas is a very explosive flammable gas. Certain oxidizing acids containing titanium or other heavy metals may generate hydrogen gas upon neutralization.

4.6.5 Special Precautions for Electrical Safety

A. Do not ground yourself in water or on pipes or drains. Avoid them when working near any electricity.

B. Allow only authorized personnel to work on electrical equipment and repairs.

C. Keep all electrical controls accessible and well marked.

D. Keep wires from becoming a tripping hazard.

E. Work in pairs around electrical equipment.

F. Place "Out of Service" signs and lock the switches when working on electrical equipment which another person can turn on.

G. Never use metal ladders around electrical equipment.

H. Handle breaker wires as though they were "live wires".

I. When there is a question about any electrical hazard, ask before you expose yourself to it.

J. Use the proper electrical equipment to test a circuit.

K. Ground all electrical tools.

L. When working around electrical equipment, as with any other hazardous work, keep in mind the hazards at all times.

4.6.6 Handling Procedures for Gases

A. Containers should be handled in such a way that they are not dropped or bumped.

B. The protective valve caps should be left on containers when not in use.

C. When not withdrawing gases, and when a cylinder is empty, the cylinder valve should be closed.

D. Gas cylinders should be disconnected as soon as they are empty.

E. Always open gas valves slowly and carefully.

F. Make sure cylinders are chained to wall to prevent dropping.

G. Compressed gas cylinders shall be legibly marked, for the purpose of identifying the gas content, with either the chemical or the trade name of the gas. Some gases are also identified by a color coded valve cap, so care must be taken not to put wrong caps on cylinders.

H. Oxygen cylinders in storage shall be separated from fuel-gas cylinders or combustible materials (especially oil or grease), a minimum distance of twenty (20) feet or by a non-combustible barrier at least five (5) feet high, having a fire-resistant rating of at least 1/2 hour.

4.6.7 Special Precautions for Sodium Hypochlorite

A. Sodium hypochlorite is a strong oxidizer; handle with caution.

B. Chlorine reacts with hydrocarbons (solvents, oils, etc.), alcohols and ethers with explosive results, so care should be taken if a heavy solvent odor is noticed when truck sampling or batching.

C. Chlorine reacts with ammonia and ammonium compounds, and under the proper conditions, can be explosive.

D. Mixtures of chlorine and hydrogen compounds of more than 5% of either component can react with explosive violence, forming hydrogen chloride.

E. Hypochlorite reacts exothermically with sulfides, use caution if both have to go to sump at same time, or shortly after each other.

F. If hypochlorite comes in contact with acid, it will be necessary to wear a chlorine respirator. If a major spill occurs, a self-contained breathing apparatus may be needed.

4.6.8 Safety Equipment

Reference Section 8 of the Safety Manual.

Personal Protective Clothing

Protective equipment and garments reduce the possibility of injury to personnel. Protective clothing is required to be available for specific hazards and jobs under OSHA standards.

A. Safety helmets - provides head protection from impact and penetration from falling or flying objects and from limited electric shock and burns while working in manholes or construction areas.

B. Ear Protectors - these are required to protect ears in areas of high noise levels.

C. Face Shields and Splash Goggles - protective eye and face equipment is required where splashing and flying particle hazards exists. Goggles are recommended to be used for work involving air tools, grinding operations, and welding, as well as in areas where corrosive chemicals are used. Splash goggles must be worn upon entering the general plant area.

D. Gloves - impervious hand protection is required to be provided at all work sites to prevent injuries while handling pipe, tools, chemicals, solvents, and similar materials. Synthetic rubber or composition protective gloves, sleeves and finger pads should be provided for use in cleaning clogged pumps, etc.

E. Boots - special foot protection with metal foot guards is required for working in the general plant area.

F. Miscellaneous Garments - rubber aprons, coats, frocks, and coveralls are required for specific jobs where clothes need to be protected and kept dry. All garments should be kept clean to protect against dermatitis. Protective clothing must be worn when unloading tank trucks.

Safety Devices

In addition to the protective clothing outlined above, safety devices are required by OSHA for wastewater works personnel to provide for their safety while performing their duties at the facility.

A. An evacuation/fire alarm system.

B. Eyewash stations are located at various points throughout the plant.

C. Safety showers.

D. Fume scrubbing systems.

E. Portable Air Blowers.

F. Warning Signs.

G. Accident Prevention Tags - See Safety Manual for Lockout Tagout procedures.

H. A manually operated detector for toxic gas.

I. A manually operated detector for combustible gases.

K. A self-contained breathing apparatus is used in atmosphere immediately hazardous to life or health.

L. Cartridge Masks - two types of cartridges are available: (1) acid fumes and organic vapors and (2) ammonia fumes.

M. Safety Harness - Available for fall protection.

N. Tools.

O. Fire Extinguishers.

P. Medical Aid - A first aid supply cabinet is located inside the laboratory and contains supplies for minor first aid care. There are medical facilities in the nearby area, listed under Emergencies.

4.7 REACTIVE AND INCOMPATIBLE WASTES

CFR Reference: Part 270.14(b)(9) and 264.17(a)
OEPA Reference: 3745-50(A)(9) and 3745-54-17

All liquid waste materials are segregated and stored in closed tanks and containers. Storage tanks are inside the treatment building and attached to fume scrubber systems. Incompatible wastes are segregated in different areas of the plant. Spillage is diverted by floor slopes and depressions into a sump containing only compatible wastes. All transfers of waste into or about the plant are done only with written authorization from the laboratory.

All material coming into the solids processing unit is stored in open-top, double-walled steel bins or closed containers.

Bins are segregated according to waste characteristics, viscosity, moisture content, compatibility, etc. Incompatible wastes are not commingled in the same bin.

The Container Management Unit is designed such that incompatible and reactive wastes are separated. This will be achieved by segregating container modules by waste type. Information regarding the operation of the Container Management Unit is given in Section 3.5.

In accordance with OAC 3745-54-17 General Requirements for Ignitable, Reactive, or Incompatible Wastes, Envirite of Ohio documents its compliance with OAC 3745-54-17(C) by conducting trial bench scale tests on all wastes. This process is described in detail in the Waste Analysis Plan included as Section 2 of this application.

4.8 ARRANGEMENTS WITH LOCAL AUTHORITIES

CFR Reference: Part 264.37
OEPA Reference: 3745-54-37

See Section 5.10 of the Contingency Plan.

A list of local contractors, equipment suppliers and emergency response contractors is found in Section 5.

4.9 PROTECTION OF GROUNDWATER SUPPLIES AND RUN-OFF

CFR Reference: Part 270.14 (b)(8)
OEPA Reference: 3745-50-44(A)(8)

The groundwater in the area of the facility is protected by both facility design and proper operations. All of the processing activities at the Envirite of Ohio facility occur indoors over secondary containment. All liquid waste unloading operations are performed over concrete pads which incorporate secondary containment systems. Any rain water which collects on these unloading pads is contained and treated.

Since the facility's elevation is higher than most of the surrounding areas, there is very limited amounts of run-on. Stormwater run-off from the paved areas is directed away from active portions of the facility and into surrounding drainage ditches. The paved areas are kept clean by immediately removing any materials from the surfaces, and regular sweeping with the facility's motorized sweeper. The storm water drainage is shown on Drawing A-5005-C.

As a result of these installed systems and management practices, no contaminated storm run-off is generated.

4.10 UNLOADING OPERATIONS

CFR Reference: 270.14(b)(8)
OEPA Reference: 3745-50-44(A)(8)

4.10.1 Liquid Wastes

The liquids unloading pad is separated into three self contained areas which consist of two acid unloading areas and one alkaline unloading area. Each pad is designed to contain any released material through the use of depressed and diked areas which contain trenches and sumps for collection. In addition each pad has enough capacity to hold the volume a cargo tank in the event of a major release should occur.

Individual transfer manifold stations are provided for each unloading pad to prevent the transfer of incompatible materials into the wrong tanks. All the equipment used to handle the different waste streams has been designed with material compatibility in mind.

After completion of the transfer the tanker will be rinsed out with clean water prior to leaving the site. Any spills on the unloading pad or in the plant will be hosed into the respective sump area.

4.10.2 Solid Wastes

The entire solids processing area is fully enclosed within the facility and all the storage bins are equipped with a secondary containment system.

4.11 EQUIPMENT AND POWER FAILURES

CFR Reference: 270.14(b)(8)
OEPA Reference: 3745-50-44(A)(8)

Equipment and power failures would not normally present a problem because all operations carried out at Envirite of Ohio are of a batch nature. Further all transfer of material is carried in the same manner. In the event of a power failure all operations would cease. This would pose no immediate problems for the facility. In a like fashion any failure of processing equipment, such as transfer pumps, mixers, etc. would only delay operations until such a time as repairs could be made.

Section 4.5 specifically details the facility's spill containment capabilities.

Appendix L

Envirite Contingency Plan (from Part B Application)

SECTION 5

ENVIRITE OF OHIO, INC.
CANTON, OHIO

CONTINGENCY PLAN

REVISION 17.1
June 2017

CONTINGENCY PLAN

TABLE OF CONTENTS

SECTIONS

FIGURES

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APPENDICES

5.1 GENERAL FACILITY INFORMATION

The Envirite of Ohio facility in Canton, Ohio is located at 2050 Central Ave. S.E. in Stark County. The facility operates under U.S. EPA ID No. OHD980568992, Ohio Permit No. 02-76-0469, and is owned by Envirite of Ohio, Inc.

The facility is designed for the storage and treatment of liquid, semi-solid and solid hazardous wastes. The materials stored and treated at the facility consist mainly of inorganic acid and alkaline liquid wastes containing heavy metals and cyanides, as well as sludges containing heavy metals. No flammable wastes are accepted at the facility for treatment or storage.

Envirite of Ohio, Inc. also stores a variety of treatment chemicals within the facility. Chemicals are stored in a variety of containers ranging from 50 pound bags to 11,200 gallon storage tanks.

Access to the site is controlled by entrance gates. The driveways and parking areas are paved and large enough to accommodate two-way traffic. Lighting is provided for night time operation.

The facility is divided into the following sections:

1) General offices and laboratories;
2) Plant areas consisting of:

    a) Cargo tank unloading pads (acid, neutral and alkali);
    b) Acid storage;
    c) Reactor area;
    d) Alkaline storage;
    e) Filter room;
    f) Solids processing;
    g) Maintenance including a Vehicle Maintenance building;
    h) General Plant Storage;
    i) Container storage/staging areas (Drums, Totes, Bags, Boxes);
    j) Roll off box Storage – hazardous waste prior to treatment;
    k) Roll off Box Storage – residuals after completion of treatment.

The Liquid processing area includes acid, reactor and alkaline bulk tanks that are located in one large indoor plant operations area. Each area is segregated by individual secondary spill containment. This secondary containment is designed to control, retain and keep incompatible wastes and chemicals from commingling with those from another area.

The Solids processing area includes below grade tanks located in one large indoor plant area separate from the Liquids processing area. All waste materials are below grade and in segregated tanks.

The following list details where copies of this Contingency Plan can be found in the facility:

1) Operations Manager's Office;
2) Laboratory;
3) Processing Lab.

Internal/External Communications

Several types of internal communication equipment are utilized in the facility:

- Address system;
- Cellular Phones;
- Telephone system; and
- Audible alarm system, provides signal communications for the facility as follows:

    - Water flow alarm - slow pulsing bell alarm
      Location - Boiler Room

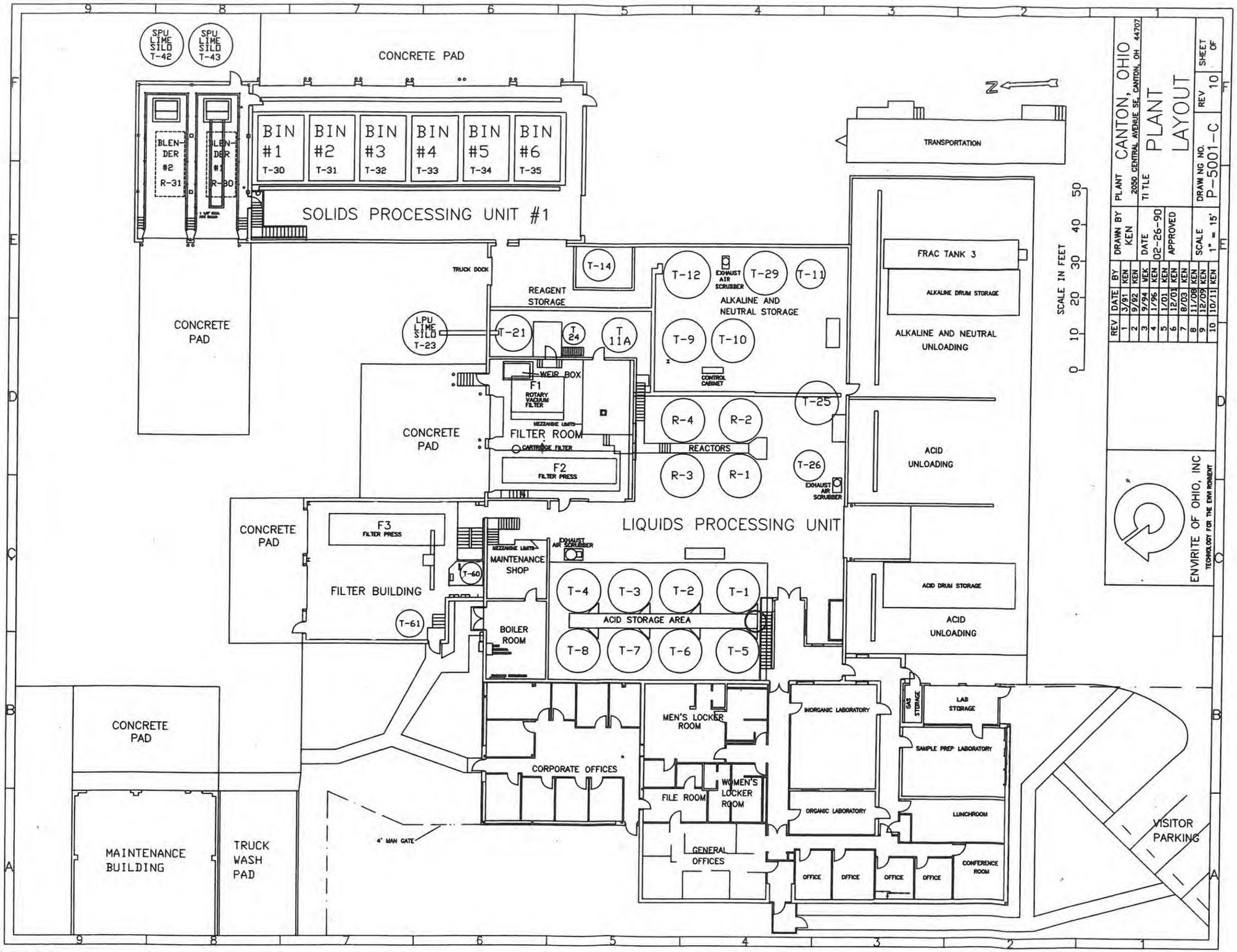
    - Plant fire alarm - slow pulsing bell alarm
      Location - throughout plant and offices

    - Plant evacuation alarm - fast pulsing bell alarm
      Location - throughout plant and offices

FIGURE 5-1

ENVIRITE OF OHIO, INC.
CANTON, OHIO

GENERAL LOCATION MAP



REV	DATE	BY
1	3/91	KEN
2	9/92	KEN
3	9/94	VEK
4	1/96	KEN
5	1/01	KEN
6	12/01	KEN
7	8/03	KEN
8	11/08	KEN
9	12/09	KEN
10	10/11	KEN

DRAWN BY KEN
DATE 02-26-90
APPROVED
SCALE 1" = 15'
PLANT CANTON, OHIO
2050 CENTRAL AVENUE SE, CANTON, OH 44707
TITLE PLANT LAYOUT
DRAWING NO. P-5001-C
REV 10
SHEET OF

ENVIRITE OF OHIO, INC
TECHNOLOGY FOR THE ENVIRONMENT

FIGURE 5-3
ENVIRITE OF OHIO, INC.
CANTON, OHIO
PLANT LAYOUT

TABLE 5-1

ENVIRITE OF OHIO, INC.
CANTON, OHIO

TREATMENT CHEMICAL SUMMARY

Emergency Response Guide Book* (see Appendix 5-B)
(MSDS Sheets are located in the Process Lab)

CHEMICAL	ID NUMBER*	GUIDE NUMBER*	STORAGE LOCATION
Hydrated Lime			Outside lime silos, T-21 lime slurry tank
Sodium Sulfide Solution	1849	135	T-11
Sodium Sulfide Flake	1384	135	Bags, inside storage
Sodium Hypochlorite Solution	1791	154	Drums, Totes, inside storage
Diatomaceous Earth			Inside storage, T-24 slurry tank
Hydrochloric Acid	1789	157	Drums, Totes, inside storage
Sodium Hydroxide Solution	1824	154	T-11a, T-26, Drums, Totes, inside storage
Sodium Bisulfite Solution	2837	154	Drums and Totes
Magnesium Hydroxide		138	Drums and Totes
Ferrous Sulfate	9125	171	Bags and bulk sacks, inside storage or SPU bin
Defoaming Agent			Drums
Phosphoric Acid Solution	1805	154	Drums, Totes and inside storage
Potassium Permanganate	1490	140	Drums
Hydrogen Peroxide	2014	140	Drums, Totes

TABLE 5-2

ENVIRITE OF OHIO, INC.
CANTON, OHIO

WASTE SUMMARY

Emergency Response Guide Book* (See Appendix 5-B)

ACIDIC MATERIAL	ID NUMBER*	GUIDE NUMBER*	STORAGE LOCATION
SPENT SULFURIC ACID SOLUTIONS	1832	137	T-1 through T-8, Container Storage Areas
CORROSIVE LIQUIDS, N.O.S.	1760	154	T-1 through T-8, Container Storage Areas
- Various Inorganic acid solutions including Hydrofluoric and combinations - Ferrous Sulfate - Ferric Chloride			
HAZARDOUS WASTE LIQUIDS, N.O.S	9189	171	T-1 through T-8, Container Storage Areas
CAUSTIC MATERIAL			
CORROSIVE LIQUIDS, N.O.S.	1760	154	T-9, T-10, T-12, T-14, T-29 Container Storage Areas
- Sodium/Potassium Hydroxide - Alkaline Waste With/Without Trace Cyanide			
HAZARDOUS WASTE LIQUIDS, N.O.S.	9189	171	T-9, T-10, T-12, T-14, T-29 Container Storage Areas
SOLIDS			
SLUDGES	9189	171	SPU Bins (T30-T35) Container Storage Areas
SLUDGES WITH TRACE CYANIDES	9189	171	SPU BINS (T30-T35)

TABLE 5-3

ENVIRITE OF OHIO, INC.
CANTON, OHIO

STORAGE CAPACITY SUMMARY

TANK	CONTENTS	CAPACITY
T1	Acid Storage	11,200 Gallons
T2	Acid Storage	11,200 Gallons
T3	Acid Storage	11,200 Gallons
T4	Acid Storage	11,200 Gallons
T5	Acid Storage	11,200 Gallons
T6	Acid Storage	11,200 Gallons
T7	Acid Storage	11,200 Gallons
T8	Acid Storage	11,200 Gallons
T9	Alkaline Storage/Effluent	11,200 Gallons
T10	Alkaline Storage/Effluent	11,200 Gallons
T11	Sodium Sulfide	6,500 Gallons
T11A	Sodium Hydroxide	5,600 Gallons
T12	Alkaline Storage	16,000 Gallons
T14	Alkaline Storage	6,000 Gallons
T24	D.E. Slurry	1,500 Gallons
T25	Effluent/Neutral Storage	10,000 Gallons
T26	Sodium Hydroxide	6,000 Gallons
T21	Lime Slurry	5,000 Gallons
T29	Alkaline Storage	9,933 Gallons
R1	Reactor	11,200 Gallons
R2	Reactor	11,200 Gallons
R3	Reactor	11,200 Gallons
R4	Reactor	11,200 Gallons

SOLIDS BIN

T30	Metal Hydroxide Sludges	83.3 cy
T31	Metal Hydroxide Sludges	83.3 cy
T32	Metal Hydroxide Sludges	83.3 cy
T33	Metal Hydroxide Sludges	83.3 cy
T34	Metal Hydroxide Sludges	83.3 cy
T35	Metal Hydroxide Sludges	83.3 cy

Ohio Environmental Protection Agency

Please Note: Pages of this application which contain facility staff personal/home phone numbers have been removed from this web-available version of the document

To review redacted copies of these removed pages, please contact DERR's record management staff at (614) 644-2924.

Thank you.

5.2 EMERGENCY COORDINATOR (EC) DUTIES

- IMPLEMENTATION
- EMERGENCY NOTIFICATIONS
- IDENTIFICATION OF HAZARDOUS MATERIALS
- ASSESSMENT
- CONTROL PROCEDURES

5.2.1 Implementation

The Contingency Plan will be implemented whenever there is a fire, explosion or release of hazardous waste or material which could threaten human health or the environment.

5.2.2 Emergency Notifications

Based on the severity of the emergency and the potential for off-site impact, the EC will implement the following notifications within 30 minutes or as soon as possible. If the EC determines that the facility has had a release, fire, or explosion which could threaten human health or the environment or a release which may migrate outside the facility, he/she will report the findings as follows:

1. Contact Canton Township Fire Department — 456-6222 or 911
2. National Response Center — 800-424-8802
3. Ohio EPA Emergency Response — 800-282-9378
4. Stark County LEPC Release Reporting Hotline – 330-451-3911
5. Canton Water Reclamation Facility – 330-489-3080 for spills, operating upsets, or bypass to the sanitary sewer

The following information should be available:

a) Name and address of caller;
b) Name, address and EPA ID # of facility (OHD980568992);
c) Time incident occurred, nature and location of incident;
d) Name, type, DOT Hazard Class/U.N. Number (if known) and estimated quantity of each hazardous material involved in the incident;
e) Extent of injuries, if any;
f) Possible hazards to human health or the environment;
g) Or a release which may migrate outside the facility.

5.2.3 Identification of Hazardous Materials

Once the EC has been notified of a potential emergency situation, he must determine the following:

1) The character of the emergency;
2) The exact source;
3) The amount; and
4) The aerial extent of the situation.

5.2.4 Assessment

The EC will assess possible hazards to human health or the environment that may result from the release, fire or explosion. This assessment will consider both direct and indirect effects of the release, fire, or explosion (e.g. the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface water run-offs from water or chemical agents used to control fire, heat, or explosions).

The EC must also consider the following points during assessment of the situation:

1) Properties of materials involved;
2) Temperature, pressure, physical state of material involved;
3) Quantity;
4) Local environment including topography, wind direction and weather conditions;
5) Population density in the vicinity and proximity of the plant;
6) Direction and movement of liquid material – towards storm or sanitary sewers.

5.2.5 Control Procedures

If a general area-wide evacuation is necessary, the EC will work to support the Canton Fire Department in determining the extent of evacuation necessary and the best way to evacuate the area.

Control procedures implemented in the event of any emergency will vary with the type of incident. Control procedures can roughly be separated into those which would apply to the following incidents:

1) Fires;
2) Explosions;
3) Releases;
4) Slugs/Upsets/Accidental Discharges to Sanitary Sewer

Control procedures are listed for each of the above emergencies.

1. Fire Control

The EC will evaluate the situation to determine if the fire is controllable. If the fire is controllable the EC will designate the on-site personnel that are trained in the use of fire extinguishers to extinguish the fire.

If the EC judges the fire is uncontrollable or feels evacuation is in order and has not already been implemented, he will activate the evacuation alarm (yellow box - continually ringing bell). The EC will require all personnel leave the building by way of the nearest clear exit and rendezvous at the northwest end of the employee parking lot for accountability (see Evacuation Plan, Section 5.7).

The EC is responsible for determining if the rendezvous area is inaccessible or affected by the fire and designate an alternate area is at the northeast section of the solids processing unloading area near the compressor building and SPU silo.

The EC is to ensure all plant operations will be shut down in the event of an uncontrollable fire by having the power turned off to processing units.

The EC will assist fire fighters and emergency response personnel by providing information concerning the type and nature of the fire and materials involved.

The EC will coordinate the containment of run-off water or released material must be controlled (as for any other discharge) by the use of dikes, berms, absorbents etc. All storm drains, sewers, streams, or surface waters must be protected if at all possible by the use of absorbents or soil dikes. These activities should be concurrent with activities of fire suppression.

2. Explosions

The fire department will be summoned by the EC whenever there is an explosion, in case the incident cannot be contained and their assistance is required.

The first EC responsibility after an explosion at the facility is to verify the location and head count of all plant personal, subcontractors, company/outside drivers and any visitors.

The EC will evaluate the situation to determine if the explosion is containable and to see if the explosion has started a fire or was caused by a fire. See Fire Control.

The EC is responsible for determining if the rendezvous area is inaccessible or affected by the fire and designate an alternate area at the northeast section of the solids processing unloading area near the compressor building and SPU silo.

The EC is to insure all plant operations are shut down in the event of an explosion by turning power off to processing units.

3. Releases

The entire waste processing operation is conducted on a batch basis. Power failures would not result in any releases. Pumps, mixers, filters, etc., would simply shut down and would be restarted when power was restored. As all materials move in and out of the plant via truck, other outside factors such as snow storms or labor problems would not result in any release to the environment; the plant would simply not have raw materials to process and would stop operations.

The facility processing areas are also designed to contain any released material. Each has its own secondary containment system in place to act as a primary deterrent to releases migrating outside of the building.

Should a release occur inside or outside of secondary containment, the EC will immediately assess the situation to minimize the spill. A dedicated Vacuum truck and spill containment equipment is available at the facility. Should a release outside of secondary containment reach the storm sewer, the EC will activate the Contingency Plan. This plan will also be activated any time a release poses possible hazards to human health or the environment.

4. Slugs/Upsets/Accidental Discharges to Sanitary Sewer

The processing areas have no direct drains to the sanitary sewer and secondary containment is provided for all hazardous waste tanks and containers. In the event of a bypass, operating upset or accidental discharge to the sanitary sewer (Outfall ENVR-001) the EC will immediately assess the situation to minimize the incident. Valves can be closed, pumps can be shut down, and tank contents can be transferred to minimize the impact of an incident.

5.3 PREVENTION OF RECURRENCE OR SPREAD OF FIRES, EXPLOSIONS OR RELEASES

During an emergency, the EC will take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous wastes at the facility. These measures will include where applicable, stopping processes and operations, collecting and containing released wastes, and/or removing or isolating containers.

If the facility stops operation in response to a fire, explosion, or release, the EC will monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate.

The EC will carry out these duties by working with the on-scene emergency response personnel i.e., Canton Fire Department and by coordinating the efforts of plant personnel. Trained personnel from the facility will aid in monitoring the condition of the equipment at the facility. Gas detection equipment is also available on site for the monitoring of possible gas generation.

5.4 GENERAL STAFF RESPONSE ACTIONS

All Operations/Plant and Laboratory personnel have been trained to identify emergencies and potentially critical situations, such as a gaseous or hazardous waste release, fires and/or explosions. Each trained employee will be expected to aid in the securing of the facility, assist in facility personal counts and the determination of a building evacuation.

As dictated by the actual hazards present, the following precautions may be taken, generally in this order:

1) Secure your work area;

2) Notification of the emergency;
3) Don appropriate protective clothing;
4) Assist as directed in the evacuation of non-involved personnel;
5) If safe, block drains and run off paths;
6) If safe, isolate or secure any leaking containers;
7) Assist as directed in cordoning off effected areas involved via barricade tape, ropes, signs, etc.

During an emergency and once the evacuation alarm has been triggered, unless otherwise instructed by the EC, all personnel at the facility should immediately secure their work area and report to the designated rendezvous point for further instructions. Make sure and assist any co-workers, outside contractors and/or visitors in the proper evacuation of the facility.

Fire/Explosion

The person discovering a fire/explosion should immediately attempt to activate fire alarm (red alarm box - intermittent bell) as soon as possible to alert facility personnel. Then notify your direct supervisor and/or the EC of fire/explosion. The report to EC or supervisor should include;

- caller's name;
- exact location in the facility;
- type and quantity of materials involved, and
- a brief description of the incident and hazards involved.

Spill or Release

The person discovering a spill or release should immediately notify their direct supervisor and/or the EC of the spill/release. If the person discovering the spill or release judges there is an immediate threat to the health and welfare of the facility staff, he will activate the evacuation alarm (yellow box - continually ringing bell then report the spill or release. The report to EC or supervisor should include;

- caller's name;
- exact location in the facility;
- type and quantity of materials involved, and
- a brief description of the incident and hazards involved.

In addition to the general procedures listed above the following should also be considered:

- **Do not allow acidic material to mix with cyanide or sulfide streams.**
- For non-reactive acid/alkaline releases, wear chemical protective clothing and splash gear, neoprene boots, Tyvek suits, neoprene gloves, splash goggles and a respirator equipped with chemical cartridges

- For all releases where reactive wastes may be involved, wear chemical protective clothing and splash gear, neoprene boots, Tyvek suits, neoprene gloves, self-contained breathing apparatus (SCBA).
- **DO NOT** touch spilled material!
- Use sodium carbonate or lime to neutralize acidic materials. Use acetic or citric acid for alkaline materials
- **STAY UPWIND - KEEP OUT OF LOW AREAS.**
- **Speed in removing material from skin is of extreme importance.** Remove and isolate contaminated clothing and shoes at the site.
- In case of contact with material, **immediately flush** skin and/or eyes with running water for **at least 15 minutes**. Wash skin with soap and water and obtain prompt medical attention as soon as possible.

Tank Leaks

If the leak is detected during a transfer of material, immediately stop the transfer so no additional material is placed into the leaking tank. Shut down any processing equipment i.e., mixers, pumps agitators, etc. which might contribute to the leak.

Immediately inform shift supervisor so arrangements can be made to transfer remaining tank contents to another storage/reactor tank to minimize the release. The shift supervisor is responsible to insure all materials are compatible before transferring to storage/reactor tank which is partially full.

Under extreme conditions, secondary containment can also be utilized to control spill and sump transfer pump or vacuum truck can be utilized to transfer material to a storage/reactor tank.

Container Leaks

The Container storage/Staging areas (Acid Pad, Neutral Pad, Alkaline Pad, SPU and the Staging area) have separate floor sumps to capture any released material. The released material would be pumped from the sump into a portable tank, Vacuum tank or Storage/Reactor tank and subsequently treated in the LPU, SPU or shipped offsite. Any employee or other person discovering a container spill or leak should immediately notify the shift supervisor.

If situation not serious and contained by the collection sumps then:

a) Contain leak by use of absorbents or overpacks;
b) Stop or control leak by utilizing one of the following methods:
   1) Plug hole;
   2) Rotate container so liquid level is below hole;
   3) Transfer material to new drum or utilize overpack;
c) After leak stopped, provide for decontamination of affected area, treat residual, decontaminate and inspect any safety or spill equipment used;
d) Dispose of or repair empty leaking container;

e) Shift supervisor will make a note of the incident in the daily operations log and inform the Production Manager and EC of the incident.

5.5 STORAGE AND TREATMENT OF RELEASED MATERIALS

The plant has been designed to contain and/or control spills in the building and in the unloading areas by the use of built-in floor depressions, trenches and sumps. The plant and the unloading areas have been divided into the following areas with separate spill/release containment and/or temporary storage capacity;

1) Liquids Processing Unit

   a) Acid tank storage area
   b) Reactor treatment area
   c) Alkaline tank storage area
   d) Acid unloading pad
   e) Neutral unloading pad
   f) Alkaline unloading pad

2) Solids Processing Unit

   a) SPU storage
   b) Tank storage/treatment
   c) Solids roll-off storage
   d) Container staging area

Any released materials isolated in the areas defined above can be secured and analyzed on-site for chemical composition and material compatibility. After analysis, pumps or vacuum truck(s) can be utilized to transfer the material into the appropriate storage/reactor/treatment tank for on-site treatment. Envirite of Ohio has full capability to treat any residuals generated during a release. If the facility were totally incapacitated during an emergency, arrangements could be made with one of Envirite of Ohio's sister plants to transport and treat the residuals.

In order to prevent the storage or treatment of incompatible wastes in areas affected by spills or releases the following procedures will be used:

- Set up a decontamination zone;
- Sample released material to determine chemical composition and treatment method;
- Transfer released material into appropriate storage/treatment tank for further processing;
- Decontaminate affected area by neutralizing residual;
- Rinse affected area with water and analyze for any residual contamination;
- Properly dispose of residuals.

5.6 POST EMERGENCY EQUIPMENT MAINTENANCE

The EC will ensure that, in the affected area(s) of the facility all emergency equipment listed in Table 5-7 of this plan is cleaned and fit for its intended use before operations are resumed.

Since Envirite of Ohio primarily deals with inorganic acid and alkali waste streams, decontamination of equipment and structures are simplified. Water is the best available solvent for washing and rinsing of equipment and structures. Rinse waters can be easily analyzed and treated after use.

TABLE 5-5

ENVIRITE OF OHIO, INC.
CANTON, OHIO

DECONTAMINATION CHECK LIST

1) Remove remains of spill or residual material (solids to solids processing area, liquids to liquid processing area),

2) Wash area (if appropriate) and collect wash liquid;

3) Dispose or decontaminate all Personal Protective Equipment i.e., gloves, suits, used respirator cartridges etc. (use approved DOT open top drums for disposal if necessary);

4) Wash and rinse all clothes, tools and equipment used;

5) Analyze and treat wash residuals.

FIGURE 5-4

ENVIRITE OF OHIO, INC.
CANTON, OHIO

STATEMENT OF AUTHORIZATION

The following is a statement by the President of Envirite of Ohio, Inc. authorizing the use of resources for the implementation of the contingency plan.

If Envirite of Ohio's Primary Emergency Coordinator, or in his/her absence a Secondary Emergency Coordinator, determines that an actual or imminent emergency exists, he/she is authorized to commit resources as necessary to protect life and health and to prevent contamination of air, surface waters or land. An Emergency Coordinator will not delay taking measure to mitigate an emergency while obtaining approval of expenditures, if such a delay increases the likelihood of harm to life, health or property.

Chuck Zuerner
General Manager
Envirite of Ohio, Inc.

5.7 EVACUATION PLAN

The following is an outline of the facility's evacuation plan. This plan has been included as part of each employee's initial training and is reviewed on a periodic basis during ongoing safety training and by the use of periodic fire drills. Figure 5-5 is also posted in each area of the facility for reference.

1. The evacuation alarm (yellow box) must be activated. The evacuation alarm is a rapid pulsating bell.

2. When the evacuation alarm sounds, personnel are to secure their work area as described in Section 5.4.

3. All personnel are to leave the building using the evacuation routes shown on Figure 5-5 and rendezvous at the northwest end of the employee parking lot for accountability and instruction from the EC.

4. If the rendezvous area is inaccessible or affected by the release, the alternate area is the solids unloading pad near the SPU lime silo and the compressor building.

5. The building should only be re-entered upon evaluation of the situation at the rendezvous area by the EC.

SECONDARY RALLY POINT

TRUCK SCALES

Asphalt

COMPRESSOR BUILDING

T 42

T 43

CONCRETE PAD

CONCRETE PAD

Asphalt

SAFETY BUILDING

SOLIDS PROCESSING UNIT

FLOOR ELEVATION 1077.5

LIQUIDS

CONCRETE PAD

T 23

EMPLOYEE PARKING LOT

UNLOADING/

LIQUIDS

CONCRETE PAD

STORAGE

CONCRETE PAD

PROCESSING UNIT

FILTER PRESS BUILDING

PADS

4' MAN GATE

40' GATE

PRIMARY RALLY POINT

LABORATORIES

OFFICES

VISITOR PARKING

TRUCK WASH PAD

4' MAN GATE

MAINTENANCE BUILDING

4' MAN GATE

REV	DATE	BY
1	4/91	KEN
2	1/92	KEN
3	9/92	KEN
4	2/01	KEN
5	8/03	KEN
6	8/09	KEN
7	10/11	KEN

DRAWN BY KEN

DATE 03-08-90

APPROVED

SCALE

PLANT CANTON, OHIO
2050 CENTRAL AVENUE S.E., CANTON, OHIO 44707

TITLE EVACUATION ROUTES

DRAWING NO. A-5005-C

REV 7

SHEET OF

ENVIRITE OF OHIO
TECHNOLOGY FOR THE ENVIRONMENT

FIGURE 5-5

ENVIRITE OF OHIO, INC.
CANTON, OHIO

EVACUATION ROUTES

TABLE 5-6

ENVIRITE OF OHIO, INC.
CANTON, OHIO

LIST OF EMERGENCY CONTACTS AND TELEPHONE NUMBERS

LOCAL AGENCIES

Canton Township Fire Department 202 49th Street, S.E. Canton, Ohio 44707 Contact: Chief	(330) 484-6165
Canton Township Board of Trustees 4711 Central Ave., S.E. Canton, Ohio 44707	(330) 484-2501
Canton Water Reclamation Facility 3530 Central Ave., S.E. Canton, Ohio 44707 Contact: Superintendent	(330) 489-3080
Stark County Emergency Preparedness Center 4500 Atlantic Blvd., S.E. Canton, Ohio 44705 Contact: Emergency Response Coordinator	(330) 451-3900
Stark County Sheriffs Office 4500 Atlantic Blvd., S.E. Canton, Ohio 44705 Contact: Chief Deputy	(330) 430-3802
Aultman Hospital 2600 6th Street, S.W. Canton, Ohio 44710 Contact: Unit Director of Emergency Services	(330) 363-6788
Mercy Medical Center 1320 Timken Mercy Dr. N.W. Canton, Ohio 44708 Contact: Medical Director of Emergency Services	(330) 489-1000
City of Canton Fire Department 701 Market Street Canton, Ohio 44702	(330) 489-3411

TABLE 5-6 (cont'd.)

STATE AGENCIES

Ohio EPA 2110 East Aurora Rd. Twinsburg, Ohio 44987	During Business Hours: (800) 686-6330
Ohio EPA P.O. Box 1049 Columbus, Ohio 43216-0149	(614) 644-2950
	24-Hour Emergency No.: (800) 282-9378
Ohio State Highway Patrol	(330) 833-1055

FEDERAL AGENCIES

U.S. EPA, Region V 77 West Jackson Boulevard Chicago, Illinois 60604	(312) 886-4001
DOT Hotline	(202) 366-4488
EPA Hotline	(800) 424-9346
U.S. Department of Labor OSHA 1240 East 9th Street, Room 899 Cleveland, Ohio 44199 Contact: Area Director	(216) 522-3818

5.8 EMERGENCY EQUIPMENT

The emergency equipment used at the facility can be divided into the following categories:

1. Emergency Equipment;
2. Safety Cabinet Supplies;
3. Personal Protective Equipment;
4. Communications Equipment;
5. Fire Fighting Equipment;
6. Spill Control;
7. Decontamination Equipment.

TABLE 5-7

ENVIRITE OF OHIO, INC.
CANTON, OHIO

LIST OF EMERGENCY EQUIPMENT

No.	Item	Location
4	Self-Contained Breathing Apparatus (SCBA)	Safety Trailer
6	Spare bottles for SCBA	Safety Trailer
2	First Aid Cabinet, includes: Sterile gauze, Band Aids, knuckle bandages, fingertip bandages, adhesive tape, instant ice pack, ammonia inhalant, tweezers, assorted sterile pads, antibiotic ointment, antiseptic spray, burn spray, burn dressing, antiseptic swabs, eyewash cups, saline solution, eye drops, eye dressing, aspirin, hydrogen peroxide	1 – Inorganic Laboratory 1 – Processing Laboratory
1	Fire Blanket	See Figure 5-6
5	Eye / Body Wash Stations	See Figure 5-6
6	Eye Wash Units	See Figure 5-6
1	Portable Oxygen / Explosive Level Detector	Maintenance
1	Full Body Safety Harness	Maintenance

TABLE 5-7 (cont'd.)

SAFETY EQUIPMENT STORAGE TRAILER

Minimum No.	Item
4	Tyvek encapsulated suits
10	Tyvek disposable coverall
4 boxes	Disposable dust masks
4	Full face respirators
10	Ammonia & organic respirator cartridges
1 each	Assorted sizes of rain suits
12	14" rubber gauntlet gloves
5 pair	Fog-free chemical goggles
10	Clear face shields & holders
1 box	Disposable hearing protection
6 rolls	Barricade tape

PERSONAL PROTECTIVE EQUIPMENT

The following equipment is initially issued to each plant employee and replaced on an as-needed basis:

1 Hard hat
1 Pair of fog-free chemical goggles
1 Full rain suit
1 Pair rubber boots
1 Respirator w/cartridges
1 Clear face shield and holder
1 Pair 14" rubber gauntlet gloves

COMMUNICATIONS EQUIPMENT

Telephone/Paging System - Telephones are placed in each office and laboratory. The system allows each extension to be used for extension-to-extension communication or to allow any extension to activate the public address system.

TABLE 5-7 (cont'd.)

FIRE FIGHTING EQUIPMENT

No.	Item	Location
18	10 lb. dry chemical fire extinguisher, ABC	Throughout plant (see Figure 5-6)
1	5 lb. Halon fire extinguisher	Inorganic laboratory
2	10 lb. Halon fire extinguisher	Corporate office area
1	Automatic sprinkler system	Boiler room
2	City of Canton fire hydrants	Site Plan (see Figure 5-2)
10	Fire Alarms	Throughout plant (see Figure 5-6)
4	Evacuation Alarms	Throughout plant (see Figure 5-6)

SPILL CONTROL EQUIPMENT

No.	Item	Location
500#	Absorbents	Safety Trailer
50#/ea	Neutralizing Agents	Safety Trailer
6 rolls	Barricade tape	Safety Trailer
6	Shovels	Safety Trailer
6	Brooms	Safety Trailer
2	Empty DOT plastic drums	Safety Trailer
2	85-gallon DOT plastic drums overpacks	Safety Trailer

TABLE 5-7 (cont'd.)

DECONTAMINATION EQUIPMENT

No.	Item	Location
1	Pressure washer	Boiler Room, in-plant hookups
–	Water	Throughout plant
6	Scrub brushes	Safety Trailer
1	Tennant floor sweeper	In plant

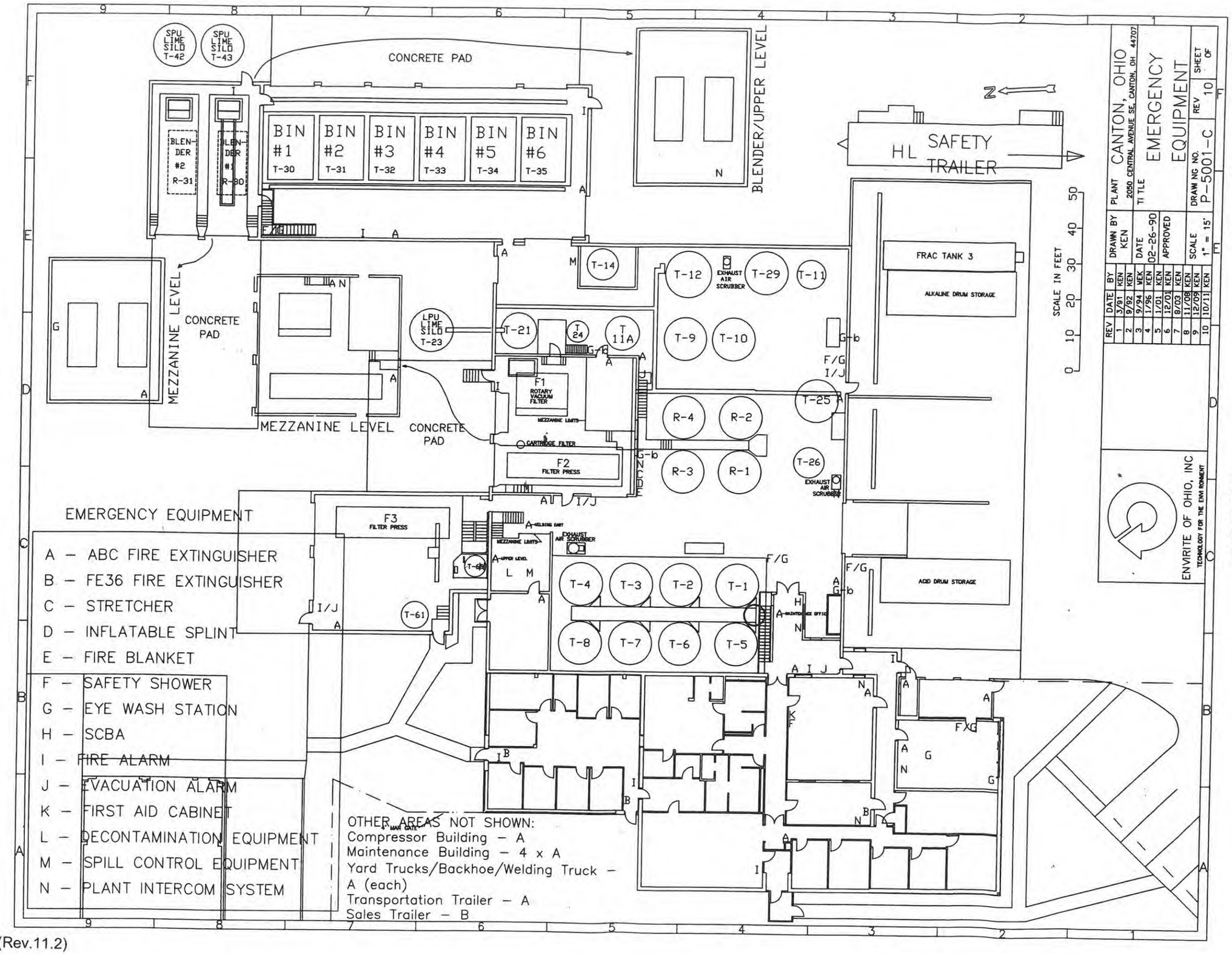


FIGURE 5-6
ENVIRITE OF OHIO, INC.
CANTON, OHIO
LOCATION OF EMERGENCY EQUIPMENT

TABLE 5-8

ENVIRITE OF OHIO, INC.
CANTON, OHIO

PROPERTIES OF COMMONLY HANDLED CHEMICALS and WASTES

(1) *Acidic Materials*

Hydrochloric acid
Nitric acid
Acetic acid
Phosphoric acid
Ferrous sulfate crystals
Chromic sulfuric acid
Hydrofluoric acid
Sulfuric acid
Chromic acid
Fluoroboric acid
Nitric hydrochloric acid
Nitric hydrofluoric acid

All of the above acids are CORROSIVE and many cause severe skin burns. These materials are classified as MODERATE in toxicity via inhalation and ingestion, with the exception of chromic acid which is classified as HIGHLY TOXIC via inhalation and ingestion.

(2) *Neutral Materials*

Neutralized acids
Neutralized alkalis

The above materials are NON-CORROSIVE and will not cause skin burns. These materials are classified as MODERATE in toxicity via inhalation and ingestion.

(3) *Alkaline Materials*

Sodium Hydroxide
Calcium Hydroxide
Sodium Hypochlorite
Magnesium Hydroxide
Metal Hydroxide Sludges
Sodium Sulfide
Calcium Oxide

The above materials are CORROSIVE and may cause severe skin burns. These materials are classified as MODERATE in toxicity via inhalation and ingestion.

(4) *Reactive Materials*

Sodium Cyanide
Sodium Hypochlorite
Sodium Bisulfite
Sodium Sulfide

The materials listed in (4) are incompatible with acid. Upon contact with acid, Sodium Bisulfite will generate sulfur dioxide gas. Sodium Hypochlorite will generate chlorine gas. Sodium Cyanide will generate hydrogen cyanide gas. Sodium Sulfide will generate hydrogen sulfide.

TABLE 5-8 (cont'd.)

(5) *Oxidizers*

Sodium Hypochlorite	Chromic Acid
Nitric Acid	Potassium Permanganate

Envirite of Ohio only handles the oxidizer subcategory of D001 as defined in 40 CFR 261.21(a)(4) and OAC 3745-51-21(A)(4), and 49 CFR 173.151. As such, these materials do not have the potential to ignite, but only the potential to accelerate combustion.

These materials can react violently in contact with organic material such as oil, gasoline, etc.

(6) *Respirable particulates*

Diatomaceous earth contains respirable silicates. When handling this material, a NIOSH approved dust mask must be worn.

(7) *Gaseous Materials*

1 - Acetylene	1B Cylinder
1 - Nitrous Oxide	1A Cylinder
1 - Nitrogen	1A Cylinder

Acetylene is FLAMMABLE and an asphyxiant.

Nitrous oxide is also classified as MODERATE in toxicity via inhalation.

Nitrogen is an INERT gas, but is an asphyxiant.

5.9 REQUIRED REPORTS

The emergency coordinator will notify the EPA Regional Administrator that the facility is in compliance with 40 CFR 264.56(h) before operations are resumed in the affected area(s) of the facility.

After the incident reporting:

1) Before resuming operations in the affected area of the facility, the emergency coordinator will ensure that all emergency and operations equipment is cleaned, repaired, serviced or replaced. He will also notify the Ohio EPA that cleanup operations have been completed and emergency equipment has been cleaned and is fit for use. His written report will be sent to:

Ohio Environmental Protection Agency
Lazarus Government Center
PO Box 1049
Columbus, OH 43216-1049

The report shall include:

a) Name, address, and telephone number of the owner or operator;
b) Name, address, and telephone number of the facility;
c) Name, address and telephone number of the person submitting the report;
d) The EPA ID. # of the facility;
e) Date, time, and type of incident (e.g. fire, explosion);
f) Name and quantity of material(s) involved.
g) The extent of injuries, if any;
h) An assessment of actual or potential hazards to human health or the environment, where this is applicable; and
i) Estimated quantity and disposition of recovered material that resulted from the incident.
j) Location of the incident including longitude and latitude coordinates, if known.
k) A list of all equipment utilized in cleanup operations and how it was decontaminated.
l) A list of any emergency equipment listed in this contingency plan that was used and/or disposed of as a result of cleanup operations.
m) A legible copy of any applicable manifests;
n) A description of what actions will be taken to prevent a similar occurrence in the future.

2) Submit a written report to the Ohio EPA within 15 days or sooner. This report can be combined with the notification required above. A copy of this report will also be entered into the facilities operating record. A copy of the report should be forwarded to:

Ohio Environmental Protection Agency
Lazarus Government Center
PO Box 1049
Columbus, OH 43216-1049

3) Within 30 days of the release, a written report, which includes information described in Item 1 above, must be sent to the following:

Stark County Local Emergency Planning Committee
4500 Atlantic Boulevard
Canton, OH 44705

(see Figure 5-7 Hazardous Waste Incident Report)

4) If the incident occurred during transportation (including loading, unloading or temporary storage), and there was an unintentional release of hazardous materials or wastes, someone was killed or received injuries requiring hospitalization, or estimated property damage exceeded $50,000, DOT requires a written report within 15 days. Use DOT Form F 5800.1 and submit in duplicate to:

Director, Office of Hazardous Materials Registration
Materials Transportation Bureau
Department of Transportation
Washington, D.C. 10590

This report must also be submitted to the Ohio EPA. A copy of this report must also be maintained in the facility's operating log.

5) If any incident occurs that requires implementation of the contingency plan, the date, time and details must be recorded and become part of the facility's operating record. Copies of state and federal reports fulfill this requirement.

6) File all applicable OSHA reports (see Figure 5-8 OSHA Injury Report).

7) If the incident involved a spill, operating upset, or bypass to the sanitary sewer, a written report shall be sent to:

City of Canton, WRF
Industrial Waste Division
3530 Central Avenue SE
Canton, OH 4407

The report shall contain the information about the incident and be filed in the time period required by the Industrial Waste Discharge Permit.

FIGURE 5-7

ENVIRITE OF OHIO, INC.
CANTON, OHIO

HAZARDOUS WASTE INCIDENT REPORT

Hazardous Waste Incident Report

TO BE COMPLETED WHENEVER A SIGNIFICANT QUANTITY OF HAZARDOUS WASTE IS RELEASED.

Date of Incident _____ Time of Incident _____ A.M. P.M.

Reported by _____

Type of Release (Circle One)

Leak Fire Explosion Other _____

Name of Material Released _____

Estimated Volume _____

Cause of Release _____

_____

_____

Injuries _____

(List Name and Injury) _____

_____

_____

Who was Notified _____

(Individuals or Agencies) _____

_____

Response to Waste Release (List Action and Equipment Used) _____

_____

_____

_____

Remedial Action Taken to Prevent Similar Incidents _____

_____

_____

FIGURE 5-8
OSHA INJURY REPORT

U.S. Department of Labor

Bureau of Labor Statistics
Supplementary Record of
Occupational Injuries and Illnesses

This form is required by Public Law 91-506 and must be kept in the establishment for *5 years.*
Failure to maintain can result in the issuance of citations and assessment of penalties.

Employer

1. Name
2. Mail address (*No. and street, city or town, State, and zip code*)
3. Location, if different from mail address

Injured or Ill Employee

4. Name (*First, middle, and last*)
5. Home Address (*No. and street, city or town, State, and zip code*)
6. Age
8. Occupation (*Enter regular job title, not the specific activity he was performing at time of injury.*)
9. Department (*Enter name of department or division in which the injured person is regularly employed, even though he may have been temporarily working in another department at the time of injury.*)

The Accident or Exposure to Occupational Illness

If accident or exposure occurred on employer's premises, give address of plant or establishment in which it occurred. Do not indicate department or division within the plant or establishment. If accident occurred outside employer's premises at an identifiable address, give that address. If it occurred on a public highway or at any other place which cannot be identified by number and street, please provide place references locating the place of injury as accurately as possible.

10. Place of accident or exposure (*No. and street, city or town, State, and zip code*)
11. Was place of accident or exposure on employer's premises? Yes ❑ No ❑
12. What was the employee doing when injured? (*Be specific. If he was using tools or equipment or handling material, name them and tell what he was doing with them.*)
13. How did the accident occur? (*Describe fully the events which resulted in the injury or occupational illness. Tell what happened. Name any objects or substances involved and tell how they were involved. Give full details on all factors which led or contributed to the accident. Use separate sheet for additional space.*)

Occupational Injury or Occupational Illness

14. Describe the injury or illness in detail and indicate the part of body affected. (*E.g., amputation of right index finger at second joint; fracture of ribs; lead poisoning; dermatitis of left hand, etc.*)
15. Name the object or substance which directly injured the employee. (*For example, the machine or thing he struck against or which struck him; the vapor or poison he inhaled or swallowed; the chemical or radiation which irritated his skin; or in cases or strains, hernias, etc., the thing he was lifting, pulling, etc.*)
16. Date of injury or initial diagnosis of occupational illness

Other

18. Name and address of physician
19. If hospitalized, name and address of hospital

Date of Report

OSHA No. 101 (Feb. 1981)

TABLE 5-9

LIST OF AGENCIES TELEPHONE NUMBERS

LOCAL	
1) Canton Township Fire Dept.	911 or (330) 456-6222
2) Canton Township Rescue Squad	911 or (330) 456-6222
3) Stark County Sheriff's Office	911 or (330) 430-3800
4) Canton Water Reclamation Facility	(330) 489-3080
5) Stark County Emergency Preparedness Center	(330) 451-3900
STATE	
Ohio State Police	(330) 833-1055
Ohio EPA, Twinsburg, Ohio	(800) 686-6330
Ohio EPA, Columbus, Ohio Emergency Response	(614) 644-3020 (800) 282-9378
FEDERAL	
1) National Response Center	(800) 424-8802
2) US EPA, Region V	(312) 886-4001
3) DOT Emergency	(202) 366-4488
4) U.S. Department of Labor OSHA	(330) 522-3818
MEDICAL	
1) Canton Township Rescue Squad	911 or (330) 456-6222
2) P&S Ambulance Service	(330) 453-9217
3) Aultman Hospital	(330) 438-6203
4) Mercy Medical Center	(330) 489-1055
OTHER	
1) Chemtrec	800-424-9300

TABLE 5-10

EQUIPMENT INSPECTION

1) Self-Contained Breathing Apparatus
   - clean and intact
   - air/oxygen bottle recharged
   - tested

2) Fresh air breathing units and air supply

3) First aid cabinet restocked

4) Emergency oxygen refilled

5) Fire blanket intact and clean

6) Eyewash/body wash stations clean operable

7) Portable eyewash stations intact and clean
   - eyewash solution in bottles

8) Gas detectors recalibrated

9) Safety harness clean and operational

10) Safety cabinet clean and equipment restocked

11) Individual personal equipment clean, repaired or replaced

12) Communication system intact and operational

13) Cargo tanker spill kit restocked and inspected

14) Fire fighting equipment intact, recharged and functional

15) Spill control equipment decontaminated, inspected, repaired or replaced

5.10 COORDINATION AGREEMENTS

The emergency coordinators are listed in Table 5-4. They may need to make additional contacts for assistance. Tables 5-9 and 5-11 give information on local emergency agencies (fire, police, and ambulance), utility companies, contractors for repairs (plumbers, electricians, and laborers), state, county and federal agencies, and equipment manufacturers' representatives.

Envirite of Ohio has made arrangements with Enviroserve JV to furnish emergency response cleanup services on an as-needed basis.

It should be noted that as part of its business, Envirite of Ohio does have the capability to transport, treat, and dispose of or contract for the disposal of any hazardous material generated in an emergency situation. The Canton facility has two sister plants in neighboring states which could aid in treatment and disposal should the Canton plant be totally incapacitated due to an emergency.

Envirite of Ohio has had a Contingency Plan on file at its facility since it began operations in 1981. In the event of an emergency, the Canton Township Fire Department has been designated as the primary emergency responder. The Department will coordinate all emergency activities with other responding groups. The Fire Department periodically tours the facility and has contributed to both the facility's Contingency Plan and the Department's Emergency Pre-Plan.

As the Contingency Plan is modified, all concerned agencies will receive an updated copy for their review and comment. A list of the agencies who have a copy of the Canton, Ohio facility's plan is attached as Appendix 5-A.

TABLE 5-11

VENDORS

ADDITIONAL PERSONNEL	
Schumacher Construction Company	(330) 833-8387
Manpower	(330) 456-7284
VACUUM TANKERS/TANKER STORAGE	
Enviroserve	(216) 642-1311
Envirite of Illinois, Inc.	(708) 596-7040
Envirite of Pennsylvania, Inc.	(717) 846-1900
HEAVY EQUIPMENT, SAND, LIME	
Beaver Excavating	(330) 478-2151
Environmental Construction, Inc..	(330) 633-4435
RIGGERS/WELDING/MECHANICAL CONTRACTORS	
Canton Erectors (CEI)	(330) 453-7363
JMW Welding	(330) 484-2428
Selinsky Neil Crane Service	(330) 453-7363
SAFETY SUPPLIES	
D-A Specialty Co.	(800) 686-4421
Lab Safety Supply Inc.	(608) 754-2345
Questar, Inc.	(330) 966-2070
MEDICAL SUPPLIES	
Affirmed First-Aid & Safety	(330) 494-5121
UTILITIES	
American Electric Power	(800) 672-2231
AT&T (Telephone)	(800) 480-8088
East Ohio Gas Company	(330) 478-1700
CONSULTING ENGINEERS	
Schumacher Construction Company	(330) 833-8387
ELECTRICIANS	
Hilscher-Clarke Electric	(330) 452-9806
RENTAL EQUIPMENT	
General Rent-All (Massillon)	(330) 837-3531
Schrader's Tool Rental	(330) 456-3815
Waco Scaffolding & Equipment	(330) 497-9090

TABLE 5-11 (cont'd)

VENDORS

TOOLS/HARDWARE	
J.F. Good Co.	(330) 454-9451
C&S Industrial Supplies	(330) 455-5103
W.W. Grainger Industrial Supply	(330) 733-6311
R.C. Williams	(330) 452-6548
Ziegler Bolt & Nut House	(330) 478-2542
HOSES, PLUMBING, PIPING, VALVES	
J.F. Good Co.	(330) 454-9451
Standard Plumbing & Heating Co.	(330) 453-9191
EQUIPMENT REPRESENTATIVES/MANUFACTURERS	
Abel Pumps	(412) 741-3222
Brechbuhler Scales Inc.	(330) 453-2424
Munson Machinery Co.	(315) 797-0090
Drill Solutions	(215) 766-7700

5.11 AMENDMENTS TO THE CONTINGENCY PLAN

This Contingency Plan will be reviewed and amended if any of the following events occur:

1) The list of emergency coordinators change;

2) The list of emergency equipment changes;

3) The facility makes major changes in design or operations that would increase the potential for emergency events or changes the response necessary. The Plan will be modified and amended as proposed processes are added to the Envirite of Ohio facility. Guidelines for preparing the amended plan, and types of emergency equipment required in all proposed units are given in Appendix 5-C.

4) The facility's Ohio hazardous waste permit is revised;

5) The plan fails in an emergency situation;

6) When required by the director of the Ohio EPA.

Appendix M

Envirite and EQ Metals List of Safety Programs

TABLE OF CONTENTS

SAFETY POLICY & PROGRAMS