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Ohio EPA - DMWM

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PH: 419-822-4479  
FX: 419-822-4497

April 18, 2013

Ohio Environmental Protection Agency  
50 West Town Street  
Columbus, Ohio 43215

Reference: Variance Renewal Application

I certify under penalty of the law, that this document and all of its attachments were prepared under my direction or supervision in accordance with a system designed to assure that the qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those 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 possibility of fine and/or imprisonment for knowing violations.

Sincerely,

A handwritten signature in black ink that reads "Keith Bialko". The signature is written in a cursive, flowing style.

Keith Bialko  
Vice President



APPLICATION FOR VARIANCE FROM CLASSIFICATION  
AS A WASTE UNDER OAC RULE 3745-50-24(B) FOR  
SPENT PICKLE LIQUOR RECLAIMED DURING PRODUCTION  
OF OXIDE

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**1. How economically viable the production process would be if it were to use virgin materials rather than reclaimed materials.**

*Please provide an evaluation of the economic advantage of using spent pickle liquor (SPL) in the steel making process as opposed to buying new acid. In addition, supply information on cost savings over current disposal/recycling process and the potential market value of iron oxide produced.*

**ECONOMIC ADVANTAGES AND COST SAVINGS OF USING RECLAIMED SPL**

The steel pickling process traditionally uses hydrochloric acid (HCl) to chemically etch off surface oxides on steel. When the acid is spent the resulting solution is called spent pickle liquor (SPL), which is a form of ferrous or ferric chloride. The SPL is brought into our facility where it is processed through a spray roasting system to re-form HCl. The regenerated acid is then sent back to the steel facility for re-use, thus saving the costs of purchasing new commercial acids. EX: an average ton of regenerated acid at \$75.00 per ton versus an average ton of commercial acid at \$200.00 per ton for a savings of \$125.00.

**IRON OXIDE MARKET**

To put iron oxide market into perspective, one must understand that the market can be segmented by application and that it is an international market.

The iron oxide market can be broken into numerous market segments. These include ferrites (magnets), colorant and chemical applications, powder coatings, catalysts and recording tapes and disks. Some of these segments can be further subdivided. For example, the ferrite segment can be further divided between hard and soft ferrite uses. In the color and chemical applications segment, spray roasted iron oxide can be supplied to the manufacturers of blended pigments for blending colors for ready-mix applications in concrete, plastics, paints, and asphalt.

We understand that the oxide produced at our plants will not be appropriate for every application. We do, however; anticipate an annual growth rate of 5% to 10% in iron oxide consumption. We have a strong iron oxide customer base and are looking at new industries for the sale of our iron oxide. This is an ongoing process.

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**2. The extent to which the material is handled before reclamation to minimize loss.**

*Please provide a narrative description and engineering drawings of all SPL handling facilities of the SPL reclamation/iron oxide facility and at the generating facilities. The description should include any spill containment and spill prevention devices or procedures. Also include inventory accounting and control measures.*

**Loading/Unloading Operations:**

IOP, attachments A.1 & A.2 for IOP Loading/Unloading Facility and Site Layout  
A.3 Written description of plant layout and A.4 the regeneration process.

**Loading Spent Pickle Liquor SPL to IOP**

The truck driver weighs in at the weigh station with a Bill of Lading, he is then directed to the truck loading/unloading area (wet dock), a chemical operator reports to the wet dock to take a sample of the SPL and instructs the truck driver on where to connect truck to the unloading/loading station. As the driver connects and engages for loading, a sample is taken. The operator runs titration test to determine Ferrous Chloride ( $\text{FeCl}_2$ ) and HCl content and also visually inspects the sample for oil, grease, etc... All testing takes approximately ten (10) minutes. The SPL is pumped into designated SPL tank for processing. Once the truck is empty, the truck driver shuts down the pump and safely positions the valves accordingly. The truck then returns to the weigh station to get weighed, a Bill of Lading is completed and put in the designated area in the scale room. If needed, the wet dock can be washed down to the tank farm sump, which will then be pumped back into the tank farm.

**Unloading Regenerated HCl to Truck**

An empty truck or the previously emptied SPL truck weigh in at the weigh station and receives direction from the operator on where to position the truck to connect to loading/unloading station. The truck driver positions the valves on the truck, the operator then positions valves and engages the pumping operations. The operator takes a sample/ of the Regenerated HCl during pumping. The sample is tested to verify percentage of HCl and  $\text{FeCl}_2$  content. The driver is given a sample. The operator disengages the pump and safely positions the valves accordingly, when the correct gallonage, via PLC readout, is obtained. The operator completes a Bill of Lading and gives it to the truck driver. The truck then returns to the weigh station to get weighed. The Bill of Lading is then put in the designated area in the scale room. If needed, the wet dock can be washed down to the tank farm sump, which will then be pumped back into the tank farm.

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**Control Measures & Inventory Accounting**

Control Measures include:

- Containment areas at the truck loading and unloading facilities (wet dock) and at the tank farm are incorporated. This containment is designed to contain at least 1½ times the amount of one (1) tank or 60,000 gallons of liquid.
- The pump room floor area is constructed of acid-resistant brick such that any leaks drain into a common sump and are piped back into the reclamation system.
- A Physical Walk-through inspection with a written and verified Check List Report of all liquid handling equipment for any types of leaks. If any liquid is visible, it is noted and necessary action is taken immediately to stop any further liquid leaks. (See attachment B.1 Operations PM Checklist B.2 Emergency Response Plan.)
- An alarm system and gauges PLC Check Points are utilized as further safeguards against any potential leaks in the system. This system works basically by examining the various temperatures, pressures and flows. If any operating parameters are outside of the preset ranges, the PLC will automatically shut down the plant.
- The common ductwork for the Vent system in the Tank Farm directs vapors under negative pressure through a Wet Scrubbing system. The resulting liquids from the Wet Scrubbing system are recycled back into the system. All HCl vapors from truck loading/unloading air displacement in the tank farm are recaptured via the Wet Scrubbing System.
- All generators are expected to comply with the standards for storage of hazardous waste in tanks as found in rules 3745-66-90 through 3745-66-992 of the Ohio Administrative Code, the requirements for personnel training found in rule 3745-65-16 of the Ohio Administrative Code, the requirements preparedness and prevention found in rules 3745-65-30 through 3545-65-37 of the Ohio Administrative Code and the requirements concerning contingency plans and emergency procedures found in rules 3745-65-50 through 3745-65-56 of the Ohio Administrative Code.

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Secondary Containment

- Design Standard used to design the tanks and whether a professional engineer certified the design and installation.

*Andritz Ruthner, Inc., Drawing #1218-5003 & 5004*

- Tank construction material and description of compatibility with spent pickle liquor and ambient conditions.  
*Plas-tanks wound reinforced thermoset plastic vessels, manufactured in accordance with Specification ASTM D-3299-95a, inner corrosion liner fabricated with Dow Derakane 441-400 vinyl ester resin, reinforced with 2 ply "C" glass surface veil and backed with chop strand fiberglass laminate. Exterior surface finished with a protective coating with ultraviolet inhibitors.  
Designed to store SPL/RA, 1.20-1.30 specific gravity, 160°F-200°F, atmospheric pressure, seismic zone 1, outdoor installation, 13 PSF.*
- Corrosion protection measures for the tanks.  
*Inner liner and exterior surface finish*
- Tank integrity inspections.  
*Inspected at least one time per shift when in operation.  
See appendix J.2, Operations PM Checklist*
- Design of foundation.  
*See Appendix K*  
Drawings : 1218-1009  
              1218-1010  
              1218-3001  
              1218-3005  
              1218-3006
- Description of the secondary containment.  
*Coated concrete walls with sloping floor, all coated to be acid resistant.*
- Measures taken to prevent run-on and run off, and to collect spills in the secondary Containment area.  
*Any leaks or spills during loading/unloading of trucks, are washed down and pumped into tank #6.*
- Measures taken to detect leaks in tanks and piping.  
When in operation,  
*All tanks and lines are visually inspected daily, the findings are documented on the Operations PM Checklist. (J)  
Wonderware/Palcom system is used for leak detection on the underground pipeline Between Bailey Oxides and Worthington Steel (H).*

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**Inventory Accounting: (Attachment C, Shift Report / Plant Tests)**

Incoming pickle liquor is brought in via pipeline with flow meters on both entering pickle liquor and exiting regenerated acid, the iron oxide reclamation plant, as well as, totalizers in the PLC controls which will track the total amounts of liquid flow both directions. For pickle liquors coming from various pickle liquor suppliers, the material will be brought in via truck. Each load will be weighed at the reclamation facility, a density reading will be taken based on the SPL chemistry and monograph charts, and the gallons will then be calculated from this information. Inventory will be kept on a gallons-in versus gallons-out basis.

**Various SPL Suppliers**

Spent Pickle Liquor is pumped from tanker trucks into one of twelve, 40,000 gallon tanks, located in the tank farm. Both the wet dock and tank farm are completely contained. During transfer all DOT regulations are expected to be followed, including any necessary placarding.

All suppliers will conform to the following:

- All loading areas are covered to eliminate rainwater, and all loading and containment areas, are lined with an acid proof material and are drained by gravity to the waste treatment facility.
- A log is maintained on all SPL and HCl activities.
- OSHA approved Emergency Response Plan
- A Waste Analysis Plan-SPL is analyzed to the extent necessary to accumulate and characterize the material for reuse or disposal.
- All employees are trained in Acid Handling, Spill Response and Personal Protective Equipment (PPE) upon orientation and/or safety meetings throughout the year.  
(Attachment D.1 and D.2)

**Iron Oxide**

**Attachments E**

- Iron Oxide bulk is stored in a storage bin (E.1).
- It is then bagged in self-contained, 2000# bags or 50# paper bags (E.2), both are stored on skids and go directly from the warehouse (E.3) to the loading dock where loaded.

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**3. The time periods between generating the material and its reclamation, and between reclamation and return to the original primary production process.**

*Please provide estimated turnaround times and describe any records or inventory measures that will be used to track where the SPL is in the system.*

In order to provide estimated turnaround times between generating and reclaiming the material and its return to the original primary production process, one can begin by envisioning a gallon of SPL which has been injected with red dye. We would then track the one red gallon to determine the turnaround time. Under normal operating circumstances, the one red gallon would enter the process tank farm and be returned to the primary production process within a 24 hour period. This is possible when the plant capacity sizing exceeds the SPL availability to the reclamation plant. In other words, if it is intended to take in approx. 64,669 gallons of SPL per day, the operating capacity of the reclamation facility will be 76,081 gallons per day as is the case here. To actually track the red gallon through the process, the gallon is first changed to an HCl vapor and the red vapor are then brought into contact with water to produce a red gallon of clean regenerated acid. Under a worst case scenario (other than normal operating circumstances) the red gallon can be envisioned to be placed into a process tank in the tank farm. The tank farm has a total capacity of 480,000 gallons. Therefore, in a worst case scenario, starting with an empty tank farm and ending with a full tank farm, the process tank would be able to hold the red gallon for 6.30 days ( $480,000 \text{ gallons} / 76,081 \text{ gallons per day processing}$ ) before the plant would have to be run and the gallons processed.

Ordinarily, one gallon of SPL will yield one gallon of RA. 76,081 gallons per day of SPL are regenerated through this facility with constant monitoring through Programmable Logic Controller (PLC) System. The PLC monitors and controls the reclamation facility at established parameters. The system will track all pertinent process data and will automatically sound alarms and print any parameter either above or below a specified setting, it will also print process data at specified time intervals. In addition, the shift Operator will record the process operating values, including SPL and Regenerated Acid flows, totals and levels, and a visual walk-through checkpoint data on a standardized operators "Daily Operating Summary" form (Attachment F)

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**4. The location of the reclamation operations in relation to the production process.**

*Please provide a list of names of companies and their addresses who will supply SPL to the reclamation facility. Provide the address of the SPL reclamation/iron oxide facility. Also provide the approximate distances from each generator to the SPL reclamation/iron oxide facility.*

*There are no agreements and/or contract in place at this time Other SPL sources with appropriate SPL will also be considered.*

**5. Whether the reclaimed material is used for the purpose for which it was originally produced when it is returned to the process in substantially its original form.**

*Please provide any contractual agreement for return of the reclaimed pickle liquor to the generators including any specifications that will be adhered to by the generator and the SPL reclamation/iron oxide facility. Also, provide a comparison of the chemical and physical specifications of the reclaimed pickle liquor and acid that is currently bought for use as pickle liquor.*

- No, the Iron is not substantially in its original form as provided as a raw material in the SPL. The production process produces iron oxide which is used primarily in the ferrite industry and the co-product 18% HCl acid is sold to previously mentioned third party SPL suppliers.
- Bailey Oxides Acid Guidelines (Attachment G)
- 

**6. Whether the person who generated the material also reclaims it.**

*Please identify the person (company) who will be reclaiming the SPL and provide a copy of any service agreements or contract that may be entered into between the generators and that company.*

- Bailey Oxides will produce iron oxide and the co-product (regenerated HCL)
- Pickling facilities will generate the SPL
- Supplier Agreements will indicate the supplier will provide raw material (SPL) and purchase the HCL co-product for use in the pickle process.
- 3<sup>rd</sup> party contracts will also be negotiated.

*There are no agreements and/or contract in place at this time.*

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**7. Environmental Benefits**

Recycling Ferrous Chloride (SPL) into iron oxide and Regenerated Acid provides an alternative to using SPL in the Waste Water Treatment (WWT) industry which may in turn eliminate the following:

- The handling and use of Chlorine needed to convert SPL to Ferric Chloride which is used in the WWT.
- Sludge resulting from the WWT.
- There is virtually no waste produced in the Iron Oxide Recycling Process.
- Providing Regenerated Acid to the Steel Pickling Industry virtually eliminates the need to purchase raw HCL for pickling their steel. The steel company can use recycled for this purpose.
- Rinse water from the Pickle line can be used in the Reclamation Process.
- 

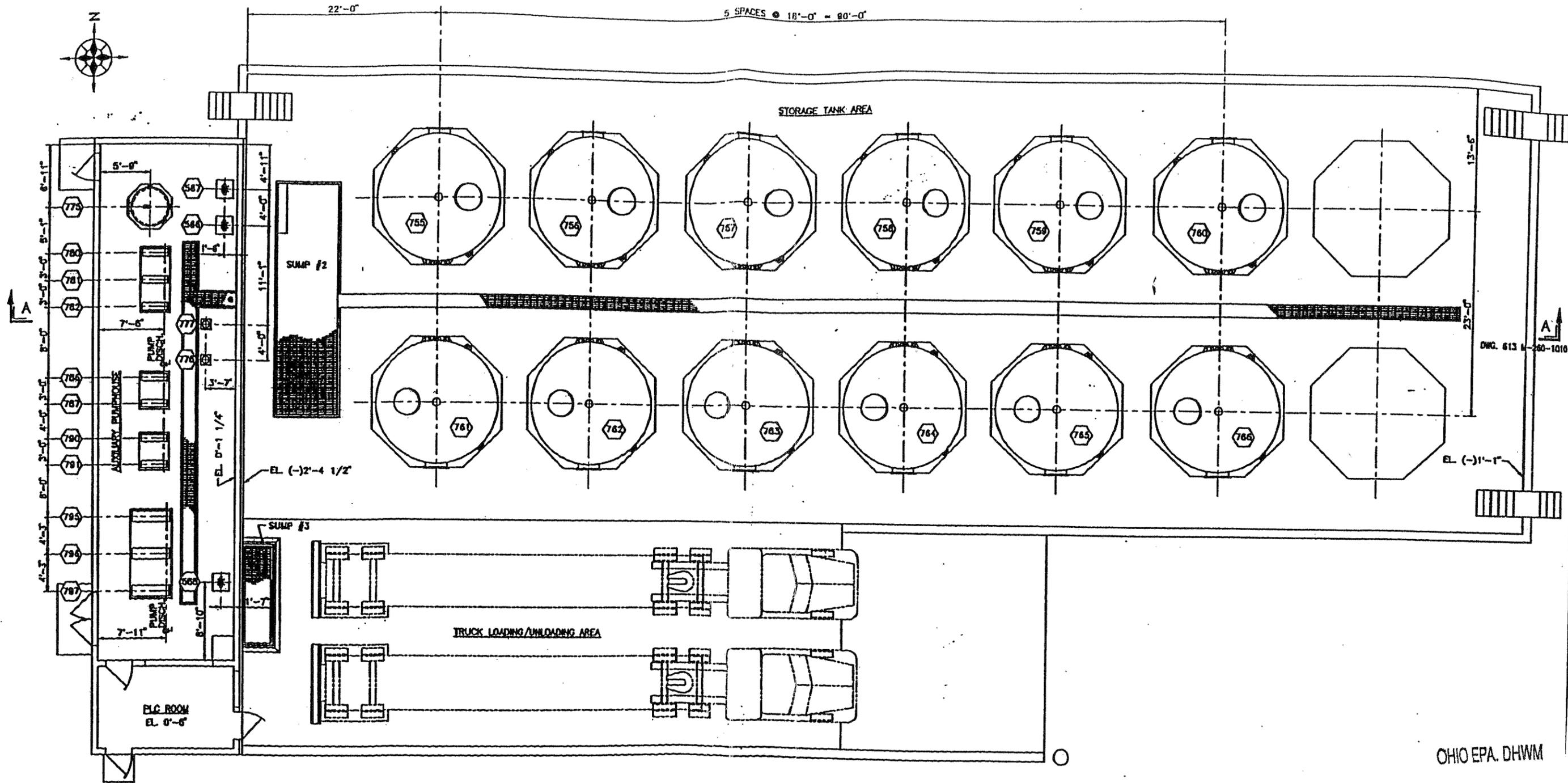
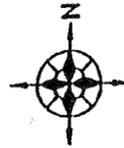
**8. Off Specification SPL**

The off specification SPL is blended with other material to be brought within specification and then processed accordingly.

All minor spill residues are washed into the sump and pumped back into the system. Major spills are handled by a professional Hazardous Material Waste Management company following all local, state and federal regulations regarding Haz-Mat clean-up.

A





OHIO EPA. DHWM

JUN 01 1999

# ATTACHMENT A.1 1 of 2

PRELIMINARY

**Bailey Engineers**

Scale: 3/16" = 1'-0"	DATE: 2/96
PROJECT: J. 1202 1008	CLIENT: IRON OXIDE PLANT
DESIGNER: J.C.O.	TANK FARM-EQUIPMENT #001
DATE: 2/96	GENERAL ARRANGEMENT
PROJECT NO. 613 M-260-009	

PLOTTED 10/17/1996 1:24

CONFIDENTIAL

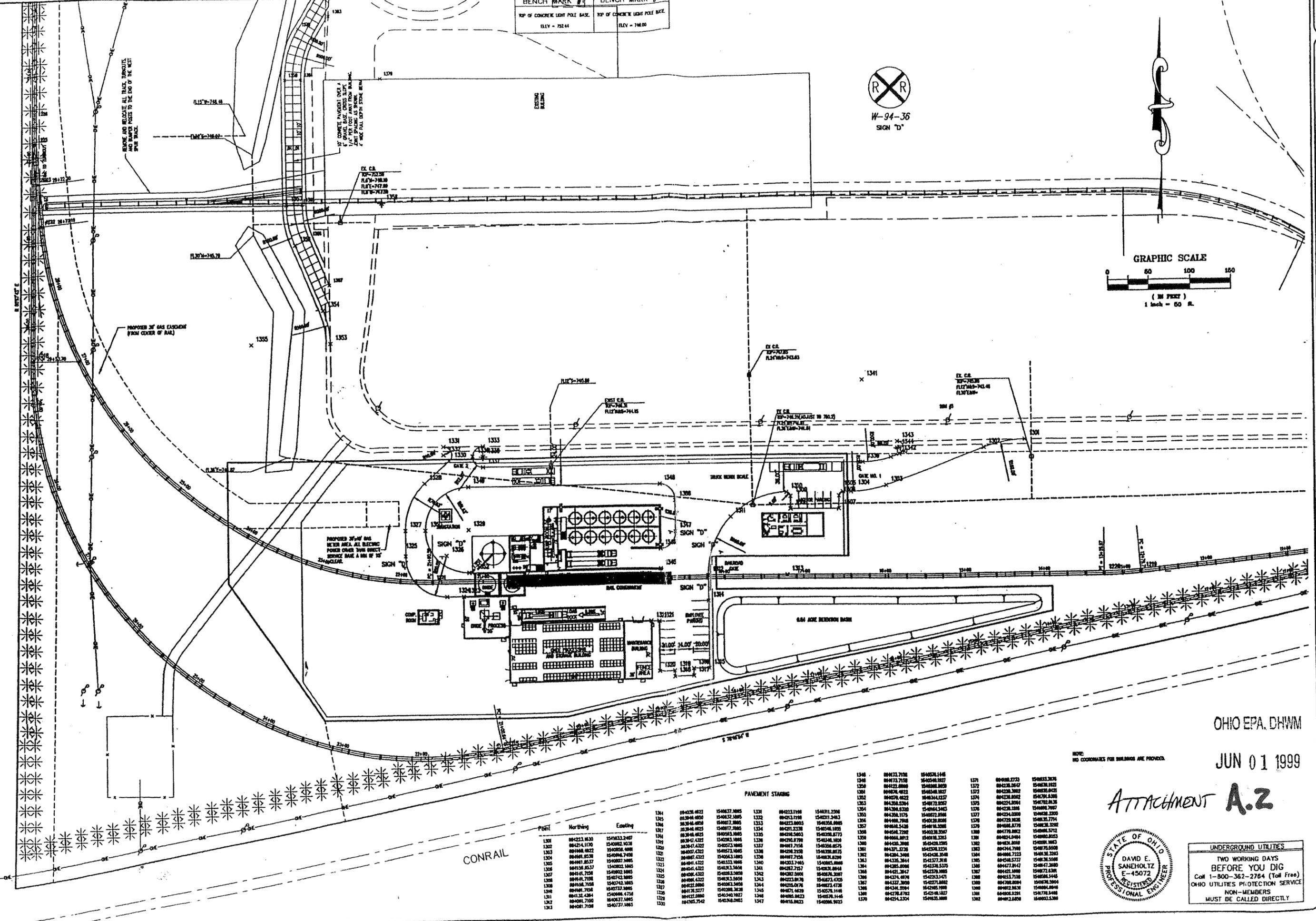
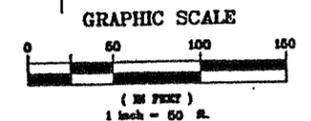
**ANIS MORITZ - BARRER**  
 CONTRACT No. 210-1202

NO.	DESCRIPTION	DATE


ANY INFORMATION ON DATA ON THIS DRAWING IS NOT INTENDED TO BE RELIABLE FOR USE BY ANY PERSON, FIRM OR COMPANY FOR ANY PURPOSE OTHER THAN THAT FOR WHICH IT WAS PREPARED. ANY REUSE OF THIS DRAWING WITHOUT THE WRITTEN CONSENT OF THE ARCHITECT OR SURVEYOR FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY ON THE PART OF THE ARCHITECT OR SURVEYOR.

LDWG 7403.003...002.DWG 5-18-98 10:26:59 am EST

BENCH MARK #1	BENCH MARK #3
TOP OF CONCRETE LIGHT POLE BASE ELEV = 732.44	TOP OF CONCRETE LIGHT POLE BASE ELEV = 740.00



CONRAIL

Point	Northing	Easting	Point	Northing	Easting	Point	Northing	Easting
1301	004223.1630	1541633.2407	1314	004026.4822	1540637.8885	1327	004023.1918	1540811.2298
1302	004214.1170	1540982.1638	1315	003948.4858	1540837.1895	1328	004013.1198	1540211.2463
1303	004068.4822	1540982.1638	1316	003948.4858	1540837.1895	1329	004223.1630	1540358.0865
1304	004068.4822	1540982.1638	1317	003948.4858	1540837.1895	1330	004223.1630	1540358.0865
1305	004068.4822	1540982.1638	1318	003948.4858	1540837.1895	1331	004223.1630	1540358.0865
1306	004158.8537	1540827.1485	1319	003948.4858	1540837.1895	1332	004223.1630	1540358.0865
1307	004041.7158	1540827.1485	1320	003948.4858	1540837.1895	1333	004223.1630	1540358.0865
1308	004041.7158	1540827.1485	1321	003948.4858	1540837.1895	1334	004223.1630	1540358.0865
1309	004041.7158	1540827.1485	1322	003948.4858	1540837.1895	1335	004223.1630	1540358.0865
1310	004041.7158	1540827.1485	1323	003948.4858	1540837.1895	1336	004223.1630	1540358.0865
1311	004041.7158	1540827.1485	1324	003948.4858	1540837.1895	1337	004223.1630	1540358.0865
1312	004041.7158	1540827.1485	1325	003948.4858	1540837.1895	1338	004223.1630	1540358.0865
1313	004041.7158	1540827.1485	1326	003948.4858	1540837.1895	1339	004223.1630	1540358.0865

OHIO EPA, DHWM  
JUN 01 1999

ATTACHMENT A.2



UNDERGROUND UTILITIES  
TWO WORKING DAYS  
BEFORE YOU DIG  
Call 1-800-362-2764 (Toll Free)  
OHIO UTILITIES PROTECTION SERVICE  
NON-MEMBERS  
MUST BE CALLED DIRECTLY

**POGGEMEYER DESIGN GROUP, INC.**  
ARCHITECTS ENGINEERS PLANNERS  
1168 NORTH MAIN STREET  
BOWLING GREEN, OHIO 43402  
(419) 352-7537

**NEW PLANT IMPROVEMENTS  
FOR BAILEY-PYS OXIDES, L.L.C.  
DELTA, OHIO**

**SITE  
DIMENSION  
PLAN**

DATE	BY	DESCRIPTION
2/4/98	MDH	DES
2/28/98		
3/9/98		
3/16/98		
5/7/98		
5/18/98		

JOB NUMBER  
7403-002





## Bailey Oxides (Delta) Plant Description and Layout

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### 1. Basic Regeneration Facility

Equipment was designed and furnished by, Andritz-Ruthner, Inc., Canonsburg PA for (1) 53 gallons per minute (12,000 liters per hour) unit and a tank farm.

Capacity: Up to 27,856,800 gallons/year

25,071,120 gallons/year @ 90%

The Regeneration Facility includes the following:

1.1 One (1) Spray Roaster consisting of a cylindrical steel shell with conical top and bottom. The shell has four (4) burner ports. The conical bottom and the shell are lined with refractory. The outside surface of the roaster is field insulated (4 inch minimum thickness) and sheeted. The top is additionally covered with a steel cover.

The bottom outlet is equipped with:

- One (1) heat-resistant lump breaker made of carbon steel, with gear motor
- One (1) double dump valve with vibrating screen feeder

1.2 One (1) lot Spraying Equipment used for injecting Spent Pickle Liquor (SPL) into the spray roaster and consisting of:

- Four (3 in use) spray booms, each with filter insert, front plate, and sintered aluminum oxide nozzles
- Four (3 in use) extracting mechanisms for mounting atop the roaster, with pneumatic/electrical control for fail-safe local and remote operation of individual booms
- Four (3 in use) spray test collecting troughs

1.3 One (1) Burner Assembly consisting of:

- Four (4) natural gas burners
- One (1) combustion air fan
- Four (4) flame supervision assemblies with self-checking flame detector cell and accessories for fail-safe local and remote burner control and supervision of individual burners
- Four (4) pilot burner assemblies
- One (1) set of the necessary safety, shut-off and control valves

1.4 One (1) Cyclone Assembly consisting of:

- Two (2) cyclones
- Two (2) heat-resistant rotary discharge valves with gear motors
- Two (2) iron oxide feedback lines
- Field-applied exterior thermal insulation (4 in. thick) and sheeting

1.5 One (1) Venturi Recuperator consisting of:

- Rubber-lined steel shell
- Acid resistant brick lining
- Rubber-lined collecting vessel
- Four (4) spray nozzles

1.6 One (1) Absorption Column consisting of:

- Rubber-lined shell
- Polypropylene packing
- Absorption spraying equipment

1.7 One (1) Scrubber consisting of:

- FRP shell
- Polypropylene packing
- Spraying equipment

1.8 One (1) Exhaust Gas fan with:

- Steel, rubber-lined casing
- Titanium impeller
- Water spraying equipment
- Capacity: Approximately 30,000 ACFM, (max.) at 50 in. W.C.

1.9 One (1) Exhaust Gas Stack

- Material: FRP

1.10 Two (2) Drop Separators (one on each side of fan) consisting of:

- FRP housing
- PP, chevron-style vane insert

1.11 One (1) Roaster Feed Pump (capable of installing 2<sup>nd</sup>)

- Horizontal, chemical duty, FRP, centrifugal pumps with mechanical seal
- Capacity: 56 gpm
- TDH: 225 ft. L.C.
- Speed: Variable, for flow control

1.12 One (1) Pneumatic Oxide Conveying System consisting of:

- Oxide conveying ductwork with abrasive-resistant elbows
- One (1) Oxide conveying fan with a capacity of 9,300 ACFM. @ 18 in. W.C. @ 3,550 rpm
- One (1) Baghouse
- One (1) baghouse filter (pulse jet) with control panel
- One (1) post baghouse clean air pipe

1.13 One (1) Oxide Storage Bin

- Nominal Capacity: 10,500 ft.<sup>3</sup> for approx. 48 hr. storage @ 53 gpm operation
- Bin activation system to aid oxide discharge with multiple outlet nozzles, each equipped with:
  - Manual slide gate and rotary air lock valve
  - Two (2) Screw conveyors
  - Two (2) Bagging machines for filling 50-60 ft.<sup>3</sup> bags with oxide; equipment includes fugitive dust collection, work platform and controls

- 1.14 One (1) Venturi Recirculation Pump (capable of installing 2<sup>nd</sup>)
- Horizontal, chemical duty, FRP centrifugal pumps with double mechanical seals
  - Capacity: 560 gpm
  - TDH: 90 ft. L.C.
- 1.15 One (1) Water Booster Pump (plumbing for 2<sup>nd</sup>)
- Horizontal, chemical duty, FRP, centrifugal pumps with double mechanical seals
  - Capacity: 60 gpm
  - TDH: 280 ft. L.C.
- 1.16 Two (2) Spent Pickle Liquor Strainers
- 1.17 One (1) Recirculation Pump for Gas Scrubber (plumbing for 2<sup>nd</sup>)
- Horizontal, chemical duty, FRP centrifugal pump with double mechanical seal
  - Capacity: 530 gpm
  - TDH: 130 ft. L.C.
- 1.18 One (1) Regenerated Acid Pump (capable of 2<sup>nd</sup>)
- Horizontal, Chemical duty, FRP, centrifugal pump with mechanical seal
  - Capacity: 80 gpm
  - TDH: 70 ft. L.C.
- 1.19 Two (2) Sump Pumps
- Double-diaphragm, self-priming, air-operated pumps with polypropylene body and Teflon diaphragms
  - Capacity: 60 gpm
  - TDH: 50 ft. L.C.
- 1.20 One (1) Absorber Feed Pump (capable of 2)
- Horizontal, chemical duty, FRP, centrifugal pumps with double mechanical seals
  - Capacity: 65 gpm
  - TDH: 155 ft. L.C.
- 1.21 One (1) Water Collection Tank
- Capacity: Approximately 600 gallons
  - Material: Plastic
- 1.22 One (1) Regenerated Acid Transfer Pump (plumbing for 2)
- Horizontal, chemical duty, FRP, centrifugal pumps with double mechanical seals
  - Capacity: 80 gpm
  - TDH: 65 ft. L.C.
- 1.23 One (1) SPL Supply Pump (capable of 2)
- Horizontal, chemical duty, FRP, centrifugal pumps with double mechanical seals
  - Capacity: 80 gpm
  - TDH: 90 ft. L.C.

1.24 Two (2) Truck/Rail Car loading/unloading Pumps (one common as stand-by)

- Horizontal, chemical duty, FRP, centrifugal pumps with double mechanical seals
- Capacity: 300 gpm
- TDH: 70 ft. L.C.

1.25 Compressed Air Components each consisting of:

- Two (2) air compressors
- Capacity: 210 SCFM @ 100 psig
- One (1) 210 gallon capacity, carbon steel, air receiver tanks
- One (1) coalescing oil-removal pre-filters
- One (1) air line after filters
- Plumbing for one (1) refrigerant air dryer

1.26 Tank Farm

- Spillage containment
- Twelve (12), 14'-0" O.H., 40,000 gallon capacity FRP liquid Tanks

1.27 Dual Truck Loading and Unloading Stations & Spill Containment

- Dual Truck Loading and Unloading Stations
- Spillage containment
- Acid brick lined sump

1.28 One (1) Evaporator Station consisting of:

- FRP Shell with drop separator and liquid reservoir
- Spraying equipment
- Air inlet control damper
- Plate type heat exchanger
- Evaporator circulation pumps (2)

1.29 Set up for one (1) Water Demineralizer (60 gpm Capacity)

1.30 Piping & Ductwork

- Process gas duct (750°F): Steel-insulated (4 in. thick, field installed)
- Process gas duct (185°F): FRP or PP
- Water, compressed & Combustion air, & natural gas : Carbon steel
- Spent pickle liquor, regenerated acid and rinse water: Solid thermoplastic pipe
- Concentrated spent pickle liquor: Carbon steel with polypropylene lining
- Acid valves: Solid plastic valves or steel, plastic lined valves
- Seven (7) Safety showers (heat traced and insulated where applicable) with eyewash stations

1.31 Instrumentation & Control

- The instrumentation system allows comprehensive measurement and control of the required process parameters, as well as, necessary safety interlocks, audio-visual alarms and semi-graphic display of the process streams.
- Automatic control and remote manual operation via keyboard, as necessary for optimal centralized control, will be provided for smooth and efficient plant operations.

- All signals for automatic plant operations are inputs and outputs of a microcomputer system which handles:
  - Motor control for the MCC's
  - Solenoid valve controls
  - Valve controls
  - Alarm systems
  - Alarm and shift protocol printer
- All I/O's, binary and analog, are wired on terminals in the process I/O-station, which will be located on the control room level.
- Actuators will generally be of the pneumatic type, except for the burner controls which will be electrically or pneumatically actuated.
- Level measurement is of the bubble-tube type or direct flange-mounted transmitters
- All cabinets for electrical controls are furnished, specifically:
  - The motor Control Center (MCC)
  - The Programmable Controller (PC)
  - The spray boom withdrawal mechanisms
  - The burner controls and supervisory equipment
  - Local JOG/Stop operator stations will be furnished for all drives
  - Emergency STOP stations

Aforementioned components are wired to terminal blocks or multi-pin connectors.

- Interlock System
  - The plant is designed to operate in three (3) distinct modes:
    - Acid Mode
    - Rinse Water Mode
    - Roaster Water mode (Demi mode)

These modes are selected from the central control panel and are automatically achieved by pneumatically actuated valves. A comprehensive interlocking system protects plant equipment and further provides for automatic switch-over to "water" mode in case of failures which may damage process equipment.

### 1.32 Electrical Equipment

- AC Motors
- MCC's with main disconnect, designed for 480V/60 Hz
- Transformers required for the control system, instruments, etc.
- Power distribution panels for instruments, control system
- Multiple variable-speed drives for the regeneration acid pumps, roaster feed pumps and exhaust gas fan

All the electrical equipment conforms to NEMA and NEC standards.

### 1.33 Structural Steel

- Structural steel, including columns, stairs, access walkways, handrails, floor plates, siding, ladders, piping supports and operating and inspection platforms. The top of both roasters are to have fiberglass fencing. Stairs and gratings are to be bolted.

All structural steel will conform to applicable standards.

## 2. Additional Plant Facilities and Services

Additional major structures at the regeneration plant site include the following:

- Main Offices and Laboratory- Building approximately 76' x 30'
- Plant maintenance Building, approx. 70' x 35'
- Oxide Processing and storage building. Approx. 140' x 70' x 23'
- Oxide milling building, approx. 55' x 45' x 23'
- Compressor Building, approx. 17' x 25'
- Truck weighing station

Further details concerning the aforementioned are provided below.

### 2.1 Main Offices and Laboratory

- A 76' x 30' single story, commercial block office and lab building, complete with electrical and telephone services, kitchenette, restrooms and HVAC equipment. Office and lab include the following:
  - Main electrical feeder to office building main distribution panel (200 amp., 120-240V/1 PH/60HZ service)
  - Grade slab, concrete walks and steps for all entries to the building
  - Connections from roof downspouts to a storm water recovery system or to city sewer tie-in
  - The roof is comprised of sloping shingled

### 2.2 Plant Maintenance Building

- One (1) modular frame, pre-engineered steel building with overall dimensions approximately 70' x 35' x 23' min. eave height. Roof slope 1:12 minimum
- Building design and construction comply with the latest BOCA standards for jobsite location and conform with all applicable state and local building codes governing design and installation
- Connections from roof downspouts to a storm water recovery system or to city sewer tie-in
- Floor system consists of a 6" poured concrete slab over 6" minimum thickness of compacted gravel
- Additional accessories as follows:
  - Intermediate Frames
  - Sidewall and Endwall Structurals
  - Standard rod bracing
  - Eave and Gable Trim
  - Three (3)- 3070 Hollow Metal Doors with Panic hardware
  - One (1) -O/H door- 12' x 14'
  - Electrical convenience outlets, including four (4) welding receptacles, fused distribution panels and all associated wiring
  - Natural gas fired unit heaters, sized to maintain minimum 60°F ambient at site wintertime conditions
  - One (1) 5 ton capacity jib crane with electric hoist

### 2.3 Oxide Processing and Storage Building

- One (1) modular frame, pre-engineered steel building with overall dimensions approximately 140' x 70' x 23' min. building eave height. Roof slope 1:12 minimum
- Building design and construction comply with the latest BOCA standards for jobsite location and conform with all applicable state and local building codes governing design and installation
- Connections from roof downspouts to a storm water recovery system or to city sewer tie-in
- Additional accessories as follows:
  - Intermediate Frames
  - Sidewall and Endwall Structural
  - Eave and Gable Trim
  - Standard rod brace
  - Four (4)- 3070 Hollow Doors with Panic Hardware
  - Two (2) O/H doors- 10' x 10'
  - Two (2) O/H doors- 12' x 14'
  - Concrete loading dock with edge-of dock hydraulically powered leveler and dock bumper assembly
  - Electrical convenience outlets, including four (4) welding receptacles, fused distribution panels and all associated wiring
  - Natural gas fired unit heaters, sized to maintain minimum 60°F ambient at site wintertime conditions
  - A pallet rack system to allow 3-high, 2200# Supersack storage inside Oxide Processing and storage building

### 2.4 Oxide Milling Building, including Oxide Mill System

- One (1) modular frame, pre-engineered steel building with overall dimensions approximately 55' x 45' x 23' min. building eave height. Roof slope 1:12 minimum
- Building design and construction comply with the latest BOCA standards for jobsite location and conform with all applicable state and local building codes governing design and installation
- Connections from roof downspouts to a storm water recovery system or to city sewer tie-in
- Additional accessories as follows:
  - Intermediate Frames
  - Sidewall and Endwall Structural
  - Eave and Gable Trim
  - Standard rod bracing
  - Material handling system. Screw conveyor feeder from oxide silo to mill inlet hopper and screw conveyor from baghouse hopper to 50# bag packaging station
  - Supersack lifting station. Steel frame with manual hoist over 50# bagging machine
  - Bag packaging machinery. Two (2) 2000# bag filling units complete with scale and vibrating-type settler and one (1) 50# screw-type bag filling station

### 2.5 Auxiliary Pumphouse Building

- Single story masonry building, approx. 70' x 18' x 16' high, constructed of eight (8) inch reinforced concrete masonry units (CMU's)
- The CMU cores are filled with perlite insulation if not concrete reinforced
- The roof is comprised of a sloping 26 gage min. acid resistant painted insulated roof panels

- Floor system consists of 6" poured concrete slab over 6" min. thickness compacted gravel, sloped liquid containment trench with collection sump
- Monorail for pump removal/installation

#### 2.6 Compressor Building

- Single story masonry building, with overall dimensions approximately 18' x 25'
- The roof design is comprised of acid resistant insulated roof panels
- Connections from roof downspouts to a storm water recovery system or to a city sewer tie-in
- Floor system consists of 6" poured concrete slab over 6" min. thickness compacted gravel
- Additional accessories as follows:
  - Adequate ventilation to dissipate heat generated by continuous use of air compressors
  - 1- O/H door- 10' x 10'

#### 2.7 Truck Weighing Station

- One (1) 70' x 11'6" truck scale mounting foundation and two (2) 11' x 10' concrete approach ramps
- One (1) Mettler-Toledo, Inc, Model 7560CMOS or equal, four (4) module "pitless" scales, complete with load cell assemblies and associated electrical equipment

And other miscellaneous equipment.

B



# Bailey Oxides Emergency Response Plan

The Bailey Oxides Emergency Response Plan complies with OAC rule 3745-54-52, 55, and 56.

## **Emergency Response Contact List**

In the event that an emergency situation becomes apparent to a Worthington Steel Inc. employee, the following list should be consulted and the appropriate Bailey Oxides, Delta employee(s) should be notified. Situations that would warrant such action include potential threats to worker health and safety, from extreme weather emergencies (i.e. any situation presenting possible degradation to soil, air or water), or damage from extreme weather emergencies (i.e. high winds, electrical storms, precipitation, etc...). Due to the proximity of Baileys and Worthington facilities and frequent cooperative working conditions, timely communication between the two can be instrumental in responding to an emergency or preventing it altogether.

When notifying, please be sure to include any and all relevant information such as: time of occurrence/discovery, location, and nature of incident, employees involved (if applicable) name of notifying employee, other individuals/agencies notified, etc...

### **Bailey Oxides Delta**

Bailey Lead Operator

**419-822-4479x 113**

- Kyle Traxler, Plant Manager  
**419-822-4479x 102** (office)  
**419-388-6088** (24 hours)
- Keith Bialko, Bailey Oxides Vice President  
**205-788-4487** (office)  
**205-233-6533** (24 hours)

### **Worthington Steel**

- Maintenance Team Leader  
**419-327-0150** (to initiate evacuation)
- Erwin Lakia  
**419-822-2509** (office)  
**419-349-1215** (cell)



## **Bailey Oxides Emergency Response Plan**

*For additional Bailey and Worthington Emergency numbers refer to the enclosed card.*

### **Severe Weather/Tornado Emergency Action Plan**

#### **Responsibilities**

1. Onsite Emergency Response Coordinator 1 – Bailey Plant Manager
  - Apply the guidelines set forth in this plan to the situation at hand, by delegating responsibilities, gathering information, etc...
  - Oversee the general application of this plan, including training.
  - Make executive decisions as necessitated by an emergency situation or designate another employee to do so.
  
2. Onsite Emergency Response Coordinator 2- Lead Operator on shift
  - The Onsite Emergency Response Coordinator 2 will be required to fulfill all of the responsibilities of the Coordinator 1 in his absence.

#### **Procedure**

In the event of severe weather, the Onsite Emergency Response Coordinator (O.E.R.C.) will use the radio provided to monitor local weather updates/forecasts. He will use this information to keep himself informed of the weather conditions in and around Fulton County.

If a Tornado Watch or Severe Thunderstorm Warning is issued for Fulton County, the O.E.R.C. will inform all personnel of the situation and instruct them to cease all outdoor activities and descend from all levels of the process tower to the control room. Begin Rinse Down.

The O.E.R.C. will continue to monitor the weather (radio) until the Tornado Watch is lifted or upgraded to a Tornado Warning.

If a Tornado Warning is issued for Fulton County and the village of Delta, the O.E.R.C. will instruct his employees to evacuate into the designated tornado shelter areas.

These areas include:

- Locker rooms
- Any and all Plant restrooms
- Office- Hallway



## Bailey Oxides Emergency Response Plan

Once inside the Tornado Shelters, personnel will sit with their backs to the wall, place hands on heads and heads against knees. All employees will remain seated as such until the O.E.R.C. gives the "all clear" message once the tornado sirens have been shut off and the Tornado Warning has been downgraded to Tornado Watch. At this time employees will return to production after exiting the shelter areas and assess damage.



## Bailey Oxides Emergency Response Plan

### **Emergency Power Curtailment / Emergency Shutdown Procedure**

#### Responsibilities

1. Onsite Emergency Response Coordinator 1 – Bailey Plant Manager
  - Apply the guidelines set forth in this plan to the situation at hand, by delegating responsibilities, gathering information, etc...
  - Oversee the general application of this plan, including training.
  - Receive notification from Toledo Edison via cell phone, telephone or email.
  - Notify employees using call boxes, telephone or in person.
  - Contact Worthington Steel to verify situation.
2. Onsite Emergency Response Coordinator 2- Lead Operator on shift
  - Fulfill the responsibilities of the O.E.R.C. 1 in his absence.

#### Procedure

1. After receiving notification of curtailment, contact Worthington Steel, Delta, Tool Crib to confirm.  
NOTE: Power may be discontinued within ten (10) minutes of notification.
2. If full shutdown is necessary within thirty (30) minutes, immediately switch operations to: Demi-Water Mode". Leave in this mode until power is discontinued.
3. If full-shutdown is necessary outside of three (3) hours, proceed with normal rinse-down and shut-down.
4. Close the Roaster Feed Pump Inlet (from Venturi) manual valve as the loss of air pressure will open the Automatic Venturi Bypass Valve.
5. Back-flush the Roaster Feed Line.
6. Isolate and remove one Venturi spray nozzle. Insert water hose and open flow fully.
7. Dispatch one employee to Boom Level for Fire-Watch, as heat may be emitted from Boom Ports.



## Bailey Oxides Emergency Response Plan

### Emergency Contact List

1. Worthington Steel, Delta, Tool Crib  
419-822-2545
2. Worthington Steel, Delta, Electrical Engineer  
Erwin Lokia  
419-822-2509 (Office)  
419-349-1215 (Cell)
3. Toledo Edison  
888-322-5249

### Training

1. The elements of this plan will be included in monthly safety meetings and new employee orientation

## **Acid Transfer Pipeline Leak Detection Monitoring Procedure**

### **Beginning of shift**

1. Log Cable Status
  - a. Go to Pal-At wall unit
  - b. Record date, cable number (1,2 or 3), map number for each cable (1-5), status for each cable (ok, leak detected etc.), time and your name in the binder labeled "**Leak Detection Log**"
2. Graph Cables
  - a. Go to Pal-Com computer
  - b. Open Pal-Com Program (double click on icon)
  - c. Click center of screen
  - d. Click manual menu/graph data/ new graph
  - e. Enter system 1, click "ok"
  - f. Select Current Map1 and the Map number (1-5) recorded in log for that cable.
3. Title Graphs
  - a. Click "Title" at top of screen
    - (1) Title the graph using the following format:  
**MMDDYY C# RA/RW/SPL**



## Bailey Oxides Emergency Response Plan

### **Cable status/info from PAL-AT**

*Example: Cable 3, RA OK on 10/04/00:*

100400C3 RA

Cable 3 OK

❖ Note: Line 1-SPL, Line 2-Rinse water, Line 3-RA

### **Before Transferring To/From Worthington**

1. Check cable Status for appropriate pipeline
  - a. Go to Pal-At wall unit
  - b. Record Cable Status for cable on Acid Transfer Sheet.
  - c. Note: Line 1-SPL, Line 2-Rinse Water, Line 3-RA

### **Response to Alarms (or Cable Status other than "OK")**

1. Stop transfers on ALL lines.
2. Contact Kyle Traxler, Plant manager **419-388-6088**
3. Contact Worthington Wet Lab **419-822-2648**
4. Refer to Acid Transfer Pipeline Leak Detection Response Protocol.

## **Acid Pipeline Leak Detection Response Protocol**

Bailey Operator must initiate the leak detection sequence ALL of the following situations:

1. At the beginning of each shift
2. Before each acid transfer via to/from pipeline.
3. In response to all system alarms

### **Interpreting Pal-At Wall-Unit Display Messages**

1. Reading of "**Cable# OK**"
  - a. If reading is taken at beginning of shift, proceed to step 2a for Logging and Printing instructions.
  - b. If reading is taken before transfer, record on Acid Transfer Sheet, proceed with transfer.
2. Reading of "**Break**", "**Short**", or "**No End Found**"
  - a. If alarm occurs or reading is taken while lines are idle, immediately notify the following:
    - Kyle Traxler, Bailey Plant Manager **419-388-6088**
    - Worthington Steel Wet Lab **419-822-2648**
  - b. If alarm occurs during transfer, immediately shut down transfer process and notify the following:
    - Kyle Traxler, Bailey Plant Manager **419-388-6088**
    - Worthington Steel Wet Lab **419-822-2648**
  - c. Proceed to Step 2c for Logging and Printing Instructions.



## Bailey Oxides Emergency Response Plan

- d. Bailey and Worthington Steel personnel must then investigate pipeline and/or leak detection cable to determine cause of alarm.
  - e. Bailey and Worthington Steel management will then make determination to resume acid transfers or proceed to step 4 below.
3. Reading of "**Leak Detected**" or "**Cable Dying**"
- If alarm occurs during transfer, operator must immediately shut down transfer process, record in log and notify the following:
    - Kyle Traxler, Bailey Plant Manager **419-388-6088**
    - Worthington Steel Wet Lab **419-822-2648**
  - If alarm occurs or reading is taken while lines are idle, operator must record in log and notify the following:
    - Kyle Traxler, Bailey Plant Manager **419-388-6088**
    - Worthington Steel Wet Lab **419-822-2648**
  - Proceed to Step 2c for Logging and Printing Instructions.
  - Bailey and Worthington Steel personnel must then investigate pipeline and/or leak detection cable to determine cause of alarm.
  - Bailey and Worthington Steel management will then make determination to resume acid transfers or proceed to sep 3 below.

### Logging and Printing Leak Detection Information and Graphs

1. Beginning of shift
  - a. Log Cable Status
    - i. Go to Pal-At wall unit
    - ii. Record Date, Cable Number (1, 2, or 3), map number for each cable (1-5), status for each cable (ok, leak detected, etc...), time and your name in the binder labeled "**Leak Detection Log**".
  - b. Graph Cables (Day shift only)
    - i. Go to Pal-Com Computer
    - ii. Open Pal-Com (Click on Icon)
    - iii. Click Center of screen
    - iv. Click Manual Menu/graph data/new graph
    - v. Enter system 1, click ok
    - vi. Enter cable number, click ok
    - vii. Select current/map 1 and the map number (1-5) recorded in log for that cable
  - c. Title Graphs
    - i. Click "Title" at the top of the screen



## **Bailey Oxides Emergency Response Plan**

Title the graph using the following format:

**Top Line- MMDDYYC# RA/RW/SPL**

**2<sup>nd</sup> Line Cable Status/INFO FROM PAL-AT**

**Example of cable 3 RA ok on 10/04/01**

**100401C3 RA**

**Cable 3 OK**

- d. Save Graph as File
    - i. Click "File Save" at top of screen
    - ii. Name the file using the date and cable number format above
    - iii. Click ok
  - e. Print graph
    - i. Click "Print" at top of screen
  - f. Repeat for remaining cables
    - i. Click "Exit, "Plot New Cable"
  - g. Submit to Plant Manager each morning
  - h. Graphs to be emailed to Worthington Steel Mondays, Wednesdays and Fridays.
1. Before Transferring to/From Worthington
    - a. Check cable status for appropriate pipeline
      - i. Go to Pal-At Wall-Unit
      - ii. Press '#'
    - b. Log Cable Status
      - i. Go to Pal-At Wall-Unit
      - ii. Record: date, cable number(1, 2, or 3), map number for each cable (1-5), status for each cable (ok, leak detected, etc...), time and your name in the binder labeled Leak Detection Log
    - c. Graph Cables
      - i. Go to Pal-Com Computer
      - ii. Open Pal-Com Program (Click on Icon)
      - iii. Click Center of Screen
      - iv. Click manual menu/graph data/new graph
      - v. Enter system 1, click "ok"
      - vi. Enter Cable number, click "ok"
      - vii. Select Current, Map 1, and the Map Number (1-5) recorded in the log for that cable.
    - d. Title Graphs
      - i. Click "Title" at the top of the screen
      - ii. Title the graph using the following format:  
**MMDDYY C#RA/RW/SPL TIME**  
**Cable Status/Info from Pal-At**



## **Bailey Oxides Emergency Response Plan**

**Example of a Leak Detected on Cable 3, RA at 8:55PM on 10/04/01:**

**100401C3 RA 20:55**

**Leak Detected at 312 ft**

1. Note: Line 1-SPL, Line 2-Rinse Water, Line 3-RA

- e. Save Graph as a file
    - i. Click "File Save" at top of screen
    - ii. Name file using Date, Cable#, and Time formats used above
    - iii. Click "OK"
  - f. Print Graph
    - i. Click "Print at top of screen"
  - g. Take new leak Detection reference map
    - i. Go to Pal-At Wall-Unit
    - ii. Press "#" for main menu
    - iii. Press "2" to "Take New Reference"
    - iv. Enter security code "123456" then press "#"
    - v. Enter Cable # then Press "#"
  - h. Repeat steps b-g to Log, Graph, Title, Save, and Print new cable conditions
  - i. Go to the Wonderware (Plant Control) Work station, open the pickle line window, click "Alarm" button on the lower right of the screen to clear the alarm
2. Leak Detection Log and Graphs will be reviewed daily by Bailey Plant Manager and Worthington Steel Environmentalist

### **Response to Carrier Pipe breach**

1. Bailey must arrange immediate alternate method of acid transfer.
2. Carrier and Containment Pipes must be purged of liquid.
3. Containment must be prepared for integrity test. All possible openings must be sealed as to hold up to 10psi of air pressure.
4. Containment pipe is to be filled with air up to 10 psi. Pressure must be maintained for at least one (1) hour. If pressure holds, proceed to Step 5. If not, repeat Steps 3 & 4. If test fails a second time and no possible routes for escape of air is apparent, initiate *Chemical Release Emergency Response Procedures*. Proceed to step 5.
5. Bailey must arrange repair of the affected line.
6. Once Repair is complete, both carrier and containment pipes must pass pressure tests as described in steps 3 & 4 (carrier pipe pressure test should be performed with air at 45psi and water at 100psi) before repaired line is backfilled.
7. Once repair is complete and leak detection system is functioning, Bailey and Worthington Steel management may then make determination to resume acid transfers.



## Bailey Oxides Emergency Response Plan

### Response to Irreparable Damage of Leak Detection Cable

1. Bailey Plant Manager must arrange immediate alternate method of acid transfer.
2. Bailey must arrange replacement of the effected cable.
3. Once the leak detection system is functioning properly, Bailey and Worthington Steel management may then make determination to resume acid transfers.

## **Fire Emergency Response Procedures**

### Responsibilities

1. Onsite Response Coordinator 1 (OERC1)- Bailey Delta Plant Manager
  - Apply the guidelines set forth in this plan to the situation at hand, by delegating responsibilities, gathering information, etc.
  - Oversee the general application of this plan, including training.
  - Make executive decisions as necessitated by an emergency situation or designate another employee to do so.
  - Interpret and Respond to Fire Alarms and Warnings from the Simplex Control Panel.
  - Notify Employees of Emergency using call boxes, telephones, cell phones, etc.
  - Notify fire department.
  - Order evacuation.
  - Shut Natural gas valves, Open electrical breakers, operate fire extinguishers, and/or use water hoses.
  - Assess injuries and damages.
  - Contact and notify outside parties and agencies of the emergency (i.e. Clean up companies, Government Agencies, Local Response Networks, etc.)
  - Fulfill all other notification requirements (i.e. follow-up reports, investigations, etc.)
2. OERC2 – Lead Operator (On shift)
  - Fulfill the responsibilities of the O.E.R.C.1 in his absence.
3. Bailey VP- Operations
  - Assist and advise the EORC in the implementation of this plan throughout the response to an Environmental Emergency.
  - Make executive decisions as necessitated by an emergency situation or designate another employee to do so.

### Procedures



## Bailey Oxides Emergency Response Plan

1. If the Simplex Fire Alarm goes into alarm, the Lead Operator on shift must inspect the Simplex Fire Alarm System Control Panel to determine the location of the alarm.
2. The Lead Operator must visually confirm the existence of the fire situation.
3. If no evidence of a fire is present or if the alarm was due to a problem with the fire system component, a work order must be written describing the alarm information. Repair of the system must be undertaken immediately.
4. If the existence of a fire is visually identified or reported, the Lead Operator on shift must be notified immediately.

DO NOT ATTEMPT TO  
EXTINGUISH A FIRE WITHOUT NOTIFYING THE LEAD OPERATOR
5. The Lead Operator or Plant Manager will evaluate the potential hazards of the situation and determine whether mitigative actions should be taken or evacuation is necessary. PERSONNEL SHOULD DON RESPIRATORS AND USE THE BUDDY SYSTEM FOR EVACUATIONS OR MITIGATIVE ACTIONS.
  - a. Hazard Considerations should include:
    - I) Size and type of fire (e.g. electrical, liquid fuel, natural gas, chemical )
    - II) Nearby flammable or hazardous materials
    - III) Access to and Escape from the location of the fire
    - IV) Proper fire extinguishing media
  - f. Mitigative actions may include:
    - I) Closing Natural Gas valves in the vicinity of the fire or the Main shut off valve North of the Roaster area.
    - II) Opening breakers or MMC's powering equipment in the vicinity of the fire.
    - III) Closing valves to prevent the flow of SPL or RA in the vicinity of the fire.
    - IV) Activating E-Stops to disable equipment in the vicinity of the fire.
    - V) Using fire extinguishers or wash-down hoses to put out fire.
6. If a plant evacuation is necessary, the Lead Operator should activate the fire alarm pull station, alert all employees using the call boxes, telephones or personally and follow the plant evacuation procedures (i.e. proceed to the Northeast corner of the property).
7. After the fire is extinguished or the evacuation is complete and all personnel are accounted for, the Lead Operator should use the telephone in the scale room to notify the Plant Manager, Fire Department, Hospital and/or Gas Company as necessary.
8. If a fire extinguisher has been used, a work order must be written so that it may be recharged.
9. At this time descriptions of the incident, assessments of damage and/or injuries should be documented.
10. Fire extinguishers are to be inspected and charged monthly.



## Bailey Oxides Emergency Response Plan

### Flammable Materials Location

1. Gasoline storage- Maintenance Tool Crib
2. Diesel fuel storage tank- Northeast end of Oxide Storage Warehouse
3. Misc. Flammable Fuel/Solvent/Paint Storage Cabinet- Near Maintenance Office Entrance

### Fire Hydrant Locations

1. Near the Northwest corner of front office building.
2. Near the Northeast corner of Maintenance Garage.
3. Near the Northwest corner of Roaster Area.

### Fire Extinguisher Location List

1. See following page.
2. Posted throughout plant.
3. Posted throughout office building.

### Wash-down Station Location List

1. Tankfarm, Auxiliary Pump Room wall.
2. Auxiliary Pump Room, Southeast corner.
3. Main Pump Room, South wall.
4. Warehouse, Inside from Loading dock.
5. Fan Room, West wall.
6. Burner Level, East of roaster.
7. Venturi Level, Extension from Burner level.
8. Boom Platform.

### Training

1. The elements of this plan will be included in monthly safety meetings and new employee orientation.



## Bailey Oxides Emergency Response Plan

### Contact List

1. All Emergencies-911
2. Fire Extinguisher Maintenance Co. Snows Fire Protection-419-782-9800
3. Fire Alarm System- Tyco Simplex/Grinnell- 419-861-0661
4. Delta Fire Dept. (non-emergency)- 419-822-4626
5. Fulton County Health Center (hospital)- 419-335-2015
6. Ohio Gas Company- 419-636-1117
7. Insurance Provider- Truwin- 724-743-0970

### **Emergency Evacuation Procedure**

(29 CFR 1910.38)

### Responsibilities

1. Onsite Emergency Response Coordinator 1- Bailey Plant Manager
  - Apply the guidelines set forth in this plan to the situation at hand, by delegating responsibilities, gathering information, etc.
  - Oversee the general application of this plan, including training.
  - Make executive decisions as necessitated by an emergency situation or designate another employee to do so.
  - Notify employees of emergency using call boxes, telephones or in person.
  - Notify Fire Department
  - Oversee evacuation and personnel.
  - Report personnel count to Fire Department.
  - Assess injuries and damages.
2. Onsite Emergency Response Coordinator 2- Lead Operator on shift
  - Fulfill the responsibilities of the OERC 1 in his absence.

### Plant Evacuation Procedures

1. In the event in which a facility evacuation is necessary, the OERC will instruct employees to use the nearest exit door and exit to the pre-assigned evacuation area located in the **Northeast corner of the property near the office**. During evacuation, stay upwind of a fire or hazardous chemical spill, avoid harmful inhalation of hazardous fumes.
2. The OERC will use call boxes, telephones or verbal commands to notify all employees to evacuate.



## **Bailey Oxides Emergency Response Plan**

3. Employees should don their half-mask respirators and use the “buddy system” while evacuating.
4. If possible to do so safely, as determined by the OERC , employees may shutdown their equipment before evacuating.
5. No employee will re-enter the building after evacuating the facility.
6. After evacuation, the OERC will take roll call to account for all employees.
7. If an employee is missing or injured, the OERC will notify the fire department.
8. The office will be the Command Post in the event of such emergency and the Scale Room telephone may be used to make emergency contacts.

### **Emergency Contact List**

1. BPO Plant Manager- Kyle Traxler  
419-388-6088 (cell)
2. Emergency -911
3. Delta Fire Department- 419-822-4626
4. Fulton County Health Center- 419-335-2015
5. Fulton County Emergency Management Agency-419-335-6856

### **Training**

1. The elements of this plan will be included in monthly safety meetings and new employee orientation.

## **Chemical Release Emergency Response Procedures**

### **Responsibilities**

1. OERC 1Bailey Plant Manager
  - Apply the guidelines set forth in this plan to the situation at hand, by delegating responsibilities, gathering information, etc.
  - Oversee the general application of this plan, including training.
  - Contact and notify outside parties and agencies of the emergency (i.e. Clean up companies, Government Agencies, Local Response Networks, etc.)
  - Fulfill all other notification requirements (i.e. follow-up reports, investigations, etc.)
  - Make executive decisions as necessitated by an emergency situation or designate another employee to do so.



## Bailey Oxides Emergency Response Plan

2. OERC 2- Lead Operator on shift
  - The OERC 2 will be required to fulfill all of the responsibilities of the OERC 1 in his absence.
3. BPO-VP- Operations
  - Assist and advise the OERC in the implementation of this plan.
  - Make executive decisions as necessitated by an emergency situation or authorize another employee to do so.

### Procedure

\*Note : Facility personnel must be trained in the use and maintenance of any equipment that is provided to prevent the spill and release of oil or hazardous substances. Any personnel who have not received specialized Occupational Safety Health Administration (OSHA) training in emergency response procedures should **not** attempt to clean up any hazardous substance spill that is a potential safety or health hazard. (per OSHA regulation 1910.120)

1. Identify composition of spilled substance, note the quantity or rate of release, and consult MSDS to determine reportable quantities and health and safety hazards associated with the substance.
2. As soon as possible, notify the OERC.
3. Monitor spill, prepare neutralizer, spill absorbent, protective equipment, and spill containment equipment.
4. Once Hazard level is determined, the OERC will make a safety and risk assessment decision with respect to one of the two following options.
  - General Facility Evacuation- See Emergency Evacuation Procedures.
  - Mitigative Action by Bailey employees as follows:
5. Stop spill or leak at source, if possible, by closing valves, turning off pumps, plugging leaks, opening electrical breakers to shut down equipment, etc.
6. Contain spill flow as close to source as possible by building earthen berms, arranging diking socks/booms, utilizing absorbent pads, and sealing all catchment basins and storm inlets/outfalls.
7. As soon as possible, begin documentation of events leading up to and following the incident including the following information:
  - Time of release and/or discovery
  - Location of containment or Probable destination of release
  - Composition of material release
  - Quantity of material released
  - Process/cause of release
  - Injuries by release
  - Damage(s) Or areas affected by release



## Bailey Oxides Emergency Response Plan

8. Plant Manager must initiate emergency notifications, if quantity released is greater than the Reportable Quantity.
9. The Bailey Plant Manager must compose and submit all required follow-up reports, describing all actions leading up to, during and following the reported release.
10. The Bailey Plant Manager must oversee all cleanup efforts until a statement of "Closure" or "Completion" is provided by the relevant regulatory agencies.

### Spill Control Equipment List

- Spill Response Kit
- Inflatable Sewer Plugs
- Acid Neutralizing Agent
- Personal Protective Equipment (PPE)

### Reportable Quantities

- HCl-18%-Reportable Quantity-5000 lbs. / 3000 gal.
- HCl-32%-Reportable Quantity-5000 lbs. / 1700 gal.
- FeCl<sub>2</sub>—24%-Reportable Quantity-100 lbs. / 40 gal.

### Training

1. The elements of this plan should be incorporated into the monthly safety meetings and new employee orientation.



## Bailey Oxides Emergency Response Plan

### Emergency Contact List

1. BPO Delta Plant Manager- Kyle Traxler
  - **419-822-4479x102 (Office)**
  - **419-388-6088 (24 hours)**
2. BPO VP-Operations- Keith Bialko
  - **205-788-4487 (Office)**
  - **205-233-6533 (24 hours)**
3. The National Response Center
  - **800-424-8802**
4. Ohio EPA SERC
  - **419-373-3031**
5. Fulton County LEPC
  - **419-337-9207**
6. Delta Fire Department
  - **419-822-4626**
7. Insurance Provider- Truwin, Inc.
  - 724-743-0970
8. Hazmat Cleanup Company- Clean Harbors Environmental Services
  - **216-429-2401**
9. Chem-Tel
  - **800-255-3924**
10. Bailey Corporate Offices
  - **724-745-9500**



## Transportation Security Plan

In accordance with 49 CFR 172.800 the following plan fulfills the requirement for development and implementation of a plan to address security risks related to the transportation of Hazardous materials in commerce.

### Personnel Security

Prior to employment, measures are taken by the Bailey human resource department to confirm information provided by job applicants applying for positions that involve access to and handling of the Hazardous materials covered by this plan. These confirmation methods conform to all applicable Federal and State laws and requirements concerning employment practices and individual privacy.

### Unauthorized Access

In order to address the risk that unauthorized persons may gain access to the Hazardous materials covered by the security plan or transport conveyances being prepared for transportation of the Hazardous materials covered by the security plan, access to the Hazardous Material handling areas of the plant are restricted to the properly trained employees of Bailey and HazMat Carriers. The Bailey facility lies within a fence-enclosed complex with one entrance. This entrance is continuously monitored by personnel and video cameras. Prior to entering the Bailey facility, all guests must be identified and accompanied by an authorized Bailey employee.

### En Route Security

In order to address the assessed security risks of shipments of hazardous materials covered by the security plan en route from origin to destination, including shipments stored incidental to movement, Bailey requires all HazMat carriers to provide and enforce a Transportation Security Plan.

### Training

The elements of this plan will be incorporated into initial employment and annual review training sessions required by the Department of Transportation.



# Bailey Oxides Emergency Response Plan

B2



**Best Management Practices**

**BAILEY-PVS OXIDES (DELTA), L.L.C.**  
6191 County Road 10  
Delta, OH 43515

**BEST MANAGEMENT PRACTICES**  
FOR ENVIRONMENTAL COMPLIANCE



## Best Management Practices

### I. Purpose

The purpose of this plan is to establish management practices specific to the operation of the Bailey Oxides (Delta), facility. The overarching goal of these practices will be to ensure compliance with all environmental regulations and protect the health of the Bailey Oxides (Delta) employees, the surrounding community, and the environment.

### II. Organization of This Plan

The components of this plan will be organized into the following five (5) sections.

- Management Practices by Regulatory Division
- Reporting Requirements
- Training Requirements
- Record-keeping
- Responsibilities

### III. Management Practices by Regulatory Division

- a. Wastewater Discharge – Bailey Oxide (Delta) introduces non-contact sanitary discharges into the sanitary sewer systems as described in Ohio EPA Permit Application #03-11763.
  - Hazardous Wastes and materials that come in contact with Hazardous Wastes are prohibited from sink or drain disposal. Spent Pickle Liquor (SPL) and Regenerated Acid (RA) are classified as Hazardous Wastes when disposed. These materials are to be added to the tank farm sumps for processing in the plant or disposed of as K062 hazardous wastes.
  - All other corrosive or caustic solutions must be neutralized prior to sink or drain disposal.
  - Oils, sludges, and flammable liquids are also prohibited from sink or drain disposal.
  - Drainage from the Wet Lab sink is directed to the Tank Farm sump.
- b. Storm water Discharge – Bailey Oxides (Delta) was granted General Permit #OHR106104 by the Ohio EPA for Stormwater Discharges Associated with Construction Activity. No Storm water is discharged from the site.
  - Petroleum Management, Release Prevention, and Response
    - Used Oil
      - Used Oil will be drained from vehicles and equipment in a location and manner to prevent its introduction in sanitary wastewater and stormwater drains.
      - Once removed from vehicles and equipment, used oil may be transferred into a storage container until it may be transported offsite.



## Best Management Practices

- Tanks and containers used to store used oil must be labeled "Used Oil" and be maintained in good condition with no visible leaks.
- Hazardous Waste must not be mixed with used oil.
- Used oil may only be shipped offsite by a transporter with a U.S. EPA Identification Number.
- Used oil is to be transferred offsite to ensure that no greater than 110 gallons is onsite at any one time.
- Hot-drained, non-terne-plated, oil filters may be discarded as normal solid waste or returned for recycling.
- Diesel
  - Diesel fuel is stored onsite in a 250-gallon tank with secondary containment and located away from potential entry points into the sanitary wastewater and stormwater drains.
  - Care must be taken when transferring diesel fuel to prevent releases and introduction into the wastewater and stormwater systems.
- Gasoline
  - Gasoline is stored onsite in 55-gallon drum with secondary containment and located away from potential entry points into the sanitary wastewater and stormwater drains.
  - Care must be taken when transferring gasoline to prevent releases and introduction into the wastewater and stormwater systems.
- Petroleum Product Spill Response
  - See Chemical Release Emergency Response Procedures.
  - Oil absorbent materials and non-sparking shovels may be employed in response to Petroleum Product Releases.
  - Such materials may be deposited in the 55-gallon drum labeled "Used Oil Absorbent" and disposed of as normal solid waste (as long as no free liquid oil is present).
- SPCC
  - Bailey Oxides (Delta) is not subject to SPCC requirements because total oil storage is less than 1320-gallons.
- Hazardous Material Management, Release Prevention, and Response
  - Storage Tanks Bailey Oxides (Delta) employs twelve (12) 40,000-gallon fiberglass storage tanks for holding SPL and RA prior to processing or shipment.
    - The exterior of all storage tanks should be inspected daily for signs of damage or deterioration.
    - Repair of these fiberglass vessels may only be performed by qualified individuals with proof of sufficient insurance coverage.
  - Pipelines – Bailey Oxides (Delta) employs two (2), double-contained, underground, leak-detected pipelines for the transfer of SPL and RA from and to the Worthington Steel Delta facility.
    - The Acid Transfer Pipeline Leak Detection Protocol provides instruction on the proper use and monitoring of these lines.



## Best Management Practices

- SPL/RA Transport Tankers – Bailey Oxides (Delta) does not own or operate tankers for the transport of SPL and RA. However, Bailey Oxides (Delta) personnel must fulfill the Shippers Requirements per the Bailey Oxides (Delta) DOT Hazmat Training.
    - See Bailey Oxides (Delta) DOT Hazmat Training Plan
  - Response Procedures in case of Hazardous Material Release
    - See Chemical Release Emergency Response Procedures.
    - Any absorbent materials used to mitigate releases of hazardous materials must be disposed of in accordance with hazardous waste regulations.
  - Iron Oxide Management, Release Prevention, and Response
    - Iron Oxide Storage Practices
      - Iron Oxide in supersacks should be tested, labeled, logged, stored, and maintained in the Oxide Storage Warehouse.
    - Response Procedures in case of Iron Oxide Release
      - All Iron Oxide releases must be cleaned up immediately to prevent introduction into the storm water system and fugitive emissions.
      - Minor Iron Oxide releases from routine material handling incidents and floor sweepings should be added to an open-top supersack and may be reintroduced into the process or disposed of as “De Minimus” losses.
      - Sediment filters should be installed into or around catchment basins to mitigate the impact on the stormwater.
  - Stormwater Discharge Limitations and Monitoring Requirements.
    - Annual Monitoring and Analysis of the Stormwater Discharge may be required by the Ohio EPA.
    - Consult Ohio EPA for Analytes, Levels, and Details.
      - Note: Samples for pH analysis have a maximum holding time of 15 minutes.
      - Note: Rainfall Data should be recorded several times prior to the actual sampling event to ensure that 72 hours pass between significant events.
  - Inspections
    - Facility inspections will comply with the requirements of OAC rule 3745-54-15.
    - No less frequently than twice per week, complete a full inspection of the storage tanks and the surrounding containment basin. Record the results of this inspection using the Daily PM Walkthrough form. These forms must be maintained and available for three (3) years.
- c. Hazardous Waste – The Bailey Oxides (Delta) facility is governed by a combination of Hazardous Waste Regulations. The following guidelines will ensure compliance with all relevant regulations.
- Conditionally Exempt Small Quantity Generator (CESQG)



## Best Management Practices

- As a CESQG, BPO Delta may dispose of Hazardous Waste up to 100 kilograms per month.
- Such waste must be disposed of in accordance with all hazardous waste disposal regulations.
- Spent Pickle Liquor is identified by the EPA as a listed Hazardous Waste (K062 – Spent Pickle Liquor for steel pickling operations) due to its corrosivity and potential toxicity (hexavalent chromium).
  - Any SPL, materials, or residues that are derived from or come in contact with SPL must be disposed of as K062 Hazardous waste.
  - If the quantity disposed at any one time exceeds 100 kilograms, the generator status of the facility will be upgraded, resulting in additional reporting and training requirements.
- Paint and Solvent Waste
  - Before disposing of any waste, a determination must be made if it is hazardous or non-hazardous.
  - Paints and solvents may be hazardous due to their contents or ignitable characteristics.
  - Information must be kept on file to show how each waste stream has been evaluated.
  - Free-liquid paint and solvent cannot be disposed as solid waste.
  - Paint and solvent cans may be disposed of as regular solid waste if less than one inch (1") of material is left in the container.
  - Elimination of the contents by any means other than normal use is prohibited by air pollution regulations. Such methods include deliberate evaporation, burning, or other attempts to treat or process the waste material.
  - Solvent-soaked rags or wipes holding free-liquid solvent may not be disposed of as solid waste.
  - Paint and Solvent disposed as hazardous waste must be quantified and considered toward the generation totals.
- Variance from Classification as a Hazardous Waste in accordance with Rule 3745-50-314 of the Ohio Administrative Code.
  - BPO Delta may only receive SPL from Covered Generators.
  - Covered Generators are Worthington Steel Delta, Porter, and Monroe.
  - SPL from other sources may only be accepted if shipped, manifested, and handled as K062 hazardous waste. Only after passing "at the gate" testing requirements will the material lose the hazardous waste classification.
  - All Iron Oxide must be marketed or considered non-wastewater residues as described below.
- Generic Exclusion for Non-wastewater Residues from HTMR of K062.
  - 40 CFR 261.3(c)(2)(ii)(C)(1)
  - Ohio Administrative Code (OAC) 3745-51-03(C)(2)(iii)
  - Michigan Code R 299.9203(4)(c)(iii)



## Best Management Practices

- Although derived from SPL, Iron Oxide and other materials that pass through the spray roaster may be exempt from classification as hazardous wastes for the purposes of disposal.
  - For disposal in a Subtitle D Landfill, Bailey Oxide (Delta) demonstrates that the material meets the exclusion levels established in the rule.
    - Antimony, 0.10 mg/l
    - Arsenic, 0.50 mg/l
    - Barium, 7.6 mg/l
    - Beryllium, 0.010 mg/l
    - Cadmium, 0.050 mg/l
    - Chromium (Total), 0.33 mg/l
    - Lead, 0.15 mg/l
    - Mercury, 0.009 mg/l
    - Nickel, 1.0 mg/l
    - Selenium, 0.16 mg/l
    - Silver, 0.30 mg/l
    - Thallium, 0.020 mg/l
    - Zinc, 70 mg/l
  - A one-time notification must be sent to the director of the Environmental agency of the state in which the landfill is located.
  - The waste stream must be sampled and analyzed quarterly.
  - BPO must re-notify and re-analyze if process conditions or product characteristics change.
  - If exclusion levels are not met, the material must be handled and disposed in a Subtitle C Landfill as K062 Hazardous Waste or repackaged and sold as product.
- d. Air Emissions – The Bailey Oxides (Delta) facility's air emissions are regulated by Ohio EPA Permit # 03-0999.
- Pavement – Frequent sweeping and wash-downs shall be conducted and logged to prevent visible emissions.
  - Particulate Emissions
    - Oxide Bin Baghouse < 0.31 pound/hr (1.4 TPY)
    - Mill Baghouse < 0.13 pound/hr (0.5 TPY)
    - Scrubber Stack < 2.47 pound/hr (10.8 TPY)
    - Daily Visual Inspections of the Particulate Matter emissions from the Oxide Storage Baghouse should be conducted to ensure proper operation of these devices.
    - The Differential Pressure across the plenum of the Oxide Storage Baghouse can be used as an indicator to determine the condition of the filters. It should be monitored regularly during operation.
    - Spare Filters and Retention Clamps should be kept onsite at all times.
    - The Baghouse should be opened, and inspected at least once per year for filter deterioration and other abnormal conditions.



## Best Management Practices

- HCl/Cl<sub>2</sub> Emissions
    - Emissions for any Hazardous Air Pollutants (HAP) must not exceed 10-tons/year in order to qualify for Minor Source Classification and exemption from MACT requirements.
    - The following operating parameters must be maintained:
      - 10% Excess Air
      - 725° Roaster Outlet Temp
      - 44-gpm SPL to venturi flow rate
      - 14-gpm Scrubber water flow rate
      - 17-HP Scrubber Circulation Pump (550-gpm)
      - Scrubber Gas Inlet Pressure < 7.5" W.C.
      - Scrubber Effluent (Overflow) HCl Conc. < 2%
    - Deviations (excursions) from the above parameters must be identified in the quarterly reports specified by the permit.
  - Preventative Maintenance
    - The following PM schedule must be followed to ensure proper functionality of the emission control devices of the Acid Regeneration process.
    - Burner Calibration – Bi-annual
    - Roaster Feed Flowmeter Calibration – Annual
    - Absorber Mass-Transfer Packing and Grating Replacement – 5-yrs
    - Scrubber Mass-Transfer Packing and Grating Replacement – 5-yrs
    - Absorber Spray Header and Nozzle Inspection – Annual
    - Scrubber Spray Header and Nozzle Inspection – Annual
    - Post-Fan Mist Eliminator Inspection/Cleaning – Annual
    - Post Scrubber Mist Eliminator Inspection/Cleaning – Annual
    - Venturi Circulation Line Cleaning – Quarterly
    - Oxide Storage Bin Baghouse Filter and Clamp Replacement – Annual
    - Oxide Storage Bin Baghouse Cage Replacement – Bi-annual
    - Oxide Storage Bin Baghouse Venturies – 5-years
    - Oxide Milling Baghouse Filter and Cage Replacement – Bi-annual
    - Oxide Milling Baghouse Cages – 4-years
  - Notification must be made to and approval received from the Ohio EPA prior to making certain "modifications" to the emissions unit or the exhaust parameter (e.g. increased emission rate) described in the permit and OAC rule 3745-31-01.
  - Recordkeeping – Information supporting compliance with the permit shall be compiled in a separate form and available for inspection and submission.
- e. Solid Waste – Solid Waste is disposed of on an as needed basis by a qualified contractor in a Subtitle D Landfill in accordance with all applicable regulations.
- f. Universal Waste – BPO Delta is a Small Quantity UW handler. UW will be disposed of on an as needed basis by a qualified contractor in accordance with all applicable regulations.



## Best Management Practices

- Lamps – High Pressure Sodium, Metal Halide, Fluorescent (non-low-mercury) lamps, etc. must be returned to their original packaging and sent for proper disposal.
- Pesticides – No pesticides are used onsite.
- Mercury-Containing Thermostats – None used onsite.
- Discarded Batteries – Nickel-cadmium, spent lead-acid, and other electrochemical cells must be containerized and sent for proper disposal.
- Packaging – Proper labeling and marking must be followed for each UW container.
- Storage – UW must not be kept on site longer than 1-year after generation.

### IV. Reporting Requirements

- a. Annual Hazardous Waste Report (Form 9029)
  - Due March 1<sup>st</sup>, if CESQG limits exceeded.
- b. SARA Title III Tier II – Emergency Planning and Community Right-to-know Act
  - This form must be updated and submitted annually to the following agencies:
    1. Ohio EPA
    2. Fulton County LEPC
    3. Delta Fire Department
- c. Form R – Toxic Release Inventory (TRI) Reporting
  - Due July 1 to US EPA and Ohio EPA for Chlorine and Hydrochloric Acid (aerosol only).
- d. Annual Variance Reporting
  - Due March 1, annually, to Ohio EPA DHWM. See variance for information to be included.
- e. Air permit deviation reports
  - Due Quarterly (1/31, 4/30, 7/31, and 10/31), to Ohio EPA identifying all periods of time when established parameters were not met. If no deviations occurred, a report stating that fact is to be submitted.
- f. Synthetic Minor Title V Facility Fee Emission Report
  - Due Annually, April 17<sup>th</sup> to Ohio EPA for Particulate Matter and NO<sub>x</sub>.

### V. Training Requirements

- a. Hazardous Communication (HazCom) Training Program
  - All employees, upon their hire, will go through the HazCom Training Program. The program will be reviewed by all personnel annually.



## Best Management Practices

- The HazCom Training will be administered by the Bailey Oxide (Delta) Plant Manager and/or Safety Coordinator.
  - Training will comply with the requirements of OAC rule 3745-54-16.
  - Topics covered will include hazardous chemicals, MSDS Sheets, labeling and other forms of warning, hazards associated with chemicals in pipes, hazardous non-routine tasks, training, outside contractors, etc.
- b. BMP
- All employees, upon their hire, will go through the BMP Training Program. The program will be reviewed by all personnel annually.
  - The BMP Training will be administered by the Bailey Oxides (Delta) Plant Manager and/or Safety Coordinator.
  - Records of the BMP training sessions must be maintained and readily available at the Delta facility.
- c. EAP
- All employees, upon their hire, will go through the EAP Training Program. The program will be reviewed by all personnel annually.
  - The Bailey Oxides (Delta) Plant Manager will administer the EAP Training.
- d. DOT Hazmat
- All employees who participate in the loading and unloading of cargo tanks (trucks) with RA and SPL shall be trained according to the BPO DOT Hazmat Plan.
  - The BPO Delta Plant Manager will administer the training.

## VI. Recordkeeping and Distribution

- a. Filing – All Environmental files will be maintained separately from other files and labeled with filenames beginning with the word “Environmental” or the abbreviation “Env.”, so that when filed alphabetically, the segregation from other files will be automatic.
- This Main category should be divided into at least six subcategories, one for each regulatory division plus another for records pertaining to this plan. Files and documents pertaining to these sub-divisions can be organized accordingly. For Example:
    - Environmental – Air Emissions – Permits
    - Environmental – Air Emissions – Baghouse Maintenance
    - Environmental – Air Emissions – Absorber Packing Replacement.
  - Whenever possible, maintenance files and records pertaining to Environmental control equipment should be copied and added to the appropriate environmental category. At a minimum, cross-referencing to the actual file location should be maintained.
  - In addition to the copies of permits and reports, documentation of all correspondences with environmental agencies (including full names, departments, contact info., and discussion summaries), malfunctions



## Best Management Practices

and maintenance of environmental control equipment (i.e. baghouse inspections), and training reports should be included in Environmental Files.

- b. Distribution – Copies of this plan should be distributed to all employees and maintained in the *Right to Know Centers* located in the wet-lab and main lab.

### VII. Responsibilities

- a. Onsite Implementation of the BMP
  - Bailey Oxides (Delta) Plant Manager and/or Safety Coordinator are responsible for the onsite implementation of the procedures delineated in this plan.
- b. Training
  - Bailey Oxides (Delta) Plant Manager and/or Safety Coordinator are responsible for the administration of personnel training as described in this plan.
- c. Reporting
  - Bailey Oxides (Delta) Plant Manager and/or Safety Coordinator are responsible for the completion and submission of all required Environmental Reporting, including the creation and transmission of copies of such reports to the Bailey Oxides (Delta) facility.
- d. Revisions
  - Bailey Oxides (Delta) Plant Manager and/or Safety Coordinator is responsible for the integration and distribution of any revisions of this plan.

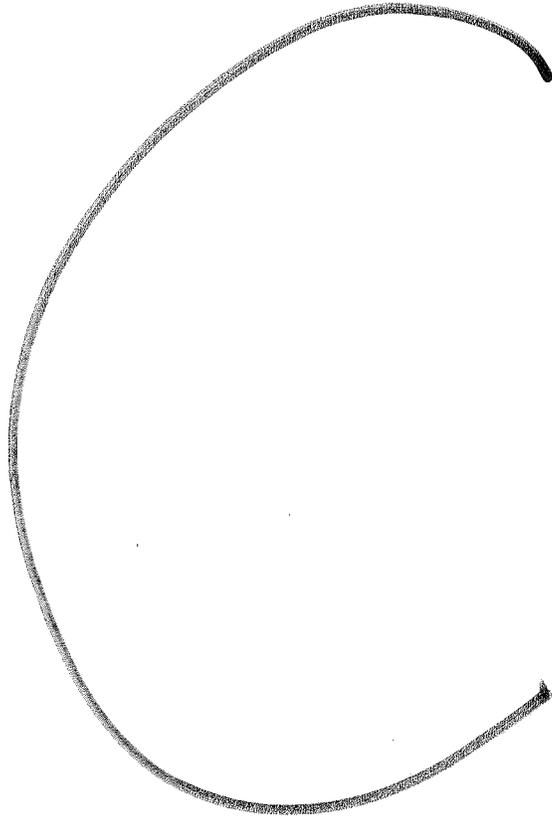
**Bailey Oxides**  
 6191 County Road 10  
 Delta, Ohio 43515  
 PH: 419-822-4479  
 FX: 419-822-4497

**Fire Extinguisher Location List**

NO.	Area	Qty.	Type	Location Description
1	Office Building	2	ABC Dry Chemical	1) Back wall of waiting room next to "Mens" restroom door. 2) Kitchenette wall
2	Lab	1	ABC Dry Chemical	Wall, next to entrance from office building hallway
3	Maintenance Shop	2	ABC Dry Chemical	1) West wall next to exit. 2) Wall next to office door.
4	Warehouse	4	ABC Dry Chemical	1) South side of East wall 2) North side of West wall 3) East end of North wall by exit 4) South side of West wall by overhead door.
5	Bagging Room	1	ABC Dry Chemical	West wall by exit.

**Fire Extinguisher Location List (IOP)**

1	Pump Room	2	ABC Dry Chemical	1) East wall next to exit 2) East wall next to walkway to aux. pump room.
2	Auxiliary Pump Room	2	ABC Dry Chemical	1) South wall next to doorway into wet lab. 2) West wall next to double doors.
3	Tank Farm	1	ABC Dry Chemical	Beside truck loading station.
4	Wet Lab	1	ABC Dry Chemical	West wall next to exit
5	Stairway	3	ABC Dry Chemical	1) 1st level next to pump room door 2) 2nd level next to fan room door 3) 3rd level top of stairs on column
6	Fan Room	2	ABC Dry Chemical	1) West wall next to oxide bin doorway 2) East wall next to exit
7	MCC Room	1	ABC Dry Chemical	West wall next to furnace
8	Control Room	1	Water Mist	West wall next to door
9	Boom Platform	1	ABC Dry Chemical	Next to Safety shower
10	Venturi Level	1	ABC Dry Chemical	Between cyclones
11	Under Roaster	1	ABC Dry Chemical	On wall near bulk loading operator panel



# SHIFT REPORT

Date: 4/11/2013  
Time: 7:00:00 AM  
Logged operator : None

Temperatures	Tag	Value	Minimum	Average	Maximum	Setpoint	Action
Roaster outlet temperature	TIC 320	720.54 F	0.00 F	0.00 F	0.00 F	720.00 F	0.0%
Roaster middle temperature	TIT 090	1034.68 F	0.00 F	0.00 F	0.00 F		
Post venturi gas temperature	TIT 340	200.44 F	0.00 F	0.00 F	0.00 F		
Post absorber gas temperature	TIT 360	170.34 F	0.00 F	0.00 F	0.00 F		
Gas scrubber inlet temperature	TIT 375	0.00 F	0.00 F	0.00 F	0.00 F		
Lump breaker outlet temperature	TIT 210	595.25 F	0.00 F	0.00 F	0.00 F		
Cyclone 1 outlet temperature	TIT 140	0.00 F	0.00 F	0.00 F	0.00 F		
Cyclone 2 outlet temperature	TIT 160	312.47 F	0.00 F	0.00 F	0.00 F		

Pressures	Tag	Value	Minimum	Average	Maximum	Setpoint	Action
Venturi spray pressure	PIT 020	9.49 psi	0.00 psi	0.00 psi	0.00 psi		
SPL to feed roaster sprays press.	PIC 090	81.80 psi	0.00 psi	0.00 psi	0.00 psi	140.0 psi	100.00 %
Roaster outlet pressure	PIC 320	-1.83 inWc	0.00 inWc	0.00 inWc	0.00 inWc	-2.1 inWc	71.00 %
Venturi upstream pressure	PIT 330	-10.07 inWc	0.00 inWc	0.00 inWc	0.00 inWc		
Venturi outlet pressure	PIT 340	-20.74 inWc	0.00 inWc	0.00 inWc	0.00 inWc		
Absorber outlet pressure	PIT 360	-27.81 inWc	0.00 inWc	0.00 inWc	0.00 inWc		
Gas scrubber inlet pressure	PIT 375	29.98 inWc	0.00 inWc	0.00 inWc	0.00 inWc		

Flow	Tag	Value	Min	Max	SP	Ac.	Quantity since last reset	Total	Avg. since last reset
SPL flow to venturi	LIC 020	65.59 gpm	0.00 gpm	0.00 gpm	50.00 gpm	8.32 %	12645766.3 gal	12645766.3 gal	0.00 gpm
CPL flow to roaster	FIC 090	24.08 gpm	0.00 gpm	0.00 gpm	24.51 gpm	80.00 %	0.0 gal	0 gal	0.00 gpm
RW flow to absorber	LIC 520	46.14 gpm	0.00 gpm	0.00 gpm	70.00 gpm	75.00 %	0.0 gal	0 gal	0.00 gpm
RA flow to tank farm	LIC 350	18.60 gpm	0.00 gpm	0.00 gpm	50.00 gpm	21.72 %	23348020.0 gal	23348020 gal	0.00 gpm
<b>Burner</b>	<b>Gas value</b>	<b>Air value</b>	<b>Gas Quantity per Shift</b>	<b>Air Quantity per Shift</b>	<b>SP</b>	<b>Excess Air</b>	<b>PV</b>	<b>O2:</b>	
Burner 1	FIT 501B	8522 cftFIT 501A	111991 cft	32.0 cf	10.0 %	9.5 %	406787 cft	Burner Air :	406787 cft
Burner 2	FIT 502B	8712 cftFIT 502A	112442 cft	32.0 cf	10.0 %	7.6 %	30985 cft	Burner Gas :	30985 cft
Burner 3	FIT 503B	8422 cftFIT 503A	111907 cft	32.0 cf	10.0 %	10.7 %	1000000.0 cft	Burner Gas per Shift:	1000000.0 cft
Burner 4	FIT 504B	5329 cftFIT 504A	70448 cft	32.0 cf	10.0 %	10.1 %	262144.0 cft x 1000	Burner Gas total:	262144.0 cft x 1000

Time	SPL			CPL			RA			Fan water			Scrubber		Flow	
	Free HCL %	g/l	Fe2 g/l	Free HCL %	g/l	Fe2 g/l	Free HCL %	g/l	Free HCL %	g/l	Free HCL %	g/l	Free HCL %	g/l	FI 390	FI 370

# SHIFT REPORT

Bailey PVS Oxide  
Delta - Tank Farm

Date: 4/11/2013  
 Time: 7:00:10 AM  
 Logged operator: None

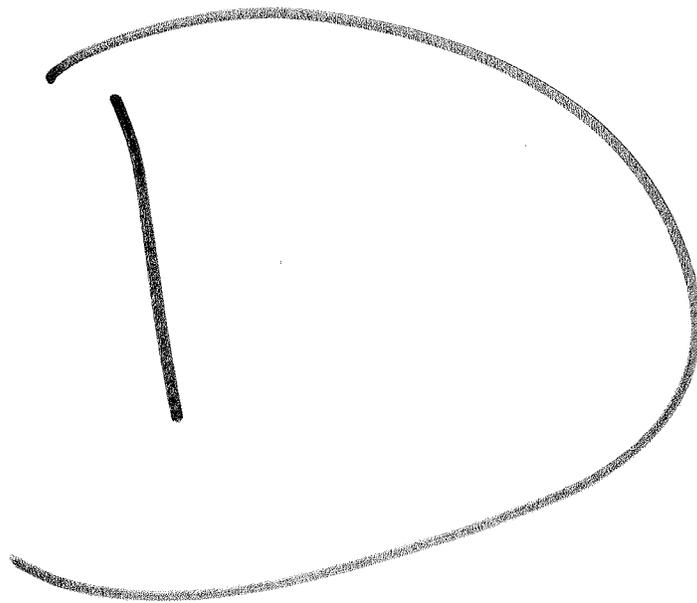
Acid transfer to Worthington	Quantity/Day	Last Reset	Quantity/Total
SPL from Worthington : FIQ-788	19071.264 gal	4/11/ 2013 7: 0: 0	9401388.0 gal
RA to Worthington : FIQ-790	25055.480 gal	4/11/ 2013 7: 0: 0	9273116.0 gal
<b>Total RA</b>	25055.480 gal	---	9273116.0 gal
<b>Total SPL</b>	19071.264 gal	---	9401388.0 gal

Tankfarm	Tag	Sel.	Quantity	HCL total	HCL free	Fe2	Fe3	Fe total
Tank 1 RA/SPL	LIT-755	RA	41060.0 gal					
Tank 2 RA/SPL	LIT-756	RA	14401.1 gal					
Tank 3 RA/SPL	LIT-757	RA	12972.2 gal					
Tank 4 RA	LIT-758	RA	3183.5 gal					
Tank 5 RA	LIT-759	RA	37628.9 gal					
Tank 6 RW	LIT-760	RW	20213.0 gal					
Tank 7 RA/SPL	LIT-761	RA	41009.8 gal					
Tank 8 RA/SPL	LIT-762	SPL	24535.8 gal					
Tank 9 RA/SPL	LIT-763	SPL	29143.5 gal					
Tank 10 RA/SPL	LIT-764	SPL	42138.3 gal					
Tank 11 RA/SPL	LIT-765	SPL	41827.0 gal					
Tank 12 RA/SPL	LIT-766	SPL	40243.3 gal					
<b>SPL Total</b>			177879.9 gal					
<b>RA Total</b>			150236.7 gal					

Smart Bob is: 34.20 Last Updated 04/11 03:56

Additional informatons	A	B	C





# New Employee Safety Video Training

NAME: \_\_\_\_\_

DATE: \_\_\_\_\_

(Check each box if received)

Right-To-Know/HazCom

HCL Handling

Confined Space

Lock Out/Tag Out

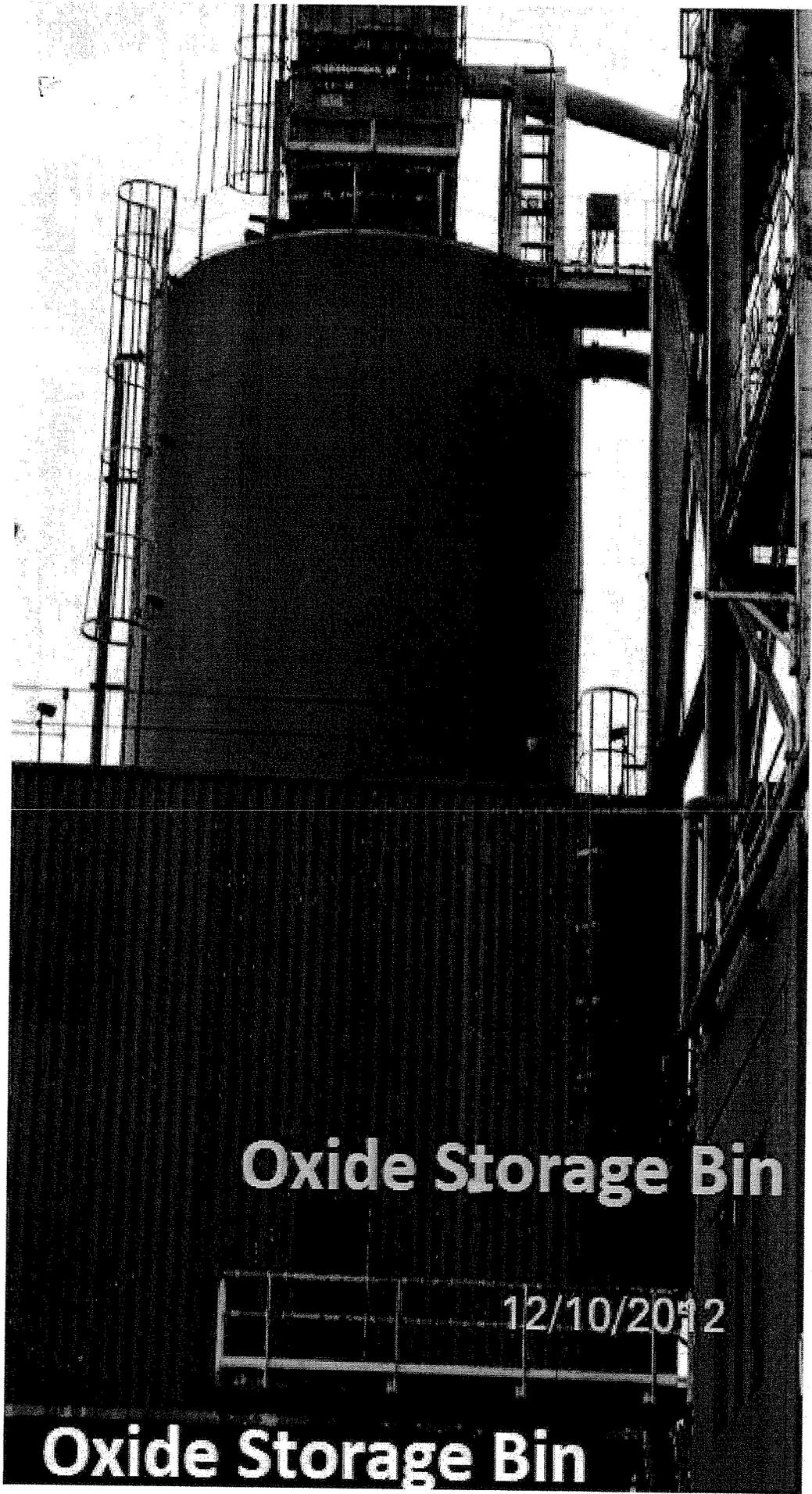
Respirator

Forklift

Bailey Oxides  
Safety Training Guide / Schedule  
2013

Month	Date	Topic	Video v	Handout v	Quiz v	Instructor	Attendance
January		Bloodborne Pathogens					
February		Hazardous Waste Spills					
March		Personal Protective Equipment (PPE)					
April		Lock Out/ Tag Out					
May		Fire Safety					
June		Heat Exhaustion					
July		Forklift Safety					
August		Respiratory					
September		Power Tool Safety					
October		Ergonomics					
November		Hazard Communications					
December		Review and/or makeup month					

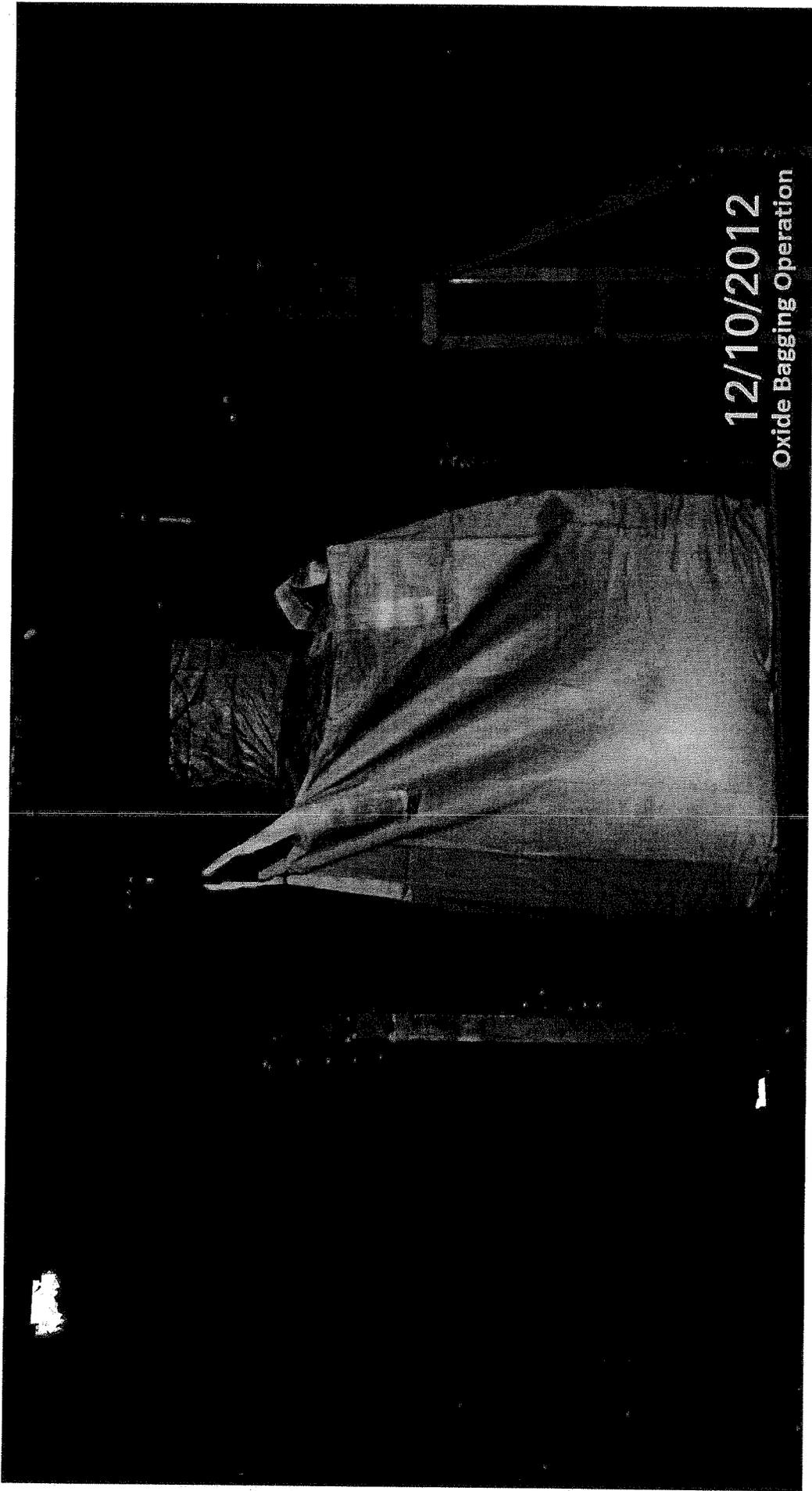
E



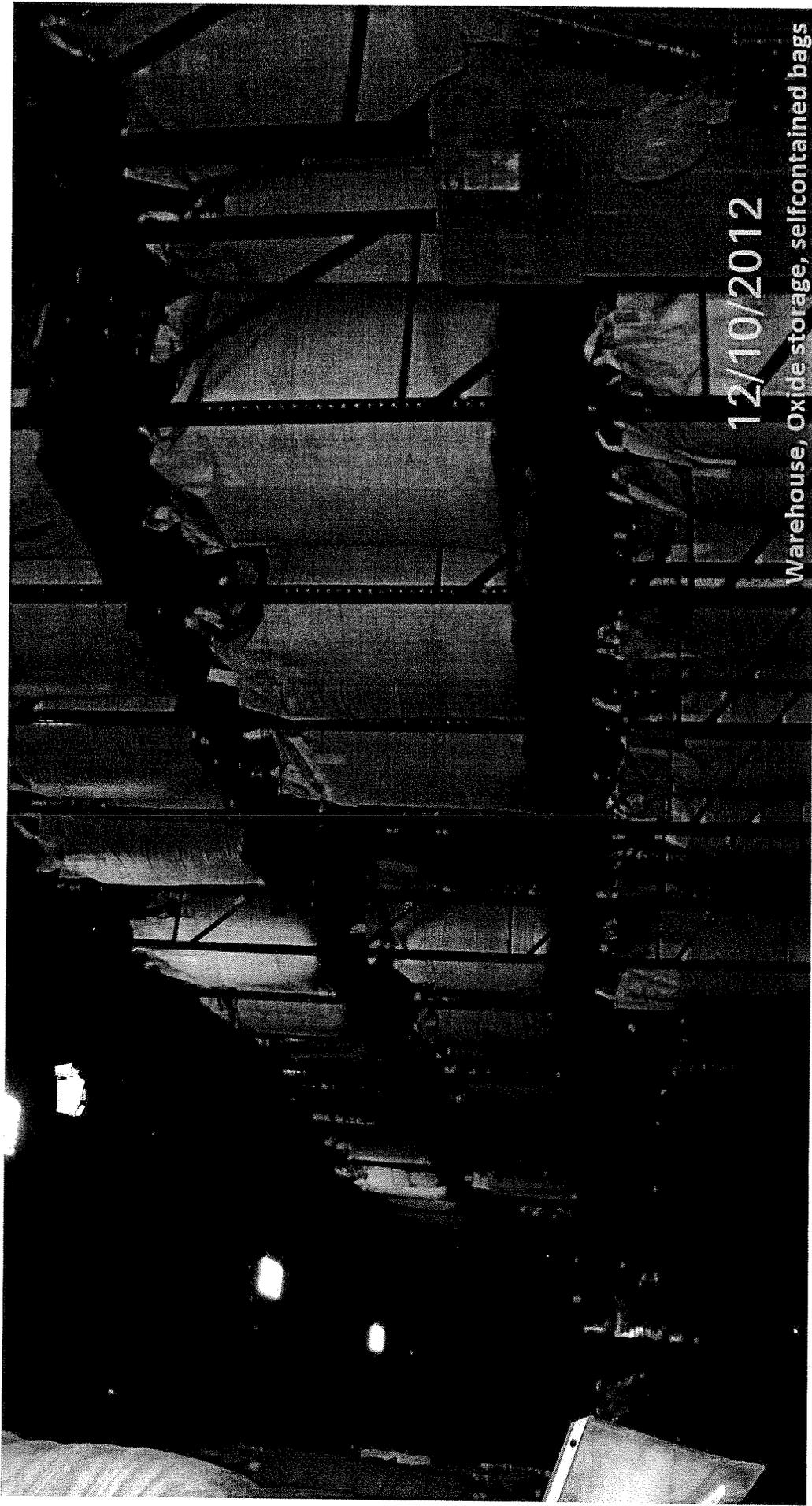
**Oxide Storage Bin**

12/10/2012

**Oxide Storage Bin**



12/10/2012  
Oxide Bagging Operation



12/10/2012

Warehouse, Oxide storage, selfcontained bags



F

Daily Operations  
Sampling and Analysis  
Summary

Date: \_\_\_\_\_  
Shift: \_\_\_\_\_  
Crew: \_\_\_\_\_

8:00                      10:00                      12:00                      14:00                      16:00                      18:00

SPL From Tank Farm							
	% HCl						
	% FeCl <sub>2</sub>						
	Specific Gravity						

Absorber							
	% HCl						
	% FeCl <sub>2</sub>						
	Specific Gravity						

Rinse Water							
	% HCl						
	% FeCl <sub>2</sub>						
	Specific Gravity						

CPL							
	% HCl						
	% FeCl <sub>2</sub>						
	Specific Gravity						

Scrubber							
	% HCl						
	Fan						
	% HCL Free						

Oxide							
		8:00	10:00	12:00	14:00	16:00	18:00
	Cl						
		9:00	11:00	13:00	15:00	17:00	19:00
	Cl						

G



## Acid Guidelines

The Acid Regeneration Facility (ARF) is optimized when the following guidelines are met. However; the parties will work together to optimize the pickling and acid regeneration operations, which may result in somewhat different actual operating parameters.

### A. Spent Pickle Liquor (SPL)

Acid used for pickling during the steelmaking process.

HCl	.4% to 3% by weight (10 to 40 gms HCl/1/ w/v)
FeCl <sub>2</sub>	17%-30% by weight (50 to 172 gms fe/1 w/v)

Minimum traces of SPL contaminants and foreign substances not normally by-products of pickling operations.

### B. Regenerated Acid (RA)

Acid produced from the regeneration process, prior to any blending or mixing therewith of any Make-Up acid or any New (commercial) Acid.

HCl	18-19% by weight
Fe	0.3-1% by weight (3 to 10 gms/1 w/v)
Fluorine as F	10 ppm maximum by weight
Total Organics	10 ppm maximum by weight

Minimum traces of miscellaneous metals will be present.

### C. Commercial Acid

New acid delivered to Bailey Oxides from an outside source.

Color	30 (APHA) maximum
HCl	20.0% minimum by weight / 36.0% maximum by weight
Fluorine as F	10 ppm maximum by weight
Metallic Impurities	Total concentration of all metallic impurities expressed as their element is not to exceed 0.05% and the maximum concentration of any individual metal is not to exceed 0.01%. Note: Metallic impurities shall be defined to include Silicon as metal
Suspended solids	10 ppm maximum by weight.
Temperature	100°F Maximum / 0°F Minimum

H

# BAILEY OXIDES, L.L.C. - Delta, Ohio

## Financial Requirements For Variance Approval: (Ohio Environmental Protection Agency)

Provide a detailed written estimate of the cost of removing, treating and disposing of the maximum amount or volume of spent hydrochloric acid, regenerated acid and iron oxide that can be stored on-site at any one time.

The cost estimate must also account for the decontamination of all areas where spent hydrochloric acid, regenerated acid and iron oxide were stored.

### Hydrochloric Acid / SPL Acid:

Acid is stored in 40,000 gal Storage tanks. There are 12 ea.storage tanks on site totally contained by a concrete pad and retaining walls.

### (Typical Monthly Inventory stored in Tanks)

R. A. Hydrochloric Acid - 265,943 Gal

SPL Acid (Spent Pickle Liquor) - 69,520 Gal

### Disposal / Spill of Acid (if required):

Trucks dispatched from our plant have an emergency number on their Bill of Lading for any type of spill they may incur: Emergency Contact Number is 800-255-3924 - Chem-Tel

If there is a spill at the plant, there are safety measures in place for contacting the proper environmental agencies.

Bailey Oxides uses as a third party environmental clean-up specialists:

Hepaco, LLC.

P.O. Box 26308

Charlotte, NC 28221-6308

Hepaco will do all of the proper soil /water sampling that may be required, removal of any contaminated soils. They will work in conjunction with our Insurance Carrier in making sure all issues are addressed.

Hepaco will also dispose of any contaminated acid that cannot be regenerated and decontaminate exposed storage areas. Cost of disposal of acid and soils etc. is handled through our Insurance Agency Liberty Insurance, located in Pittsburgh, PA. and Hepaco Environmental.

**Iron Oxide (Non Hazardous) - By Product:**

A minimal amount of Iron Oxide is stored on site.

Approximately 200 NT (In Storage Bags) is warehoused for shipment to customers.

Approximately 100 NT is stored in a Storage Bin.

Bag Storage Method - 2,000 lb. Storage Bags

Iron Oxide is stored in a warehouse building on pallet racks

**Disposal if required is handled by a third party Allied Waste Services**

The material for disposal has been certified environmentally for disposal and approved by an acceptable landfill site.

Disposal Costs of Iron Oxide / NT:

- a. Transportation Cost - 30 YD Roll-Off - \$175.00 / Pull
- b. Landfill Disposal Fee - \$38.00 / NT
- c. Average Cost for disposal if required - (a + b) above = \$ 46.75 / NT

NOTE: Above rates recently bid for removal of some old non specification sized stock

Clean-up if Iron oxide if spilled from bags - Broom sweep material into recycle bags for disposal.

Mr. Michael T. Coonfare, REM  
Hull & Associates, Inc.

Genesis Proposal No. 12-2416  
Page 2

**Base Scope of Services Pricing**

Genesis's pricing for this **Base Scope of Services** is \$67,100. Our pricing is contingent upon the aforementioned statement of work.

**Unit Rates**

Soil excavating, stockpiling and loading beyond the estimated 702 CY or 1,053 Tons **\$40.00 / Ton**

Non-Hazardous soils transportation and disposal at a Class II landfill (Williams County Republic Services) **\$45.50 / Ton**

Hazardous K062 impacted soils transportation and disposal at a licensed hazardous waste disposal facility (EQ-The Environmental Quality Company) **\$143.00 / Ton**

Hazardous K062 impacted rinseates transportation to a licensed hazardous waste disposal facility (EQ-The Environmental Quality Company) **\$360.00 / Lump Sum**

Hazardous K062 impacted rinseates disposal at a licensed hazardous waste disposal facility (EQ-The Environmental Quality Company) **\$130.00 / Drum**

The above-mentioned Base Scope of Services does **not** include the following:

- Environmental consulting, sampling or reporting,
- Clearing of any equipment or debris from the excavation areas effected,
- Any surface cover restoration such as concrete, asphalt, top soil, fill, grass seeding, etc.,
- Hazardous or non-hazardous soils excavating, stockpiling and loading beyond the estimated 702 CY or 1053 Tons refer to the Unit Rates,
- Hazardous or non-hazardous impacted soil or liquids transportation and/or disposal refer to the Unit Rates,

Genesis looks forward to the opportunity to perform this project. Should there be any additional information required or if there are any questions, please do not hesitate to call.

Sincerely,

GENESIS CONTRACTING, INC.



Matthew T. Roller  
Vice President

**Midwest Environmental Services, Inc.**

P.O. Box 218, Brownstown, IN 47220  
Phone: 812-358-5160 \*\* Fax: 812-358-5642

**\*\*Cost Estimate Form\*\***

Salesperson: FV

Date: \_\_\_\_\_

Generator: Bailey Oxides

Location: \_\_\_\_\_

Claim # or P.O. #: \_\_\_\_\_

Bill To: \_\_\_\_\_

Contact: \_\_\_\_\_

Phone: \_\_\_\_\_

PERSONNEL	*** Portal to Portal	# Personnel	HOURS	RATE	AMOUNT
PIC 4003	Incident Commander	1	40	\$125.00	\$5000.00
PICO 4004	Incident Commander OT	1	20	\$187.50	\$3750.00
	Inside Coordinator	1	40	\$75.00	\$3000.00
	Inside Coordinator OT			\$112.50	
	Health & Safety Officer	1	40	\$90.00	\$3600.00
	Health & Safety Officer OT	1	20	\$135.00	\$2700.00
PPM 4005	Project Manager	1	80	\$90.00	\$7200.00
PPMO 4006	Project Manager OT	1	80	\$135.00	\$10800.00
PEO 4011	Equipment Operator	4	320	\$60.00	\$19200.00
PEOO 4012	Equipment Operator OT	4	160	\$90.00	\$14400.00
PTD 4013	Truck Driver	10	400	\$60.00	\$24000.00
PTDO 4014	Truck Driver OT	10	200	\$90.00	\$18000.00
PHSC 4015	Health & Safety Coordinator	1	80	\$60.00	\$4800.00
PHSCO 4016	Health & Safety Coordinator OT	1	40	\$90.00	\$3600.00
	Disposal Coordinator	1	40	\$55.00	\$2200.00
	Disposal Coordinator OT			\$82.50	
PRT 4017	Recovery Technician	10	800	\$48.00	\$38400.00
PRTO 4018	Recovery Technician OT	10	400	\$72.00	\$28800.00
PS 4019	Secretary	1	40	\$32.00	\$1280.00
PSO 4020	Secretary OT			\$48.00	

- \* Regular time 7:00 a.m. to 3:30 p.m. Monday - Friday
- \* Over-time hours are charged 1.5 times the hourly rate
- \* Sunday & Holidays are charge at two times the regular hourly rate

PERSONNEL	PROTECTIVE EQUIPMENT	EACH	RATE	AMOUNT
PPCRST 4101	Chemical Resistant Steel Toe Boots	50	\$39.00	\$1950.00
	Level A Tier I Zytan Z500 (Fully encapsulated) SCBA	10	\$1,200.00	\$12000.00
	Additional suits	10	\$990.00	\$9900.00
	Level B Tier IV Tychem (Fully encapsulated SCBA	10	\$600.00	\$6000.00
	Additional suits	10	\$360.00	\$3600.00
	Level B Tier II Saranex with SCBA/Air Line	45	\$280.00	\$12600.00
	Additional suits	45	\$40.00	\$1800.00
	Level C Tier II Saranex with Full face respirator	36	\$145.00	\$5220.00
	Additional suits		\$40.00	
	Level C Tier I Poly Coated with Full face respirator	40	\$90.00	\$3600.00
	Additional suits		\$18.00	
PPPC 4104	Level D Tier III Poly Coated Suit	20	\$65.00	\$1300.00
	Additional suits	200	\$18.00	\$3600.00
PPST 4103	Level D Tier I Basic	60	\$35.00	\$2100.00
	Organic Vapor/Acid Gas Combo Cartridges	50	\$20.00	\$1000.00
	Organic Vapor/Acid Gas/HEPA Combo Cartridges	20	\$23.00	\$460.00
	Acid Gas Cartridges	100	\$16.00	\$1600.00
	Rain Suit - 3 piece	50	\$29.00	\$1450.00
	Latex Boot Covers	200	\$5.50	\$1100.00
	Chemical PVC Gloves	100	\$8.00	\$800.00
	PVC Gloves	360	\$5.00	\$1800.00
	Latex Gloves	20	\$12.00	\$240.00
	Nitrile Exam Gloves	20	\$14.00	\$280.00
	Chemical Tape	10	\$25.00	\$250.00
	Lime 23 ton loads	10	\$1,800.00	\$18000.00

EQUIPMENT ***		Portal to Portal	HOURS/EACH	RATE	AMOUNT
EVT	4200	Vacuum Truck	40	\$125.00	\$5000.00
EVT	4200	Vacuum Truck (OT)	20	\$150.00	\$3000.00
EVTM	4201	Vacuum Truck Mileage	920	\$2.50	\$2300.00
EVTA	4202	Vacuum Tanker	450	\$100.00	\$45000.00
EVTAM	4203	Vacuum Tanker Mileage	3880	\$2.50	\$9700.00
EESPRV	4204	Emergency Spill Response Van	10	\$240.00	\$2400.00
EESVM	4205	Emergency Spill Response Van Mileage	1840	\$1.75	\$3220.00
ERV	4206	Response Vehicle	15	\$100.00	\$1500.00
ERVM	4207	Response Vehicle Mileage	1380	\$1.50	\$2070.00
EST	4208	Service Truck	10	\$125.00	\$1250.00
ESTM	4209	Service Truck Mileage	920	\$1.50	\$1380.00
EBT	4210	Box Truck	4	\$200.00	\$800.00
EBTM	4211	Box Truck Mileage	1840	\$2.50	\$4600.00
ETT	4212	Transport Trailer	1	\$250.00	\$250.00
ETTM	4213	Transport Trailer Mileage	460	\$2.50	\$1150.00
EB	4214	dozer	1.2	\$18,000.00	\$21600.00
EBD	4215	dozer	1.2	\$1,000.00	\$1200.00
EME	4216	Excavator	1.2	\$20,000.00	\$24000.00
EMED	4217	Excavator Delivery	1.2	\$1,000.00	\$1200.00
EG	4218	5KW Generator	10	\$125.00	\$1250.00
EPW	4220	Pressure Washer (3500-4000 psi hot)	10	\$275.00	\$2750.00
ERC	4222	Radio Communication	50	\$50.00	\$2500.00
		Cell Phones	50	\$25.00	\$1250.00
ESS	4223	Skidsteer	1.2	\$5,000.00	\$6000.00
		ER Trailer	10	\$150.00	\$1500.00
ETD	4226	light plants x 6	1.2	\$4,500.00	\$5400.00
EQ	4227	Equipment Insurance	40	\$25.00	\$1000.00
		Mis Stress relief	10	\$500.00	\$2500.00
<b>SAFETY &amp; MONITORING EQUIPMENT</b>			<b>EACH</b>	<b>RATE</b>	<b>AMOUNT</b>
SMDS	4300	De-con Setup	10	\$400.00	\$4000.00
SMEEW	4301	Emergency Eye Wash	200	\$30.00	\$6000.00
SMLMA	4303	LEL/O <sub>2</sub> Meter with Alarm	5	\$200.00	\$1000.00
SMTFP	4304	Tripod & Fall Protection	5	\$200.00	\$1000.00
SMHLL	4305	Harness with Life Line	10	\$50.00	\$500.00
SMEPL	4306	Explosion Proof Light	5	\$100.00	\$500.00
SMVB	4307	Ventilation Blower	10	\$100.00	\$1000.00
SMDP	4308	Draeger Pump	20	\$125.00	\$2500.00
SMDT	4309	Draeger Tubes	1.2	\$1,000.00	\$1200.00
SMSATR	4310	SCBA Air Tank Refill	25	\$125.00	\$3125.00
<b>MISCELLANEOUS EQUIPMENT &amp; SUPPLIES</b>			<b>EACH</b>	<b>RATE</b>	<b>AMOUNT</b>
MEAP	4403	Acid Pump 3"	50	\$500.00	\$25000.00
		Poly Chemical Transfer Pump 2"	25	\$250.00	\$6250.00
MEPT	4406	21000 gallon Poly Tank glass lined frac tanks x 10	100	\$75.00	\$7500.00
MEPL	4407	Portable Lighting	10	\$95.00	\$950.00
MEPS	4412	6mm Poly Sheeting	50	\$75.00	\$3750.00
MECT	4413	Caution Tape	10	\$31.50	\$315.00
MEDT	4416	Duct Tape	25	\$10.00	\$250.00
MEHT	4417	Hand Tools	200	\$25.00	\$5000.00
MEP	4418	Digital Camera/Processing	10	\$40.00	\$400.00
MEROL	4419	Roll-Off Liner	10	\$65.00	\$650.00
MEMISC	4450	Mis materials and supplies	1.2	\$25,000.00	\$30000.00
<b>SPILL CONTAINMENT SUPPLIES</b>			<b>EACH</b>	<b>RATE</b>	<b>AMOUNT</b>
SCABP	4501	Absorbent Pads (100/bag)	50	\$100.00	\$5000.00
SCAB	4502	8' Absorbent Booms (4/bag)	25	\$100.00	\$2500.00
SCCA	4503	Clay Absorbent (50 lbs.)	100	\$14.00	\$1400.00
		Straw Bale	100	\$9.00	\$900.00
SCSS	4506	Grass Seed lbs.	200	\$9.00	\$1800.00
MEMISC	4450	Grass Seeder hydro seed	1.2	\$1,500.00	\$1800.00
SCSD	4509	55 gallon Steel Drum	20	\$70.00	\$1400.00
<b>PER DIEM</b>				<b>RATE</b>	<b>AMOUNT</b>
DIEM	4910	Per Diem	180	\$125.00	\$22500.00

DISPOSAL					RATE	AMOUNT	
DD	4600	Disposal - MW	drums	20	\$85.00	\$1700.00	
DG	4605	Disposal - MW	HCI < 20% gallons	400000	\$2.30	\$920000.00	
DYARD	4615	Disposal - MW	yards	100	\$45.00	\$4500.00	
DPRO	4625	Profile Analysis		3	\$150.00	\$450.00	
<b>CONTRACTORS *** Includes 20% Mark up</b>					<b>JOB</b>	<b>RATE</b>	<b>AMOUNT</b>
CON	4900	Topsoil delivery		1.2	5000	\$6000.00	
TRANSPORTATION CHARGES					TRIP	RATE	AMOUNT
TRANS	4800	Transportation	10 Frac Tanks Mob/Demob	1.2	10000	\$12000.00	
TRANS	4800	Mob Roll-Off		10	375	\$3750.00	
TRANS	4800	DeMob Roll-Off		10	375	\$3750.00	
DRT	4810	Demurrage Roll-Off Truck		20	125	\$2500.00	
DOCUMENTATION					HOUR	RATE	AMOUNT
MEMISC	4705	Ohio EPA Report/Consulting Services	each	1	\$7,500.00	\$7500.00	
DSEC	4700	Documents/Reports Secretarial		20	\$25.00	\$500.00	
DTECH	4705	Documents/Reports Technical		20	\$75.00	\$1500.00	

**Daily Total      \$1539490.00**

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THE UNIVERSITY OF CHICAGO LIBRARY

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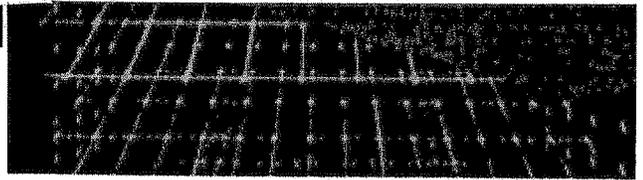
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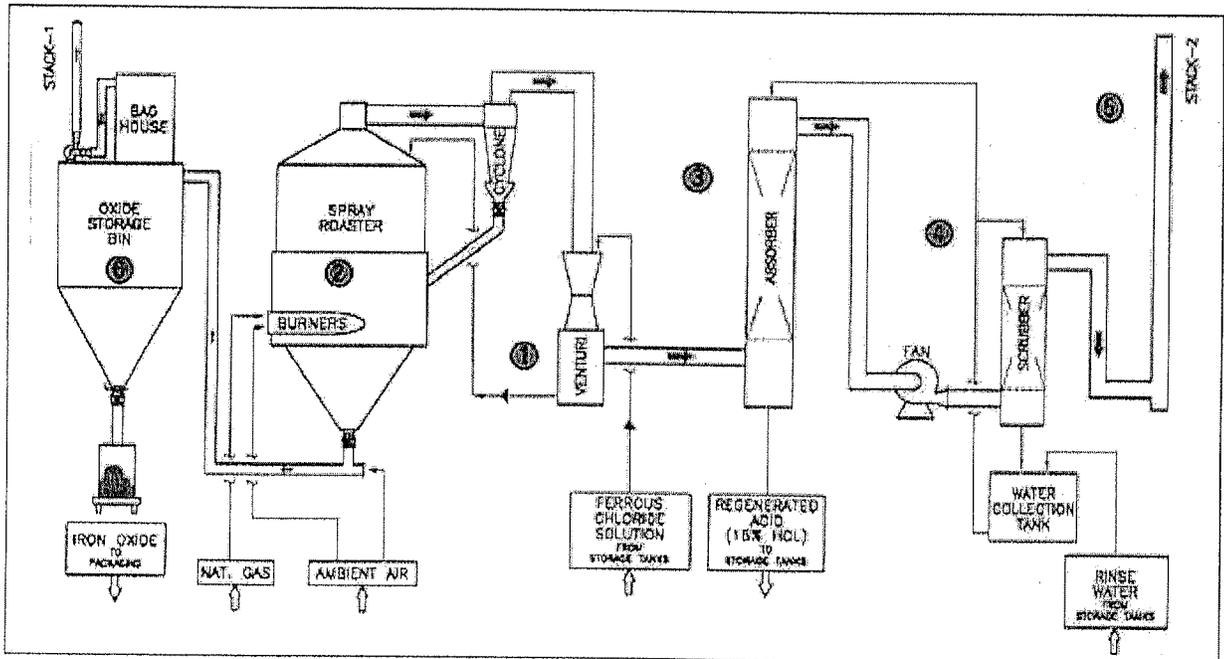
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# Bailey Oxides, L.L.C.



## Hydrochloric Acid Regeneration Process

- [Home](#)
- [ISO 9001 Certified](#)
- [HCl Regeneration Process](#)
- [Capabilities](#)
- [Facility Manufacturers](#)
- [Iron Oxide Applications](#)
- [Custom Iron Oxide](#)
- [USA Iron Oxide Specifications](#)
- [Packaging and Availability](#)
- [Locations](#)



*Bailey Oxides utilizes Andritz technology to monitor plant operations.*

The key reaction in a regeneration plant is the decomposition of the iron chloride solution within the spray roasting reactor. This reaction requires the presence of water vapor, and oxygen at temperatures between approximately 600 and 1600 degrees F. The following basic reactions take place:



Spent pickle liquor is fed from the tank farm to the regeneration plant, which consists essentially of and acid preconcentrator (also called a venturi recuperator) (1), a spray roasting reactor (2), an absorption column (3) and a tailgas scrubber (4).

Spent acid from the tank farm is preconcentrated in the venturi recuperator (1) utilizing hot gases from the spray roasting reactor (2).

The spray roasting reactor (2) consists of a cylindrical vessel lined with refractory ceramic material with several burners arranged tangentially around the perimeter. Preconcentrated wastes acid is injected through spray nozzles into the upper part of the reactor (2). The burners, which are oil or gas fired, supply hot gases to the inside of the reactor (2), thus producing vortex flow. Droplets produced by the nozzles are entrained by the vortex flow and intimately mixed with the reactor atmosphere. As the droplets descend, water and hydrochloric acid evaporate so that an agglomeration of chloride crystal form on the crust. When the vapor escapes, the crust is frequently perforated or broken. The chloride particles formed in this manner produce a metal oxide and hydrochloric acid gas, with the original agglomerates remaining largely intact.

The oxide is continuously withdrawn from the cone shaped bottom of the roaster (2) by a rotary feeder. It is then pneumatically conveyed to a storage bin (6).



Reactor exhaust gases are removed from the reactor, and depending on the type of plant, passed through one or two cyclones for dust precipitation. In the downstream preconcentrator (1), the exhaust gases are cooled to approximately 200 degrees F in direct contact with the solution.

Hydrochloric acid gas is subsequently removed from the cooled exhaust gases in an adiabatic absorption column, and leaves the column in the form of hydrochloric acid at a concentration of approximately 18%. The roaster gases at this point contain only very small amounts of hydrochloric acid in addition to water vapor. Inert gases such as nitrogen, oxygen, and carbon dioxide, are then removed from the column by fan. Water is then fed into the fan, and a tail gas scrubber (4) to remove most of the last traces of hydrochloric acid from the roaster gases. Together with rinse water, this water is used to absorb hydrochloric acid in the absorber (3). A slight negative pressure is maintained in the roaster reactor as well as in all other downstream parts of the plant by the exhaust fan, so that vapor, or oxide dust are prevented from escaping into the atmosphere (5).

**[Home](#) / [ISO 9001 Certified](#) / [HCl Regeneration Process](#) / [Capabilities](#) / [Facility](#) / [Manufacturers](#) / [Iron Oxide Applications](#) / [Custom Iron Oxide](#) / [USA Iron Oxide](#) / [Specifications](#) / [Packaging and Availability](#) / [Locations](#)**

***Bailey Oxides, L. L. C.***

***rbarcelonajr@cfl.rr.com***

***Phone: 724-745-9500 Fax: 724-745-7300***

***Headquarters: 125 Technology Drive, Canonsburg, PA 15317***

***copyright 2012 Bailey Oxides, LLC***



# Operations PM Checklist

Name: \_\_\_\_\_

Date: \_\_\_\_\_ Days / Nights

Tank Farm					
Tank 1	Tank 2	Tank 3	Tank 4	Tank 5	Tank 6
Tank 7	Tank 8	Tank 9	Tank 10	Tank 11	Tank 12

- |   |     |    |
|---|-----|----|
| Valves open on tanks match what is in the shift log?              | Yes | No |
| Small pit is at an acceptable level?                              | Yes | No |
| Double-Dumps Functioning Properly?                                | Yes | No |
| Shaker Box Functioning Properly?                                  | Yes | No |
| Oxide Convey Tube in good repair?                                 | Yes | No |
| Venturi Hoses all Spraying Evenly?                                | Yes | No |
| Cyclone Rotaries Turning and Temperature Accurate for Plant Mode? | Yes | No |
| Roaster Feed Flow Meter Leaking?                                  | Yes | No |
| Flex Hose to Boom Header in Good Condition?                       | Yes | No |
| Does any Grating need Replaced?                                   | Yes | No |
| Are there any holes in the plant duct work creating excess draw?  | Yes | No |

Pump	Seal Water OK?	Lines Leaking?	Notes	Amps/HP
Truck Unloading Pump	Yes No	Yes No		
Truck Loading Pump	Yes No	Yes No		
RA Transfer Pump	Yes No	Yes No		
RW Pump	Yes No	Yes No		
SPL Pump	Yes No	Yes No		
Absorber Feed Pump		Yes No		
Venturi Circ. Pump	Yes No	Yes No		
Roaster Feed Pump	Yes No	Yes No		
RA Circ. Pump	Yes No	Yes No		
Scrubber Pump	Yes No	Yes No		
Continuous Booster		Yes No		
Test Spray Booster		Yes No		
MCC Room Temperature				
Exhaust Fan Bearing (Closest to Motor)				
Exhaust Fan Bearing (Closest to Fan Housing)				



J.Z.

# Operations PM Checklist

Name: \_\_\_\_\_

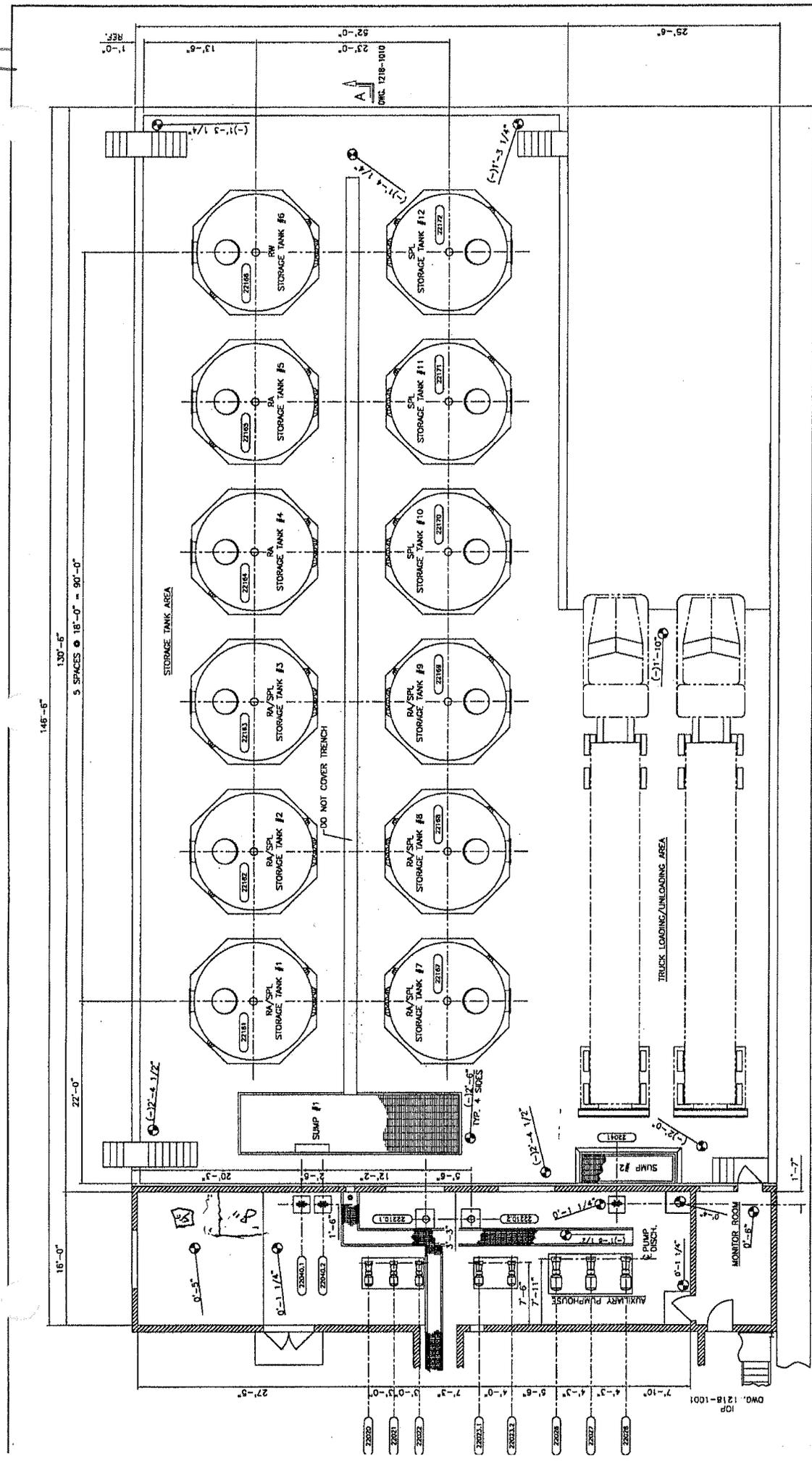
Date: \_\_\_\_\_ Days / Nights

Give details on *anything* that isn't OK on the back of this paper. If necessary, fill out a work order. This page to be turned in daily with your daily shift logs.

Cleanliness Report		
Trash Dumpster	Full	OK
Tank Farm/Truck Dock	Needs Cleaned	OK
Under Roaster/Shaker Box	Needs Cleaned	OK
Driveway	Needs Cleaned	OK
Restroom/Locker Rooms	Needs Cleaned	OK
East Pump Room	Needs Cleaned	OK
West Pump Room	Needs Cleaned	OK
Wet lab	Needs Cleaned	OK
Fan Room	Needs Cleaned	OK
Control Room	Needs Cleaned	OK
Burner/Concrete Level	Needs Cleaned	OK
Venturi Spray Level	Needs Cleaned	OK
Boom Level	Needs Cleaned	OK

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

K



**ANDRITZ**  
ANDRITZ MINERALS INC.

Client: BAILEY - PVS

Project: IRON OXIDE PLANT  
GENERAL ARRANGEMENT  
TANK FARM PLAN

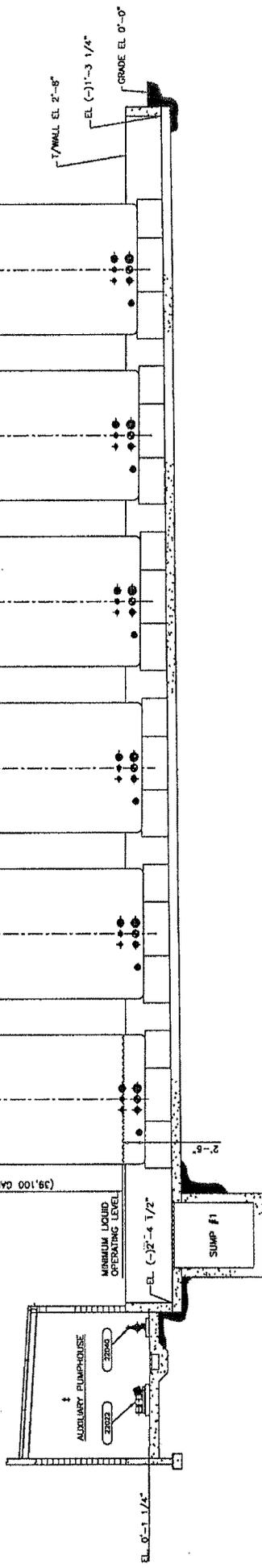
Project No.: 210-1218  
Rev. No.: 13201  
Drawing No.: 1218-1009  
Drawing Date: 2/15/98  
Drawing By: LBL  
Drawing Date: 6/98  
Drawing Date: 6/98

1218-1009  
PLOTTED 6/11/98 1:43

REV.	DATE	REMARKS
1	6/98	RELEASED FOR CONSTRUCTION

CONFIDENTIAL

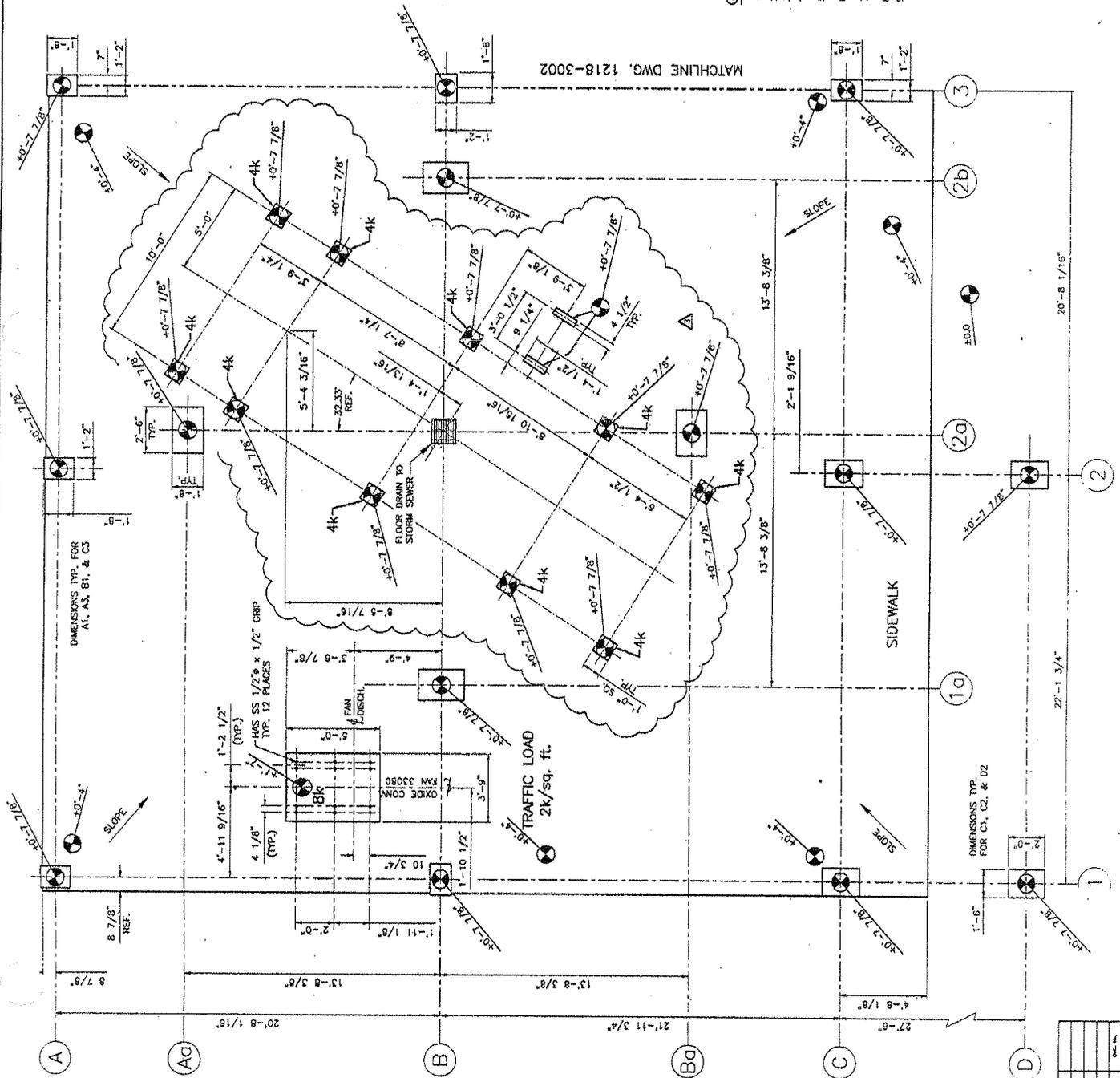
NO.	DATE	REVISION



SECTION A-A  
DWG. 1218-1009

		Client Name No.	BAILY - PMS
IRON OXIDE PLANT GENERAL ARRANGEMENT TANK FARM SECTION		Project No.	1218-1010
CONFIDENTIAL This drawing is the property of ANDRITZ RUTHERFORD, INC. and is not to be distributed, copied, or used in any way without the written consent of ANDRITZ RUTHERFORD, INC.		Scale	AS SHOWN
REV.	DATE	BY	CHKD.
1	03/98	LBL	03/98
PROJECT NO. 1218-1010 DRAWING NO. 1218-1010 SHEET NO. 1218-1010		DATE	03/98
DRAWN BY LBL CHECKED BY LBL DATE 03/98		PROJECT NO.	1218-1010

PLOTTED 6/11/1998 1:43

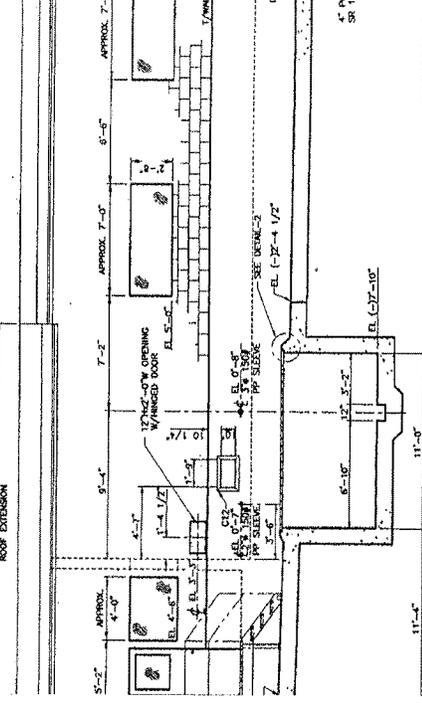
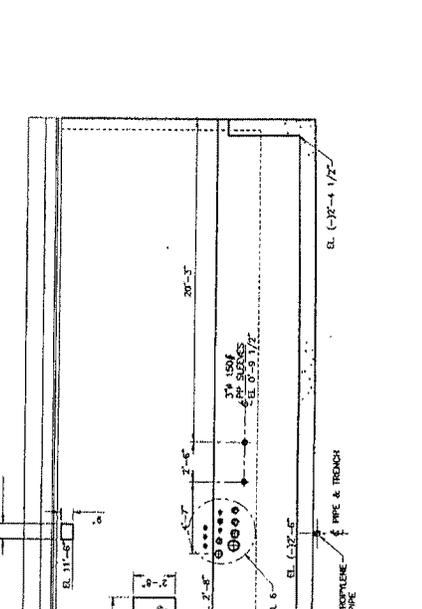
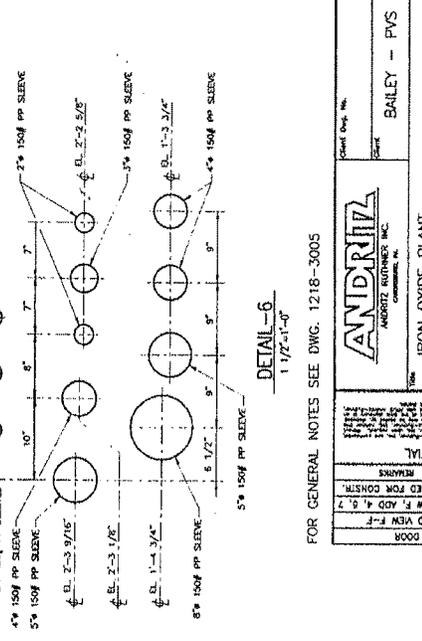
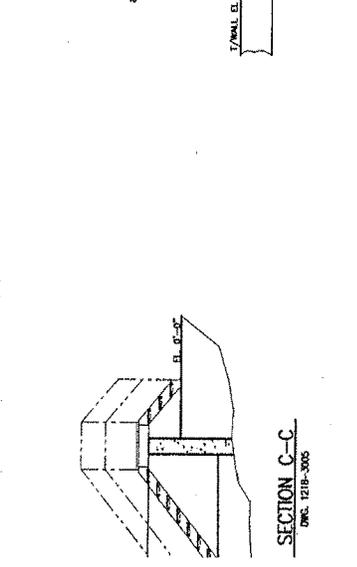
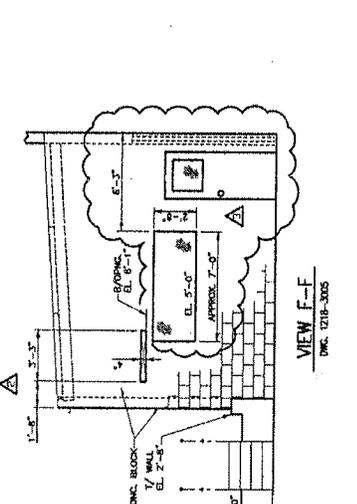
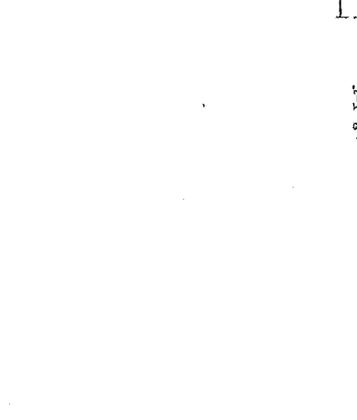
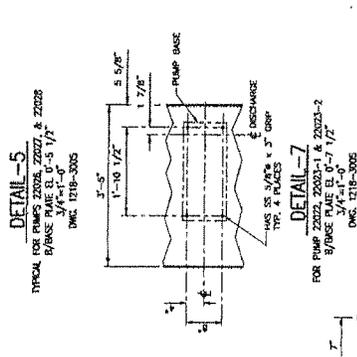
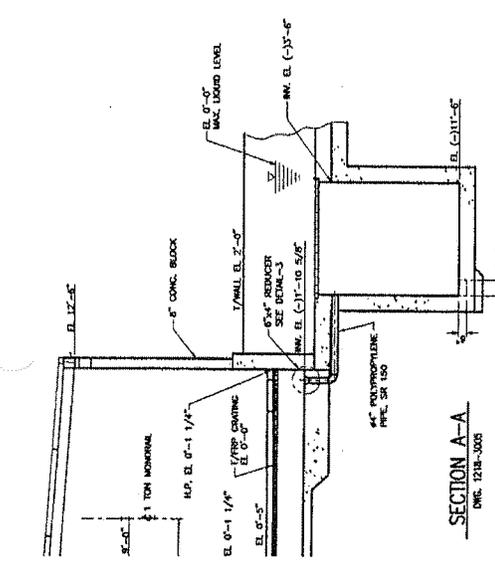
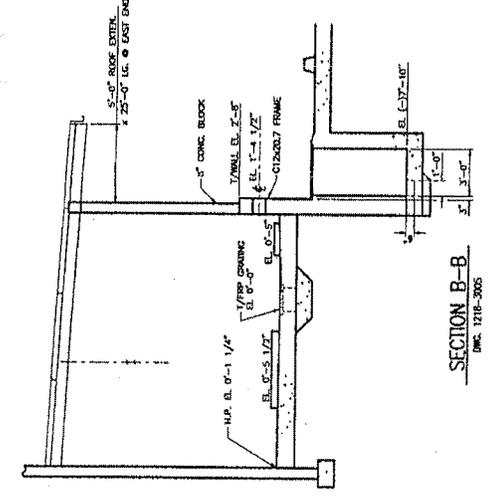
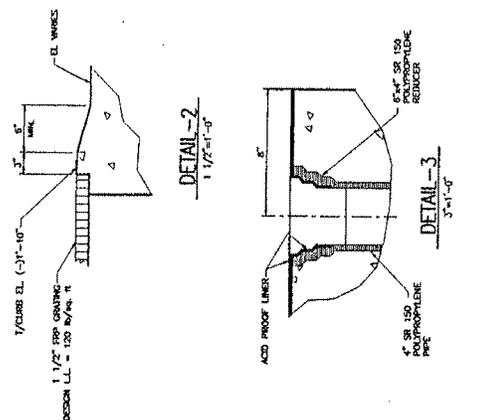
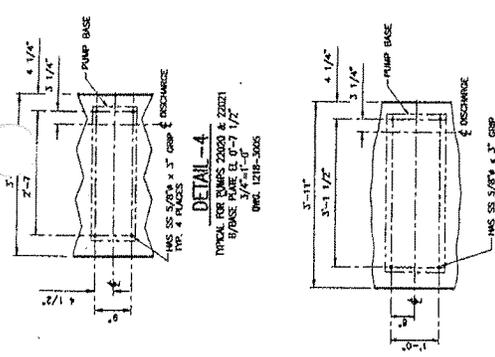


**GENERAL NOTES:**

- 1) FOUNDATION LOADS IN KIPS.
- 2) DESIGN OF CONCRETE SHALL BE IN ACCORDANCE WITH THE LOCAL BUILDING CODE.
- 3) ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AFTER 28 DAYS.
- 4) DIMENSIONS AND ELEVATIONS ARE TO FINISHED SURFACES.
- 5) FLOOR FINISHES, EQUIPMENT FLOOR AND WALLS, INSULATION, FLOOR COING, ACID PROOF COATING OR GROUT RESISTANT TO SPLLS OF 1/2" @ 1957.
- 6) THE HILTI HVA ADHESIVE ANCHORING SYSTEM SHALL BE USED FOR ANCHOR BOLTING OF EQUIPMENT (HAS 304 STAINLESS ANCHOR ROD ASSEMBLY AND HVA ADHESIVE CAPSULE).
- 7) DIMENSIONS OF ANCHOR BOLT LOCATION FOR REFERENCE ONLY. THE EQUIPMENT, ONCE ANCHORED, SHALL BE USED AS A TEMPLATE TO DRILL THE ANCHOR BOLT HOLES.
- 8) ALL EXPOSED CONCRETE SHALL HAVE A 3/4" GUMBLET.
- 9) ALL EXPOSED CONCRETE SURFACES SHALL BE PAINTED IN ACCORDANCE WITH HARS PAINT SPEC. 210-1218-PZ.

<b>ANDRITZ</b> ANCHOR BOLT SYSTEMS, INC.		BAILEY - PVS	
IRON OXIDE PLANT FOUNDATION LAYOUT PLAN VIEW @ EL. 0'-0"			
Project No.	210-1218	Sheet No.	1218-3001
Client	DELTA, OH	Date	2/98
Scale	3/8" = 1'-0"	Drawn By	JK
Checked By		Reviewed By	
CONFIDENTIAL			
1/78	GENERAL REVISION		
4/78	REVISE OXIDE FAN PAD		
2/78	RELEASED FOR CONSTR.		
2/78	REVISION		





FOR GENERAL NOTES SEE DWG. 1218-3005

		BAILEY - PVS	
IRON OXIDE PLANT FOUNDATION LAYOUT TANK FARM SECTIONS & DETAILS			
Project No. 210-1218 Drawing No. 1218-3005 Scale 1/2" = 1'-0"	Date 2/98 Drawn by C. O. Checked by R. Z.	Project No. 210-1218 Drawing No. 1218-3005 Scale 1/2" = 1'-0"	1218-3006 PLOTTED 8/27/1998 10:24

CONFIDENTIAL

REV.	DATE	BY	REMARKS
1/98			ASCD DOOR
5/98			REVERSED VIEW F-F
4/98			REV. W/F ADD 4, 0, 2
3/98			RELEASED FOR CONSTR.

10/24/13

10/29/13

October 24, 2013

Writer's Direct Number: 614 462-2207  
Direct Fax: 614 222-3482  
Internet: Joseph.Reidy@icemiller.com

**Delivered via E-Mail**

Annette De Havilland, Lead Engineer  
Division of Materials & Waste Management  
Ohio EPA  
50 West Town Street, Ste. 700  
P.O. Box 1049  
Columbus, OH 43216-1049

**RE: *Application for Variance from Classification as a Waste Under OAC 3745-50-24(B) for Spent Pickle Liquor ("SPL") Reclaimed During Production of Ferrous Oxide***

Dear Ms. De Havilland:

Per your conversations with Paul Carus, I am writing to provide this Addendum to the Application for Variance from Classification as a Waste Under OAC 3745-50-24(B) for Spent Pickle Liquor Reclaimed During Production of Ferrous Oxide that was previously submitted by Bailey PVS Oxides, LLC for its facility ("Facility") at 6191 County Road 10, Delta, Ohio, to address the issues that you have flagged for resolution in order to approve the requested variance. As a general note, assuming the variance is approved and the Facility is sold, it will be acquired and operated by ReMuriate Technologies, LLC ("ReMuriate"), which is a subsidiary of Carus Family Investments LLC.

1. **Leak Detection.** Each of the 12 tanks will be retrofitted with a slotted fiber glass shield that will be placed between the tank bottom and the top of the concrete pad on which it sits, per the attached plan. As described on the plan, each tank will first be removed to allow for inspection and, if necessary, repair of its underlying concrete pad. The concrete pad will then be sealed before installation of the fiber glass shield and re-attachment of the tank. Tanks will then be leak tested before they are used for storage of SPL.

2. **Pipeline from Worthington Steel.** Attached are copies of the plans for the SPL pipeline that runs from Worthington Steel to the facility. Assuming that Worthington Steel enters into a contract with ReMuriate for the reclamation of its SPL, this pipeline will be re-opened, inspected and maintained by ReMuriate, which will be solely responsible for its operation, including leak detection and repair.

3. **Financial Assurance.** Financial assurance for the removal and proper disposal of SPL that may be present at the Facility at the time that it may cease operation will be provided in the form of an affidavit from Paul Carus, on behalf of Carus Family Investments LLC, to document that company's commitment to maintain sufficient funds in its bank account to pay for

Annette De Havilland  
October 24, 2013  
Page 2

the cost of this work. Based on a maximum SPL storage volume of 288,000 gallons, per the correspondence from USEcology, the cost of this work is estimated to be \$158,169.00. A copy of the draft affidavit and the cost estimate are provided for your review.

4. **Transfer of Variance.** We request that the variance provide for its transfer to a new owner/operator conditioned on the Agency's acceptance of the financial assurance provided by that entity, which would replace the financial assurance of Remuriate and release Remuriate from further responsibility under the variance.

We greatly appreciate your assistance, as we work towards the acquisition and re-opening of the Facility. If you have any questions, please do not hesitate to contact Mr. Carus or me.

Sincerely,

ICE MILLER LLP



Joseph M. Reidy

Enclosures

cc: Paul Carus, Carus Family Investments LLC

# **SPONSELLER GROUP, INC.**

ENGINEERS • DESIGNERS • BUILDERS • PROJECT MANAGERS

October 23, 2013

Ms. Annette De Havilland  
Lead Engineer  
Division of Materials & Waste Management  
Ohio EPA  
614/728-5373

Dear Ms. De Havilland:

The enclosed package is in response to communications relayed to us by Mr. Paul Carus who has been working with the OEPA with the goal of his company purchasing the facility known as Bailey-PVS Oxides LLC County Road 10 Delta, OH 43515 and restoring the site to an ongoing operation.

Mr. Carus has asked Sponseller Group to submit to the OEPA a plan which specifically addresses the issues OAC 3745-66-93 (C) (3) raises.

The enclosed plan is designed to ensure that the operators can detect failure of any of the 12 storage tanks in the tank containment area within 24 hours.

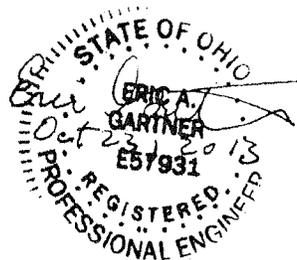
To that end I submit the package with the understanding that I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. 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.

Sincerely,



Eric A Gartner P.E.  
Senior Mechanical Engineer  
Sponseller Group, Inc.  
1600 Timber wolf Drive  
Holland, Ohio 43528  
419 861 3000

Enclosures ((1) Design Drawing)







**DESIGN CONDITIONS:**

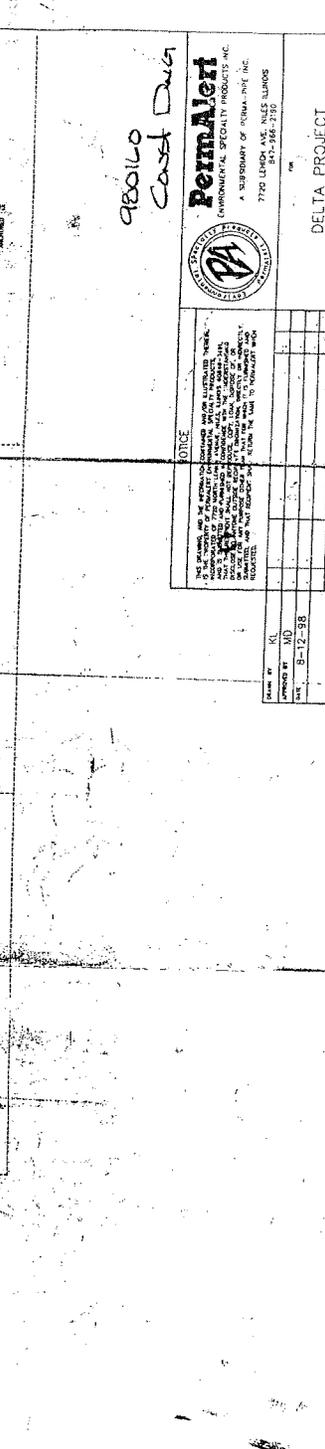
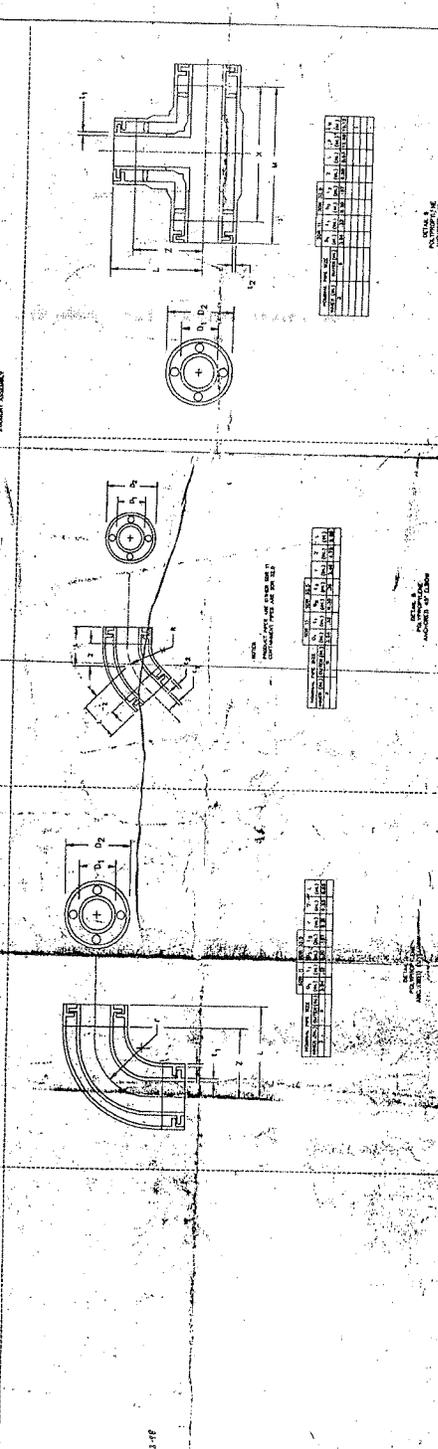
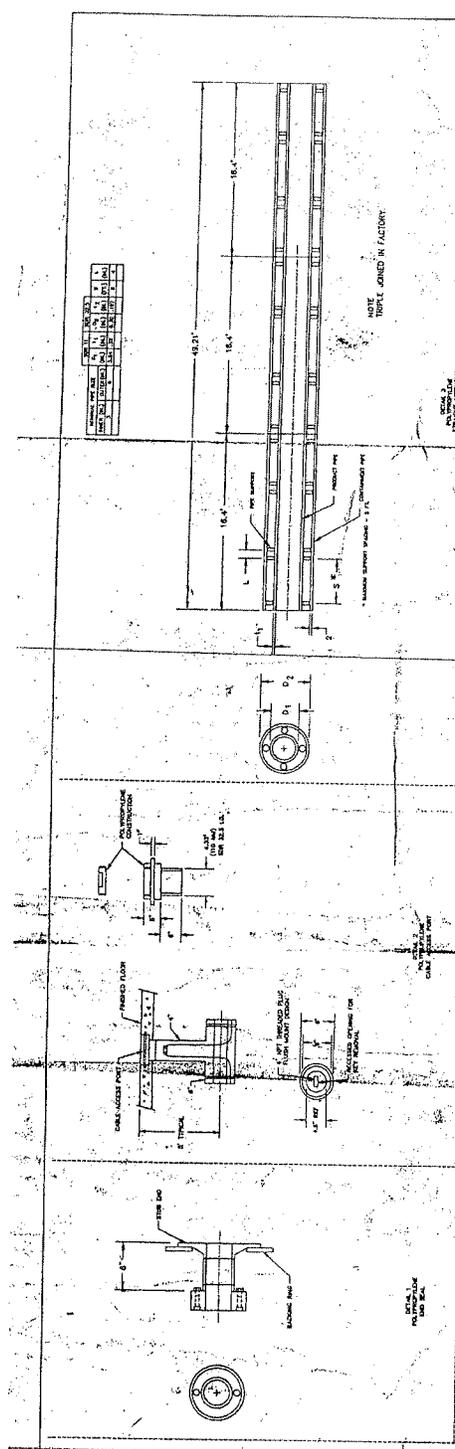
- 1.0 DESIGN TEMPERATURE SHALL BE 100 DEG. F.
- 2.0 AMBIENT INSTALLATION TEMPERATURE IS ASSUMED TO BE 70 DEG. F.
- 3.0 INSTALLATION PROCEDURE SHALL BE AS FOLLOWS:
  - 3.1 DOUBLE WELDED JOINTS SHALL BE WELDED IN 48 IN. FROM EACH END OF THE PIPE.
  - 3.2 JOINTS SHALL BE WELDED IN ACCORDANCE WITH THE WELDING PROCEDURE SPECIFICATION (WPS) FOR THE PIPE AND FITTINGS.
  - 3.3 JOINTS SHALL BE WELDED IN ACCORDANCE WITH THE WELDING PROCEDURE SPECIFICATION (WPS) FOR THE PIPE AND FITTINGS.
  - 3.4 JOINTS SHALL BE WELDED IN ACCORDANCE WITH THE WELDING PROCEDURE SPECIFICATION (WPS) FOR THE PIPE AND FITTINGS.
  - 3.5 JOINTS SHALL BE WELDED IN ACCORDANCE WITH THE WELDING PROCEDURE SPECIFICATION (WPS) FOR THE PIPE AND FITTINGS.
  - 3.6 JOINTS SHALL BE WELDED IN ACCORDANCE WITH THE WELDING PROCEDURE SPECIFICATION (WPS) FOR THE PIPE AND FITTINGS.
  - 3.7 JOINTS SHALL BE WELDED IN ACCORDANCE WITH THE WELDING PROCEDURE SPECIFICATION (WPS) FOR THE PIPE AND FITTINGS.
  - 3.8 JOINTS SHALL BE WELDED IN ACCORDANCE WITH THE WELDING PROCEDURE SPECIFICATION (WPS) FOR THE PIPE AND FITTINGS.
  - 3.9 JOINTS SHALL BE WELDED IN ACCORDANCE WITH THE WELDING PROCEDURE SPECIFICATION (WPS) FOR THE PIPE AND FITTINGS.
  - 3.10 JOINTS SHALL BE WELDED IN ACCORDANCE WITH THE WELDING PROCEDURE SPECIFICATION (WPS) FOR THE PIPE AND FITTINGS.
- 4.0 ALL FITTINGS SHALL BE DOUBLE ANCHORED.
- 5.0 SUPPORTS SHALL BE LOCATED IN ACCORDANCE WITH THE WELDING PROCEDURE SPECIFICATION (WPS) FOR THE PIPE AND FITTINGS.
- 6.0 JOINTS SHALL BE WELDED IN ACCORDANCE WITH THE WELDING PROCEDURE SPECIFICATION (WPS) FOR THE PIPE AND FITTINGS.
- 7.0 JOINTS SHALL BE WELDED IN ACCORDANCE WITH THE WELDING PROCEDURE SPECIFICATION (WPS) FOR THE PIPE AND FITTINGS.
- 8.0 JOINTS SHALL BE WELDED IN ACCORDANCE WITH THE WELDING PROCEDURE SPECIFICATION (WPS) FOR THE PIPE AND FITTINGS.
- 9.0 JOINTS SHALL BE WELDED IN ACCORDANCE WITH THE WELDING PROCEDURE SPECIFICATION (WPS) FOR THE PIPE AND FITTINGS.
- 10.0 JOINTS SHALL BE WELDED IN ACCORDANCE WITH THE WELDING PROCEDURE SPECIFICATION (WPS) FOR THE PIPE AND FITTINGS.

**FACTORY TESTS:**

- 1.0 FACTORY TESTING OF WELDED JOINTS WAS NOT SPECIFIED.
- 2.0 INSTALLER IS RESPONSIBLE FOR THE FOLLOWING:
  - 2.1 CONNECTIONS TO TANKS AND EQUIPMENT INCLUDING UNDERMINING OR CUTTING CONNECTIONS.
  - 2.2 ALL WELD SEAMS AND JOINTS SHALL BE BY THE INSTALLER.
  - 2.3 CONNECTIONS TO TANKS AND EQUIPMENT INCLUDING UNDERMINING OR CUTTING CONNECTIONS.
  - 2.4 ALL WELD SEAMS AND JOINTS SHALL BE BY THE INSTALLER.
  - 2.5 CONNECTIONS TO TANKS AND EQUIPMENT INCLUDING UNDERMINING OR CUTTING CONNECTIONS.
  - 2.6 ALL WELD SEAMS AND JOINTS SHALL BE BY THE INSTALLER.
  - 2.7 CONNECTIONS TO TANKS AND EQUIPMENT INCLUDING UNDERMINING OR CUTTING CONNECTIONS.
  - 2.8 ALL WELD SEAMS AND JOINTS SHALL BE BY THE INSTALLER.
  - 2.9 CONNECTIONS TO TANKS AND EQUIPMENT INCLUDING UNDERMINING OR CUTTING CONNECTIONS.
  - 2.10 ALL WELD SEAMS AND JOINTS SHALL BE BY THE INSTALLER.

**MATERIALS:**

- 1.0 ALL MATERIALS SHALL BE AS SPECIFIED IN THE WELDING PROCEDURE SPECIFICATION (WPS) FOR THE PIPE AND FITTINGS.
- 2.0 ALL MATERIALS SHALL BE AS SPECIFIED IN THE WELDING PROCEDURE SPECIFICATION (WPS) FOR THE PIPE AND FITTINGS.
- 3.0 ALL MATERIALS SHALL BE AS SPECIFIED IN THE WELDING PROCEDURE SPECIFICATION (WPS) FOR THE PIPE AND FITTINGS.
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- 9.0 ALL MATERIALS SHALL BE AS SPECIFIED IN THE WELDING PROCEDURE SPECIFICATION (WPS) FOR THE PIPE AND FITTINGS.
- 10.0 ALL MATERIALS SHALL BE AS SPECIFIED IN THE WELDING PROCEDURE SPECIFICATION (WPS) FOR THE PIPE AND FITTINGS.



98010  
Cast Dwg

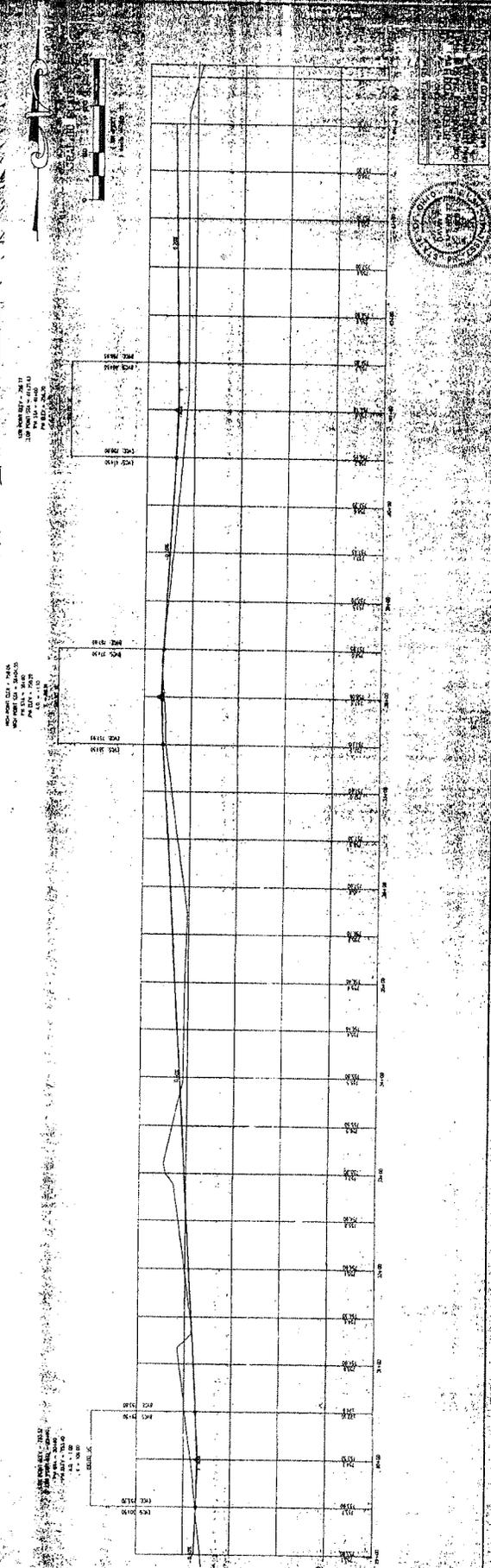
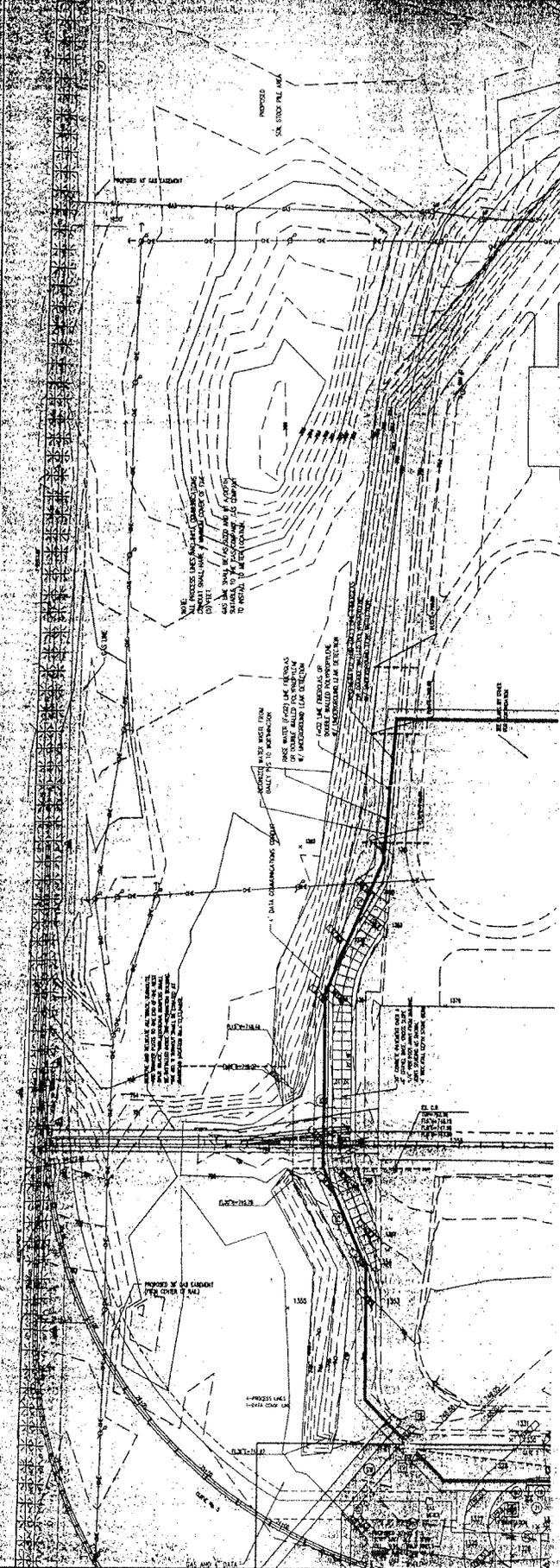
NOTICE  
THE DRAWING AND THE SPECIFICATIONS ARE THE PROPERTY OF PERMA-ALERT ENVIRONMENTAL SPECIALTY PRODUCTS, INC. A SUBSIDIARY OF PERMA-ALERT INC. 7700 LINDA AVE. NILES ILLINOIS 61778-1000. ALL RIGHTS RESERVED. NO PART OF THIS DRAWING OR SPECIFICATIONS MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF PERMA-ALERT ENVIRONMENTAL SPECIALTY PRODUCTS, INC.

DATE	REV.	BY	CHKD.
3-12-88	10		

PROJECT	DELTA PROJECT
DWG NO.	PQA4289
SCALE	NONE
REV.	1 of 3

DATE	REV.	BY	CHKD.
3-12-88	10		

11-88

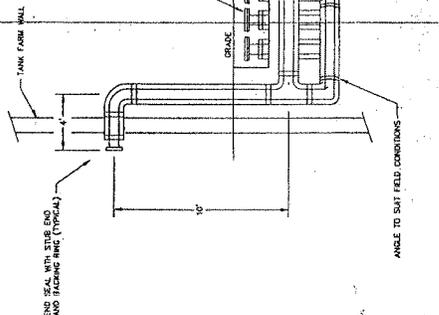
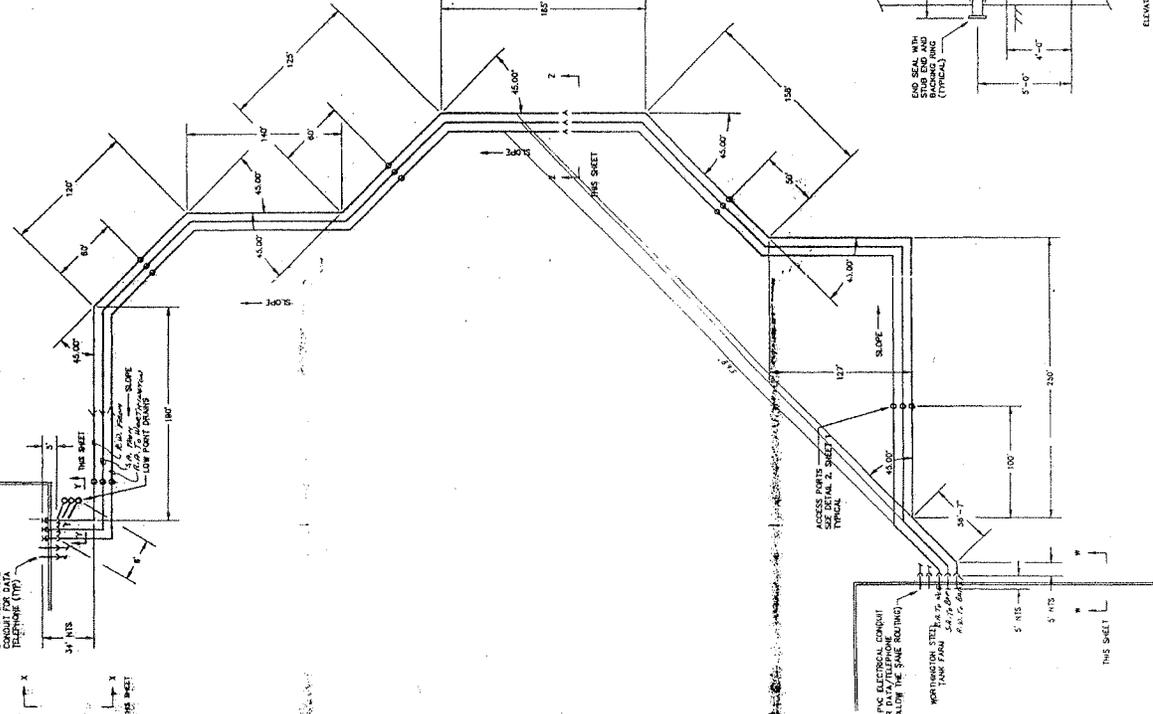


**BAILEY-DAVIS OXIDES TANK FARM**

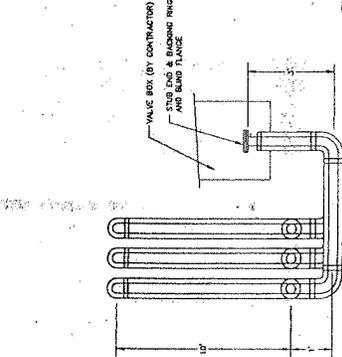
1. 1/2" PVC ELECTRICAL CONDUIT FOR DATA TELEPHONE (TYP)



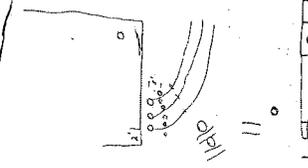
THIS SHEET



ELEVATION VIEW P-X NTS



ELEVATION VIEW Y-Y NTS



ELEVATION VIEW Z-Z NTS



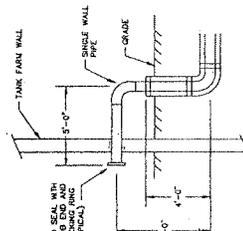
CONTAINMENT PIPE FOR HYDROPHOBIC SOIL 325 POLYPROPYLENE SDR 11



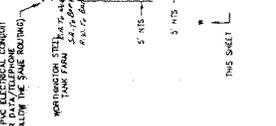
PIPE FOR LEAK DETECTION

SECTION	DOUBLE-PIPE CROSS SECTION	CONTAINMENT	SERVICE
NO.	A	B	C
1			
2			
3			
4			
5			
6			

SYMBOL	DESCRIPTION	DETAIL
—	END SEAL	1
—	ACCESS POINT	2
—	STRAIGHT ASSEMBLY	3
—	ANCHORED 90° ELBOW	4
—	ANCHORED 45° ELBOW	5
—	ANCHORED TEE	6



ELEVATION VIEW W-W NTS



THIS SHEET

980160  
Const Draw

**PermaAlert**  
DIMENSIONAL SPECIALTY PRODUCTS INC.  
A SUBSIDIARY OF PERMA-PIPE INC.  
7720 LEHIGH AVE. WHEELS LEADS  
841-994-2100

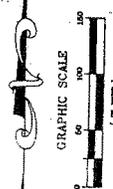
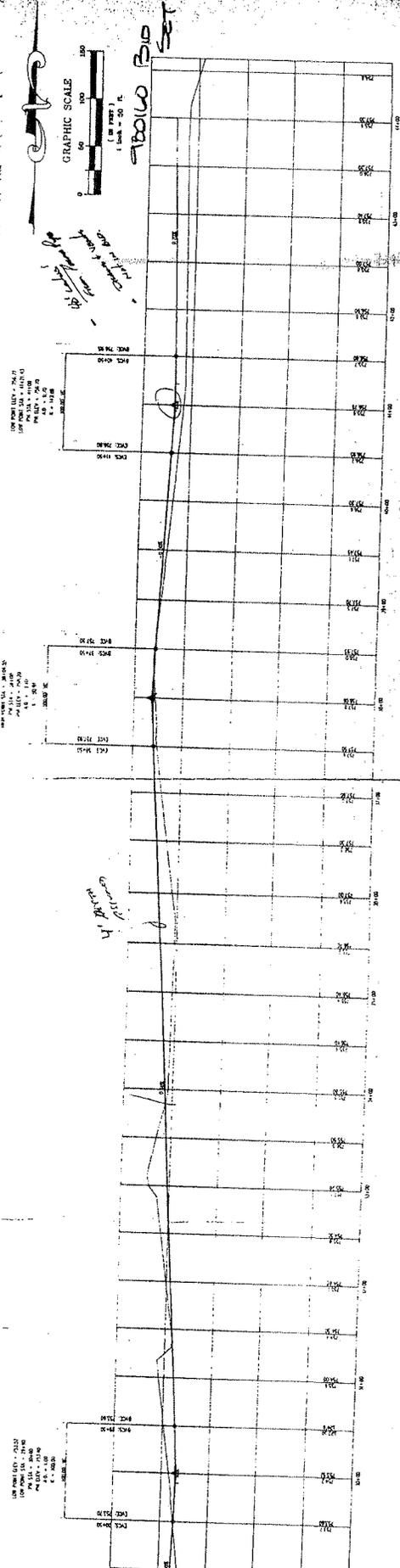
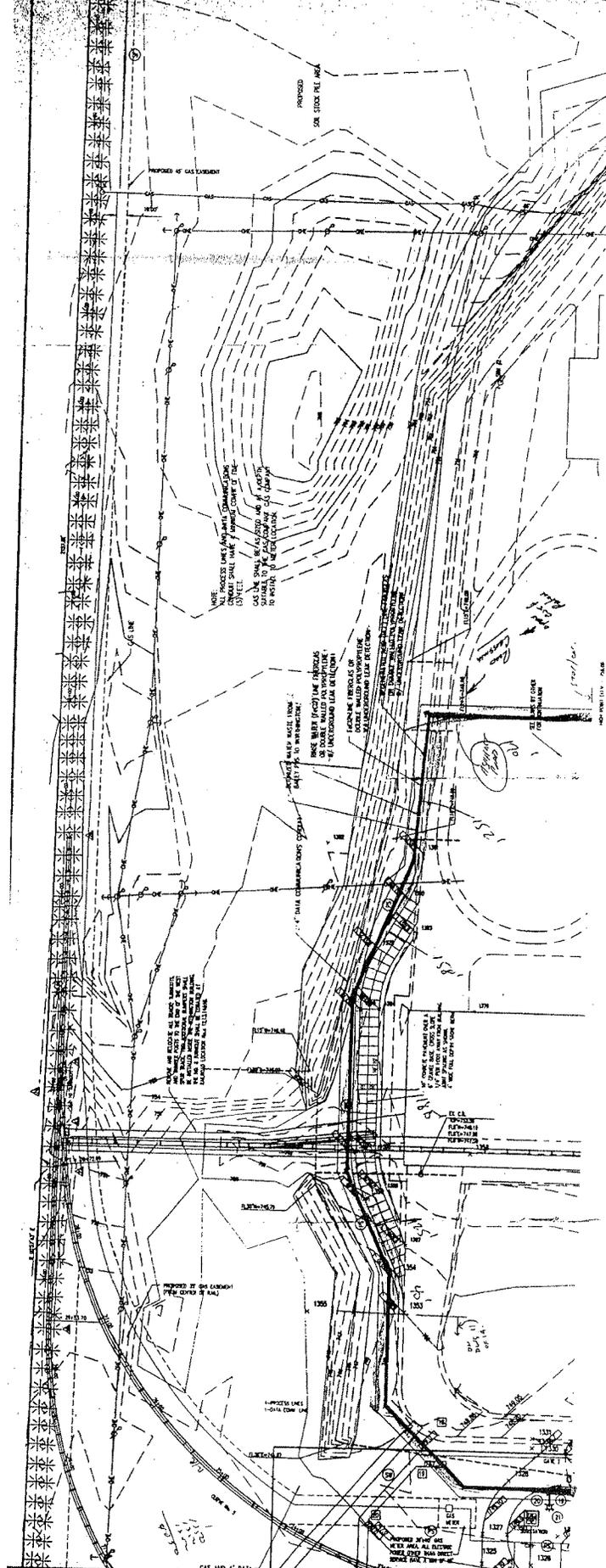
**NOTICE**  
THIS PROJECT IS A PERMA-PIPE PROJECT. PERMA-PIPE IS THE LEADER IN THE DEVELOPMENT OF POLYPROPYLENE PIPE FOR HYDROPHOBIC SOILS. PERMA-PIPE HAS BEEN PROVEN TO BE THE MOST DURABLE AND RELIABLE PIPE AVAILABLE FOR THIS APPLICATION. PERMA-PIPE IS THE ONLY PIPE AVAILABLE THAT CAN BE INSTALLED IN EXISTING TRENCHES. PERMA-PIPE IS THE ONLY PIPE AVAILABLE THAT CAN BE INSTALLED IN EXISTING TRENCHES. PERMA-PIPE IS THE ONLY PIPE AVAILABLE THAT CAN BE INSTALLED IN EXISTING TRENCHES.

NO.	DATE	DESCRIPTION
1		
2		
3		

PROJECT: DELTA PROJECT  
JOB NUMBER: POA4289  
SCALE: 1"=50'  
SHEET: 2 OF 3

RAIFY-DVS DIVISION 110

ALL UTILITIES SHOWN ON THIS DRAWING ARE BASED ON RECORD DRAWINGS AND FIELD SURVEY. THE USER SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE USER SHALL BE RESPONSIBLE FOR PROTECTING ALL UTILITIES AND STRUCTURES FROM DAMAGE DURING CONSTRUCTION. THE USER SHALL BE RESPONSIBLE FOR MAINTAINING ACCESS TO ALL ADJACENT PROPERTIES AND PUBLIC AREAS. THE USER SHALL BE RESPONSIBLE FOR RESTORING ALL AREAS TO ORIGINAL OR BETTER CONDITION AFTER CONSTRUCTION IS COMPLETE. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE USER SHALL BE RESPONSIBLE FOR PROTECTING ALL UTILITIES AND STRUCTURES FROM DAMAGE DURING CONSTRUCTION. THE USER SHALL BE RESPONSIBLE FOR MAINTAINING ACCESS TO ALL ADJACENT PROPERTIES AND PUBLIC AREAS. THE USER SHALL BE RESPONSIBLE FOR RESTORING ALL AREAS TO ORIGINAL OR BETTER CONDITION AFTER CONSTRUCTION IS COMPLETE.



*Handwritten notes:*  
 1. 10' from curb  
 2. 10' from building  
 3. 10' from street

UNDERGROUND UTILITIES  
 TWO WORKING DAYS  
 BEFORE YOU DIG  
 CALL 800-4-A-SHIELD (4774)  
 OR 800-4-A-SHIELD (4774)  
 FOR A FREE SERVICE MANUAL  
 AND INFORMATION  
 MUST BE CALLED 24 HOURS







VICKERY ENVIRONMENTAL, INC.  
 3956 State Route 412, Vickery, OH 43464  
 Phone: 419/547-7791 \* Fax: 419/547-6144

October 29, 2013

Mr. Keith Bialko  
 VP Operations  
 Bailey Oxides

Dear Mr. Bialko:

Thank you for giving Vickery Environmental/WM the opportunity to present this quotation for your consideration. Below is a quotation for Ferrous Chloride/Hydrochloric Acid solution from Delta, OH as we discussed.

- DISPOSAL: \$0.18 per gallon disposal.  
3,000 gallon minimum disposal charged.
- ENVIRONMENTAL FEE: 7.5% of Disposal Charge.
- TAXES (if hazardous): \$4.95 per Ton.
- TRANSPORTATION: \$500.00 per Trip (bulk only-no drums/totes).  
\$105.00/load extra if requesting a Vacuum Tanker.  
\$160.00/trip extra for Sunday & Holiday pickups.
- DEMURRAGE: \$105.00 per hour after the first free hour loading. No unloading demurrage.
- RINSE CYCLE: \$100.00 for first rinse cycle, \$90.00 per rinse cycle thereafter per load. **If using Vickery Env. provided transportation, the first rinse cycle will be waived.**
- FUEL SURCHARGE: The following scale will be used to calculate the Fuel Surcharge:
 

<u>Fuel Cost/Gallon</u>	<u>Surcharge as % of Transp. Invoice</u>
\$3.34 - \$3.419	28%
\$3.42 - \$3.499	29%
\$3.50 - \$3.579	30%
\$3.58 - \$3.659	31%
\$3.66 - \$3.739	32%
\$3.74 - \$3.819	33%
\$3.82 - \$3.899	34%
\$3.90 - \$3.979	35%
\$3.98 - \$4.059	36%
\$4.06 - \$4.139	37%
\$4.14 - \$4.219	38%
\$4.22 - \$4.299	39%
\$4.30 - \$4.379	40% . . .

The Fuel Price Index (Midwest PADD2) for the current week (Sun-Sat) is based on the Index published on that Monday.





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Page 2.  
Bailey Oxides Quotation

**SOLIDS SURCHARGE:** For each load received, on a per gallon basis, all total suspended solids over 0.1% will be assessed a surcharge at the rate of \$0.07 for every one percent.

Thank you for giving Vickery Environmental the opportunity to bid on this waste stream. This quotation is good for 60 days. Quotation is contingent upon a Waste Profile Sheet and/or a sales sample for analysis. The following restrictions apply: Reactive Cyanides <250 ppm, Reactive Sulfides <500 ppm, Flashpoint >212° F., oil content <10%, PCB's <25 ppm (non-TSCA), VOC's <5%, No Benzene Neshap waste, material must be liquid pumpable and compatible with our process. To obtain approval, please complete a Waste Profile Sheet and send with analytical to the address/fax listed below. If you have any questions, please call me at 419/547-7791 ext 3309.

Sincerely,

A handwritten signature in black ink that reads 'Carolyn Golamb'. The signature is written in a cursive, flowing style.

Carolyn Golamb

Facility Service Manager/Deepwell Account Manager

**Vickery Environmental, Inc.**

**A W Company**

**3956 State Route 412**

**Vickery, OH 43464**

**Phone: 419/547-3309**

**Fax: 419/547-6144**

**E-Mail: [cgolamb@wm.com](mailto:cgolamb@wm.com)**

**Visit our New website: [www.wmdisposal.com](http://www.wmdisposal.com)**

*"Waste Management recycled enough paper to save over 41 million trees"*



Financial Assurance of Remuriate Technologies, LLC

AFFIDAVIT

STATE OF ILLINOIS )
)
COUNTY OF LASALLE ) ss:

I Paul Carus, being first duly sworn according to the law, state that, to the best of my knowledge, information and belief:

- 1. I am an adult of eighteen (18) years old and competent to testify herein.
2. I am the Managing Member of Carus Family Investments LLC, with a business address of 12 Gunia Avenue, Peru, IL 61354.
3. ReMuriate Technologies, LLC, an Illinois limited liability company, is a subsidiary of Carus Family Investments LLC.
4. On \_\_\_\_\_, 2013, ReMuriate Technologies, LLC ("Owner"), assumed responsibility for compliance with the Variance from Waste Classification ("Variance") that was entered into by \_\_\_\_\_ and the Director of the Ohio Environmental Protection Agency (EPA), on \_\_\_\_\_, 2013 regarding the Former Bailey PVS Oxides LLC facility, at 6191 County Road 10, Delta, Ohio 43515.
5. The estimated cost to comply with the Closure requirement of the Variance is \$112,051.42 per the attached correspondence from Vickery Environmental, Inc.
6. Carus Family Investments LLC will provide, as necessary, reasonable and adequate funds in the amount of at least One Hundred Twelve Thousand One Hundred Fifty One and 42/100 Dollars (\$112,051.42) to Owner for compliance with the financial assurance requirement of the Variance.
7. Per the attached bank statement, Carus Family Investments LLC has sufficient assets to support its commitment to fund the financial assurance requirement of the Variance.
8. The information identified in this affidavit and its attachments, incorporated by reference herein, is true, accurate and complete.

Further affiant sayeth naught.

Paul Carus, Managing Member

Sworn to before me this \_\_\_\_ day of \_\_\_\_\_, 2013

Seal:

Name of Notary Public
My commission expires: \_\_\_\_\_



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