HAZARDOUS WASTE SECTION - COMPLIANCE BRANCH
FILE TRANSMITTAL & DATA ENTRY FORM

Your Name: Jeff Menzel

Facility ID Number: NCR000159038

Facility Name: Horsehead Metal Products, Inc.

Document Group: Inspection/Investigation (I)

Document Type: I - Compliance Evaluation Inspection (CEI)

File Description/Comments: EPA Lead CEI. Violations will be Addressed by EPA.

Date of Document: 10/14/2015

Author(s) of Document: Jeff Menzel

Inspector ID #: NC014

Suborganization: Western Region

County (if not on report): Rutherford

For Violations:

Enforcement Date: **Docket Number:**

Enforcement Type: **How many violations were there?**

For IANOV or CO: The facility is

Outcome Measures for CSE for IANOV or CO:

Waste Involved	Volume	Exposure Media (a, gw, sw, s)	Distance to Residences	Number of People involved	Distance to On-site wells	Distance to Off-site wells

Violation #1:

Date Determined: 10/14/2015

Scheduled Return to Compliance: **Actual Return to Compliance:** Click here to enter a date.

Regulation Description: 262.34 (c)(1)(i) referenced at 265.173(a)

Comment:

For CSE, Corrections to Violations were:

Violation #2:

Date Determined: 10/14/2015

Scheduled Return to Compliance: **Actual Return to Compliance:** Click here to enter a date.

Regulation Description: 262.34(c)(1)(ii)

Comment:

For CSE, Corrections to Violations were:

Violation #3:

Date Determined: 10/14/2015

Scheduled Return to Compliance: **Actual Return to Compliance:** Click here to enter a date.

Regulation Description: 262.34(a)(2) and (a)(3)
Comment:
For CSE, Corrections to Violations were:

Violation #4:

Date Determined: 10/14/2015

Scheduled Return to Compliance: **Actual Return to Compliance:** Click here to enter a date.

Regulation Description: 262.34(a)(1)(i) referenced at 265.173(a)
Comment:
For CSE, Corrections to Violations were:

Violation #5:

Date Determined: 10/14/2015

Scheduled Return to Compliance: **Actual Return to Compliance:** Click here to enter a date.

Regulation Description: 262.34 (a)(4) referenced at 40 C.F.R. § 265.31
Comment:
For CSE, Corrections to Violations were:

Violation #6:

Date Determined: 10/14/2015

Scheduled Return to Compliance: **Actual Return to Compliance:** Click here to enter a date.

Regulation Description: 262.11
Comment:
For CSE, Corrections to Violations were:

Violation #7:

Date Determined: 10/14/2015

Scheduled Return to Compliance: **Actual Return to Compliance:** Click here to enter a date.

Regulation Description: 279.22(c)(1)
Comment:
For CSE, Corrections to Violations were:

Violation #8:

Date Determined: 10/14/2015

Scheduled Return to Compliance: **Actual Return to Compliance:** Click here to enter a date.

Regulation Description: 262.34 (a)(1)(i) referenced at 265.16(d)(1) & (d)(2)
Comment:
For CSE, Corrections to Violations were:

N.C. DIVISION OF WASTE MANAGEMENT
HAZARDOUS WASTE SECTION – COMPLIANCE BRANCH

LARGE QUANTITY GENERATOR (LQG)
COMPLIANCE EVALUATION INSPECTION (CEI) REPORT

1. FACILITY INFORMATION:

Name: Horsehead Metal Products, Inc.
EPA ID NCR000159038
Type of Facility: Large Quantity Generator (LQG)
Facility Location: 484 Hicks Grove Road, Mooresboro, North Carolina. 28533
Telephone Number: 828-919-3139
County: Rutherford

2. AUTHOR OF REPORT: Jeff Menzel, Environmental Senior Specialist, NCDEQ
828 419 5034 jeff.menzel@ncdenr.gov
Date of Report: 05/02/2016

3. FACILITY CONTACT: Mr. Jim Harris, Environmental Manager

4. SURVEY PARTICIPANTS:

Jim Harris	Horsehead Metal Products, Inc.
Charlie Howell	Horsehead Metal Products, Inc.
Roberta Proctor	NCDEQ
Jeff Menzel	NCDEQ
Brent Burch	NCDEQ
Laurie Benton Digaetano	US EPA Region 4
Javier Garcia	US EPA Region 4
Mike Neill	US EPA Region 4
Paula Whiting	US EPA Region 4

5. DATE OF INSPECTION: 10/14&15/2015

6. PURPOSE OF EVALUATION:

An evaluation to determine compliance with hazardous waste management regulations (also known as the Resource Conservation & Recovery Act, or RCRA) which are described at Chapter 40 of the Code of Federal Regulations (40 CFR), Parts 260 – 270, 273, and 279; and Title 15 Chapter 13A Hazardous Waste Management Rules (Rules) of the North Carolina Administrative Code (NCAC).

7. DESCRIPTION OF FACILITY:

Horsehead Metal Products, Inc. in Mooresboro, North Carolina, is a zinc and diversified metals production facility. This facility utilizes solvent extraction and electro-winning technology to selectively remove and refine valuable metals from electric arc furnace-based feed and other recycled materials into special high-grade zinc and

other metal concentrates containing silver, copper and lead. Solvent extraction selectively extracts zinc from a solution containing the multiple constituents typical of Horsehead's recycled feedstock. This facility will produce special high-grade (SHG) zinc and continuous-galvanizing grade (CGG) in addition to the Prime Western (PW) grade that HHMP currently produces.

The facility currently has five active production areas, one production area being constructed and a reagent storage area. The Area 100 (Leaching) takes the waelz oxide (WOX) dust and washes it with bleed treatment solution from Area 300 to remove chloride and potassium, and then feed the slurry into the Leaching unit to dissolve most of the contained zinc in the WOX. The purified aqueous solution called Pregnant Leaching Solution (PLS) is heated and pumped to the Area 200 (Solvent Extraction).

The Area 200 which produces ultra-high quality zinc loaded electrolyte is divided into four subsections: extraction, washing, stripping and depletion. The Extraction stage transfers the zinc from the PLS to a ligand exchange reagent. The Washing stage removes impurities from the zinc loaded organic phase using physical and chemical washings. The Stripping stage strips out the zinc content using an acidic aqueous solution. The Depletion stage takes a small bleed from the slurry and treats it with gypsum precipitation, cementation and zinc depletion to reduce the amount of zinc and some of the impurities in the final liquid effluent. Depletion stage takes place in Area 300.

The Area 400 (Electro-winning) produces zinc metal from the zinc-bearing solution (loaded electrolyte). Direct current is applied to the solution, so a deposit of zinc metal is grown from the electrolyte onto aluminum cathodes. The zinc plates are then mechanically stripped and sent to Area 500 melting. The zinc-depleted solution (spent electrolyte) is recycled to the Stripping unit in Area 200.

Area 500 (Furnaces) consists of melting, alloying and casting using four induction furnaces and a casting operation.

Area 600 is the PLINT process which recovers lead and silver from the leaching (lead) residue. In this stage, lead and silver contained in the leaching residue is dissolved in a hot brine solution to obtain a solid residue free of lead and chlorides. This area is currently being constructed and is not in operation.

Area 700 is designated as an area for reagents preparation and distribution to the plant. This area is used for reagent storage, has two lime silos, six WOX silos, a soda ash silo and hydrated lime storage silo.

HHMP's most recent Hazardous Waste Generator Notification (EPA Form 8700-12) dated June 19, 2014, characterized the facility as a large quantity generator (LQG) of hazardous waste.

Currently, HHMP generates oils and lubricants, solvents and debris and waste rags as well as universal waste batteries, lamps and other wastes which include EPA Waste Codes D001, D002, D006, D008, D035, F003, and F005 wastes.

General Information:

- Legal owner of facility: Horsehead Metal Production, Inc
- Legal owner of property: Horsehead Metal Production, Inc
- Water supply (municipal or well): Municipal
- Municipal sewer/septic/on-site treatment facility: Municipal Sewer
- Closest private residence: Approximately 100 meters
- Site Acreage: Approximately 160 acres

8. AREAS OF REVIEW AND INSPECTION:

A walkthrough of the facility was conducted on October 14, 2015 with all participants present. A records review was conducted on October 15, 2015 by Paula A. Whiting EPA and Roberta Proctor NCDEQ. Photographs included with this report were taken by Ms. Whiting.

Manifests / Land Disposal Restriction (LDR) Notifications – LDRs were reviewed for all waste streams. Hazardous waste manifests were reviewed and appeared to be in good condition. The hazardous and non-hazardous waste outbound manifests and land disposal forms were reviewed. Leaching floc, baghouse waste, spent solvents, leach residue debris, carbon filter contents and concrete coating waste with soil were removed and disposed of by EQ Detroit (EPA ID MID980991566); Tradebe Treatment and Recycling of Tennessee (EPA ID TND000772186); EQ Michigan Disposal (EPA ID MID00724831) in Belleville, MI; Chemical Waste Management (EPA ID ALD000622464) in Emelle, AL and Envirite of Ohio (EPA ID OHD980568992) in Canton, OH. The land disposal restriction forms were reviewed.

Oily waters were removed and disposed of by VLS Recovery Services (EPA ID SCR000762468) in Maudlin, SC and JBR Environmental Services (EPA ID SCR000004358) in Spartanburg, SC.

Depleted solution spill soil cleanup was removed and disposed of by Waste Management Palmetto Landfill (EPA ID SCD981476492) in Wellford, SC.

- Weekly Inspections (HW Storage Area) – The weekly inspection records were reviewed for hazardous waste roll-offs and the 90-Day HWSA. No issues were observed during the review.
- Waste Minimization Plan – Not reviewed during this inspection.
- Biennial Report – Not reviewed during this inspection.
- Emergency Preparedness – Not reviewed during this inspection.
- Contingency Plan – The Integrated Contingency Plan, HHMP, Inc. Facility, Mooresboro, NC dated December 2013 was reviewed. HHMP updated their status to large quantity generator on June 19, 2014. The plan included a current emergency contact list, a fire extinguisher map, an evacuation map and a list of emergency response equipment. Documentation (i.e., green return receipt cards) that copies of the contingency plan were provided to the local emergency response agencies (i.e., fire, police, and hospital) was available.
- Training – Mr. Jim Harris received the NCDEQ 8-Hour Basic Hazardous Waste Compliance for Generators training course on May 22, 2014. Mr. Harris and Mr. Charlie Howell received the NEXEO Solutions Environmental Waste Management and RCRA/DOT Regulatory Training on August 6, 2015. HHMP employees received in-house training on October 27th, 28th and November 3rd of 2014. Job titles and descriptions for HHMP employees that handled hazardous waste was not observed in the training records.

- Accumulation Areas:

WOX Unloading/Rail Yard

At the time of the inspection, HHMP was shut down for maintenance on October 12th and was scheduled to come back online in seven days.

The waelz oxide (WOX) dust is brought in via pressure differential railcars to the WOX Unloading Area (Pictures 2, 5, 8, 17-19). This area consists of four converging rail lines that move the cars into the unloading area, and five rail lines used for storage of the incoming and outgoing railcars. At time of the inspection, because of the restricted access that requires respirators only one EPA inspector, Paula A. Whiting, entered the WOX Unloading Area. * NCDEQ staff did not inspect this area because of this reason.

Ms. Whiting was escorted by Chris Jarrold, Rail Yard Supervisor, who explained that the building holds six railcars containing WOX or lime (Pictures 13-15). The railcars are unloaded using a blower system (Pictures 10-12). A hose is connected to the system blows 14 pounds of air pressure into the railcar. The contents of

the railcar are pushed into the hose and unloads into the silo piping. Mr. Jarrold stated that they currently process four railcars a day. At the time of the inspection, 35 railcars were sitting on the storage tracks.

Ms. Whiting also observed a high vacuum system to collect the released WOX dust (Pictures 20-21). Mr. Jarrold explained that the dust from the vacuum system was not a waste and was sent to WOX washing. Spent hoses contaminated with WOX dust from the blower system were observed on a pallet beside the storage tracks (Pictures 7-9). A gray trash can that contained used Tyvek suits was located near the stairs to the blower system (Pictures 14, 16), and a gray trash can that contained contaminated debris from unloading WOX was located near the high vacuum system (Picture 6). Both containers and the spent hoses were open and unlabeled. The spent hoses, a hazardous waste, were not contained, or labeled, or marked with an accumulation start date. Mr. Jarrold explained that the used Tyvek suits are considered regular trash and not hazardous waste because they were not contaminated with the WOX dust. However, the trash can is located inside the WOX Unloading Area without a lid and the Tyvek are worn during the unloading process. (See Site Deficiencies)

Area 500 – Melt Shop/Zinc Oxide Baghouse

The furnaces were designed to handle 16,500 pound bundles of zinc plates, stacked and placed inside (Pictures 1, 3-4). The zinc is melted and poured into molds for 25-pound and one-ton ingots. The ingots are sold to the steel industry for galvanizing uses, erosion protection of steel, the construction industry and the automotive industry. HHMP produces three products: prime western which contains 1% lead, continuous galvanizing grade which has 1.5% aluminum and a special high grade which is 99% zinc. Across from the Area 500 are four baghouses that capture the zinc dust from the furnace (Pictures 23-24). Mr. Harris explained to the inspectors that the zinc oxide baghouse dust was shipped to the Horsehead facility in Rockwood, Tennessee, and because of its purity could not be added back into their process.

Also in this area, the inspectors observed spent aluminum cathodes from the Electrowinning Area staged to be cleaned (Pictures 25-26), and a pile of zinc clean out material from the bottom of the cellhouse (Pictures 27-28). Mr. Harris stated that the zinc clean-out material will be placed into a roll-off and put into the dross recycling process.

The inspectors then examined the Recirculation Tank (Picture 29) where rainwater, electrolytes, sulfuric acid (which exceeded the reportable quantity), wash water, drips and overflow that were being stored in the secondary containment area seeped between the tank and the floor seal. The high pH water flowed into the storm water drain and went into Basin 1 and out the storm water discharge pipe. HHMP determined the cause of the seepage was the improperly installed sealant between the floor and the tank. The sealant had eroded away because of the high water pH. The situation was further impaired by the north side sump pump failing and the process water rising higher than normal in the secondary containment area. HHMP stated that the leak was detected in a drain on September 5, 2015, however, the source was not discovered until September 8, 2015. Hazardous and non-hazardous waste roll-offs of the Recirculation Tank spill are located near the depleted solution area. *NCDEQ-Hazardous Waste Section issued Immediate Action NOV Docket #2016-006 to assess the spill area around the Recirculation Tank.

The inspectors observed a silver tank labeled "Waste Acid Slurry Tank" (Picture 30). When asked about the contents of the tank, Mr. Harris explained that the tank was labeled incorrectly and it should be called "Excess Acid Slurry Tank." The tank is used to capture and store the extra acid slurry from the Electro-winning process.

10.1. 100 Area

The 100 Area Leaching contained a six-pack of reactors and a clarifier which are the core of the process. At the time of the inspection, the 100 Area secondary containment system was flooded with water because the drains and underlines were plugged with Leach Residue solids (Pictures 31-36). Mr. Harris explained that the solids came from the Leach Residue secondary containment area and was allowed to accumulate in the secondary containment area up to 24-hours.

The inspectors also observed that Leach Residue and rain water had accumulated in the 100 Area Reactor and Leach Residue Press secondary containments (Pictures 37-40). Footprints were observed outlined in the Leach Residue discharged to the secondary containment. The inspectors inquired whether the discharged Leach Residue was a waste material. Mr. Harris explained that the Leach Residue was not waste and would be sent to Palmerton and Rockwood facilities and recycled. The PLS secondary containment was also filled with rainwater (Picture 41).

The inspectors expressed concern that the Leach Residue is stored inside the secondary containment instead of a tank or roll-off prior to shipping to other Horsehead facilities. Additionally, the HHMP employees and contractors are exposed openly to the cadmium, lead and zinc in the Leach Residue in the form of dust, mud and contaminated water. The EPA and NC DEQ advised Mr. Harris that the Leach Residue contained hazardous constituents zinc, lead, cadmium and chromium, and releasing the residue into the secondary containment was not considered to be in-process or to be properly stored and/or contained. The EPA and NC DEQ recommends that the residue be stored in appropriate containers until such time that it can be shipped off or used in the process. (See Site Deficiencies)

The 100 Area main secondary containment was observed covered in unknown dust and mud (Pictures 42-44). When asked, Mr. Harris explained that dust and mud was residue from the Reactors, the Leach Residue Press and other processes. The inspectors expressed concern that the residue containing cadmium, lead, and silver was being tracked out of the area and around the facility. In addition, the discarded residue was not being used for its intended purpose, thus making the residue on the ground of the 100 Area main secondary containment a hazardous waste. This material was noted on Horsehead's Waste Stream Inventory as being a hazardous waste if disposed (See Site Deficiencies).

200 Area

At the time of the inspection, a tank was being replaced in the 200 Area. Mr. Harris explained that in the 200 Area zinc and PLS are sent to the organic storage mixing tank. From there the mixtures is sent to the settlers to create electrolyte. The spent hydrochloric acid from the Stripping process is currently not recovered. Instead the spent acid is neutralized in the process and turned into salt. The salt which is a part of the Final Residue, goes to the Final Residue presses and then shipped to Palmerton.

Raffinate Area

The inspectors observed that the 200 Area Raffinate secondary containment was filled with rainwater. Upon closer examination, it was observed that the secondary containment concrete was etched (Pictures 45-48). The inspectors expressed concern over the etching in the concrete and asked what caused the etching. Mr. Harris explained that overflow of the Raffinate tanks due either to operation error or process issue upset. Mr. Harris indicated that a coating contractor had been obtained and was ready to coat the secondary containment.

The inspectors expressed concern that the in-process material that HHMP is storing is causing etching in the secondary containment system. Secondary containment areas are required to have a base that must underlie the containers which is free of cracks or gaps and is sufficiently impervious to contain leaks, spills, and accumulated precipitation until the collected material is detected and removed. The EPA advised Mr. Harris that releasing the acidic aqueous solution into a permeable structure was not considered to be properly stored and/or contained. The EPA and NC DEQ recommends that the Raffinate secondary containment be re-coated prior to any further releases or upsets. This material was noted on Horsehead's written Waste Stream Inventory as being a hazardous waste if disposed" (See Site Deficiencies).

In April 2015, a pipe failed and released a sulfuric (30%) acid solution on to the ground outside of the secondary containment. HHMP responded, stop the release, excavated soil and used a vacuum pump to remove residual liquids. pH monitoring in the drainage channel was neutral; however, the area was experiencing heavy rains.

In May 2015, HHMP had a release of depleted solution from a ruptured elbow in the piping. The solution filled the secondary containment before overflowing onto the ground and down the drainage channel (Pictures 49-52). The release was reported as hydrogen sulfide and zinc solution to the National Response Center (Incident Report # 1116915). HHMP neutralized the ground and removed the solution contaminated soil into roll-offs in July 2015.

The roll-offs were being stored under a powerline on bare ground (Pictures 53-58). The inspectors expressed concern about the possibility of release from the roll-offs on to the ground and the surrounding area. The EPA and NC DEQ explained that the roll-offs be moved to a concrete secondary containment area for storage.

Basin 1

The inspectors toured the Basin 1, which has a million-gallon capacity for storm water use only (Pictures 59-66). At the time of the inspection, HHMP was removing the overflow sediment and placing the cleanup material into four hazardous waste roll-offs.

Gypsum Plant

The Gypsum Plant was not in operation at the time of inspection (Pictures 67-68, 87). The inspectors observed a backhoe operator turning over wet piles of gypsum because the gypsum dryer was not running.

Final Residue Press Area

At the time of the inspection, the inspectors observed piles of Final Residue on the ground outside the Final Residue Press building. This building collects the high zinc residue from the process, drops it onto the ground and the residue is frontloaded into piles in the secondary containment/runoff area (Pictures 69-76, 78, 86). The building was originally designed to drop the residue into the roll-offs but the chutes did not properly align to deposit the residue into the roll-offs, so the roll-offs were removed. The zinc residue is currently stored in front of a blue building located next to the Final Residue Press building. Once the high zinc residue is frontloaded into roll-offs, the containers are shipped to Horsehead in Palmerton, PA. In the future, the residue will be used for feed material in the Plint Plant.

WOX Wash Clarifier

The inspectors observed that the WOX Wash Clarifier secondary containment was filled with rain water and tank overflow material (Pictures 77, 79-85). The ground surrounding the clarifier contained residue dust, mud and rainwater. The area had been recently covered in concrete six months previous.

The inspectors are concerned that the Final Press Residue is stored on the ground prior to shipping to other Horsehead facilities. Additionally, the HHMP employees and contractors are exposed openly to any constituents in the Final Press Residue in the form of dust, mud and contaminated water. The EPA and NC DEQ observed that releasing the residue onto the ground was not considered to be in-process or to be properly stored and/or contained. The EPA and NCDEQ explained that the residue be stored in appropriate containers until such time that it can be shipped off or used in the process. This material was noted on Horsehead's written Waste Stream Inventory as being a hazardous waste if disposed" (See Site Deficiencies).

Crude Press

The inspectors walked through the 300 Area (Pictures 88-89) to the Crude Press. At the time of the inspection, the inspectors observed two covered roll-offs with hazardous waste labels. The roll-offs contained ZOC filter cake waste and leach residue debris (Pictures 90-91). Outside the Crude Press building, one roll-off was observed labeled and covered, however some unknown mud was located on the base of the roll-off and on the ground beside it (Pictures 97-98). A second labeled and covered roll-off was located inside the Crude Press (Pictures 92-96) (See Site Deficiencies).

Storm Water Ponds

At the time of the inspection, the facility was storing 57 super sacks of spent manganese along the Process Ponds driveway (Pictures 103-105, 108). Mr. Harris explained that the spent manganese was from the cell house cleanout and would be sold because of the lead and silver concentrate. The inspectors expressed concern that many of the supersacks were open and none of the bags were labeled as hazardous material prior to shipping out. In addition, the inspectors noted that a broken super sack of high end sand to be used in the sand and carbon filters (Pictures 106-107). The inspectors expressed concern over the management and improper storage of the raw product.

The process ponds were filled with sediment from the facility at one end (Pictures 99-102, 109-110). During the closing meeting, Mr. Staley explained that the sediment will be placed back into the process, and the storm water pond would be returned to its intended use.

The EPA advises HHMP to consider the definition of surface impoundment regarding HHMP's storm water ponds. Surface impoundment or impoundment means a facility or part of a facility which is a natural topographic depression, man-made excavation, or diked area formed primarily of earthen materials (although it may be lined with man-made materials), which is designed to hold an accumulation of liquid wastes or wastes containing free liquids, and which is not an injection well. Examples of surface impoundments are holding, storage, settling, and aeration pits, ponds, and lagoons. At the time of the inspection, HHMP was using their storm water ponds to hold process liquids and sediments from the process until such a time that the material could be reintroduced into the process. Therefore, the storm water ponds were being used as surface impoundments. (See Site Deficiencies)

Maintenance

The inspectors observed two hazardous waste roll-offs stored in the gravel area near Maintenance (Picture 111). Mr. Harris explained that there were 90-Day Hazardous Waste Storage areas throughout the facility and that once the facility was fully operational the areas permanently would be designated.

The universal waste storage area was located in the Maintenance Shop (Pictures 112-113). The inspectors observed that the containers were enclosed inside a storage cage, closed, labeled and dated. No issues were observed in this area.

Quality Control Laboratory

The Standards Lab contained unlabeled sample bottles on the floor (Pictures 114-117). Mr. Ron Gilbert explained to the inspectors that the sample bottles would be sent back to the process for recycling.

The inspectors toured the Spectrometer Lab and observed used synthetic oil containers waiting to be discarded (Picture 118). Mr. Gilbert explained the oil was being changed out. The bottles were observed not labeled and not kept in secondary containment at the time of the inspection. (See Site Deficiencies)

The Process Lab main area contained a black 55-gallon drum with a funnel attached in the satellite accumulation area (Pictures 119-120). The funnel was observed sealed closed and the drum was labeled. The lab stored empty bottles and containers along the walls for reuse and recycling.

The inspectors observed white totes of diluent waste (Picture 121), white containers of organic material samples (Picture 122) and jars and totes of spent DEPHA (Pictures 123, 126) were to be recycled in the process were being stored along the walls in the lab.

Inside a fume hood, a one-gallon jar of chromic acid waste with a hand written label was open and evaporating (Pictures 124-125). Mr. Brian Forbes had the jar immediately capped. The inspectors noted that the labeling for the satellite accumulation area (SAA) containers were not consistent to indicate a waste or raw material. The inspectors recommended revising the labeling on the waste containers to avoid confusion in the future. The inspectors also noted that the SAA containers with waste material were not always closed. The

inspectors recommended revisiting container management training to ensure that hazardous waste containers are kept closed. (See Site Deficiencies)

500 Area Melt Shop Warehouse
The Melt Shop was not operating at the time of the inspection. The inspectors observed supersacks and pallets of furnace skimming waiting to be shipped out (Pictures 129-133).

- Hazardous Waste Storage Areas –

  Less than 90-Day HWSA
  The less than 90-day hazardous waste storage area (HWSA) is located in the 500 Area – Melt Shop warehouse. The inspectors observed a fenced-in area that was locked and marked with warning signs. Inside the enclosure was four 55-gallon drums of used oil, oily water, oily rags and oily cleanup and one drum of neutralized acid spill cleanup. The drums were observed labeled and closed (Pictures 127-128). No hazardous waste was stored in this area at the time of the inspection.

- Used Oil – The facility generates used oil and containers were inspected within the Quality Control Laboratory.

9. SITE DEFICIENCIES:

A. Pursuant to 15A NCAC 13A.0110 as referenced in 15A NCAC 13A.0107 [40 C.F.R. § 265.173(a) as referenced in 40 C.F.R. § 262.34(c)(1)(i)], a generator may accumulate as much as 55 gallons of hazardous waste or one quart of acutely hazardous waste listed in §261.31 or §261.33(e) in containers at or near any point of generation where wastes initially accumulate which is under the control of the operator of the process generating the waste, without a permit or interim status and without complying with paragraph (a) or (d) of this section provided he complies with § 265.173(a) of this chapter in such that a container holding hazardous waste must always be closed during storage, except when it is necessary to add or remove waste.

Horsehead Metal Products, Inc. is in violation of this regulation in that there were two trash cans of hazardous waste, located in the WOX Unloading/Rail Yard Area, that were not properly closed in that neither container was equipped with a lid. There was also one small container of hazardous waste, located under a fume hood with the Quality Control Laboratory, that was not properly closed in that the container did not have a cap.

B. Pursuant to 15A NCAC 13A.0107 [40 C.F.R. § 262.34(c)(1)(ii)], a generator may accumulate as much as 55 gallons of hazardous waste or one quart of acutely hazardous waste listed in §261.31 or §261.33(e) in containers at or near any point of generation where wastes initially accumulate which is under the control of the operator of the process generating the waste, without a permit or interim status and without complying with paragraph (a) or (d) of this section provided he marks his containers either with the words "Hazardous Waste" or with other words that identify the contents of the containers. DELETED LAST SENTENCE

Horsehead Metal Products, Inc. is in violation of this regulation in that there were two trash cans of hazardous waste, located in the WOX Unloading/Rail Yard Area, that were not properly closed in that neither container was equipped with a lid.

C. Pursuant to 15A NCAC 13A.0107 [40 C.F.R. § 262.34(a)(2) and (a)(3)], except as provided in paragraphs (d), (e), and (f) of this section, a generator may accumulate hazardous waste on-site for 90 days or less without a permit or without having interim status, provided that the date upon which each period of accumulation begins is clearly marked and visible for inspection on each container; and while being accumulated on-site, each container and tank is labeled or marked clearly with the words, "Hazardous Waste".

Horsehead Metal Products, Inc. is in violation of this regulation in that there were several spent hoses, located within the WOX Unloading/Rail Yard Area, that were identified as a hazardous waste but were not properly labeled or marked with an accumulation start date.

D. Pursuant to 15A NCAC 13A.0107 [40 C.F.R. § 265.173(a)] as referenced in 40 C.F.R. § 262.34(a)(1)(i)], except as provided in paragraphs (d), (e), and (f) of this section, a generator may accumulate hazardous waste on-site for 90 days or less without a permit or without having interim status, provided that the waste is placed in containers and the generator complies with the applicable requirements of subpart I of part 265 of this chapter in such that a container holding hazardous waste must always be closed during storage, except when it is necessary to add or remove waste.

Horsehead Metal Products, Inc. is in violation of this regulation in that there were several spent hoses, located within the WOX Unloading/Rail Yard Area, that were identified as a hazardous waste and the spent hoses were not properly containerized.

E. Pursuant to 15A NCAC 13A.0110 [40 C.F.R. § 265.31] as referenced in 15A NCAC 13A.0107 [40 C.F.R. § 262.34(a)(4)], facilities must be maintained and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

Horsehead Metal Products is in apparent violation of this regulation in that process materials/residues were observed at the 100 Area, Raffinate Area and WOX Wash Clarifier Area. Specifically, materials/residues in the form of dust, mud, tank overflow liquids and/or rainwater were found on the ground or being accumulated within secondary containment units within these areas. Additionally, the facility's storm water ponds were being used to accumulate process liquids and sediments until such a time that the materials could be reintroduced back into the process. The process residues were not being properly stored and/or contained. The process materials/residues were not being properly stored and/or contained and based on Horsehead's written Waste Stream Inventory document, the process materials/residues described above would meet the definition of a hazardous waste; and therefore were not being managed in a manner to minimize the possibility of a release of hazardous waste constituents to the air, soil, or surface water.

F. Pursuant to 15A NCAC 13A.0107 [40 C.F.R. § 262.11], a person who generates a solid waste, as defined in 40 CFR 261.2, must determine if the waste is a hazardous waste.

Horsehead Metal Products is in violation of this regulation in that there was an unknown mud found around the base of a roll-off container, located at the Crude Press Area, and the facility had failed to determine if the mud is a hazardous waste. In addition, there was dust and mud, from the 100 Area's main secondary containment unit being tracked out of the Area and around the facility. The dust and mud originated from 100 Area's reactors, Leach Residue Press and other processes and was not being used for its intended purpose; and therefore is subject to a hazardous waste determination.

G. Pursuant to 15A NCAC 13A.0119 [40 CFR 279.22(c)(1)], containers and aboveground tanks used to store used oil at generator facilities must be labeled or marked clearly with the words "Used Oil."

Horsehead Metal Products is in violation of this regulation in that containers of used oil were found within the Spectrometer Laboratory and the containers were not labeled with the words "Used Oil".

H. Pursuant to 15A NCAC 13A.0107 [40 C.F.R. § 265.16(d)(1-2)] as referenced in 40 C.F.R. § 262.34(a)(1)(i)], the owner or operator must maintain the following documents and records at the facility: (1) The job title for each position at the facility related to hazardous waste management, and the name of the employee filling

each job; (2) A written job description for each position listed under paragraph (d)(1) of this Section. This description may be consistent in its degree of specificity with descriptions for other similar positions in the same company location or bargaining unit, but must include the requisite skill, education, or other qualifications, and duties of facility personnel assigned to each position.

Horsehead Metal Products is in violation of this regulation in that written job titles & descriptions were not available, at the time of the inspection, for facility personnel who are required to handle and/or manage hazardous waste.

10. COMMENTS AND RECOMMENDATIONS:

- The facility should refer to the NCDEQ Hazardous Waste Section Technical Assistance Guidance page located at http://portal.ncdenr.org/web/wm/hw/Technical for more guidance documents, specifically, the Generator Compliance Manual. This document provides examples that will assist as a reference for compliance.

JEFF MENZEL (MAY 2, 2016)

SENT BY US MAIL
JIM HARRIS

cc: Brent Burch, Compliance Branch Head
Central Office Files

ATTACHMENT A

HORSEHEAD METAL PRODUCTS, INC.

MOORESBORO, NORTH CAROLINA

COMPLIANCE EVALUATION INSPECTION PHOTOGRAPHS

OCTOBER 14-15, 2015 ***(*NOTE: Photos Taken by Ms. Paula Whiting, US EPA)***

Picture 1 – Melt Shop

Picture 2 –Rail Yard

Picture 3 – Melt Shop Skimmings

Picture 4 – Zinc Sheets waiting to be processed

Picture 5 – Rail Yard

Picture 6 – Rail Yard hazardous waste debris open container

Picture 7 – Rail Yard spent hoses contaminated with WOX

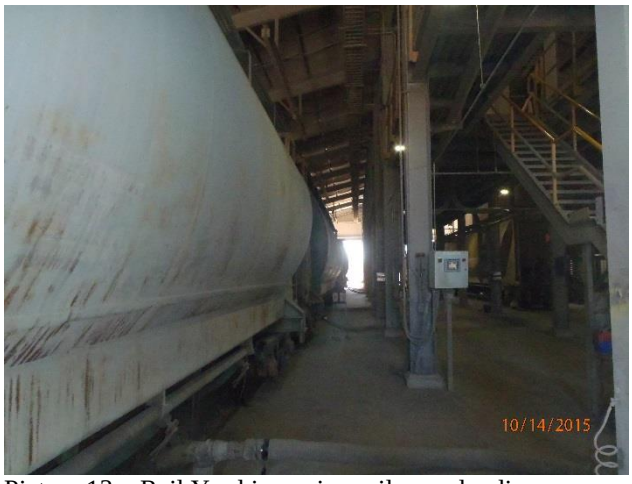
Picture 8 – Rail Yard railcar storage

Picture 9 – Rail Yard spent hoses contaminated with WOX

Picture 10 – Rail Yard Blower system to silos

Picture 11 – Rail Yard piping to Blower System for silos

Picture 12 – Rail Yard hose connections to the incoming railcars



Picture 13 – Rail Yard incoming railcar unloading area


Picture 14 – Rail Yard unloading area trash can with WOX contaminated tyvek

Picture 15 – Rail Yard incoming railcar unloading area

Picture 16 – Rail Yard unloading area trash can with WOX contaminated tyvek


Picture 17 – Rail Yard storage tracks

Picture 18 – Rail Yard storage tracks

Picture 19 – Rail Yard storage tracks

Picture 20 – Rail Yard high vacuum system for WOX dust

Picture 21 – Rail Yard high vacuum system for WOX dust

Picture 22 – Zinc Oxide/Melt Shop storm water drain

Picture 23 – Zinc Oxide baghouse

Picture 24 – Zinc Oxide baghouse

Picture 25 – Electrowinning spent aluminum plates

Picture 26 – Electrowinning spent aluminum plates

Picture 27 – Cellhouse zinc clean out material

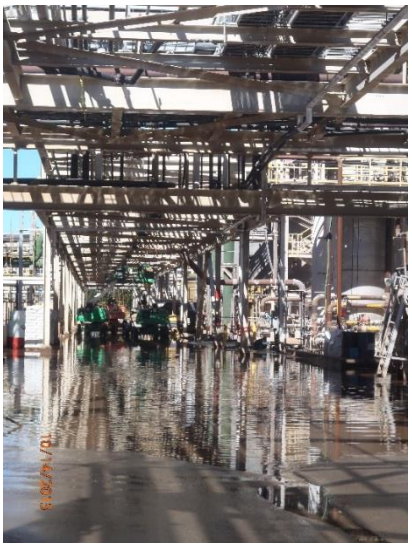
Picture 28 – Cellhouse zinc clean out material

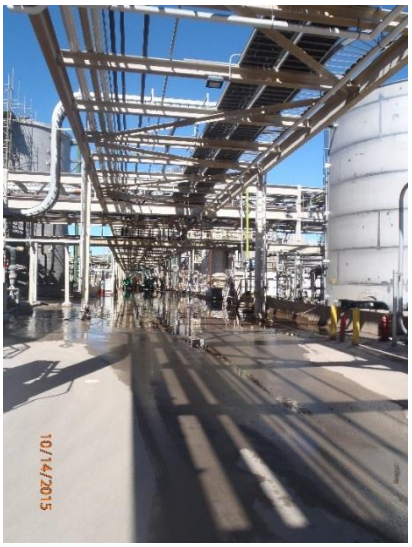
Picture 29 – Recirc Tank – failure area


Picture 30 – Waste Acid Slurry Tank

Picture 31 – 100 Area flooded from stopped drain

Picture 32 – 100 Area flooded from stopped drain


Picture 33 – 100 Area flooded from stopped drain



Picture 34 – 100 Area flooded from stopped drain

Picture 35 – 100 Area Reactor and Leach Residue Press secondary containments with rainwater and leach residue

Picture 36 –100 Area Reactor, Leach Residue Press secondary containments with rainwater and leach residue

Picture 37 – 100 Area Reactor secondary containment with accumulated leach residue

Picture 38 – 100 Area Reactor secondary containment with accumulated leach residue

Picture 39 – 100 Area Reactor secondary containment with accumulated leach residue

Picture 40 – 100 Area Reactor secondary containment with accumulated leach residue

Picture 41 – 100 Area PLS secondary containment with rainwater

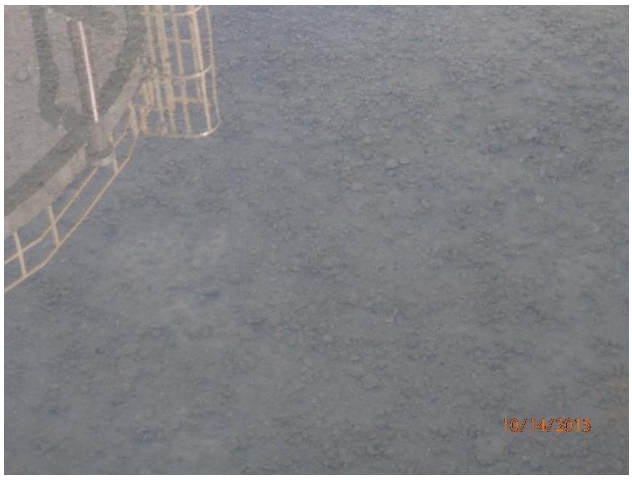
Picture 42 – 100 Area main secondary containment covered in unknown dust and mud

Picture 43 – 100 Area main secondary containment covered in unknown dust and mud

Picture 44 – 100 Area main secondary containment covered in unknown dust and mud

Picture 45 – Raffinate Area secondary containment with rainwater

Picture 46 – Raffinate Area secondary containment with rainwater



Picture 47 – Raffinate Area secondary containment with etched concrete under rainwater

Picture 48 – Raffinate Area secondary containment with etched concrete under rainwater

Picture 49 – Raffinate Area depleted solution pipe that was broken in May 2015

Picture 50 – New berm wall installed after depleted solution break


Picture 51 – Runoff area for depleted solution break

Picture 52 – Runoff area for depleted solution break

Picture 53 – Runoff storage containers for depletion solution break

Picture 54 – Runoff storage containers for depletion solution break

Picture 55 – Runoff storage containers for depletion solution break

Picture 56 – Runoff storage container label

Picture 57 – Runoff storage container label

Picture 58 – Runoff storage container label

Picture 59 – Basin 1

Picture 60 – Basin 1

Picture 61 – Basin 1

Picture 62 – Basin 1

Picture 63 – Basin 1

Picture 64 – Basin 1

Picture 65 – Broad River NPDES discharge point

Picture 66 – Broad River NPDES discharge point

Picture 67 – Gypsum Plant

Picture 68 – Gypsum Plant

Picture 69 – Final Residue Press Area

Picture 70 – Final Residue Press Area

Picture 71 – Final Residue Press Area

Picture 72 – Close up of Final Residue discharged to the ground

Picture 73 – Close up of Final Residue discharged to the ground

Picture 74 – Close up of Final Residue discharged to the ground


Picture 75 – Final Residue Press Building

Picture 76 – Final Residue Press Area and WOX Clarifier

Picture 77 – WOX Clarifier drain

Picture 78 – Final Residue Press Area

Picture 79 – WOX Clarifier residual from full basin tank overflow

Picture 80 – WOX Clarifier filled with tank overflow

Picture 81 – WOX Clarifier filled with tank overflow

Picture 82 – WOX Clarifier filled with tank overflow

Picture 83 –WOX Clarifier residue on the ground outside the secondary containment

Picture 84 – WOX Clarifier residue and rainwater on the ground outside the secondary containment

Picture 85 – WOX Clarifier with filled basin from tank overflow

Picture 86 –Final Residue Press Area

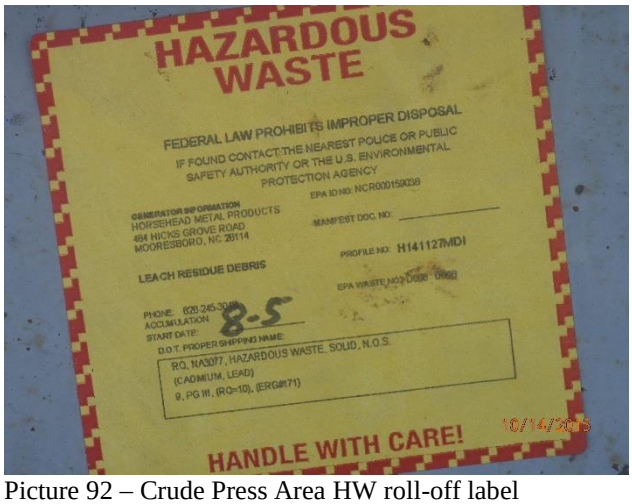
Picture 87 – Gypsum Plant

Picture 88 – Area 300

Picture 89 – Area 300

Picture 90 – Crude Press Area

Picture 91 – Crude Press Area HW roll-offs



Picture 92 – Crude Press Area HW roll-off label

Picture 93 – Crude Press Area HW roll-off

Picture 94 – Crude Press Area HW roll-offs

Picture 95 – Crude Press Area HW roll-off label

Picture 96 – Crude Press Area HW roll-off label

Picture 97 – Crude Press Area roll-off material release on the ground

Picture 98 – Crude Press Roll-off material released on the ground

Picture 99 – Process Ponds

Picture 100 – Process Ponds

Picture 101 – Process Ponds

Picture 102 – Process Ponds

Picture 103 – Process Ponds bags of spent manganese

Picture 104 – Process Ponds bags of spent manganese

Picture 105 – Process Ponds bags of spent manganese

Picture 106 – Process Ponds broken bag of high-end sand

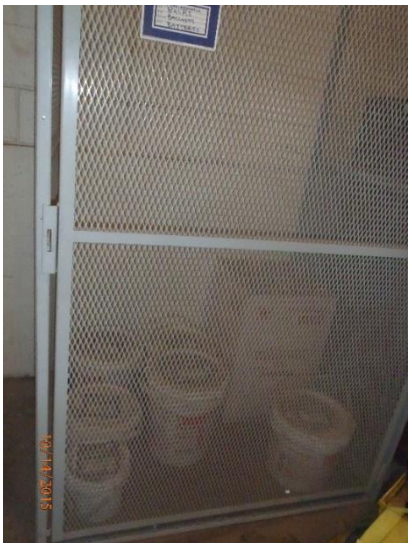
Picture 107 – Process Ponds broken bag of high-end sand

Picture 108 – Process Ponds bags of manganese

Picture 109 – Process Ponds

Picture 110 –

Picture 111 – Maintenance Area HW roll-offs


Picture 112 – Maintenance Shop UW storage


Picture 113 – Maintenance Shop UW storage

Picture 114 – Standard Lab unknown bottles for recycling

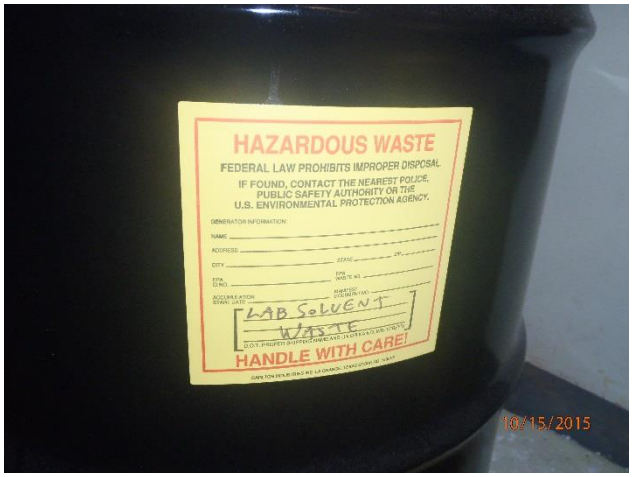
Picture 115 – Standard Lab bottles of samples for recycling

Picture 116 – Standard Lab bottles of samples for recycling

Picture 117 – Standard Lab bottles of samples for recycling

Picture 118 – Spectrometer Lab used oil containers

Picture 119 – Process Lab – organic solvent waste



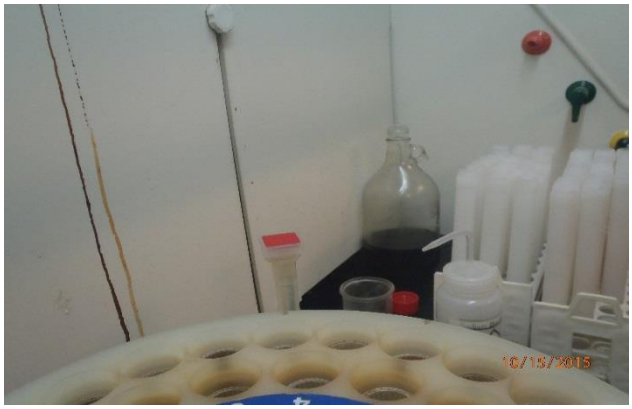
Picture 120 – Process Lab organic solvent waste label

Picture 121 – Process Lab containers of diluent waste to be recycled in process


Picture 122 – Process Lab two totes of organic material samples to be recycled in process

Picture 123 – Process Lab jar of spent DEPHA

Picture 124 – Process Lab gallon jar of chromic acid waste open in fume hood


Picture 125 – Process Lab gallon jar of chromic acid waste open in fume hood

Picture 126 – Process Lab two totes of spent DEPHA to be recycled

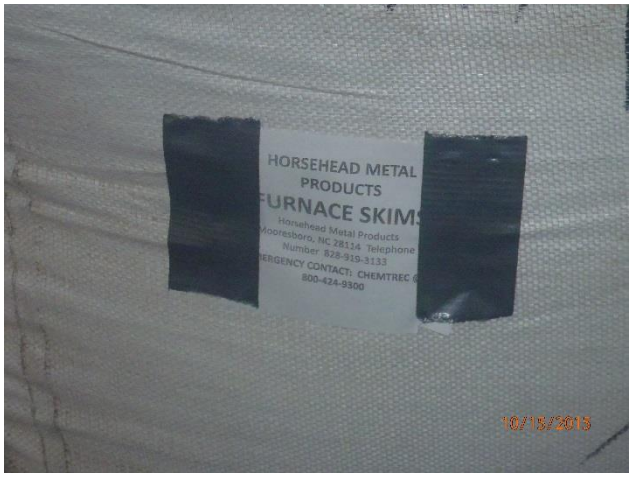
Picture 127 – Less 90 Day HWSA

Picture 128 – Less 90 Day HWSA non-HW drums

Picture 129 – Warehouse furnace skimmings

Picture 130 – Warehouse furnace skimmings

Picture 131 – Warehouse furnace skimmings



Picture 132 – Warehouse furnace skimmings label

Picture 133 – Warehouse furnace skimmings