Interim Response Action Plan

Halaco Engineering Facility
Waste Management Unit and Plant Site
Oxnard, CA

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1.0 Objective

The objectives of this Interim Response Action Plan for the Halaco Waste Management Unit (WMU) and Plant Site property are:

a. Control and contain all waste material and contaminants on the property.

b. Collect and manage stormwater.

c. Prevent erosion of the waste material into sensitive areas.

d. Minimize offsite environmental impacts until the WMU and Plant Site remediation is complete.

2.0 Scope

The implementation of this plan will adequately protect the public health and the environment; the exposure pathways to all potential receptors for all media of concern will be controlled so as to prevent unacceptable risk to the public health and the environment.

Some additional response action may be required or may be desirable to accommodate the long-term development plans for the property while maintaining the public health risk and the environmental risk at acceptable levels.

3.0 Background

3.1 Historical Property Use

Halaco operated a metals recycling plant, including foundry and waste management unit (WMU), at the facility located at 6200 Perkins Road in Oxnard, California (site) (Figure-1). The site occupies approximately 40 acres and is divided into two discrete parcels by the Oxnard Industrial Drain (OID). The approximately 11-acre western parcel contains all manufacturing operations, including the foundry and supporting equipment, process and storage areas, and the approximately 28-acre eastern parcel comprises the WMU. The site is bounded to the north by dead-end segments of McWayne street (terminating at the OID), across which is an unrelated paper products manufacturing facility and adjoining undeveloped land, to the south by estuarine and beach areas flanking the Pacific Ocean, to the east by the Ormond Beach wetlands, and to the west by Perkins Road, across which is located additional undeveloped land.

Commencing in 1965, Halaco has produced aluminum and magnesium ingots at the foundry facility, where it smelts non-ferrous metallic scrap in large furnaces using a flux of chlorides of magnesium, sodium, and potassium to separate metals from metal oxides and other impurities. Part of the recovery process involves washing the raw and recovered materials both prior to and after smelting. Through this washing process, Halaco generated waste wash water, in the form of slurry, at an estimated rate of approximately 470,000 gallons per month. This slurry waste stream was historically discharged to the WMU, where it was allowed to evaporate, leaving a solid material composed principally of insoluble metal oxides and other inert constituents. In accordance with requirements of the Cease and Desist Order (CDO), Halaco ceased all discharges to the WMU in September, 2002. Halaco subsequently used a filter press operation to segregate solids from their aqueous waste stream and recycled all process water used in their manufacturing process. Filter cake generated in this process is transported offsite, roughly at the rate of generation, for beneficial reuse at one of several out-of-state facilities, as either alternate daily cover at a landfill, or as an additive to fertilizer.

The WMU comprises an area of accumulated wastes originating from the manufacturing process prior to termination of discharge. The WMU includes an approximately 15-acre former surface impoundment area to the south, where the slurry waste stream was historically deposited, and an approximately 13-acre northern portion where dried solids derived from the impoundment area were placed (Figure-1). In addition to the slurry waste stream, it is reported that baghouse dust and air scrubber waste was also deposited into the WMU. Based upon recent survey information, ground surface elevations along the eastern and southern boundaries of the WMU lie at approximately 5 feet above mean sea level (MSL), whereas ground surface elevations along the western and northern margins lie at approximately 7 to 10 feet above MSL, respectively, and lie close to existing waterways, including the OID to the west and a drainage channel to the south. Wastes have accumulated to thicknesses of approximately 20 to 40 feet in the southern impoundment area, and approximately 5 to 13 feet in the northern waste spreading area. Thickest accumulations are principally limited to bermed areas surrounding individual impoundments areas and/or defining the outer edges of the WMU. It is estimated that the WMU contains approximately 430,000 cubic yards of process wastes.

3.2 Erosion Assessment

The property was inspected at least twice per month from January, 2005 through December, 2006, to evaluate the physical status of the property. It was evident that rainfall was causing some erosion of the waste material and subsequent migration of the waste material off the WMU property and off the Plant Site property.

Some interim, focused erosion control and stormwater management would eliminate the offsite migration of the waste material.

3.3 Ambient Air Assessment

The frequent site inspections in 2005 and 2006 revealed that winds >15 mph cause some fine particulate material to become airborne from the WMU.

3.4 Groundwater Assessment

Historical groundwater data has confirmed that no potable water sources have been impacted by the site. Long-term infiltration of rainwater through the waste material could impact the local groundwater. However, infiltration of rainwater is not an interim issue.

3.5 Prior Interim Response Actions

It is evident that considerable effort has been expended to minimize erosion of the waste material and to minimize the impacts on adjacent property. Vegetation matting on the high slopes to the south, southwest, and southeast have been partially effective. Trenches and sediment barriers along the southern toe of the main waste pile have been somewhat effective.

4.0 Run-off Control

Rainwater which falls on the waste material, stored in the WMU and on the Plant Site, is the source of the erosion and waste migration from the site.

Interim run-off control involves three components:

4.1 Surface Water Control

The objective of surface water control is to collect and contain all rainwater that contacts waste material. Figure-1 shows the berms, local sumps, and containment basins to collect and contain the rainwater.

4.1.1 Plant Site

The local sumps in the Plant Site will be 15'x30'x5' deep and lined with 10 mil HDPE; these sumps will be located so as to collect the rainwater which leaks through the building roofs and contacts the waste material. It will likely be necessary to remove some concrete in order to constrict the local sumps; the broken concrete will be stored onsite for eventual recycle.

The berm around the Plant Site will be 18" high with a 3:1 slope; the berm will be constructed with clean dirt excavated to construct the Plant Site containment basin; the berm will be sealed with 5:1 sand:cement gunnite.

4.1.2 WMU

The upper berm around the south end of the WMU will be 12" high and constructed with waste material; the berm will be sealed with 5:1 sand:cement gunnite. The south end of the WMU, inside the upper berm will be graded so that all the rainwater flows into the containment basin.

The lower berm around the WMU will be 18" with a 3:1 slope; the berm will be constructed with clean dirt excavated from the clean soil salvage area along the north end of the WMU; the berm will be sloped at 1/4% from the south end of the WMU down to the containment basin.

4.2 Slope Run-off Control

4.2.1 Plant Site

The only minor slope run-off control concern in the Plant Site is along the Oxnard Industrial Drain (OID). The gunnited berm, shown in Figure-1 and discussed in Section 4.1.1., will adequately address sediment flow into the OID from the Plant Site.

4.2.2. WMU

The slope of the waste pile on the south 2/3's of the WMU will be gunnited with 5:1 sand:cement mix as shown in Figure-2.

4.3 Water Treatment

The recovered rainwater will be stored in the containment areas shown in Figure-1. Any water which remains in either containment area for longer than 30 days will be periodically aerated with compressed air to maintain aerobic conditions and to enhance evaporation. The pH of the contained water will be maintained at 6.5-8.0 with HCL or NaOH. If excess water accumulates, the water will be treated via two sand filters in series at a rate of 30 gallons per minute.

5.0 Bulk Material Control

5.1 Plant Site

All the process waste material is currently stored in 1-ton capacity industrial bags in the former process buildings. Access to these buildings is controlled. The only potential migration pathway is rainwater run-off due to leaking roofs; containment and control of this run-off is covered in Section 4.1.1. Final disposition of the bagged waste material will be an integral part of the long-term site development plan. This plan does not cover the bagged process material with high magnesium content; it is understood that Halaco Engineering co. will remove this material from the property.

5.2 WMU

There are ~450,000 yd^3 of solid waste material stored on the WMU.

Run-on/run-off control (Section 4.0), airborne particulate control (Section 7.0), and sediment control (Section 8.0) will protect the public health and the environment from the bulk material on the WMU. The response actions, described in Sections 4.0, 7.0, and 8.0, protect the nearest receptors by effectively controlling the migration pathways. Final stabilization and recontouring of the bulk waste material will be an integral part of the long-term site development plan.

6.0 Plant Site Buildings

The Plant Site buildings and industrial structures, other than the office building, are in poor condition with significant falling material hazards and significant trip and fall hazards. These hazards can be managed by controlling access to the Plant Site.

There are several process sumps and maintenance access sumps in the Plant Site buildings; all solids and liquids will be removed from theses sumps; the sumps will be refilled with concrete to 1" above the adjacent floor level.

The final disposition of the Plant Site buildings and the associated facilities and utilities will be an integral part of the long-term site development plan.

7.0 Airborne Particulate Control

7.1 Plant Site

The loose waste material in the Plant Site has been consolidated in 1-ton bags and stored in the buildings. The Plant Site is paved with cement or blacktop, except the north ~1/4; this area, shown in Figure-3, will be tilled and planted with native grasses to eliminate dusting during high winds.

7.2 WMU

Fine, dry particulate material from the WMU becomes airborne at wind speeds over 10 mph. Visual observations confirm dusting from the ridges of waste material on the WMU; the ridges and slope areas will be gunnited with a 7:1 sand:cement slurry to seal the surfaces exposed to high wind; these areas are shown in Figure-3.

8.0 Sediment Control

It is anticipated that some fine sediment will likely accumulate in the control ditches. The ditches will be inspected and resurveyed after each significant rainfall event; the ditches will be regraded, if necessary, to maintain the 1/4% down slope toward the containment basins. The sediment will be removed from the ditches and placed in the north WMU containment area shown in Figure-1.

9.0 Groundwater

Historical site groundwater data and local groundwater use patterns confirm that the site does not represent a risk to public health or the environment via the groundwater pathway.

The shallow groundwater in the vicinity is naturally a class 3 aquifer and is not suitable for potable use or for agricultural use.

No response action is currently required in regards to groundwater.

In order to expand the groundwater database, ten 4" diameter x 40' deep monitoring wells will be installed at the locations shown in Figure-4; each well will be screened from 20' bgs to 40' bgs. These wells will be sampled twice per year and analyzed for Al, Mg, Mn, Cu, Pb, Zn, As, Hg, Be, NH_3, NO_4,and NO_3.

10.0 Operation and Maintenance

The berms, sumps, ditches, and containment areas will be inspected weekly during dry periods to insure the status of the control systems.

10.1 Plant Site

Inspect all buildings, facilities, and utilities weekly, and repair as necessary to insure that all waste material is contained on the property and that all access controls are effective.

During significant rainfall events, these inspections will be done every eight hours to insure the effectiveness of the control systems and to define maintenance requirements.

10.2 WMU

Inspect the berms, basins, and gunnited areas weekly to insure all waste material is contained on the property and to insure that all systems are able to respond effectively to a major rainfall event.

10.3 Reporting

Document weekly inspections and schedule follow-up response action to address all issues. Document completion of response actions in subsequent weekly reports.

11.0 Schedule

Work could start on the control systems within one week after agency approval. The control systems will be fully operational within four weeks after starting field work.

12.0 Health and Safety

All onsite work as described in this plan will be done by qualified operators, labor, supervision, and technical support. All equipment used will be inspected by supervision before onsite use; all equipment will be in safe condition and will meet OSHA standards.

If it is necessary to handle hazardous materials, then appropriately trained personnel will be used.

A safety meeting will be held with all people onsite at the start of each work shift to cover:

1. Slips and trips
2. Moving equipment
3. Back and muscle strains
4. Hand protection
5. Personal hygiene
6. Eye protection
7. Hearing protection
8. Respiratory protection

13.0 Quality Assurance and Quality Control

13.1 Plant Site

All work under this plan will be documented with daily activity, labor, and material reports which detail work done, percent progress, and results.

Surface water pH will be measured in the three local sumps and in the containment basin weekly with an approved 0-14 range pH meter.

24-hour ambient air particulate samples will be collected the 2nd Wednesday of each month at the locations shown in Figure-4; these samples will be analyzed for Al, Mg, Mn, Cu, Pb, Zn, As, and Be at a certified laboratory.

13.2 WMU

All work under this plan will be documented with daily activity, labor, and material reports which detail work done, percent progress, and results.

Surface water pH will be measured in the two containment basins weekly with an approved 0-14 range pH meter.

24-hour ambient air particulate samples will be collected the 2nd Wednesday of each month at the locations shown in Figure-4; these samples will be analyzed for Al, Mg, Mn, Cu, Pb, Zn, As, and Be at a certified laboratory.

13.3 Groundwater

A 1/4" diameter by 40' long 316 stainless steel tube will be installed in each well; the tube will be slotted across the well screen interval; 1/2 gal of purge water will be withdrawn from the 1/4" tube with a peristaltic pump before sampling. The samples will be analyzed at a certified laboratory.

13.4 Operation and Maintenance

All onsite activities, personnel, and equipment will be documented on a daily basis.

Figure 1
Surface Water Control

Figure 2
Slope Run-Off Control

Figure 3
Airborne Particulate Control

Figure 4
Monitoring Wells