American Integrated Services, Inc.

Former Manufacturing Facility, Vernon, CA

Complete above and below ground decontamination, remediation and demolition of a former high-precision cast aluminum plate manufacturing plant, including soil remediation and site restoration

Project Owner	Contact	Performance Period	Contract Amount
Rio Tinto	Gerald Pepper 661-435-5210	07/2006—12/2014	$25.5 Million

Key Features

Phase 1—Above Ground Demolition

- High profile aboveground decontamination and demolition project on a parcel of land approximately 27 acres in area with 17 acres under building.
- Decon over 5 million SF surface area including all horizontal and vertical surfaces (e.g., roof trusses, ventilation ducting, ceilings, walls, slabs, and subsurface collection systems).
- Removal, transportation and disposal of over 1,500 tons of low level radioactive waste (Radium 226) to an NRC permitted disposal facility in Idaho.
- Other wastes included ACBM, galbestos sidings, heavy metal impacted dust, impacted structural metals which could not be decontaminated, universal waste items and impacted electrical gears.
- Extremely aggressive seven month schedule which we surpassed, completing the SOW in five months.
- Strict health and safety standards applied to all site activities.

Phase II—Below Ground Demolition

- Vast array of waste streams
- Demolition of contaminated subsurface structures
- Excavation, transportation and disposal of PCB impacted soil, concrete and water
- Full time, onsite concrete crusher
- Backfilling and compaction of subsurface structures
- Worked with multiple local, State and Federal agencies, including EPA and DTSC
- SWPPP development and implementation in accordance with RWQCB

The facility was located on a parcel of land approximately 27 acres in area. It consisted of offices and manufacturing buildings occupying approximately 750,000 SF of the site area. The remaining areas were parking lots, outside storage areas and partially paved vacant lots. The facility was formerly used to manufacture high-precision cast aluminum plates.

Site contaminants included asbestos containing building material (ACBM), PCBs, heavy metals and low levels of the radioactive isotope Radium 226. The isotope Radium 226 was detected in the refractory bricks and insulation of multiple furnaces throughout the site. The project was conducted in phases in order to meet the extremely aggressive 7 month schedule deadline.

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At each phase, AIS removed all miscellaneous site debris and fixtures (i.e. wooden blocks, transformers, mercury switches), vacuumed loose heavy metals dust debris, pressure washed the entire interior of the buildings (over 5 million SF of decontaminated area - floors, walls and ceilings), and collected and transferred the collected rinseate to an onsite treatment system. When this was completed, all the ACMs were removed (i.e. floor tiles and mastic, roofing mastic, galbestos sidings, spray-on fireproofing).

The removal of the roof ACBM was extremely challenging and required very stringent fall protection and material handling controls considering the workers were removing 500,000 SF from a sawtooth roof 60 ft in the air.

Demolition of the building phase was then conducted. Additionally, at certain phases, AIS vacuumed roof debris (heavy metal contamination), and demolished and removed the firebricks from the ovens contaminated with low levels of radioactive waste (Radium 226). Removal of the radioactive waste required continuous monitoring of both workers and upwind/downwind conditions by a PhD. Health Physicist. Each furnace required full tenting and all workers required specific PPE and respiratory protection during the refractory brick removal. The site wastes were transported to various disposal and recycling facilities ranging from a local landfill (ACBM), metal recycling facility (structure metal), Nevada disposal facility (heavy metals, PCBs) and Idaho disposal facility (low levels Radium 226 waste).

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AIS completed the Phase I abatement and demolition work in five months and more than exceeded the contract deadline of seven months. Our approach to health and safety yielded no near misses or health and safety incidents.

Phase II—Below Ground Demolition

This phase began in September, 2013 and included complete below ground demolition and removal of numerous sumps, pits and vaults, some extending as deep as 60 ft below ground surface. The work also included shoring of over 2,300 ft and the excavation, transportation and removal of over 50,000 CY of multiple waste streams including TPH, VOCs, PCBs, heavy metals and RAD waste.

The remediation was completed under EPA and DTSC's oversight. The City of Vernon also issued permits for traffic control, grading, shoring, plumbing and electrical.

AIS excavated approximately 48,000 tons of PCB impacted concrete, slab, footings and soil. Of this impacted material, 22,000 tons was classified as TSCA Hazardous and disposed of at a TSCA permitted disposal facility. This also included over 20,000 gallons of TSCA water. AIS also removed all underground utilities including the abatement of over 10,000 LF of non-friable transite piping.

Over 300 LF of shoring was required, confined space crews, and several large structures were cut down to 10BGS and capped. All work was completed by in-house personnel. Many of these structures included 60' concrete pits, over 270 footings and catch basins of various sizes.

AIS was also responsible for the relocation of an existing VES system. During excavation activities, AIS carefully navigated its way through the existing wells and restored the VES system at the completion of the project.

AIS had an onsite crusher and crushed over 60,000 tons of concrete was crushed for unrestricted backfill. AIS was also responsible for backfilling, compaction and grading of over 11 acres.

There were many potential health issues to be addressed during the project work. AIS was very proactive in the safety of its employees, earning a letter of commendation from Rio Tinto. Along with consistent AQMD 1166 monitoring, AIS performed dust and noise monitoring for worker safety. By actively monitoring the site, we were able to quickly upgrade to level C PPE when needed.

Another important responsibility was the constant dust control. By using pressure washers, water trucks and the unique Dust Boss system, AIS was able to keep dust levels to a minimum, thus eliminating any cross contamination. Furthermore, AIS utilized a double rinse/hexane wipe decontamination procedure to ensure that there was no cross contamination in the PCB areas.

Other onsite activities included preparing and controlling waste, tracking of manifests and weight tickets for waste streams, constant HSP updating, and maximum equipment utilization of excavators, loaders, dust suppressants, crushing and compaction equipment.