FINAL
REMOVAL ACTION REPORT
OWENS PLATING REMOVAL
RAINBOW CITY, ETOWAH COUNTY, ALABAMA
EPA ID NO. AID981469992

Prepared for

U.S. ENVIRONMENTAL PROTECTION AGENCY
Region 4, Emergency Response and Removal Branch
61 Forsyth Street, SW, 11th Floor
Atlanta, Georgia 30303

Prepared by

Tetra Tech, Inc.
Superfund Technical Assessment and Response Team Region 4
1955 Evergreen Blvd, Suite 300
Duluth, Georgia 30096

TETRA TECH

August 18, 2008

Mr. Carter Williamson
On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4
61 Forsyth Street, SW, 11th Floor
Atlanta, Georgia 30303

Subject: **Final Removal Action Report**
Owens Plating Removal
Rainbow City, Etowah County, Alabama
EPA Contract No. EP-W-05-054
Technical Direction Document No. TTEMI-05-001-0037

Dear Mr. Williamson:

The Tetra Tech, Inc., Superfund Technical Assessment and Response Team is submitting this final removal action report, generated for the Owens Plating Removal site in Rainbow City, Etowah County, Alabama. This report summarizes field activities conducted at the site during the removal action.

If you have any questions about the enclosed report, please call me at (678) 775-3098 or Andrew Johnson at (678) 775-3100.

Sincerely,

Brian Croft
START III Task Order Manager

Andrew F. Johnson
START III Program Manager

Enclosure

cc: Katrina Jones, EPA Project Officer
Darryl Walker, EPA Alternate Project Officer
Angel Reed, Tetra Tech START III TDD Coordinator

1955 Evergreen Blvd., Suite 300, Duluth, GA 30096
Tel 678.775.3080 Fax 678.775.3138
www.tetratech.com

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Revision 1

Prepared for

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Region 4, Emergency Response and Removal Branch
61 Forsyth Street, SW, 11th Floor
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1955 Evergreen Blvd., Building 200, Suite 300
Duluth, GA 30096

Contract No.	:	EP-W-05-054
TDD Nos.	:	TTEMI-05-001-0037
Date Prepared	:	August 18, 2008
EPA Work Task Monitor	:	Mr. Carter Williamson
Telephone No.	:	(404) 562-8742
Prepared by	:	Tetra Tech
Tetra Tech START Project Manager	:	Charles Berry
Telephone No.	:	(678) 775-3098

Prepared by	Reviewed by	Approved by
Charles Berry Tetra Tech START III Project Manager	Brian Croft Tetra Tech START III Task Order Manager	Andrew F. Johnson Tetra Tech START III Program Manager

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APPENDICES

1.0 INTRODUCTION

The U.S. Environmental Protection Agency (EPA) directed the Tetra Tech, Inc. (Tetra Tech) Superfund Technical Assessment and Response Team (START) to provide technical support during removal activities at the Owens Plating Removal (OP) site located in Rainbow City, Etowah County, Alabama, under Contract No. EP-W-05-054, Technical Direction Document (TDD) No. TTEMI-05-001-0037. The general purpose of a removal action is to reduce threats to human health or the environment. Under this TDD, Tetra Tech was tasked to:

- Prepare a work plan and a cost estimate
- Conduct a site visit with the removal contractor
- Document on-site activities with logbook notes (see Appendix A) and still photographs (see Appendix B)
- Collect multi-media samples
- Conduct air monitoring
- Prepare a removal action (RA) report

This report provides a site description and summarizes site background information in Section 2.0; summarizes the removal activities in Section 3.0; discusses community involvement actions in Section 4.0; and provides a summary of site activities in Section 5.0. Appendix A provides copies of the logbook notes. Appendix B is a photolog. Appendix C provides a copy of the container inventory. Appendix D provides figures. Appendix E provides copies of the laboratory analytical data packages produced for this project. Appendix F provides summary tables of the soil sampling data. Appendix G is an executive summary of confidential enforcement and cost recovery issues encountered at the site. Appendix H is a table of witnesses to activities conducted during the removal action.

2.0 SITE BACKGROUND

This section describes the site's location, operational history, and regulatory and release history.

2.1 SITE LOCATION AND DESCRIPTION

The OP site is located at 1440 Sutton Bridge Road in Rainbow City, Etowah County, Alabama, at the intersection of Sutton Bridge Road and Hereford Street (see Figure 1). The geographic coordinates of the site are latitude 33.97429° north and longitude 86.04200° west. The site sits in a mixed-use community, with industry and residences nearby. The property to the north is a small, commercial office supply business. Between Sutton Bridge Road and the OP property is a small residence that has been converted into a youth counseling service. Across Sutton Bridge Road is an apartment complex. Immediately south of the property are several dozen mobile homes separated from the facility by a

fence and ditch. To the east of the site lies Rainbow City's wastewater treatment pond, access to which is provided by Hereford Road. The property itself consists of one large building of about 60,000 square feet. The rear of the property is a large open lot with debris and soil piles scattered about. Hereford Street effectively ends at the corner of the building and becomes a dirt drive. Figure 2 shows the layout of the site.

2.2 OPERATIONAL HISTORY

OP was founded by Mr. William E. Owens as a subsidiary of the Owens Lumber Company at an unspecified time before 1988. OP was a metal plating facility that operated three zinc-on-carbon-steel electroplating processes plating automobile parts. Previous reports and site background information indicated the processes were nonelectrical; however, conversations with the owner/operators have confirmed that all zinc processes were electrical. The first of these lines was a small, older barrel line. The second line was a much larger barrel line, and the third was a rack-operated line similar in size to the large barrel line. Additional processes at the facility included an anodizing line to etch aluminum with sulfuric acid and direct electrical current and a nitric acid process line that was used at the facility for degreasing and surface preparation of raw materials before zinc plating. A zinc phosphate plating line was also in use at the facility, but no record of its operational history exists. The OP facility also operated chromium and cadmium plating processes; however, according to a 1995 Alabama Department of Environmental Management (ADEM) report, former OP personnel have stated the chromium plating processes stopped in 1988 and a Resource Conservation and Recovery Act (RCRA) report indicates that cadmium plating processes ceased in 1991.

The main building also contained a wastewater treatment plant (WWTP) area where liquid wastes, such as wash water, bath rinsate, spill containment, and process wastewater, were processed. The metals in the liquids were precipitated out through pH adjustment and flocculation and then pressed through a filter cake to be dewatered. The treated wastewater was discharged to the Rainbow City publicly owned treatment works (POTW). The sludge was transported off site as nonhazardous waste. Before 1988, the site generated four types of RCRA characteristic wastes: D002 (corrosivity); D006 (toxicity for cadmium); D007 (toxicity for chromium); and D008 (toxicity for lead). Waste was characterized annually as part of the facility's disposal profiling. The site apparently generated no hazardous waste after the cadmium and chromium plating processes ceased.

At some point before 1996, Mr. Donald Owens, the son of Mr. William E. Owens, obtained ownership of the facility from his father. In November 2002, Donald Owens sold the facility to a corporation called BEP Development, LLC (BEP) headed by a manager at the facility, Mr. Steven Partridge. As a result of poor sales, the OP facility completely ceased operations in early 2003.

2.3 REGULATORY AND RELEASE HISTORY

While the cadmium and chromium plating process operated, the facility was regulated by the ADEM RCRA Compliance Branch. After the chromium plating process ceased in 1988 and the cadmium process ended in 1991, OP changed its status to a conditionally exempt small quantity generator. ADEM periodically inspected the facility during its operation. The facility was placed under an Administrative Order (AO) in the late 1980s to deal with waste storage issues, mainly stemming from improper storage of petroleum products, possibly used in the zinc phosphate plating process, which requires an oil bath. The facility made the requested changes, and ADEM lifted the AO shortly thereafter. A 1995 inspection by ADEM found no violations at that time.

On January 27, 2005, ADEM conducted a windshield assessment of the facility. On March 29, 2005, ADEM gained access to the facility and conducted an on-site reconnaissance accompanied by Mr. Partridge. ADEM noted numerous RCRA and ADEM violations at the site and issued an AO in May 2005, ordering BEP to immediately begin closure activities at the site, specifically addressing the uncontained wastes present. Mr. Partridge informed ADEM that BEP would be incapable of financially supporting a cleanup effort. Subsequently, ADEM requested federal involvement to perform clean up of the site.

2.4 REMOVAL ASSESSMENT

EPA initiated a removal assessment during the summer of 2005, but ongoing efforts to deal with the aftermath of Hurricane Katrina delayed implementation until 2006. Because EPA's resources were constrained due to the Katrina effort, the Superfund Remedial Site Evaluation Branch assisted the Emergency Response and Removal Branch with many projects. Under the direction of Remedial Project Manager Ralph Howard, Tetra Tech START members Charles Berry and Joseph Lambrix mobilized to the site on May 8, 2006. At that time, the OP facility was in an advanced state of disrepair, with holes in the ceiling; areas of collapsed roof; trash, debris, and graffiti throughout the building; and large amounts of mold growing in the office areas. Standing water was observed, and

rain showers flowed freely into the building from the roof and out of the building through the rear doors.

After initial air monitoring of the facility, which showed no elevated concentrations of contaminants present at the site, Tetra Tech began to inventory the containers. Many of the drums were stacked haphazardly, making access difficult and an exact number of containers difficult to obtain. In spite of these limitations, Tetra Tech identified five drums from which to collect samples and perform field hazard categorization (hazcat). Samples were also collected from three of the vats. Hazcat analysis showed characteristically hazardous waste at the site due to corrosivity in both drums and vats. Four of the five drum samples and all three of the vat samples were delivered to Analytical Environmental Services (AES) in Atlanta, Georgia, for pH confirmation and total metals analysis. Laboratory results showed that every sample would carry a hazardous waste code, either for corrosivity or toxicity from heavy metals. Tetra Tech estimated there were about 20,000 gallons of drummed material and another 8,500 gallons in the vats.

Samples were also collected in the WWTP from two of the sumps. Hazcat testing showed one had a pH of 2.0, and this was sent to AES for analysis. Laboratory analysis showed the pH to actually be 2.5, but the chromium levels exceeded EPA disposal requirements for non-hazardous waste. A total volume of the pits in the WWTP area could not be generated because of access issues.

Three laboratories were identified on site, containing up to 1,000 small container bottles, most of which appeared to be used for quality control or wastewater treatment purposes. After consulting with EPA, START was directed to not inventory these containers. Further inventory and sampling efforts would be initiated if a removal action was deemed necessary.

An X-ray fluorescence device (XRF) was used to screen site soils. Wide variations in XRF readings were noted at the time of data collection, with extraordinarily high mercury and chromium concentrations indicated. These readings were assumed to be accurate at the time based on the instrument response to calibration standards. Three soil samples were sent to AES for analysis. None showed significantly high metal concentrations, and none correlated to the XRF readings. It was assumed at the time that the instrument malfunctioned during the removal assessment. Future XRF use would indicate likely matrix interference at the site, and XRF use would eventually be discontinued altogether (see Section 3.7).

Based on the results of the removal assessment, EPA and ADEM determined the proper RCRA closure of the facility had not been performed. BEP was contacted and provided an opportunity to perform the necessary actions. A February 2007 meeting was held on site with EPA On-Scene Coordinator (OSC) Carter Williamson, former owners of BEP, ADEM, and EPA Legal Counsel. BEP reiterated at this time it was insolvent and unable to perform the required actions. Based on this information, EPA initiated a fund-lead removal action to alleviate the dangers to human health and the environment.

3.0 REMOVAL ACTIONS

Removal actions at the OP site involved a myriad of significant, concurrent activities. This section uses a functional approach to summarizing the activities. For a complete chronology of the site activities, consult the field logbook notes in Appendix A.

3.1 PLANNING

On April 30, 2007, OSC Carter Williamson, EPA Community Involvement Coordinator (CIC) Sheryl Carbonero, and representatives of the US Coast Guard (USCG), START, CMC, Inc. (CMC), the Emergency and Rapid Response Services (ERRS) contractor, and their subcontractor, Kingham Consulting Services, Inc., met at the site for a walk-through and planning visit. CMC was concerned with the condition of the building and requested it be demolished prior to extensive work being performed inside. A rough demolition plan was derived, and plans were made to conduct a structural evaluation of the building using a structural engineer.

Additionally, START member Charles Berry noticed the following changes in the site since the removal assessment was performed:

- Vandals, thieves, and time appeared to have damaged the building more than was observed during the removal assessment.
- Nearly all of the copper had been stripped from the building.
- A large number of drums were missing, as well as about 15 vats from the production lines inside the building and another 20 empty ones stored outside.
- The tractor trailer previously parked outside was gone, but the drums from within it were placed back into the building.

- A large amount of debris was pushed into a corner, apparently by the bucket of a piece of heavy equipment. This same equipment appeared to have severely damaged an interior passageway header, knocking part of the header out of the concrete. It is not known what happened to the chemicals that were in the vats, and no dumping in the building appears to have occurred.
- The ceiling of the wastewater treatment area was now completely collapsed along the western wall, totally blocking access from the laboratory area.
- Many items from the treatment and quality control laboratories were gone, including an atomic absorption spectrometer.
- Several items appeared to have suddenly appeared at the site, including several dozen large stackable containers (later referred to as "gondolas") containing crystalline solids. These containers are further discussed in Section 4.0.

Roles and responsibilities were set: EPA would direct all site activities, make final waste determinations, and act as the generator for off-site disposal; USCG would provide health and safety oversight and serve as a federal presence on site at all times; START would provide technical assistance, sample collection, site documentation, and removal contractor monitoring; ERRS and its subcontractors would provide the necessary labor and equipment to perform the removal activities, manage all waste on site, and arrange for off-site disposal of the waste.

ERRS indicated they could begin mobilization within a week, and May 7 was set as the official start date for the removal. CMC arrived on this date, Tetra Tech mobilized a short time thereafter on May 9, and USCG arrived on May 10.

3.2 SITE PREPARATION

Exterior Preparation

Before handling any chemicals, ERRS needed to create space in which to work safely and store the equipment needed to perform the removal. A large amount of debris in the rear of the site was hauled off as non-hazardous debris. The pre-existing soil piles were mounded up against the southern fence-line. Empty containers outside the building were gathered, and those still containing liquid contents were placed just inside the building for later segregation. Two large aboveground containment pools were installed in the rear of the building to contain wash water. The existing fence was extended to enclose the entire property, and two office trailers were set up near Sutton Bridge Road. Electricity,

phone, and internet utilities were established. Sanitary facilities were brought on site. ERRS mobilized a decontamination trailer where crews could don personal protective equipment (PPE) and take breaks. Mobile storage tanks that would eventually contain the bulked liquid waste were brought onto the site. Access to adequate water was provided initially via a fire hydrant until Rainbow City could reestablish water service to the site. The sanitary sewer had been blocked with a bladder at some point in the past. ERRS contained all wash, treatment, and wastewater, and no water was released to the sanitary sewer from the removal activities.

During invasive debris management activities in the rear of the property, a noticeable amount of dust was generated. START analyzed the soil with an XRF device. The XRF reading indicated a large amount of chromium (greater than 4,000 parts per million [ppm]) present in the soil commingled with the debris. ERRS immediately began dust suppression activities, which eliminated off-site migration significantly. After this, USCG began placing two DataRAM particulate monitors in an upwind and downwind position every morning. USCG downloaded the data every evening to document any potential off-site migration.

Several days later, START collected soil samples from the drainage ditch separating the facility from the nearest residences on the south side of the property. The samples were analyzed by XRF prior to being sent to AES for analysis. START compared the XRF readings to the laboratory results and found little correlation. These results, combined with the problems with XRF analysis encountered during the removal assessment, led to the determination there was significant matrix interference during XRF analysis so as to make the readings unreliable. Therefore, no further XRF analysis was performed at the site. A full discussion of the soil sampling results is presented in Section 3.7.

Interior Preparation

Preparation activities within the building were mainly concentrated on securing a safe work space with adequate room to maneuver and properly store containers. The advanced deterioration of the building significantly increased the need for open and safe work areas. The building was divided into lettered areas (A through K) for easy reference (see Figure 2). Crews began in Area A and worked back through the building to Area J. Initial efforts were focused on collecting the trash and dirt which littered the floor. The dirt and dust was placed into containers for eventual sampling and disposal. Debris was taken to the pools and rinsed off prior to placement in roll off containers for disposal as non-hazardous debris. As part of the preparatory activities, empty drums were collected and placed

into Area B for storage. In total, 110 empty drums were placed into Area B. Many were later used to hold the contents of damaged drums prior to bulking.

Once the physical hazards were removed and some space created in which to work, ERRS began to gather the containers still holding material. A drum grappler attached to a skid-steer was used to transport the drums through the accessible areas of the facility, while drum dollies were used to move drums from Areas F and J. The containers located beneath the collapsed roof in Areas F and G had to wait for dismantling of the overlying collapsed roof (see Section 3.5). Containers were staged, beginning in Area A and eventually extending into Areas D and E. The drums were staged in rows with sufficient space to allow for removal in case of emergency. Once the overlying sections of Areas F and G were removed and the containers staged, all waste on site was ready for sampling and field hazard categorization.

3.3 WASTE SAMPLING AND HAZARD CATEGORIZATION

For the purpose of identifying and inventorying containers, five container types were designated. "Drums" were considered to be all moveable containers of liquids, whether they were drums, totes, buckets, or cans, and were represented by the letter "D." "Solids" were moveable containers of solid material and were identified by the letter "S." "Gondolas" were containers identified by Mr. Partridge as being part of the production line, but containing unfamiliar material (see Section 4.0), and were identified by the letter "G." "Vats" were large immovable containers containing solid or liquid material from the production lines as well as several large storage tanks in the wastewater treatment area and were identified by the letter "V." "Pits" were the pits located in the WWTP and were identified by the letter "P."

Once staged for sampling, START began to document and inventory each container. Numbering nomenclature consisted of the container type, a sequential number for that type, and then the letter designation of the area where the container was originally found if a moveable container (drums, solids, and gondolas), or the plating line or production area where it was located for the vats and pits. This last information was to be used by the chemist during field hazcat testing to group similar material and to provide additional details for any possible enforcement or cost recovery effort (see Section 4.1). START also collected detailed information from the labels on the drums, including the chemical name, manufacturer, lot number, and any hazard labels or special handling requirements.

Container information was collected and entered into a spreadsheet for tracking each container (see Appendix C).

Waste Sampling

In total, 406 drums were identified and numbered, but 10 sequential numbers were inadvertently skipped during the drum numbering process (130-139 and 155), resulting in a terminal number of 416 instead of 406. In total, 35 drums were found to have solids, and another 26 were found to be empty, leaving 345 liquid containers to sample. Building demolition was performed concurrently with the staging process, so these numbers include those containers eventually recovered from Areas F and G (see Section 3.5). START recorded details about the waste, any layers present, each layer's thickness, and total drum volume, which were eventually entered into the container inventory. Each drum was photographed and any unique labeling was photographed and logged. Once inventoried, sampling crews entered the building in Level C PPE and collected samples of each container using glass drum thieves.

The solids and gondolas were similarly treated, with START and ERRS collecting samples from each with disposable scoops. Two solids containers were found to be empty. A total of 109 solids containers were sampled, including the 35 solids containers initially placed with the liquid drums (and still carrying a "D-" prefix). Label information, when present, was recorded, and typically included an estimate of the total weight of the material. In total, 25 gondolas were identified and sampled. No label information existed for any of these gondolas, which appeared to have been reused instead of housing the original contents.

During the removal assessment performed in March 2006, START had estimated 8,700 gallons of liquid were contained in the production vats. This amount had decreased greatly because of the very hot and dry conditions which occurred in the region prior to and during the removal action. Based on visual observation, it was estimated that over 75 percent of the liquids had evaporated. The vats and tanks contained both solid and liquid material, but the solid material was generally too crystalline to remove without vigorous hammering. It was decided to sample only the liquids and wait until the solids were removed and bulked together before sampling. In total, 117 vats were identified during the removal assessment. Upon initiation of the removal action, 17 of these vats (and about 20 more unnumbered empty vats located outside) were discovered to be missing from the property. Additionally two vats (V-16 and V-17) were discovered to be actually one vat with a discontinuous partition. The spreadsheet was changed to reflect this observation, and one vat was eliminated. After

the damaged roof was removed, another 10 vats and tanks were identified, one of which was found to contain two chambers; this tank was labeled V-123A and V-123B. Thus, a total of 110 individual containers were physically accounted for, with sequential numbering terminating at 127.
The wastewater treatment pits were numbered 1 through 9. Linear dimensions of each pit were measured. At the time of sampling, the depth to sludge and total depth were noted. Most of the pits were similar, with several feet of water and about a foot of sludge, although one pit (P-3) contained a floating, thick oily scum floating on water with no sludge. This was not unexpected; during heavy rains the treatment area flooded, mixing the contents of 7 of the 9 pits together. Sampling was conducted using a sludge judge, which was decontaminated with a pressure washer after each sample. A full decontamination was unnecessary, as the field test methods used to classify the material for waste disposal would be insensitive to trace cross-contamination.

The small containers in the laboratories were removed and staged for later testing. In total, 321 containers ranging in size from 1 ounce dropper bottles to 5 gallon buckets were removed. Most of the chemicals were typical laboratory-type chemicals, such as pH indicator solutions, acids and bases, reagents, and standards, and many were empty. A full inventory of the chemicals was not generated as the quantities of each were minimal and the total volume less than 10 gallons.

Based on conversations about the type of wastes at the facility with the operators and discussions between START, ERRS, and EPA, it was decided that a downgrade from the normal Level B PPE to Level C PPE was adequate to maintain worker safety. Results for air monitoring during the sampling indicated the downgraded level was adequate. Where necessary, a boom lift was used to elevate the samplers to the top of the tank or vat. While operating the lift, all passengers were properly harnessed and maintained three points of contact with the basket.

Hazard Categorization and Waste Stream Determination

Once the samples were collected, ERRS began the hazcat testing series. These tests included water solubility, pH, flammability, and the presence of oxidizers. The results of these tests were then entered into the container inventory and correlated with label information to determine the waste streams.

In total, 18 chemical waste streams were identified:

- Acid liquids
- Basic Liquids
- Oxidizing liquids
- Oxidizing acid liquids

- Flammable liquids
- Organic liquids
- Neutral liquids
- Oxidizing flammable liquid
- Acidic solids
- Basic solids
- Neutral solids
- Flammable solids
- Floor sweepings
- Dried paint
- Metal granules
- Basic sludge
- Neutral sludge
- Antifreeze

3.4 WASTE BULKING

Based on the waste streams identified after hazcat testing, a plan was derived to bulk similar waste streams together. Bulking involves grouping several waste streams into a single bulking group, mixing them together, and generating a new waste stream based on the outcome of the chemical interaction of the various combined streams. Generally, bulking waste reduces the total number of waste streams, making profiling easier and less expensive. Additionally, off-site transportation costs are usually less expensive on a per-unit basis for larger volumes. Prior to mixing the chemicals, ERRS performed bench-scale testing of the material to ensure compatibility.

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On July 9, 2007, ERRS began bulking acid liquids, basic liquids, and the oxidizing liquids from drums into two large stainless steel mixing tanks. Some reactions occurred between the chemicals, particularly upon introduction of oxidizers into the acidic liquids. Reactions were allowed to proceed in one box while crews used the other box to mix, switching back and forth to allow the material to equilibrate. During bulking, a welding seam on the bottom of one of the mixing tanks failed, and approximately 350 gallons of acid leaked out overnight. ERRS recovered much of this material the next morning with a vacuum truck. The tank was repaired and no further complications occurred during bulking activities. One hundred twelve (112) drums and the non-neutral liquids from the plating vats were incorporated into this bulking group.

Neutral liquids were bulked into an aboveground pool. No reaction occurred during bulking activities, although a slight oil scum appeared that required removal. In total, 133 drums were incorporated into this bulking group which included the wash and rinse water from the other pool after field hazard

categorization testing showed no hazardous characteristics. This material was transferred to frac tanks until off-site transportation and disposal arrangements were finalized.

Flammable liquids, organic liquids, and oxidizing flammable liquids were bulked into a frac-tank brought onto the site. In total, 82 drums as well as the top layer of P-3 and the contents of vat V-127-E were incorporated into this bulking group. An oil-water separation tank was created from a modified tote and the water waspumped from beneath the oil. The water was added to the neutral liquids after field hazard categorization testing indicated it was compatible.

The oxidizing acid liquids were suspected to be chromic acid based on product labeling and visual observation. In total, 12 drums were incorporated into this waste stream and were stored in totes until off-site disposal could be arranged.

All material from the solids containers and gondolas with the exception of the dried paint and floor sweepings were mixed in a stainless steel mixing vat. The resulting reaction off-gassed brightly-colored fumes and turned the entire mixture into a dark grey liquid, which continued to bubble gas for days. This mixture was combined with the sludges from the vats and stored on site until a solidification method could be planned. The dried paint was incorporated into the construction debris. The floor sweepings were later used to dewater the sludges and eventually mixed with the other solids. While the reaction occurred, workers donned Level C PPE when working in the area.

The liquids within the WWTP pits proved problematic. Initially, the pits were drained on July 19 and placed into a 20,000-gallon frac tank until analytical data were obtained. Heavy rains throughout late July caused the pit to refill. It was also suspected that the foundation was cracked, allowing groundwater to seep in. Additional pumping was required and another frac-tank was brought in to contain the water.

The sludges required solidification prior to profiling and off-site disposal. Several methods of solidification were explored, including the use of kiln dust, Portland cement, and polyacrylamide polymer. Kiln dust was abandoned since it could not be found locally in sufficient quantity. START performed a cost-benefit analysis of each remaining option, taking into account raw product costs and increased transportation and disposal costs from additional weight. The results of this study showed polyacrylamide polymer to be cost effective only when the final mixture contained 7 percent or less by weight. A bench-scale test was then performed using a commercially available polyacrylamide

(AstroGel®). Polyacrylamide was effective in solidifying the sludge only at levels greater then 10 percent. Subsequently, Portland cement was chosen to solidify the sludge. The sludge and Portland were mixed in an emptied WWTP pit and stored in stockpiles until off-site disposal could be arranged.

3.5 BUILDING DEMOLITION

The OP facility's physical structure was in an advanced state of disrepair and had been condemned by the Rainbow City Building Department. The building was inviting to vandals, vagrants, and those engaging in illicit activities, and posed an "attractive nuisance" for local children. At EPA's request, ERRS consulted a structural engineer who examined the building. The engineer's conclusion was that the building was unsafe, prompting EPA to instruct ERRS to tear down all but two small sections of the facility, areas A,B,C,D, and area K. In addition to providing site worker safety, this would ensure public welfare after the removal action by eliminating the "attractive nuisance."

Initial demolition efforts were concentrated on removing the collapsed roof from the top of containers in Areas F and G so crews could begin sampling all containers simultaneously. ERRS mobilized two trackhoes, one with a grappler thumb and another with metal-cutting shears. Prior to demolition, ERRS removed the fluorescent and mercury vapor lights from throughout the building; several mercury switches located on the boiler in Area I were also removed and stored for later disposal. Beginning on the north side of the building in Area H on July 5, 2007, the roof was methodically pulled back and the rafters cut. Care was taken to dismantle the building slowly, so as to prevent sudden and catastrophic collapse of the already-damaged structure. Within a week, most of the damaged roof was removed and the containers were staged for sampling. In total, 80 containers were found beneath the collapsed roof. The southern wall of the structure was left standing to provide a visual and sound barrier to the residences next door. Bracing was emplaced on the south side of the wall to direct any collapse onto the facility property.

Once the containers were removed, demolition activities focused on removal of the building from around the production vats so heavy equipment could drag out the vats. ERRS began by moving westward from Areas F, G, and H into Areas I and J. Demolished concrete block was stockpiled and used to build ramps between the various levels. The wood and general construction debris was placed directly into roll offs, which were constantly rotated to the local landfill as non-hazardous construction debris. Metal beams were saved for scrap. Those attached to the production lines were pressure washed prior to recycling.

The initial plan was to cease demolition after the production lines were exposed and the threat to worker safety abated, leaving Areas A, B, C, D, and K standing; however, after Area J was demolished, Area K was examined. It was noted that supporting braces and joists had been tied into Area J. With Area J gone, Area K was now unstable. Therefore, EPA decided to remove the newly identified threat and demolish the office space in Area K after ERRS and START removed the universal and recyclable wastes (lights and computer equipment) from the area. Removing this section also reduced the likelihood of vandalism, graffiti, and trespassing at the site by providing local law enforcement with greater visibility into the remaining property.

The final section to be demolished was Area E. Prior to demolition, the wastes stored in this area required bulking into appropriate containers outside the building. Sampling and bulking activities were conducted concurrently. As a result, only a few days were needed for the bulking crews to complete their activities and allow the demolition of Area E. Demolition was completed during the first week of August. Figure 3 illustrates the demolished areas of the building.

Vat Removal

Once the building was demolished, ERRS began removing the vats from Areas J and E. During bulking activities, the vats were pumped free of all remaining liquids, which were added to the acidic liquids waste stream. The vats were then cut away from the production line, taken to a dumping area on the foundation slab (an area already contaminated from production spills), and then upturned and agitated with the trackhoe to remove the crystalline solids. The solids were scooped up and placed into one of several large vats converted into a storage bin.

Many of the vats contained large amounts of zinc ball anodes, used to supply the zinc during the plating process. Older types of these balls typically contain high levels of lead and cadmium, and are generally disposed of as hazardous waste. ERRS rinsed them and set them aside until final disposal options could be determined.

The vats themselves were cut into flat panels and pressure washed before being further cut into 3-foot strips for recycling. The pressure washing occurred over the WWTP pits. This water was later reclaimed for disposal as neutral liquids after hazcat testing.

3.6 PROFILING AND OFF-SITE DISPOSAL

Based on bulking activities, six primary chemical waste streams were generated, acidic liquids, neutral liquids, organic liquids, oxidizing acidic liquids, WWTP water, and solidified sludge and solids. Prior to off-site disposal, EPA and ERRS generated disposal profiles of each waste type, and three competitive bids for disposal of each waste stream were obtained. During the profiling process, a hazardous waste determination is made by first comparing the known information about the chemicals to specific lists of chemicals and processes given in Title 40 Code of Federal Regulations (40 CFR) 261 Subpart D, generally known "F-list," "K-list," "P-list," and "U-list" waste. If the waste fails to meet any of those specific criteria, laboratory data are obtained to characterize the waste. Generally, a toxicity characteristic leachate procedure (TCLP) analysis is performed on solid material to gauge landfill fate and transport potential. For liquid samples with less than 0.5 percent solids, the liquid sample is considered to be the TCLP extract and a standard laboratory analysis will suffice. Other analyses are performed, such as flashpoint and corrosivity (pH), to accurately characterize the material, although the exact analyses performed depend on a variety of factors determined by both the generator and the receiving facility. The analytical data are compared to the definitions of characteristic hazardous waste as given in 40 CFR 261 Subpart C, generally referred to as "D-listed waste." Although waste from several plating operations are listed in the F-list, they all specify cyanide as a component of the process. OP ceased cyanide plating operations in 1991. At the time of the removal action, none of the waste at the OP facility met the F-list criteria; thus, no F-Listed waste was generated at the site during the removal action.

Analysis of the bulked acidic liquids showed it had a pH of 0.98 and a TCLP chromium level of 1,390 milligrams per liter (mg/L). Waste having a pH level less then 2.0 is considered hazardous for corrosivity. Material having a TCLP level of chromium greater than 5.0 mg/L is considered toxic for chromium. Based on the pH and chromium content of the sampled waste, ERRS profiled it as hazardous waste for corrosivity and chromium toxicity. In total, 4,088 gallons of acidic liquids were transported by tanker to Heritage Environmental Services in Indianapolis, Indiana. There, the material underwent pH neutralization and stabilization of the heavy metals prior to being discharged to the local POTW.

Analysis of the bulked neutral liquids revealed TCLP chromium concentrations ranging from 5.09 to 8.82 mg/L. Thus, ERRS profiled this waste stream as hazardous waste for chromium toxicity under a common profile. A total of 67,489 gallons of neutral liquids was transported to Environmental

Quality in Detroit, Michigan. There the heavy metals were stabilized and the material released to the local POTW.

Analysis of the bulked organic material showed a flash point of greater than 130° F, meaning the material did not meet the definition of hazardous waste provided in 40 CFR 261 Subpart C. Thus, the waste was characterized as a non-hazardous combustible liquid. The material contained 11,000 British thermal units per pound, and a total of 1,350 gallons of organic material was transported to Lone Star Greencastle WDF in Greencastle, Indiana, for fuel blending.

Analysis of the bulked oxidizing acidic liquids showed a pH of 0.48 and a TCLP chromium level of 7,490 mg/L. Thus, ERRS profiled the material as hazardous waste for corrosivity and chromium toxicity. A total of 400 gallons of material was trucked to Heritage Environmental in Indianapolis, Indiana. There, the material underwent pH neutralization and stabilization of the heavy metals prior to being discharged to the local POTW.

Analysis of the bulked WWTP wastewater showed a TCLP cadmium level of 3.07 mg/L. The regulatory disposal limit for cadmium given in 40 CFR 261 Subpart C is 1.0 mg/L. Thus, ERRS profiled the material as hazardous waste for cadmium toxicity. A total of 40,700 gallons of wastewater was shipped to Heritage Environmental in Indianapolis, Indiana. There, the heavy metals were stabilized and the material released to the local POTW.

Analysis of a composite sample of the solidified sludges, gondola material, solid containers, and floor sweepings showed TCLP cadmium levels of 1.25 mg/L. Thus, ERRS profiled the material as hazardous waste for cadmium toxicity. A total of 1,536 tons of material was transported to the Environmental Quality facility in Detroit, Michigan. There, the waste was stabilized before being deposited in the facility's landfill.

In addition to the six primary waste streams discussed above, four secondary waste streams were also generated, profiled, and disposed off-site during the removal action: construction debris, mercury-containing items, scrap metal, and antifreeze.

Throughout the removal, ERRS transported non-hazardous construction debris to a local landfill. A total of 1,980 cubic yards of material was moved off site to the WCA Blount Landfill in Trafford, Alabama, a state-permitted construction and demolition debris landfill.

Several types of wastes, both hazardous and non-hazardous, were sent off-site for recycling and reuse. The collected mercury-vapor lights, fluorescent lights, mercury switches, and one small container of elemental mercury were transported to Allworth, Inc., in Birmingham, Alabama, as universal waste. There, the mercury will be extracted and reused.

Progress Rail Services in Albertville, Alabama, acted as a broker for the scrap metal. Through Progress Rail, ERRS recycled 185.7 tons of steel; 8,329 pounds of zinc anodes; 5,540 pounds of stainless steel; and 160 pounds of mixed metal shavings. The proceeds generated during this recycling were deducted from the total site costs incurred by ERRS.

Other recycled materials include approximately 75 gallons of ethylene glycol antifreeze sent to McLean Fuels in Birmingham, Alabama, and 5 lead-acid batteries delivered to Hereford Scrap Metals in Attalla, Alabama.

3.7 SOIL SAMPLING AND EXCAVATION

Soil sampling at the OP facility occurred in three phases. The first soil sampling event occurred at the start of the removal action; the second was an attempt to characterize the site soil; the final sampling event was designed to gauge the effectiveness of the soil removal activities.

May 17, 2007 Sampling Event

On May 17, 2007, START, assisted by USCG personnel, collected surface and subsurface soil samples from the drainage ditch separating the facility from the residences to the south (see Figure 4). Residents within the neighborhood told EPA the facility routinely dumped liquids into the ditch during its entire operating period. EPA was concerned contamination within this ditch could have migrated onto private property during heavy rains. START was tasked to sample soil from the ditch to see if a source area existed. Clean stainless-steel bowls, spoons, and augers were used to collect the samples. XRF readings were taken for most of the samples. Where water content was high (greater than 25 percent), no XRF readings were taken because of expected interference.

Four sample locations were selected along the ditch, starting with the point at which it entered the OP property and ending at the point at which it turned northward onto Rainbow City Water and Sewer Board (W&SB) property. Analysis for Target Analyte List (TAL) metals, hexavalent chromium, and total cyanides was performed at AES. The laboratory data were then compared to EPA established

Removal Action Levels (RALs). The RALs were determined by converting the Region 9 Preliminary Remediation Goals to risk-based concentrations appropriate for time-critical removal actions. The derived RALs are based on an industrial human health risk of $1x10^{-4}$ for carcinogens and a Hazard Index of 3 for non-carcinogens.

No results exceeded the RALs for any analyte (see Appendix F, Table 1). No hexavalent chromium, mercury, or cyanide was detected at or above their respective reporting limits in any sample. Chromium (trivalent) levels were generally low, with a maximum concentration of 170 ppm (OP-DITCH2-SS) and a minimum concentration of 28.8 ppm (OP-DITCH3-SB). The complete laboratory package for these data is provided in Appendix E.

XRF readings did not correlate well to the laboratory results. For example, sample OP-DITCH1-SS showed 1,564 ± 215 ppm, while laboratory analysis showed the actual value to be 44.0 ppm. Table 2 in Appendix F shows the laboratory chromium values compared to the XRF values. XRF data vary widely from the laboratory data, with an average percent difference of nearly 1,000 percent. XRF analysis during the removal assessment conducted in March 2006 showed similar poor correlation, prompting concerns of matrix interference from another constituent in the soil. Based on the discrepancy, START advised EPA to completely discontinue XRF analysis at the site.

Concrete Slab Assessment

Once the wastes were removed from the building and the structure torn down, the building foundation slab was assessed. Years of leaks, poor housekeeping, and spills contributed to several areas of stained, deteriorated concrete. Visual observations indicated a high level of metal contamination: A large area beneath the barrel lines in Area J was contaminated with chromic acid (brownish red stains); the WWTP pits showed multi-colored staining on the concrete and severe pitting and deterioration of the concrete lining; the drainage pits in Area J were lined with a dark brown residue; and the concrete beneath the phosphate plating line was discolored nearly black. After rain events, brown liquid pooled on top of the concrete. Based on the recommendations of both START and ERRS, EPA, decided to remove the stained concrete in order to prevent contamination of the underlying soil and direct human exposure from future usage.

CMC used a demolition hammer attachment for an excavator to break up the stained concrete from the affected areas, except for the WWTP pits, as the pits still contained a large volume of water at that time. The contaminated concrete was then sampled using a crush box, and the pieces were sent for

TCLP analysis. Results of the analysis showed the concrete was non-hazardous, and it was loaded onto trucks for disposal with the other construction debris.

August 15 and 16, 2007 Sampling Event

The second soil sampling event occurred on August 15 and 16, 2007, when START was tasked to sample soil from areas where the foundation slab was removed, as well as the rear portion of the OP property to the east of the building. EPA also tasked START to collect samples from the Rainbow City W&SB property east of the OP facility, in the low-lying area south of the water treatment pond (see Figures 4 and 5). START collected nine samples from exposed foundation areas, one sample from a recently emptied sump near the loading dock area, and four samples from the east portion of the OP property. All of these samples were composites with at least 5 aliquot locations each. Additionally, START collected two composite and three grab samples from the Rainbow City W&SB property. START recorded global positioning system locations for each aliquot and grab location. The samples were analyzed for total RCRA metals. The results of this soil sampling event are summarized in Table 3 in Appendix F. Based on the results from the May 2007 sampling event, all chromium on site was considered to be trivalent. The maximum detected concentrations were compared to EPA established industrial RALs. No analyte showed levels higher than the RALs, although two samples showed levels higher than the residential RAL for cadmium (37 ppm): sample OP-SS-04, collected from the exposed sub-foundation soil beneath Area J, and OP-SS-09 from a break in the concrete between Areas E and D (see Figure 4).

Concerned that drainage from the phosphate plating line could have seeped through the concrete between Areas D and E, EPA tasked ERRS with drilling core holes through the concrete in this area (see Figure 4). The third sampling event occurred on August 30, 2007, when START collected 10 additional samples from these core holes (material was unrecoverable from sample locations OP-SS-23 and OP-SS-28). Again, the samples were analyzed for total RCRA metals and all chromium was considered trivalent. No result exceeded the industrial RALs for any analyte (see Appendix F, Table 4), although cadmium slightly exceeded the residential level RAL (37 ppm) in one sample (OP-SS-20).

Excavation and Confirmation Sampling

As stated above, the concrete in Area J was highly stained and removed by ERRS. The soil beneath was also stained, and EPA determined it should be removed. Brown liquid pooled on the surface after rain events. START tested the pH of this water and found it to be between 3 and 4 pH units. START

then collected one soil sample and one duplicate sample from this area as part of the August 15 sampling event. Analyte concentrations in the duplicate sample equaled the residential RAL for cadmium of 37 ppm (see Appendix F, Table 3), although none of the industrial RALs were exceeded. On August 22, 2007, ERRS began to remove the highly stained soil in this area to a depth of 2 feet. Piping, additional concrete foundations, concrete drainage ditches, and gravel were found beneath the first foot of soil. The genesis of these items is unknown. Once excavated, the soil was added to the sludges and shipped off site as hazardous waste.

In addition to the three soil sampling events previously discussed in this section, START conducted the excavation and confirmation sampling in Area J and around the WWTP pits. After the stained soil in Area J was excavated, START collected a confirmation sample that was shipped and analyzed for total RCRA metals. All chromium was assumed to be trivalent. Analytical results showed no levels exceeding the industrial or residential RALs (see Table 5, Appendix F; and Appendix E). The concrete around the WWTP pits was broken up after removal of the water and debris inside. The concrete was in poor condition, cracked, stained, pitted, and crumbling. It was assumed a large amount of water and contamination had penetrated and leaked through the cracks in the walls. Soil behind the wall was observed to be similarly stained and visibly contaminated. EPA decided to excavate a 4-foot perimeter around the pits in all directions, including the soil beneath the pits. ERRS removed the concrete and surrounding soil, adding them to the solidified sludges for disposal. Once the area was excavated, START collected confirmation samples from the floor of the excavation and each of the four walls. Each sample was analyzed for total RCRA metals. All chromium was assumed to be trivalent. Analytical results showed no levels exceeding the industrial or residential RALs (see Table 5, Appendix F; and Appendix E).

After confirmation sampling was complete and no further excavation was required, ERRS filled in each excavation with a combination of crushed clean concrete block retained during building demolition and clean soil brought in from a local excavation pit. Once the excavations were backfilled, ERRS demobilized from the site, removing the office trailers, decontamination trailers, all equipment and personnel. The perimeter fence was extended to completely surround the facility (where the south wall was now removed). The fence remains locked to prevent trespass.

4.0 COMMUNITY INVOLVEMENT

Throughout removal activities, EPA sought to involve local residents and government officials. EPA assigned CIC Sherryl Carbonero to facilitate this process. CIC Carbonero and OSC Williamson met with the Mayor and Fire Chief of Rainbow City. An emergency response plan in case of fire was prepared and incorporated into the site safety briefings. CIC Carbonero also contacted the Rainbow City W&SB to provide access for soil sampling. Millennium Business Systems, operating next door, agreed to allow EPA to use part of their fence to enclose the site and provided parking space for workers and visitors. CIC Carbonero and members of the USCG canvassed the nearby neighborhoods delivering an information flyer about the site, which included contact information for CIC Carbonero. Approximately 300 residences were contacted in this manner. Residents were informed about the activities at the site, the expected duration of activities, and the general nature of the contaminants. After several inquiries, it was agreed that site activities would begin no earlier than 7:00 am to reduce the noise impact to the surrounding community; however, work start times were eventually moved back as a lingering drought and heat wave occurred towards the end of the summer months.

5.0 SUMMARY

The OP facility housed a small automobile parts plating operation in Rainbow City, Alabama, near Gadsden. The facility went bankrupt in 2002 and was unable to perform the necessary RCRA closure activities. ADEM requested EPA assistance with implementing proper closure activities. EPA mobilized START, ERRS, and USCG to assist in a removal action. Initial site work focused on setting up equipment and work areas. Chemical containers were then staged for sampling, which was performed by START and ERRS. Additionally, the production line vats were sampled. The samples were subjected to field characterization sampling, and START and ERRS developed a bulking scheme based on the compatibility of the chemicals. The chemicals were bulked into several large waste streams and sampled for disposal profiling. After bulking, one non-hazardous and six hazardous chemical waste streams were developed and profiled. This material was transported to approved, licensed treatment facilities for a variety of treatment options. Because some parts of the roof had collapsed onto chemical containers, ERRS brought in heavy equipment and dismantled the building. This also allowed the material in the vats to be removed more efficiently prior to bulking. After the building was dismantled, START collected soil samples from several areas of visually impacted soil beneath the foundation slab. No analytes exceeded the RALs for the site, although EPA decided to remove some areas of highly discolored and obviously impacted soil given the proximity of the facility to nearby residential areas and sensitive wetlands. START also sampled on- and off-site soils,

finding no areas which exceeded the site RALs. Once the wastes and debris were removed from the site, the site was secured with perimeter fencing and locked. Any future actions will be at the discretion of EPA.

Analytical data did not reveal the presence of any contaminants at concentrations exceeding EPA Region 9 PRGs for residential soil. A copy of the analytical data package and data validation report is provided in Attachment 3.

APPENDIX A

LOGBOOK NOTES

(74 pages)

OWENS PLATING REMOVAL

ALL-WEATHER
HORIZONTAL LINE
No. 300 N

ITEM1-05-001-0037

CONTENTS

PAGE	REFERENCE	DATE
	Chet Davis USCG	
	251-776-2792	

"Rite in the Rain"®
ALL-WEATHER WRITING PAPER

ALL-WEATHER
HORIZONTAL LINE BOOK

Name Owens Plating - Removal Action

Address 1440 Sutton Bridge Road
Rainbow City, AL 35906

Phone

Project ITEM I - 05-001-0037

This book is printed on "Rite in the Rain" All-Weather Writing Paper - A unique paper created to shed water and enhance the written image. It is widely used throughout the world for recording critical field data in all kinds of weather. For best results, use a pencil or an all-weather pen.

Specifications for this book:

Page Pattern		Cover Options	
Left Page	Right Page	Polydura Cover	Fabrikoid Cover
Lined	Lined	Item No. 390N	Item No. 390NF

Monday, April 30 2007

EST 0900 begin make to Queens Plating facility - pick up Chuck Berry (T+) along way

1145 ET - arrive @ Queens Plating meet w/
- Carter Williamson - EPA OSC (Tim)
- Sheryl Carbonaro - EPA CIC
- Chet Davis - USCG ESU
- Jim Jarvis - CMC
- Clay Corman - CMC
- Neville - CMC sub (chemist)
- Haris - CMC - FCA

tour facility to inspect conditions and identify needs

- T+ Chuck Berry stated that numerous drums appear to be missing - they were there (near phosphate line) during the removal assessment conducted in 2006
- also trailer is gone from loading docks
- the following vats were also missing from electroplating line (aluminum etching)
  - V-1
  - V-31-36
  - V-47-51
  - V-54-57
  - V-60

BSC 4-30-07

- also, numerous vats from outside @ rear of property were missing - reportedly were staged outside for repainting

0930 brief staging mtg:
- START - sampling assistance, prepare HASP
- 6 10-hr. days per week
- START - air monitoring
  - Dräger tubes, sulfide monitoring
- START to determine materials that are likely missing based on vat inventory & before/after photos of drum storage areas

1400 START offsite

BSC 4-30-07

5/9/7

1130 Arrive on site. Speak w. N. Kingsbury
Crew at lunch.
Today's weather. Sunny & warm
high in low 80's.
Today's Activities:
1. Set up office trailers
2. Install perimeter fencing
3. Continue removing debris.
- Off site for lunch.
1200 Return to site.
N. Kingsbury relates: - Structural
Engineers have inspected bldg
& will email report to him
later today
2 ~~- 2, 30 cuy roll offs have already~~
~~can been removed from the site full~~
~~of debris.~~
- 2-30 yd³ roll offs are
already filled & waiting to
be taken off site.
- Electrician setting security
light in front of building
- CMC has removed the "empty"
drums from around the building.
~ 1/3 (15) had liquid still inside

5/9/7

Photolog

#	subj	P	O	W
889	- Setting of office trailers and inst. of security light	CB	S	NK
890	- Backside of facility showing proximity to nearby residences	CB	N	CW
891	- "			
892	- "			
893	- "			
894	- Area which had held supposedly "empty" drums	CB	W	NK
895	- Drums from outside which still contain liquid	CB	S	NK
896	- ~50 empty drums rounded up from around the side	CB	S	NK
898	Roll-up door which was knocked down to provide safe access	CB	W	NK
899	- Debris collection	CB	E	NK
900	- Installation of fence	CB	E	NK
901	- Decon trailer + equipment area in rear of bldg	CB	N	NK
903	Dead opossum on site	CB	N	NK

5/9/7

1300 CMC continues collecting debris.

1400 CMC @ break - coming off - a load of totes & ASTs arrive from CMC.

1420 Empty roll off arrives has to wait for tote delivery to get out of the way.

1430 Debris consolidation is generating a lot of dust. As a precaution, START Berry used the XRF to determine if any heavy metals are in the dust at levels which may cause a problem.

3 readings taken from exposed dirt/dust.

Reading	Cr level (ppm)
58	767.5 ± 296.8
59	4564 ± 650
60	1055 ± 330

All w/ 30 sec nom run times.

- During the RA, Cr was found in the soil, but was not speciated

CB

5/9/7

1430 (cont) Pb was not found in elevated levels (≈150 ppm)

Barium was also encountered ⇒ 450 ppm at all 3 locations.

1500 Spoke w/ OSC Williamson & N. Kingham about situation CMC will begin to immediately start dust suppression with a garden hose. The soil comingled in the debris will be XRFd to see if it needs to be extricated. Once the debris is removed, gravel will be placed over areas that will be continually accessed. Vegetated areas will be either covered w/ plastic or left natural.

1535 Analysis of soil in debris shows a range of Cr levels, from 180 ppm to near 1800. CMC will avoid loading soil into roll offs. The total volume of soil in the debris is small compared to the entire pile.

CB

5/9/1

1600 ~~CMC~~ CMC watering down debris during loading. Dust volume is noticeably less.
- Recal XRF + check against RCRA standard (500 ppm). Returned 450.3 +- 220 within 10%.

1615 Re analyze some areas of exposed soil with similar results. 4000+ ppm Cr

1700 Debris loading has stopped. Continue to water it down.
- 2 new CMC employees on site. Checking in w/ N. Hingham.
- CMC to depart site @ 1730.
- START offsite. Will begin to draft Polrep at hotel.

Jeff

5/9/1

Photolog

#	subj	POW
904	CMC wetting down debris prior to loading into roll offs	CB 5 NK

Jeff

5/10/7

0700 H₂S/workplan meeting

WEATHER - Sunny. High near 80.

WORKPLAN

- Continue dust control
- Continue debris segregation/load
- Contain electrical wires
- run perm. water pipe
- Set up offices
- set up pool

0730 CMC in workzone.

- Trimming grass/brush from office area.
- Fence contractors on site
- Wetting rear work area with hose.

0900 CMC using barrell grappler on skid-steer to remove pieces of debris from pile, leaving the dirt. Dust reduction is considerable Lack of wind is helping.

1000 Investigate an underground pipe in the rear lot. leads into wetland area. Outfall not found

5/10/7

Photolog

#	subj	P	O	W
905	CMC practicing dust abatement during debris removal ops.	CB	S	DS
906	Underground pipe leading into wetland	CB	E	NK
907	Fencing owned by Millenium Business Systems Next door. CPA is trying into sections of their fence in exchange for fixing parts of their existing fence	CB	W	NK
908	Fencing crew installing gates	CB	E	N/A
909	AL Power hooking up trailer power	CB	S	NK
910	AL Power hooking up trailer power	CB	W	NK
911	Dust Control	CB	S	NK

5/10/7

1000 (cont) BellSouth on site hooking up phones + internet

1115 Speak w/ OSC Williamson + Chet Davis, USCG (by phone). USCG Gulf Strike Team will supply 2 DataRAMs for delivery tomorrow.

1130 Most large debris removed from part of the pile. Not possible to remove 100%. Will suggest to NLG to leave it + deal w/ it as all soil.

- CMC going to lunch. START off site.

1200 Return to site. CMC coming off lunch.

- Resume segregating debris from soil
- Dust control very effective
- Continue cutting + rolling up old electrical cable.

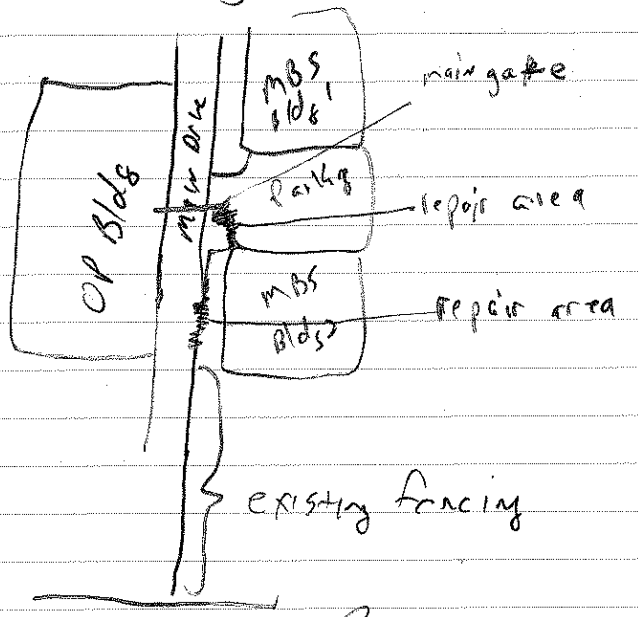
1300 GST Chet Davis + Laura Ferguson arrive on scene.

1330 GST making site walkthrough in bldg.

CB

5/10/7

1330 (cont) Fencing contractor cementing in gate posts. Millenium Business Systems next door has allowed CMC to put some new fencing on their property and to use portions of MBS's existing perimeter fence in exchange for repairing portions of their fence which are necessary to maintain site security. Overall approach will eliminate ≈ 400 linear feet of fencing.



CB

5/10/7

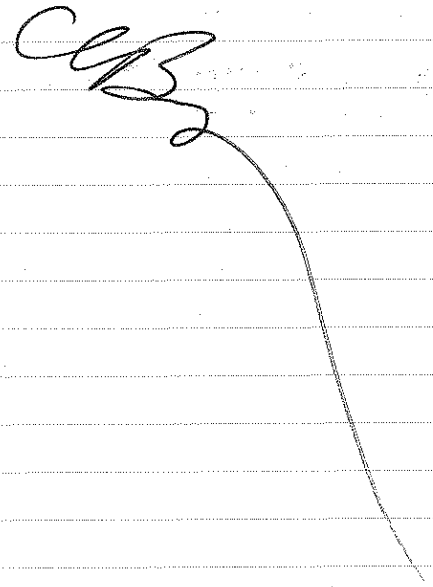
1430 AL Power on site.

1600 D. Salter has printed out aerial C.W. requested yesterday. Shipping tonight also w/ soil sampling eq. —

- CMC has moved all of the soil pile blocking the installation of the pools. Spreading sand to level the ground. —

1645 Initialize DSL router. Wireless is now operable.

1700 START offsite —



5/11/7

0700 Morning meeting:

WEATHER Sunny, warm, little wind, 30% chance of rain late —

WORKPLAN —

- ½ day Saturday —
- Finish setting up trailers
- Set up flag & weather station poles
- Set up pools
- Receive 3 loads of sand
- clean debris from yard
- If rain event, sweep off drive
- Continue dust control.
- finish clearing out loading dock. —

0720 Begin setting up office, hooking up wireless printer. —

0930 MBS loans us several pieces of furniture & office chairs. —

- Fed Ex ~~delivers~~ delivers DataRAMS and soil sampling eq. —

1115 Deliver draft weekly to C. Williamson. He will edit & set us a standard format —

1130 Weekly planning mtg. SPA, CMC, USCG & TJ. —

5/11/7

1130 (cont) - signage needed, will be put up after fencing

MBS: Wayne Watts 205-369-8037
256-442-7342 ext 221

- Cheryl Carbonnaro will be out Tuesday to speak with local residents
- Level C work starts on Monday. Will clean + prep area.
- Sampling next week will be NON-CLP will consult w/ N.K. about specifics.
- Once fence goes up, security will be recalled.

1215 Talk to NK. CN⁻ (total) TAL Metals, and Cr(IV). I suggest collecting add'l samples at depth due to Cr(IV) migration 3 locations 0-1 bgs ~~1-3 bgs~~ 1-2 bgs.

1230 Lunch (CMC crew went @ 1130 + returned @ 2 during mtg)

1330 Back @ site. CMC moving port-a-johns. Fence contractor

5/11/7

1330 (cont) on site. Installing top bars.

RTX LATE ENTRY

0845 Baker Electric on site to look at small lab building built over facility outfall to sanitary sewer. Bldg. still has hot power. AL power needs to disconnect.

1030 AL Power on site to disconnect.

1340 CMC has moved the other debris pile to the back of the lot. Sand is being spread to level out pool area.

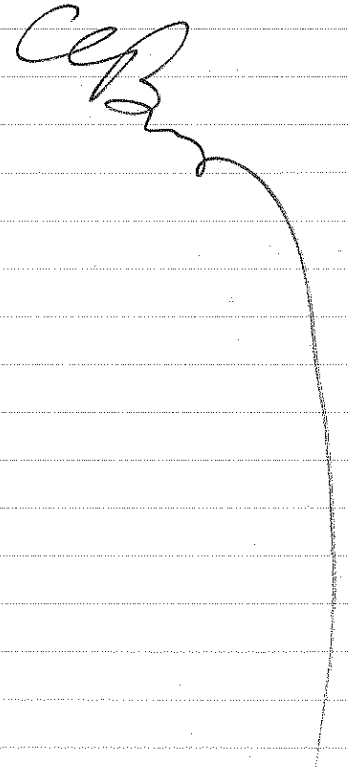
1700 Rain appears to have just missed us.

1730 CMC crew out for day START off site to Atl. Will return Tuesday morning.

5/14/7

Photolog

#		POW
912	Back lot with areas cleared of debris	CB S NK
913	Sand spread for pods	CB S NK
914	Small lab sampling building being moved to a secure location	CB S NK



5/15/7 (Tuesday)

0700 Morning meeting

Weather: Mostly sunny
High near 85 Calm wind, no rain.

Workplan:

- Complete debris mgmt.
- load lab bldg on truck for return to city
- sweep out rear area of bldg. — pw tables —
- cut pipes hanging in work area

0715 Crew entering zone. START still trying to set up office USCG will always have 2 personel on site. —
START will set up new workspace in central trailer area.

0900 Weekly site meeting
- Phase I done on site prior to sale to BEP. CID will be on site tomorrow (F. Garcia).
- Polreps on thursday - Weekly summaries on Wed. to C.W. —
- S. Carbonaro will not be here until Wed. Sampling of

5/15/17

Radiolog

sub;

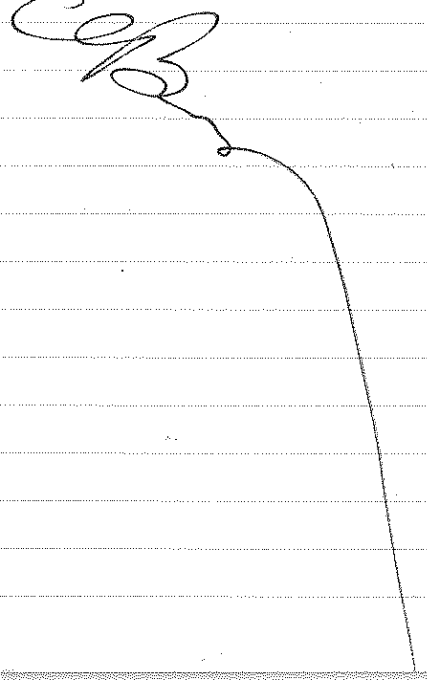
CB S NK

918 CMC using brush adaptor to clear off loading dock area

915 Pool areas set up for decon of CB S NK

916 Air moritering DataRAMs set up on an empty crate and a piece of debris CB E CW

917 Rear area cleared of most dirt (piled up awaiting clearing) CB S NK



5/16/17

0700 START CMC CGST on site.

WEATHER: Rain likely, 60% chance, clearing by afternoon. Rain has already fell this morning.

WORKPLAN/SAFETY

- Continue clean interior, A, B, C
- sweep road
- Pressure wash floor
- Stay aware of overhead dangers
- Level C during clearing activities
- DataRAMS will not be put out today due to weather.

0715 CMC crews in zone. Dressing out.

0730 Scrubbing drive with brush.

- J. Carman delivered tow-behind vac unit this morning.
- Maintenance on site to fix CMCs large generator. Cuts off after 30 min. Not affecting site ops.

5/16/7

0800 START working on an inside diagram of the building.

0930 CMC @ break.

1000 CMC back in zone.

1100 Travel with S. Carbonero, EPA OSC to Horizon Place. Speak with residents @ #1 + 11. Both give permission to cross property. Speak w/ Mr. Greer, owner of #10. Also grants access. Cannot yet reach owner/resident @ #7. SC will continue to reach.

1130 Mg/he site walk through w/ GST Lindsey to talk video of the site.

~~1200~~ - CMC @ lunch

1200 - At lunch

1245 - Return to Site CMC in zone. Begin work on final figure edits

1530 CMC continues to remove piles of dirt from ~~the~~ Areas A, B, & C. Using cut open tote to carry soil out

5/16/7

1530 (cont) to ~~loader~~ Cage which is to be stored near the rear bay door, inside the bldg. "Cleaned" debris, that which has had the dirt removed, is being fed into the loader & then into a roll off.

- N. Kingham has requested crews to clear out ~~areas~~ Area D.
- CMC installing hard PVC line from water main to rear lot.

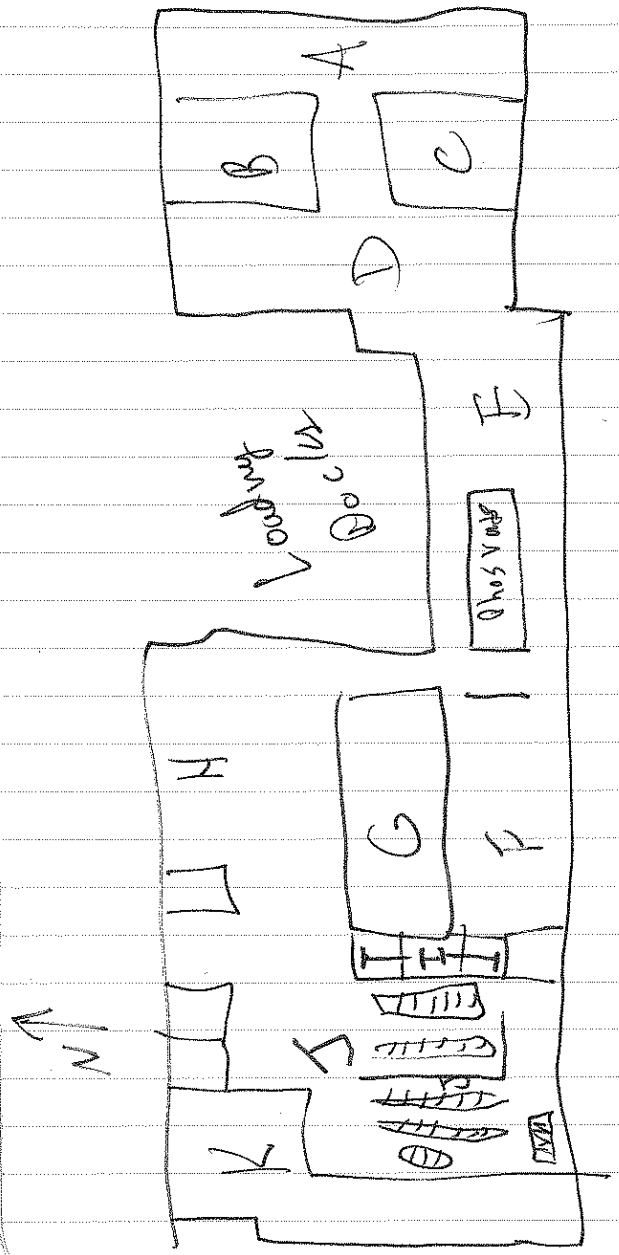
1645 Areas ABC cleared. Crews will start on Area D tomorrow

1700 CMC crews cleaning up decon area.

Water line crew replacing blown coupling. Will let sit overnight prior to retesting

1730 START/CMC off site.

5/16/17



5/16/17

Photos

POW

#920 - CMC removing up gathered CB S DS

920 Soil from Area A

921 - Area A after dirt/soil removed CB S DS

921 - Soil/dirt removed from Area A in cut open CB N DS

922 Poly tote

922 - Hard PVC water line from main to rear los CB W DS

5/17/7

0700 SSRST, CMC, USCG on site

WEATHER

Sunny + dry, High of 75
Currently 50° + sunny

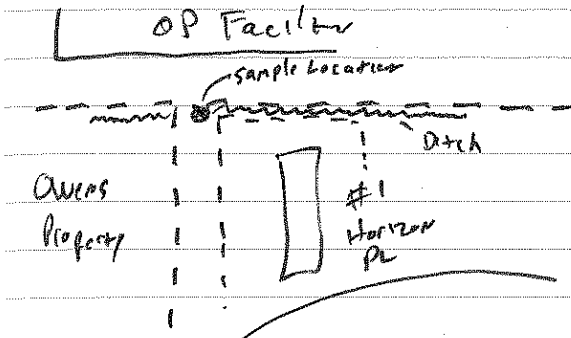
WORKPLAN

- Test line ran yesterday, City needs to fix supply line + meter valve.
- Complete ABCD clearing
- "Sample" vials in situ for pH (Haz Cutting)
- See if plywood covering window on back wall can be removed for add'l light in the A.
- Stay away from S + K, I-beam at H/S entranceway is beginning to fail. No access to H/S/K without valid reason.

0715 OSC Williamson wants soil collected this morning from ditch. Makes sense to do it while it's still cool. Will collect haz cat samples later today.

5/17/7

0830 Arrive @ #1 Horizon Place. CMC clears path with Weed Eater



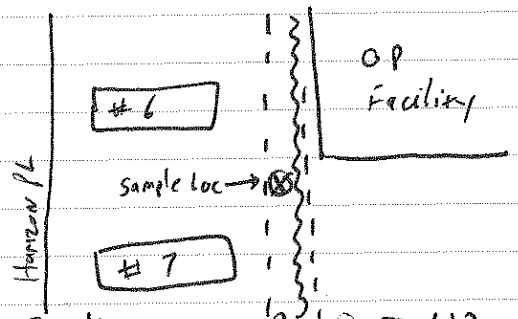
0900 OP-DITCH1-SS collected from surficial clay in creek. Creek is strewn w/ trash, shingles, even a fishing reel. Soil is very moist brown & very clayey. Collected from 0-6". XRF of surface shows Cr = 1564 ± 215, Ba = 299.1 ± 86.1 No other RCRA ↑ LOD. (#74)

- OP-DITCH1-SB collected from 12-16" bgs. VERY thick tan/brown clay. NO organics. Cannot be

5/17/7

0900 (cont) homogenized. XRF (7B) shows Ba = 655.9 ± 112.3 Cr = 279.3 ± 141.8. all other ↓LOD

0920 Arrive at #7 Horizon Place. CMC begins cutting brush, but Trimmer goes down. Repairing.



0930 Collect OP-DITCH2-SS from 0-6" in center of ditch. Standing water up stream from sample pt. Soil is full of trash and organics. XRF (#76) shows 346.3 ± 166.5 b/c high moisture content may be skewing it low.

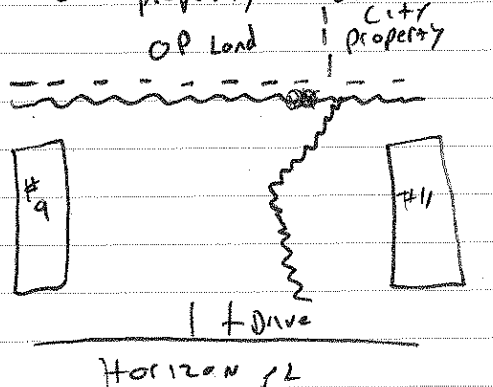
-OP-DITCH2-SB, more like SD HIGH water content, below groundwater. THICK tan clay as before, but high water content

CCB

5/17/7

0930 makes it easier to work with. DO not XRF due to excessive moisture, # would be meaningless.

0945 Arrive @ #10 Horizon PL, an empty lot. Sample will be collected from just upstream of property Line.



1000 Collect OP-DITCH3-SS and OP-DITCH3-SSD from top 6" in center of very narrow creek bed. Soil is moist, but not saturated. XRF shows Zn = 2057 ± 113, Cr = 681.9 ± 231.9 Ba = 379.4 ± 109.4 Pb = 34.2 ± 16.4. Only Ditch3-SS (#78) XRFd. SSD not done. ——

CCB

5/17/7

1000 (cont) Collect OP-DITCH3-SB & OP-DITCH3-SBD from 12" bgs. Clay is extremely thick and unworkable. Beginning to be streaked w/ grey to totally gray with depth.
XRF(79) of SB = Ba 282.6 ± 71.5 Zn = 809.7 ± 56 Cr = LOD 165
SBD = Ba 184.4 ± 67.2 Zn = 122.1 ± 45.2 Cr = LOD 188.

1020 Return to trailer. Offsite to purchase poisonivy cleansers. Copious amounts around the sampling areas.

1045 Dave washed. Fred Dexter. I Think most of it was psycosymatic
- CMC crews continue to clean out A, B, C, & D in Level C PPE.

1100 Deliver to CW bulletted lists of all site organizations' activities through 5-15

1130 CMC at lunch.

1215 START @ lunch —

CLM

5/17/7

1300 Return to site.
CMC continues to clean out Area D in level C PPE.

1330 Sample locations for samples collected earlier today

Location	Lat	Long
DITCH1	33.975366°	-86.041618
DITCH2	33.975396	-86.040601
DITCH3	33.975392	-86.039569

1345 OSC Williamson wants several additional containers hazcatted to verify the presence of hazardous waste on site prior to any operations moving or bulking any material.

1400 CMC has completed repairs on the water supply system to the rear of the lot
- Now on break

CLM

5/17/7

1400 START Berry, CMC chemist N. Kingham, + USCG LT ~~ENDSLEY~~ Lindsey walking Level C entry to perform HazCat tests on containers.

1405 Arrive in WWTP at drum D011, a steel drum. Go to open with bung wrench, but bung is already loose. 55 gal drum a/x 8" of liquid, clear, pH of 0-1 units. No labels

1410 Drum D012. Bung-type poly w/ no bungs. ≈ ½ full of blue/green liquid. pH = 0-1 units

1415 Drum D013 275gal poly w/no lid. Plastic over top closed with iron bar laid over. ≈ 3/4 full. Yellow/brown liquid. pH = 0-1. Label on side is Corrosive/haz label. "Muriatic Acid" label. pH = 0-1 units.

1420 At Vat V44. labelled "Muriatic acid". Warning label indicating respiratory hazard

1420 (cont) is present. Vat footprint is roughly 2.5 ft x 3.5 ft or 30 x 40 inches = 1200 in², Liquid is ≈ 1 ft deep = ~~144000 in³~~ ~~14,400 in³ x 2~~

14,400 in³ x 1 gal / 231 in³ = 62 gal

pH = 0-1 unit

1425 At Vat V02 labelled "Caustic Soda Solution" Sludgy crust on brown liquid. Vat is ≈ 36 x 30 inches = 1080 in²
liquid 1.5 ft deep = 18 in = 19,440 in³
19440 in³ x 1 gal / 231 in³ = 84 gallons

pH = 14+

1430 At Vat V59 Labelled "Black Chromate". Vat is 30 inches x 48 inches = 1440 in²
1440 in² x 3.0 inches liquid = 43,200 in³
43,200 in³ x 1 gal / 231 in³ = 187 gal liquid

pH = 1-2

1435 Exit hot zone through decon

5/17/7

Photolog

KL = Kenneth Lindsey, USGS

#	Subj	P	O	W
923	START collecting XRF readings at OP-DITCH1-SS	KL	E	CB
924	START collecting OP-Ditch1-SS	KL	E	CB
925	Sample jar OP-Ditch1-SS	KL	NA	CB
926	Collecting OP-Ditch1-SB	KL	E	CB
927	Collecting OP-Ditch1-SB	KL	E	CB
928	- Deleted?			
929	- Sample jar OP-Ditch1-SB	KL	NA	CB
0930	Sample collection OP-Ditch2-SS showing location of sample	KL	N	CB
0931	XRF at OP-Ditch2-SS	KL	N	CB
932	Collection at OP-Ditch2-SS	KL	N	CB

CB

5/17/7

Photolog

#	Subj	P	O	W
933	Sample jar OP-Ditch2-SS	KL	NA	CB
934	Deleted			
935	Collecting OP-Ditch2-SB	KL	N	CB
936	Soil at OP-Ditch2-SB - Note thickness of clay	KL	N	CB
937	Sample OP-Ditch2-SB	KL	NA	CB
938	Sample Location OP-DITCH3, located ≈ 10 feet West of where OP prop line intersects City prop line	KL	N	CB
939	XRF at OP-DITCH3-SS	KL	N	CB
940	? Deleted			
941	Collection of OP-Ditch3-SS	KL	N	CB
942	Collection at OP-Ditch3-SSD	KL	N	CB

CB

~~5/18/7~~ 5/17/7

Photolog

#	subj.	P	O	W
943	OP-Ditch3-SS	KL	NA	CB
944	aP-Ditch3-SSD	KL	NA	CB
945	OP-Ditch3-SB	KL	N	CB
946	OP-Ditch3-SB soil. Note thickness of clay	KL	N	CB
947	OP-Ditch3-SD	KL	NA	CB
948	OP-Ditch3-SBD	KL	N	CB
949	OP-Ditch7-SBD Note thickness of clay	KL	N	CB
950	OP-Ditch3-SBD			
951	Location of OP-Pitch1	KL	N	CB

NOTE: All photos from 923-951 taken by USCG Kenneth Lindsey. Several photos deleted due to poor exposure. Photos taken on START phone

CB

5/17/7

Photolog USCG

Photos taken by USCG during Level C sampling

#	subj	P	O	W
086	Drum D011	KL	N	CB
087	pH of D011 = ≈1	KL	NA	CB
088	Drum D012	KL	N	CB
089	pH of D012 pH = 0	KL	NA	CB
090	Drum D013 (~~HHTS~~) (It is unlabelled at this time but subsequent to sampling)	KL	N	CB
091	pH of D013 pH = 1	KL	NA	CB
092	Vat V-44. Note warning label	KL	E	CB
093	pH Vat 44 pH = 1	KL	NA	CB
094	Vat V-2	KL	W	CB
095	pH Vat V2 pH > 14	KL	NA	CB
100	pH Vat 59 pH = 2	KL	W	CB

5/17/7

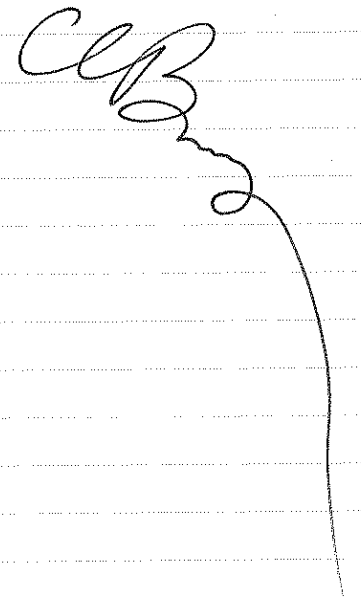
1435 (cont) CMC entering work zone.

1500 START organizing notes + Hazcat forms, documenting photos collected during sampling by USCG with both START's camera (soil sampling) and USCG camera (Hazcat)

1700 CMC crews decanning + breaking down.

1730 CMC off site.

1745 START off site.



5/18/7

0700 Morning Meeting

WEATHER: Sunny, high of 73 Winds 10-15mph Currently 48°

WORKPLAN

- Complete debris/dirt removal
- update site map w/ additional info
- Continue dust suppression
- collect asbestos samples to ensure worker safety
- Contact EPA CO for delivery of of sample info

0715 CMC in zone

0730 USCG emplacing DataRAMs. Moved one unit from far rear of property to between bldg 1 residences @ Area D opening to the south.

- CMC agrees to gross decon sampling devices from yesterday. Prevents START from having to disassemble wash setup.

0740 Collecting asbestos samples w/ M. Hughes

CCM

5/19/7

Sample	Location
OP-ASB-01	WTP shingle
OP-ASB-02	WTP felt (roof)
OP-ASB-03	Area J shingle
OP-ASB-04	Area J felt

0830 CMC continues to remove debris & wash off dust/dirt in the pools. Debris is either put into scrap metal pile or rolled off.

1000 Completes updates to the site diagram. —

1115 CMC continues to pull debris & wash. —
- also spraying to keep dust down.

1130 CMC @ lunch. START at lunch. —

1150 Return to site. CMC still out. Speak w/ CW. OKs return of XRF to G2. Push CID meeting back to MON. —

CEB

5/19/7

1150 (cont) Speak w/ NK. CMC Doesn't plan to begin moving drums until Mon morning. —
- Tomorrow & later today will pressure wash area A.
- NK will begin to sift through records in upstairs storage loft.

1200 START offsite for Atl. Will deliver samples to AES in Atl. Return Sun Night/Mon morning to assist with drum documentation.

CEB

5/21/7

0830 START arrives on site from Dol.
WEATHER sunny, warm high in mid 80's. No rain
Work Plan Read
- Begin staging drums in Area A. Will start w/ empties & then begin bringing in full ones.
- START copying Log drum Logs
0845 START makes Level C entry. CMC collecting empty drums from around the building. Several dozen already collected.
- Speak w/ N.K. Plan is to begin in Area E and move to the front of the building All intrusive work currently at Level C PPE.
0930 START exiting hot zone.
1000 CMC at break. Have moved 110 empty drums into Area B.

5/21/7

1020 Take XRF readings of dust in old 4588 ppm Cr in phosphate line (#81 reading)
Ba = 242.7 ± 109.8
Pb = 177.4 ± 30.7
Ni = 3460 ± 302
Fe = 174.21K ± 1.91K
Mn = 1605 ± 379
Cr = 4588 ± 562
- Reading 82 at doorway Nearest the large barrel line
Ba = 84.6 ± 47.1
Pb = 94.6 ± 20.6
As = 44.6 ± 20.1
Fe = 165.8K ± 1.5K
Cr = 1376 ± 320
- USCG will move DataRam into Area A after lunch.
1100 Lunch
1170 Return to site CMC on lunch. USCG resetting DataRAM.
1210 CMC entering hot zone. Continue to stage drums -all empties have been collected.

5/21/17

1245 START Berry enters hot zone in Level C PPE.
- Begin documentation of drums staged in Area A.
-1400 Exit hot zone. 9 containers documented in a test run of methodology to be used. Need a larger dry erase, paper towels, Pre-print Hazcat sheets w/ site name etc...
1500 CMC on break. START offsite to pickup FedEx.
1530 CMC Back, START back on site. Updating editor to site diagram
1730 Off site. will drop XRF off at FedEx.

5/22/17

0700 START CMC on site. Hds/ workplan mtg
WEATHER sunny. High in ~~mid~~ upper 80's. Will practice med monitoring.
WORKPLAN
- Move double-stacked drums
- Make a level D walk through
- dehead metal drums to hold floor sweepings
- sweep floor of Area E
- Check buggy prior to staging in Area A.
- both overhead & slip/trip hazards - do not step on grates

0715 ON workplan walk through
- CW wants photos & video of drum activities.
- CW also wants photos of file boxes in storage & offices.

0745 CMC entering zone.
0800 CMC moving drums. Using Grappler to bring drums to floor. Forklift & Kidster

5/22/7

0800 (cont) putting pallets breneath and then moving to Area A Staging room. Grappler, after all the pallets are used up, then moving to A and lining drums up.
- START photo & video doc.

0830 USCG placing Data Rams out one at rear of lot along fence & the other between bldg & fence at Area A.

0900 CMC @ break —

0930 START off site for supplies and copies. —

1100 START back at site. CMC continues to move drums. Many bottom row drums empty (20%)

1105 CMC coming out early for lunch. Getting very warm. —

1130 Lunch. —

1210 Return to site. Continue to photo & video doc, now in office area. Also @ lots paperwork storage —

1240 Continue to update site

cm

5/22/7

1240 (cont) diagram. —

1400 B. Crofts arrives on site. —

1520 Site walk through complete B Crofts off site.

1600 Site diagram drafts submitted to CW. —

~~Site~~ CMC continues to remove debris from E to open up area for cleaning.
- have staged ≈ 160 empty drums & ≈ 65 full ones. 2 fulls are slightly leaking. Have placed kiddie pools underneath to catch very slow leak.

1700 CMC crews coming out of Level C, through decon. —

730 CMC/START off site

cm

5/23/7

0700 START / CMC on site
WEATHER: Sunny but hazy from smoke from wildfires. High 86
WORKPLAN:
- move drums to A
- slide racks to wall
- move dry solid bins
- HEAT! be careful
- careful of pinch points on pallets
- START with 7# drums

0715 CMC getting baseline meds.
0725 CMC performing workplan walk through
0800 CMC dressed & in zone Moving remaining Area E drums.
0930 CMC @ break
1000 CMC dressing back out
START dressing out Level C to label drums.
1115 Through decon.
1145 Lunch
1215 Back @ site. CMC dressing out.
1300 START / USCG make entry in

5/23/7

1300 (cont) Level C PPE to label drums.
1420 START exits. USCG Lindsey remains to finish labelling Numbering drums video watch of CMC personnel
1445 Former owner/operator S. Partridge - CMC Jim Davies on site. (Did not arrive together) -
- Notes of Conversation & tour w/ S. Partridge.
- Terry Ash 205-516-7745
- Owned Caroline in Moorsville shut down prior to early 90's
- Rack lines Willy + Barth Zinc lines K & NH_3 chloride
- Most thing missing from back lot appears to have been stolen. Local would tell SP they saw Pickups loaded leaving lot.
- Area D used to hold passivation line using Nitric Acid. Leads to Sump in loading dock.
- Phosphate line was never operating when SP owned it.

5/23/7

Big 2 = phosphate
willy
Bertha

New barrel acid based
old barrel acid based
Lil man AL based

- Can't recall using large amounts of chromic acid such as the tote now here.
- much of the 'old' looking stuff here brought from Athens plant.
- Occasional cleaners used by New OP operators
- TA will know much more about operations & WWTP.
- Oil-based products from Phosphate line.
- Oil not in WWTP during ops.
- Drums in collapsed bldg from Athens are in back. UP front products used by New OP.
- DO told SP, DO owned everything not enumerated in sales note.
- SP had phosal done. Will deliv

CW

5/23/7

- Copy to CW.
- Jack Floyd Attorney for DO,
- Bob McCordy is Atty for SP
- New OP sued ~~Gut~~ Delphi after sale.
- Wayne Keenor Gadsden PD officer

LIL MAM AL/ZN Elec
- parts cleaning

old Barell elec

New Barrell built 2000 cla

Rectifiers Electro Zinc

Bertha ZnCl

willy ZnCl

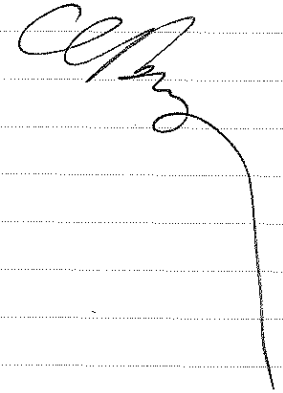
- records in loft ~~OP C... da~~ a: from Owens Lumber, owned by DO.

CW

5/28/17

- Items in Area F is not recognized by SP. Probably from Owens AL Athens Plume SP 256-613-2632
- Solids in pins are unknown the Bins held finished tie rods. The dust/solids is of unknown origin, SP has No idea. ~~May be from tanks pipe~~ Gondolas also called Gons

1600 Tour complete.
1640 CMC Continues to sweep floor of room E.
700 CMC exiting hot zone.
1730 CMC/START offsite



5/29/17

0700 START (1) CMC (9) ON site. Morning mtg.
WEATHER Sunny, warm, High near 86. currently 70
WORKPLAN: Complete cleaning Area E.
- Move drums from F
- Move drums from H
- START will complete logging drums

0730 CMC IN zone. Dressing out
0740 START offsite for Batteries
0750 START returns. Dressing out for Entry.
0930 START OUT of hot zone Drums up to #109 logged CMC currently staging additional drums
1000 START offsite for marking pens & copies
1045 START returns. CMC continues to stage drums from E & K.
1130 Lunch
1200 Purchasing more markers

5/29/7

1230 START of USCG logging photoing + video all vats on site —

1600 START logging gondolas. —

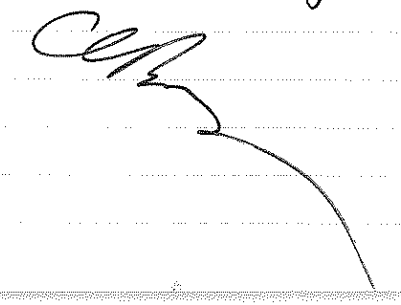
1715 CMC breaking for day. All gondolas logged.

1730 CMC off site. START stays to complete paperwork.

- Spoke w/OSC Williamson earlier about 2 STARTS returning on Wednesday. He OK'd the additional help. —

Also, START will return to site tomorrow to update photo log + complete some paperwork. Expected to demob by noon. —

1800 START off site. —



5/30/07 Wednesday

0700 morning safety/ops meeting
START (1) CMC (11)
Weather - sunny, high near 85
- move drums from Zone H hallway
- move tote from Zone H (cut & use for solids)
- start moving lab chemicals
- collect orphan drums/containers
- set up for level B ops (G2 onsite w/ trailer) air

0800 START in Zone - labeling drums, inventorying
START Craft offsite to get copies of drum logs & laminate large maps

0830 START Craft returns - suiting up to assist
START Benny w/ labeling & inventorying
note: CMC in Zone moving containers & staging

1030 START out of Zone

1200 Lunch

1258 START Craft in Zone w/ CMC PM to begin removing/inventorying lab room containers (3 small rooms)

1345 START out of Zone - waiting for CMC to set up light set @ lab area - 1 room left to empty (contains by far most of containers)

1400- EPA/G2 giving training on using breathing air trailer - using bottle jon-equip and umbilical air lines

BSC 5-30-07

1515 START reenter Zone to continue assisting & documenting lab container removal - containers are being relocated to Zone A for haz cat & segregation & bulking as appropriate

1600 START & CMC exit Zone - approx 250 to 300 containers removed from lab - still more to finish tomorrow

C Berry has completed numbering solid containers (S-001 through S-057. Room #'s not used because most were not provided by removal crews.

1730 START offsite

BSC 5.30.07

5/31/07 Thursday

0700 morning safety & ops mtg
finish lab container removal
police bldg for orphan containers
mercury switches - identify & begin removal

note: C. Berry received email from AFS late yesterday. Soil samples from Ditch contained little Cr, and no Cr VI, no CN. XRF readings were significantly higher than laboratory results. Significant possibility of media interference considering the high amount of iron in the soil (4-8% wt/wt) Iron has known interference with Cr. Spoke to CW yesterday about it, and he is aware of XRF shortcomings. Future investigations should NOT rely on XRF analysis.

0745 START Croft enters zone w/ CMC PM to complete removal of containers from lab area

1000 START Croft exits zone - lab removal complete - START Berry continues to number & log drum info.

BSC 5.31.07

rough inventory of lab containers (currently staged in Zone A on tables):

321 total containers removed & staged

incl. items pulled from yet 3 small rooms in Zone I

- incl. 32 1-gal poly
- 3 1-liter glass
- 2 5-gal poly
- 1 small glass jar - potassium ferric cyanide
- 1 bag NaCl
- 2 bags GAC

280 misc. small containers

compounds observed based on available labels incl.:

- corrosives
- NaOH
- aluminum brightener
- ammonia
- ammonia buffer solution
- acetate buffer solution
- phenolphthalein solution
- sodium thiosulfate
- sulfuric acid
- muriatic acid
- hydrochloric acid
- Macdermid Macudizer
- silver nitrate
- acetic acid
- phosphoric acid
- boric acid
- potassium ferricyanide
- misc. coatings
- misc. additives
- misc. reagents
- misc. standards

BSC 5-31-07

1130 LUNCH

1215 START reviewing drum logs for gaps, downloading photos, & finalizing transition from Berry to Croft

note. sandblasting ops are being conducted by neighboring property (Queens other facility) - may possibly affect Data Rqmt reqs.

1300 START Berry offsite

START Croft enters zone to continue labeling drums & filling out log sheets

ERRS (cmc) using manlift to remove fluorescent lights from ceiling fixtures

CMC also removed all known mercury switches earlier

1420 START exits zone

- download additional photos
- to Office Depot to purchase Sharpies, batteries

1600 reviewing breathing air trailer ops w/ OSC Williamson, Jardine, & USCG Decker

1730 START/CMC personnel offsite

BSC 5-31-07

6-1-07 Friday

0700 morning safety & ops mtg
- continue removing lights
- last sweep for orphan containers
- retrieve papers/documents from bldg, particularly from crawl space above zone K/S

0800 START to dressout area - entering zone to continue labeling drums & log sheets

1030 START exits zone
- must retake photos of D115 thru D213 - other camera card would not download photos - also have to retake all solids
- CMC has finished w/ removing lights from ceiling - now working on removing paperwork from attic/cubby hole/crawl space above offices - very tight access

1200 Lunch

1245 photos of ongoing sand blasting ops @ neighboring properties
- spoke w/ CID Frank Garcia - faxed copies of logbook & hazcat sheets for tests done by Tt/CMC on 5/17/07

1300 START enters zone to continue photographing drums

CMC finished removing paperwork from attic

BSC 6-1-07

CMC moving to office spaces to continue removing paperwork

1515 START exits zone
downloaded photos
working on photo guide for Bauer breathing air trailer

1630 CMC exiting zone

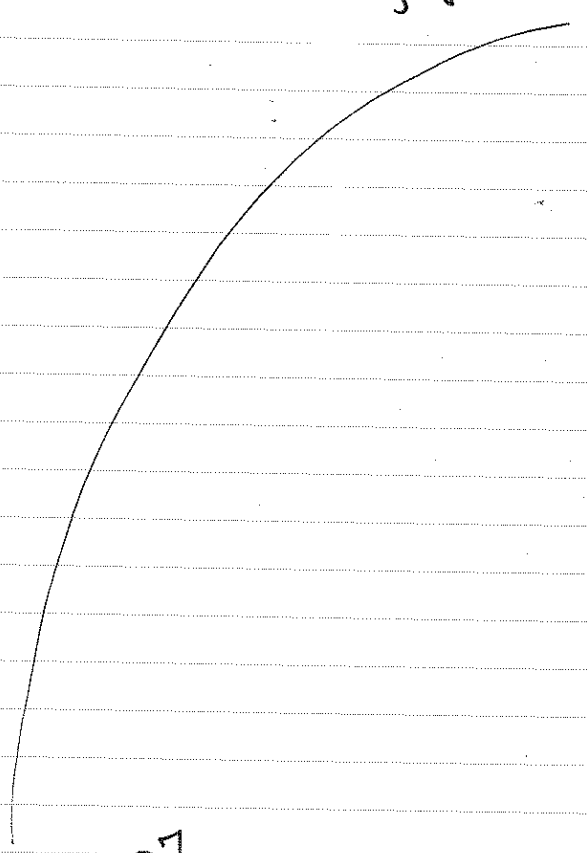
1730 CMC, START offsite

BSC 6-1-07

6-2-07 - Saturday

0700 morning safety & ops mtg (typewt w/ dust mask)
- continue removing files from office area
- continue removing lights from office area
Weather: ptly cloudy - 20-30% chance of rain - tropical storm Barry off west coast of Florida
0745 CMC enters zone to continue recovering documents - buying file boxes to store them in
START working on electronic file for drum log data - excel spreadsheet
0830 START enters zone to number & place sample bars on drums in prep for next week's sampling
CMC chemist conducting bez-cat & bulking ops for small containers removed from lab
CMC continues document recovery in offices
1050 START exits zone
note: drum #'s D-131 - D-139 and D-155 were inadvertently skipped during numbering and labeling
1115 START continues to work on drum log spreadsheet
1300 - CMC resumes document recovery
- CMC also moving PVC waterline along north side of bldg to the far side of

the road in prep for next week's demolition activities
1400 START continues drum log spreadsheet
1600 CMC continues to retrieve documents & light bulbs
START continues drum log spreadsheet



BSL 6-2-07

6-4-07 Monday

0700 morning safety & ops mtg.
- finish document recovery
- get last of light bulbs
- prep for drum/container sampling
- move remaining drum to Zone A

0750 CMC enters zone
START enters zone to label & log last containers - incl 1 drum in Zone A; numerous 5-gal buckets in Zone D; 3 containers of solids

0900 START exits zone - to Office Max to get additional copies of drum log sheet

0945 START reenters zone to finish logging

1030 START exits zone
CMC continues document recovery as well as setting up for drum sampling

START entering drum data into spreadsheet

1300 CMC resumes work in zone
clearing debris from walkways & areas scheduled for demolition (i.e. metal shelving & cabinets) - moving to back part of property

1410 CMC continues to clear debris & prepare for demolition & sampling activities

note: decision was made to wait until tomorrow to begin sampling activities

1730 START offsite

BSC 6-4-07

6-5-07 Tuesday

0700 morning safety & ops mtg
- sampling
- begin demolition - Zone H → G → F
- clearing block from around vats (prep for drum clearing & vat pumping)

mtg of CMC, EPA, USCG, START
- 4th of July demobe
  - lv Sun 7/1
  - return work on Fri 7/6 (rec make on 7/5)

ADEM today - sand blasting @ next door property

CID Garcia tomorrow

community mtg in future - Sherry C.

bulking into a vat, drum transfer to a poly tank for temp storage & sampling

only 1 sampling crew now - other crew chief had a death in family

0800 CMC & START enter zone to begin sampling - other CMC crew already in zone working on vat areas clearing block & debris for easier access to vats

0930 CMC & START exit zone

1015 CMC & START enter zone

1130 CMC & START exit zone
~ 40 samples collected so far

note: Bz

BSC 6-5-07

note: CMC began demolition activities this morning - working to ~~remove~~ & demo in systematic steps wherever possible (began @ NE corner of Zone H)
- removing roofing (plywood, shingles, etc.)
- cutting trusses @ connections to next part of structure
- removing trusses & putting in rolloff boxes

NOTE: CONTAINER COUNT TO DATE
- 335 drums/totes/containers - includes Zone A & D staged materials as well as 5 totes in Zone E (waste chemicals?)
- 25 gondolas (staged in Zone D)
- 101 vats (accounts for V-1, 17, 31-36, 47-51, 54-57, & 60) that are not here
- 350 to 400 small containers (primarily from lab in Zone I)

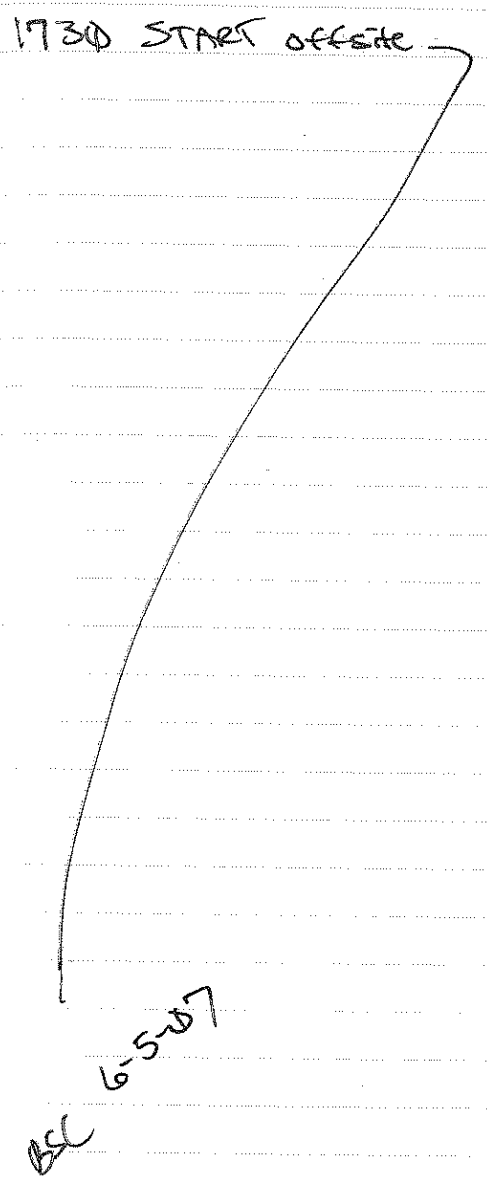
1230 CMC & START enter Zone to continue sampling activities
CMC continues demolition activities - also removed large green piece of ~~heavy~~ equipment - staged on concrete where personnel are emptying contents (solid brown/gray powder) into drums - suspected to contain high levels of zinc

1330 START/CMC exit Zone - need more drum thieves

BSL 6-5-07

- demolition activities continue

1730 START offsite



6-5-07
BSL

6-6-07 Wednesday

0700 morning safety & ops mtg
- sampling activities
- demolition activities
- continue cleanup of block/debris around vats
- getting HOT - ~93 today

0730 START/CMC enter zone to continue sampling ops
demo ops resume

0845 START/CMC exit zone from sampling ops

0945 START/CMC resume sampling

1100 START/CMC exit zone
note: demo ops continue - save down time this morning - had to make repairs to grappler

START transferring drum sampling notes to log sheets & excel spreadsheet

1300 CMC continues demolition ops - also working to remove blocks/debris from vat areas - also collecting/cleaning today's samples from drums & staging @ haz-cat area
- START continues to transfer drum sampling info to log sheets & excel spreadsheet
- assisting C.I.D. F. Garcia w/ some photos & answers to questions

1730 START offsite BSL 6-6-07

6-7-07 Thursday

0700 morning safety & ops mtg.
- Continue sampling
- Continue demo ops - finish Zone H & move into Zone G - begin removing drums from Zone G when safe to do so
- Continue crushing MT drums & putting in roll-off for disposal

0730 START/CMC suiting up to enter zone for sampling ops

0900 START/CMC exit zone
CMC continues demo ops - BOOT is done in Zone H - scraping floor & then moving on to Zone G

0955 CMC/START enter zone to continue post-ex sampling ops
note: OSC Matt Hueyser onsite to assist

1125 CMC/START exit zone

1230 CMC resumes demo ops - working now in Zone G - grappler removing sections of collapsed roof & debris to get to drums & containers w/ minimal disturbance - skid steer being used to move drums to temporary staging in Zone E & D

1400 CMC continues demo ops & container recovery in Zone G

START updating drum/container log sheets and Excel spreadsheet w/ today's sampling activities

1600 CMC continues removing containers from Zone G - grappler staging containers on concrete pad of Zone H - leakers are being put into baby pods on pallets - skid steers then moving containers to Zone E - small buckets staged in Zone D

BSC

1700 all containers have been removed from Zone G

1730 personnel offsite

BSC 6-7-07

6-8-07 Friday

0700 morning safety & ops mtg.
- continue sampling ops
- move last of Zone G drums to E
- begin demo of Zone F & remove drums/containers

0730 START/CMC suiting up to continue sampling
- CMC continues to move Zone G containers to Zone E & D
- CMC also continues to crush MT containers for disposal in rolloff box - rinsing in containment pools prior to crushing

0900 START/CMC exit Zone

0930 START/CMC suiting up to enter Zone to continue sampling - focusing on 5-gal containers in Zone A & D

CMC continues demo ops - knocking down wall b/t Zones F & G to access Zone F

1130 START/CMC exit Zone

1230 CMC resumes demo ops in Zone F
- also continue w/ MT container rinsing & crushing ops
- also cleaning up from morning sampling activities

1345 CMC continues demo ops & cleanup ops
START updating spreadsheet & container log sheets w/ morning sampling information

1600 CMC continues demolition ops in Zone F
CMC also continues MT drum rinsing & crushing

1705 CMC finishing up in Zone
- cleaning up Zone F, G, H
- last of MT's being rinsed for day
- will be sampling tomorrow morning - solids contained & gondolas
- class will be placing bracing along south wall of facility to prevent wall from falling into adjacent residences & drainage ditch

1730 personnel offsite

6-8-07

BSC

6-9-07 Saturday

0700 morning safety & ops mtg.
- Continue sampling ops
- continue demo ops - Zone F
- Continue cutting/rinsing/crushing MT drums for disposal
- put up braces on south wall of bldg.

0730 START / CMC suiting up to continue drum sampling & MAT container disposal ops.

0900 START / CMC exits zone

0930 START / CMC suiting up to resume demo & drum sampling ops.
- demo ops continue in Zone F - majority of area has been demolished - operators are working to build a ramp of crushed cinder block to facilitate future access from Zone H pad to Zone G & F so that sumps there can be cleaned out
- north wall of zone H has been knocked down & cinder block used for ramp from Zone H - G

1100 START / CMC exit zone from sampling ops currently all drums & containers in Zone A & solids drums & gondolas in Zone D have been sampled
- drums/containers removed from Zone G/F & staged in Zone E will be numbered, logged, and sampled later

1230 CMC resumes demo ops - working on Zone I (lab area)
- also continue MT container cutting/rinsing/crushing ops.
- also placing braces on south wall
- START is numbering & logging info from drums/containers removed from Zone G & F

1400 CMC continues demo ops in Zone I
START continues numbering/logging drums from Zone G & F - also photos for each
CMC also continues container cutting/crushing ops

1620 demo ops continue in Zone I & F
- CMC has completed installation of braces along south wall of bldg.
- START has finished numbering/logging/photographing containers in Zone E - containers (mainly 5 gal buckets) from Zone G that were temporarily staged in Zone D have not been inventoried yet - waiting for them to be staged on pallets

1730 START offsite

BSC 6-9-07

Monday 6-11-07

0700 morning safety & ops. mtg.
- hazcatting samples
- Container sampling in Zone E (containers removed from Zone F & G)
- demo ops in Zone I & F

0730 START/CMC waiting up to enter zone for sampling activities

0900 START/CMC exit zone
- demo ops have continued in Zone I
- MT container disposal also continues

0930 START/CMC waiting up to resume sampling ops.

BSC

1100 START/CMC exit zone
START updating spreadsheet & log sheets w/ sampling information

1130 LUNCH

1230 CMC continues container disposal ops
CMC continues demo ops in Zone I
CMC chemist also conducting hazcat testing of container samples
START continues to update excel spreadsheet & drum log sheets w/ sampling info
CMC also gathering sample jars from this morning's sampling - also cleaning up sampling equip (drum thieves, glass, etc)

BSC 6-11-07

1345 CMC received "swamp" pads - being offloaded from truck - will be used to provide more level access to cover sumps in Zone F/G

1400 START begins numbering miscellaneous 5-gal containers restaged in Zone E - also logging drum info & photographing

1530 CMC continues demo ops - cleaning off pad area @ Zone I - preparing to begin demo of Zone J (via Zone H)

- CMC also continues container disposal ops (cutting, rinsing, crushing)

1630 START completes H ing drums

1730 START/CMC off site — START Bobcat will remain, START crafts demobilizing

BSC 6-11-07

6/12/7

0700 START (1) CMC (13) on site.
WEATHER HOT mid 90's little chance of rain.
WORKPLAN —
- Finish removing F & I
- Finish sampling drums
- Pump rainwater vats in F
- HAZCAT
- START cleaning up phosplate sumps.

0730 Dressing out

0745 Enter zone to collect samples

0915 Exit zone.

1000 Return to zone to collect final D samples from toners with boom lift.

1115 Exit hot zone.

1200 Lunch.

1230 Return to site.

1300 Begin Drum log update.
CMC continues to tear down bldg w/shears & grapples. Swamp pads have been placed over the sumps.
- Hazcatting continues.
- Crews continue to cut up empty drums

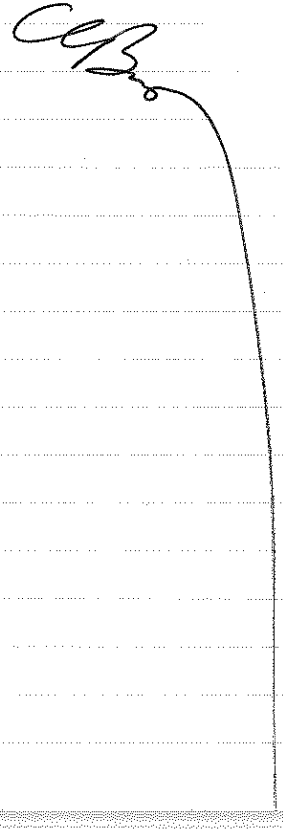
6/12/7

1430 off site to purchase sampling jars

1515 Return. Begin #ing. —

1700 USCG Lindsay + SOSA Berry stage sample jars at vats.
OSC ullock OK'd 0630 start time tomorrow w/ stipulation that equipment would not be turned on until 0700.

1730 START / CMC offsite.



6/13/7

0700 ~~0630~~ H+S work planning

WEATHER - HOT! Mid 90's

WORKPLAN —
- Sample WWTP
- Sample Phosphate line
- Tear down parts of E
- Please ~~begin~~ take extra precautions in vitals data.

0700 Entering hot zone. —

0845 Exit hot zone, sampled All the WWTP pits as P-01 → P-09 as well as ~~2 ho~~ 3 hoppers + 4 additional vats, V120-126, V123 is an A+B since it is bottled w/ a liquid + a solid on each side. —

0900 CMC on break —

0930 CMC dressing out. Will Sample Vats in E.

1100 CMC discovers an unlabelled vat on Phosphate line. Number it V-127. —
Also recovered 2 add. drums from WWTP. One was crushed + open repacked in a ½ drum —

6/13/7

1100 (cont) Number then ~~D-04~~ D-417 + D-418.

1115 Measure Sumps

#	L	W	in feet
1	14.75	6.5	
2	14	12	
3	13	9.5	
4	5.5	16	
5	5.5	10	
6	13.75	10	
7	13.5	16	
8	16.5	15.5	
9	22.5	15.5	

Vat 123 diameter = 12 feet

1140 START at lunch

1230 START returns to Site. CMC crew was scheduled to take a 1 hour lunch, but crew was ready after 40 minutes. Will return to a 30 minute lunch tomorrow.

- START updating container logs.

1300 CMC removing trusses from J roof over Big Bertha's far N. end.

1330 START photologging sumps in WWTP after CMC removes swamp pads.

CMB

6/13/7

1515 Chemist Kingham announces he has completed all HazCat of currently samples.

- ADEM Bruce Freeman arrives on site. Meets w/ OSC ullock + does quick walk through.

1545 START returns to log.

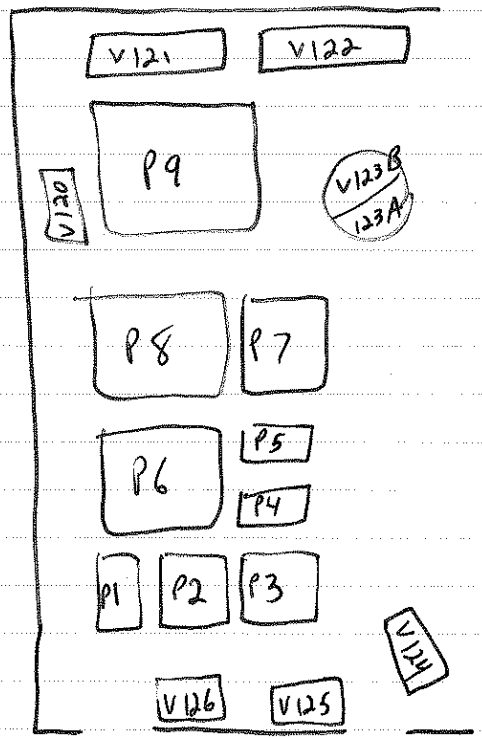
1700 ADEM Freeman offsite.

1710 CMC, USCG, START offsite.

CMB

~~6/12/7~~ 6/13/7

Pit (sump) locations
+ New Vats



6/13/7 6/14/7

0630 START/cmc on site.
WEATHER Hot, Hgh near 91. 30% chance of showers increasing humidity
WORKPLAN
- Sample vats in 3 of 4 plating lines.
- HazCat new vat samples
- Input data into container database, including Hazcat

0700 START begins inputting data. CMS preparing for sampling.

0945 CMC at break. All vats from Old Barrel, New Barrel, + L.L Willie lines are sampled. Some Bertha lines done also. Remainder will be sampled once building is removed.

1030 CMC crews back in zone. Addressing floor drains around phosphate line.
- Excavators continue to eat through Section 3 bit by bit, trying to keep as much debris as possible out of the vats.

6/14/17

1030 START video tapes current site activities and conditions.
1130 CMC / START at lunch.
1215 Return to site. CMC continues to tear down J.
- Trying to calculate volumes for Vats 121 & 122. The east wall of J is beginning to lean towards them.
1530 Complete data entry of drums. Begin Solids, gondolas, & PUTs.
1615 Speak w/ D. Springer about his concerns about the pumping of 121 & 122. The hose operator will be in full sun all day, and it will require a full day to perform the operation.
1645 CMC decanning
1700 CMC off site.
1745 START off site. Have got almost all of the drum waste streams organized.

6/15/17

0900 START on site. Begin completing Drum logs / Horizcat data / Waste streams. Worked on the logs at hotel last night, but didn't complete it.
1015 CMC is cutting up scrap metal while the Vats 121 & 122 are being pumped out.
1130 Lunch
1200 Return. CMC continues to pump vats.
1300 START continues to track down random data gaps.
- CMC cannot complete pumping of Vat 121. Too much sludge & organic matter. The pump keeps clogging. Working on a solution.
1515 CMC going on break.
1545 START completes Waste Streams. Sends a copy to N. Vaughan for QC.
1600 START off site for ATL.

6/20/7

0630 CMC (12), START (1), GST (2) on site. Morning H+S mtg.
WEATHER: High near 90 Sunny + humid.
WORKPLAN -
- Remove empty vats from J.
- Pump sump pit #3 (flam) into tote(s).
- Continue bringing down Section E.

0700 CMC entering work zone. START begins work on PolRep.

0715 CMC removing empty vats from Big Bertha line.
- Crew is vacuuming up water pooled in E from rain yesterday. Pumping out sumps.

0800 Continue drafting PolRep.

1000 Polrep drafted, submit to OSC Ullock for review + finalization.

6/20/7

1015 ERRS continues to pump from the sumps in WWTP. Now on #5. Removed ≈ 1 ft from previously pumped pits (6, 8, 7) due to rain yesterday. Operator states 1st Frac tank is nearly full, probably less than 1ft freeboard.

1100 Begin working on New Site figure reflecting the removed building components.

1120 Lunch

1200 Return to site continue working on figure.

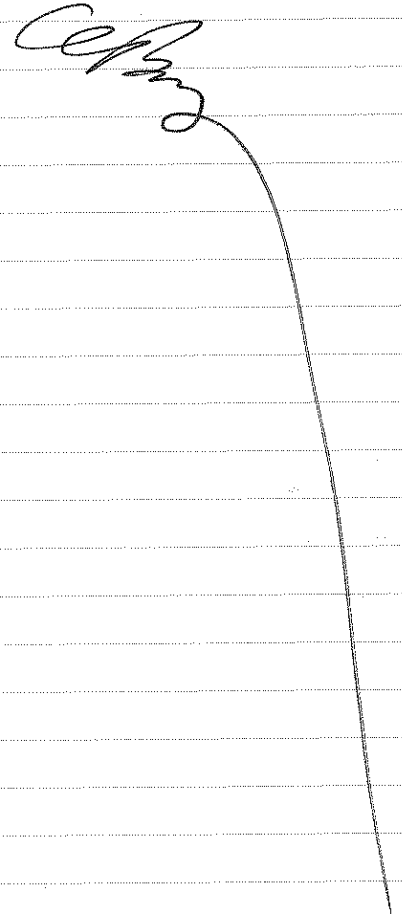
1300 Speak w/ F. Garcia w/ CID. Relates specific components of figure he needs updated.

1430 CMC begins taking down Silo (Vat 123). Originally brought it up on 20 ft. Took it back down to G + F and dumped to water inside into Sump P-7.

1600 Email latest figure to F. Garcia.

6/20/7

1640 CMC continues to pump into frac tanks.
-only frac tank crew working
Rest of crew in decon.
1700 START, CMC, USCG offsite



6/21/7

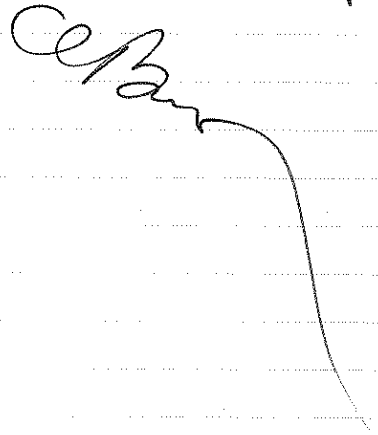
0630 Morning mtg. CMC, START on site.
WEATHER sunny, high near 95, 20% chance a'noon Tstorm
WORKPLAN
- continue removing root from J
- ~~complete~~ CLS
~~0700 CMC entering~~
- Remove solids from V123 and place in WWTP Pit #7.
- complete water removal of WWTP Pits.
- contain + remove floor sweepings / line debris from beneath Bertha rails that were removed.

0700 CMC entering zone.
0845 START sends updated figures detailing zone IC to F. Garcia.
0915 CMC at break.
0930 CMC re entering zone.
1000 START in zone collecting video and still photos.

6/26/7

Loco (cont) CMC removing roof from New Barrel line, Cutting aw part of Barrel guides w/shears,
- Pumping crews skimming from R02.

1115 Crews deconning —
1130 Lunch —
1215 Crew redressing —
1300 START collecting add'l video/photos,
1400 START prepares weekly workorder for this week. Will demob to Atl later this afternoon.
1430 START off site. Metal vendor is arriving to load out scrap. —



6/27/7

0630 START CMC on site
WEATHER - High in low 90s slight chance of rain.
WORKPLAN
- SUPPORT CID INVESTIGATION
- During sampling, no work in the bldg.
- 2 personnel will assist
- Segregate metal/debris
- Complete all liquid transfers
0730 Crews preparing for Level B entry
0800 Track hoes segregating debris.
0810 CID personnel on site.
0830 Site walk-through with CID National Enforcement Investigations Center NEIC, —
0930 NEIC looking over Hazcat + drum logs to determine which to sample —
1000 NEIC begins sample collection
- START assisting w/ NIC to prestage equip.
1130 Lunch.
1210 Back on site. NEIC prepping for add'l sample collection.

6/27/7

1240 NEIC continues to collect samples.
- CMC providing sampling support
1500- Criminal Investigators have finished sorting through docs in Area B. Removing several boxes of files
- START assisting NEIC with sample collection providing indirect support.
1800 Former employee Wayne Kenner on site. CID asks him to identify any drums or containers which he recognizes as having come from the OP Athens, AL plant. Only identifies 2 containers, 2 - 400gal Tall totes w/ WWT chemicals as having definately been from Athens.
1830 CMC crew was offsite @ 1700, NK + JJ left @ 1800.

CM

6/27/7

1830 (cont) NEIC and some CID still onsite. NEIC stays behind to bag + tag their samples.
-START offsite.

CM

6/27/7

0630 START, CMC, USCG on site.
WEATHER - Sunny, high in the mid 90's, high humidity 30% chance of afternoon T'storms.
WORKPLAN
- Take the rest of J down
- ~~Sample Fractanks~~
- cut up scrap
- sludge judge will be used on Fractanks tomorrow waiting on bottles.
- load out scrap
- bench scale testing
- finish descaling drip pans
- load out another roll off

0700 CMC in work zone.
- Begin washing ruck pans
- START removing J roof.

0800 CMC chemist oxidizing ~100g of KCN with $KClMnO_4$ and H_2O_2. Evolving tremendous heat. Container in water bath + secondary containment.

0930 CMC continues to remove roof from J.

6/27/7

0930 (cont) Remainder of crew dressing out from Breath.

1015 CMC continues to wash debris.
- Large section of J now down.
- C. Williamson asks CMC about likelihood of damaging IK when J is down. CMC replies it is highly likely, START tasked w/ photographing structural questions.

1130 Lunch

1215 Return to site. CMC + START tasked to write out opinions of NEIC's sampling yesterday.

1400 NEIC write-up delivered.

1415 Violent Thunderstorm.

1445 Rain over, but more on the way. CMC will "keep it tight" in case they will have to break down quickly.

1500 Structural assignment delivered. START offsite.

7/9/7

0630 START, CMC, CG on site.
WEATHER Raining, 40% chance T-Storms.

WORKPLAN

- Demo 14. Need to remove electronics prior to demo.
- Begin Bulking
  - Acids
  - Bases
  - Plam Liq
  - Chromic acid
  - Soaps
- Beach scale bulking groups.
- Persons near mixing vessel in full Level C

0700 14. Russell on SIM for JT. Will sub for C.B. beginning Tuesday.
- Take a brief walk-through orientation
- CMC marking acid drums for bulking.
- Walk through 14 w/ JD. Identify electronics to remove from bldg. for potential recycling.

7/9/7

0845 CMC begins bulking acid liquids in Stainless steel tank located in loading dock area. Using small trackhoe w/grappler to slowly pour into tank.
- START is checking the drums as they stage for bulking to make sure they are in correct waste stream.

0930 START Russell dresses out Level C CMC mixing caustics w/acid. Rxn may occur.

1000 Air conditioners Removed on Roof of 14. CMS segregating ~~it~~ intact.
- Air conditioner lines broken during removal.

1030 Bulking of caustics (3 drums)
1100 Lunch
1215 Demolition of building con't
1230 Acid bulking con't
1300 SS tank become to hot started to fill other SS tank

1330 S Acids adding caustic to Stainless Steel tank to nuetralize
1400 Break for ears, Thunderstorm came through and finished out Day.
1530 Worked on updating Container inventory.
1545 START offsite

7/10/07
0630 START, CMC, CG on site
Workplan
- CMC Finish pumping out pools, Nuetralize
- cont to demo K building
- Cont Acid bulking
- checking 55gal Drums for quality Controls
0650 START saw that the Stainless Steel tank that had become hot yesterday had leaked into the gravel lot area CMC and START, and CG confirmed the container has a hole in the bottom of the tank.
0710 CMC began cleaning up Acid Bulking spill. CMC used double diaphram pump. CMC pumped spill into frac tank. Major pool was pH-0 Rain water pool next to scrap pile is pH-4
0720 CMC removed remainder of 55gal Drums back into warehouse cont to clean up spill
0755 Soil in Dutch way around building tested neutral water in building where Drums are stored tested Neutral

7/10

0750 Demo of building cont
0800 Stopped pumping had to clean pump out
0836 Con't pump spill and work on clean up
0930 CMC took break
0956 CMC returned from break con't pumping spill
1019 OSC arrive onsite CMC stopped pumping, ~~cleaned~~ sucked liquid off ground into frac
1120 Break for lunch
1230 Back from lunch and Thunderstorms
1240 Electronics from K building are sorted and stored in Area 'B'
1250 CMC pumped spill from frac tank into Stainless steel tank were acid bulk was taking place
1300 pumped solution from SS tank back to frac. has pH-4 not reacting.
1326 pumped out tank and filled frac tank

7/10

1350 Began pumping 1st pool into Roll off frac tank 8,000 gal
1430 Stopped for the day thunderstorm moved through
1547 START left S.te

K Dunnell

7/11/07

0630 START, CMC, USCG, and OSC Carter arrive onsite for morning meeting
-Weather Strong Storms & Rain throughout the day. Rain this morning
Work Plan-
Pump pools out
Bulk acids, caustics, Soaps
Continue Demo of building K
0700 CMC cont ~~to~~ Demo of building K and removal of debris
0706 ~~S~~ Acid bulking cont in SS Tank
0830 started pumping pool again
0850 Demo of K building Complete
0930 Break, tank sits at pH-0
0940 CMC cont cleanup of K demo
Rain moves in, Pool is pumped
CMC will pump 2nd pool in frac tank and cont to Acid bulk after thunderstorm
1015 Return from break cont acid bulking and pumping pool

7/11/

1130 break for lunch
1230 Return from Lunch
CMC cont. pumping out 2nd pool, demo cleanup of building K, and acid bulking
1238 Stopped acid bulking for the day started pouring neutral liquids in pool 1
1430 Break
1500 Back, CMC continues clean up of K building and pouring neutral liquids in pool 1. pH is running a 7
1554 Finished pumping pool 2 into frac tank
1653 End shift

6/12/07 7/12

START, CMC, CG onsite For meeting 0630

Workplan - Cont acid bulking
Neutralize SS tank
Change out tanks and patch hole once shipment comes in con't Filling pools then work on cleanup of Demo site

Weather sunny & clear

0650 CMC equipment truck arrives onsite. Recieve bucket, 3rd SS vat tank.

0700 CMC moves back to acid bulk area tank from yesterday is still hot and reacting. Add 4 to 5 caustics this morning to neutralize

0830 Finished pouring caustics in Acid. Four total, heavy reaction. Vat is hot

0837 CMC is bulking chemicals table Located in "A". Pouring acids in one container & Bases in another. Disposing of empty bottles in 55 gal Drum.

6/12 7/12

0840 CMC is also spiking all 30 & 20 gal Drums of liquids into bigger Drums for bulking purposes.

0930 Welding of SS tank with hole took place

1000 CMC, Neville, TT went around 'E' building gathering 20 to 30 gal drums to bust in streamline and to KAR prepare acid, caustic and soap waste lines

1130 Break for lunch

1200 Return From lunch

1235 pouring oxidizer in SS vat to bring pH down still sitting at 0

1245 CMC cont to remove debris From Demo sites

Waste lines are being redone and separated into acid, base, oxidizers, Soaps & Neutrals

~~1400~~

1330 Finish emptying oxidizers in SS Vat

1400 con't pouring soaps & Neutrals in pool

1512 Break

6/12 7/12

1530 Return from break
CMC cont debris removal and pouring Soaps & Neutrals in pool
1641 Stop work for Day
1700 START off site

6/13 7/13

0630 START, CG, CMC
onsite for morning meeting
Workplan Finish acids & bases and continue to Acid bulk.
continue pouring Neutral liquids
Weather - Cloudy with rain
0650 CMC Down out check SS tanks for leaks before acid bulk cont
0705 CMC cont to tear down Wall of K building and clean up debris from Demo
0730 Start pump Acid batch 1 from poly tank to SS tank
0800 started spiking smaller containers of acid and pumping into batch 1 in SS tank
0850 pour remainder of spiked drums into 55gal drum to finish emptying acids in Batch 1
0905 Break
0945 Return CMC will pump Batch 2 into Batch 1 to homogenize and react. Then pump combination into poly tank

6/13 7/13

0958 pour Hazcat solution into Batch 1, Hooking up pump to pump SS tanks CMC crew still cleaning debris
1006 Started pumping half of Batch 2 into Batch 1
1016 pump poly into Batch 1
1035 Finished pumping poly. Let sit to react will start bulking neutrals again after lunch
1237 Empty two more acid drums into S vat then start on Bulking in pools with Neutrals & Soaps
1256 Begin continuation of bulking in pool
1350 Bulk small jugs in big Drums to bulk in pool
1630 Finish neutrals in pool START entered weekend data into computer files
1700 START off site

7/18

1000 START Berry arrives from Atlanta.
- CMC in work zone
  - cutting empty vats for scrap.
  - bulking neutral liquids in the pools & transferring into frac tanks.
  - cutting up empty drums
  - have completed bulking of chromic acid in new stainless tank.
  - Heritage Environmental set to arrive tomorrow to transport 40K gal of CR contaminated water

1130 CMC at lunch.
1200 START at lunch. CMC back.
1230 START back at site. Talking photos.
- CMC has developed a film of oil on NON-haz bulk water in pool. trying to pump off. Don't want to get it inside frac tank - prevent a washout entry.

7/18/7

1400 CMC has run out of room in solids vat. The shears Currently one truckhoe is dragging them to the grappler, who is bashing & knocking them on the concrete to loosen anything inside. They are then stacked and the shears come over periodically & cut them up for scrap. The vat solids are then scraped up & put into a collection vat, which is now full. Another vat is chosen to hold the solids.

- CMC is also without add'l totes to hold the chromic acid bulked earlier today.

1500 CMC at break

1530 CMC back in zone

1600 Grappler using cut I-beam as a tool to dig out sump grate trench

1700 CMC/START off site.

7/19/7

0630 - START CMC on site.

WEATHER - Hot & humid High near 90, 30% chance T-storms.

WORKPLAN

- Bulk last few stray acid drums.
- Begin Bulking of flammable liquids
- Continue cutting vats
- Chrome drums are D004 + D-249. Will also add several laboratory containers (<1L total volume).

0715 CMC replacing hose on grappler. It blew yesterday ≈1700.

- Entry crews pumping acids from small poly tanks into large tank.

0830 CMC has completed bulking of new chromic acids into ~~old acids~~ previously bulked chromic acid.

- Then ~~transferred~~ bulked acids were then transfered to an old tote for storage.

7/19/7

0830 (cont) They will be transferred to new totes prior to removal.

0900 CMC coming off break.
- NK + JJ report that Heritage is unable to tell them exactly when the tanker trucks will here, if at all, today. Speak w/ OSC Williamson about terminating contract for failure to perform. Next lowest bidder was EQ who was $0.01/gallon greater (about $400.00 ~~contract~~ difference over the $40K contract)
- OSC Williamson agrees. The frac tanks need to be emptied in order to hold the remaining Neutral liquids.

0945 CMC resampling frac tanks to replicate for Eq.

1000 CMC redressing for new tasks.

1010 CMC begins pressure washing vat panels over WWTP pit to remove sludge. Also washing Zn anode balls

7/19/7

1020 NK is trying to determine how to best dispose of Zn ~~anode~~ anode balls. Contain a Pb core, so will fail TCLP. Zn unwanted by recyclers, don't want to dispose of as haz waste.

1045 CMC continues to segregate Zn balls from sludge. VERY SLOW. May be easier to solidify with sludge + dispose of as haz waste

1130 Lunch

1230 Return. Impending Rain CMC washing vat panels + recovering zinc balls. -
- Cutting up washed barrels.

1300 Rain - heavy. -

1320 Rain over. Work didn't stop.

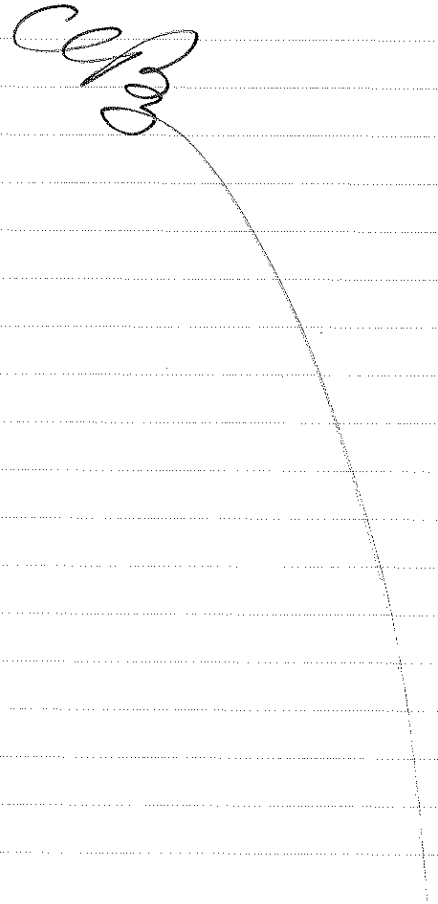
1410 Pressure washing on break

1420 All crew on break

1500 CMC returns to zone. Pressure washing now onto support

7/19/7

1500 (cont) which hold up vats.
- Continue cutting poly drums
1600 START off site to Atlanta. Will Return next week.



7/25/7

1330 START arrives on site CMC in the zone
- cutting up vats
- pressure washing cut vats. Using WWTP to collect runoff.
- All solids have been mixed into the stainless steel vats They liquified upon mixing, and offgassed various colored gas and now are a dark grey bubbly slurry, which smells sulfurious & ammonia-like. These have been blended in with the vat sludges, and will all eventually be combined with the WWTP liquids.
- Most of the flammables have been bulked & separated oil/water. Oils are in a 2500 gal poly & H_2O was put into neutral/wash water/waste stream.

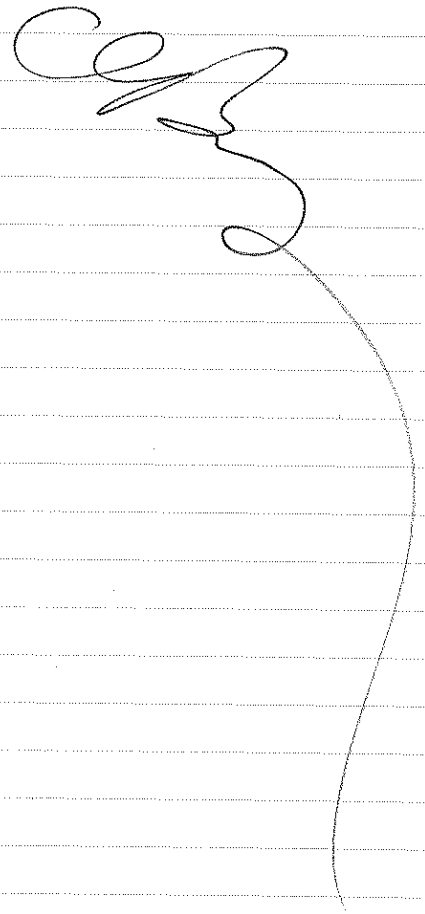
1500 CMC continues to pressure wash vat panels & zinc screens.
- Now crushing fire extinguishers

7/25/7

1500 (cont) on the pad. Adding contents to the WWTP liquids.

1600 START collecting video.

1700 CMC off site. START off site.



7/26/7

0630 START, USCG, CMC on site

WEATHER - 90's, 30% chance showers. Currently 75 & humid.

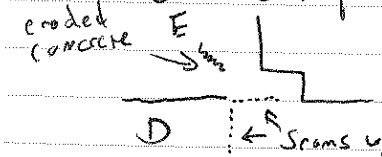
WORKPLAN

- cut up metal debris - pressure wash
- clean & wash zinc balls
- ~~complete flammable building~~

0710 OSC Williamson gives edits to previously prepared overlay diagram. Set to incorporating.

0800 Offsite with C. Carbonaro to Etowah Co Crthse. & Rainbow City Gas & Water Board to get access to property behind (East) of facility in aeration Pond lowland.

0830 CMC reports that there is large amt. of water from under the slab between E & D Should focus on this area for soil sampling.



7/26/17

1100 Speak w N. Kingham about final waste streams. 8 waste + 3 recycling
1 - Acid Liquids
2 - Flammable liquids
3 - Sludge (assumed to be haz due to high metals content)
4 - WWTP Liquid (Haz for Cr^{+})
5 - Neutral + Wash Liquids
6 - Ethylene Glycol
7 - Chromic Acid
8 - Hg-containing items (bulbs + Switches)

1 - Steel
2 - Zn Anodes
3 - Batteries

- Soil/Debris in back will be sampled. Depending on results, haz or non-haz.

1130 CMC @ lunch
1200 START at lunch. Completed edits to diagram.
1240 Return to site.
- EPA Cost Recov. Michael Sparks on site.

7/26/17

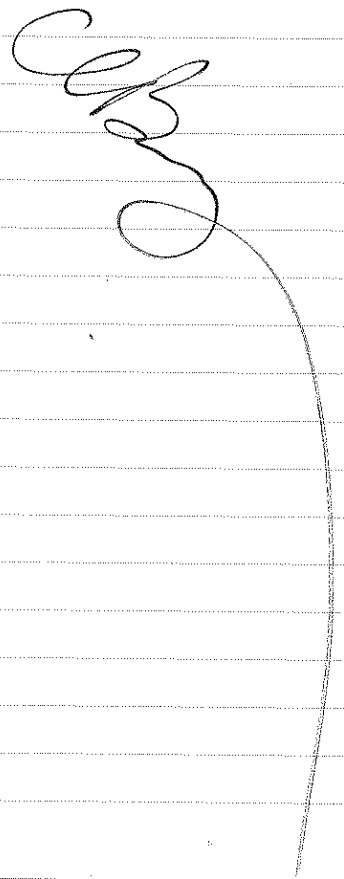
1400 Conduct site walk-through w/ MS.
- ERRS continues to:
- shred metal
- wash zinc anodes
- bulk flams & separate oil & water using a tote suspended over decon pad. Neutral water added to Neutral waste stream is being poured out from under oil top layer. Cutting off valve when oil is reached.
- MS here to investigate paperwork in B.

1530 Have prepared soil sampling guidelines for CW, detailing CLP needs.
1545 Speak w/ Nardina Turner about CLP availability for the timeframe required. Will respond when she hears from Regional Lab in Athens.
1630 CMC continues to shred metal.

7/26/17

1630 (cont) 2nd wash crew coming through decon. Will set to Securing site for demobilization tomorrow until Return on Tuesday.

1700 START offsite. Demobe to Atlanta. Will return on Thursday next week.



8/9/17

0630 START / CREWS on site.
WEATHER High of 102, Heat Index of 113 no rain.
WORKPLAN -
- Tanker supposed to arrive to to empty frac tank
- Break up concrete
- Clean out frac tank
Confined Space Entry
0645 Hold entry briefing
0700 call MIKE RAE.
0730 Initial air monitoring at Frac Tank
O_2 20.9%
LEL 0%
H_2S 0 ppm
CO 0 ppm
VOC 0.9 ppm
- Bobbie D. Wood tanker finishes loading last frac tank.
0750 CMC makes entry. 2 entrants 2 rescue, START is attendant, 1 supervisor.
0802 2nd LEL=0, CO=0, H_2S=0, VOC=0.0, O_2=20.9

8/9/17

0830 LEL 0 %
O_2 20.9 %
CO 7 ppm
H_2S 0
VOC 0.3

08 - Roll off truck exhaust impacting CO readings. -monitored until truck pulls off 7 ppm was highest reading reached. —

0855 Entrants in decon, ON break

0930 Check prior to entry
LEL 0
O2 20.9
CO 0
H_2S 0
VOC 0

0945 2 entrants enter

1015 LEL 0%
O_2 20.9 %
CO 0 ppm
H_2S 0 ppm
VOC = 1.0 ppm

1025 Exit

8/9/17

1050 Re-enter zone
O_2 20.9
LEL 0
CO 0
H_2S 0
VOC 0

1110 O_2 20.9
LEL 0
CO 8
H_2S 0
VOC 0

- Fan has been installed on top vent → Sucking in Pressure washer exhaust. —

1125 Exit tank —

1130 Lunch

1200 Return to site, crew dressing out

1220 Pressure washer moved
O_2 20.9
LEL 0
H_2S 0
CO 0
VOC 0.6

1225 Pressure washer ground on + clean Entrants

8/4/1

1227 O_2 20.9
LEL 0
CO 1
H_2S 0
VOC 0.0

1240 O_2 20.9
LEL 0
CO ~~12~~ 4
H_2S 0
VOC 0.8

1255 Entrants out. Have only floor left to final rinse

1350 Final Entry.
LEL 0
O_2 20.9
CO 1
H_2S 0
VOC 0.8

1430 Tank complete.

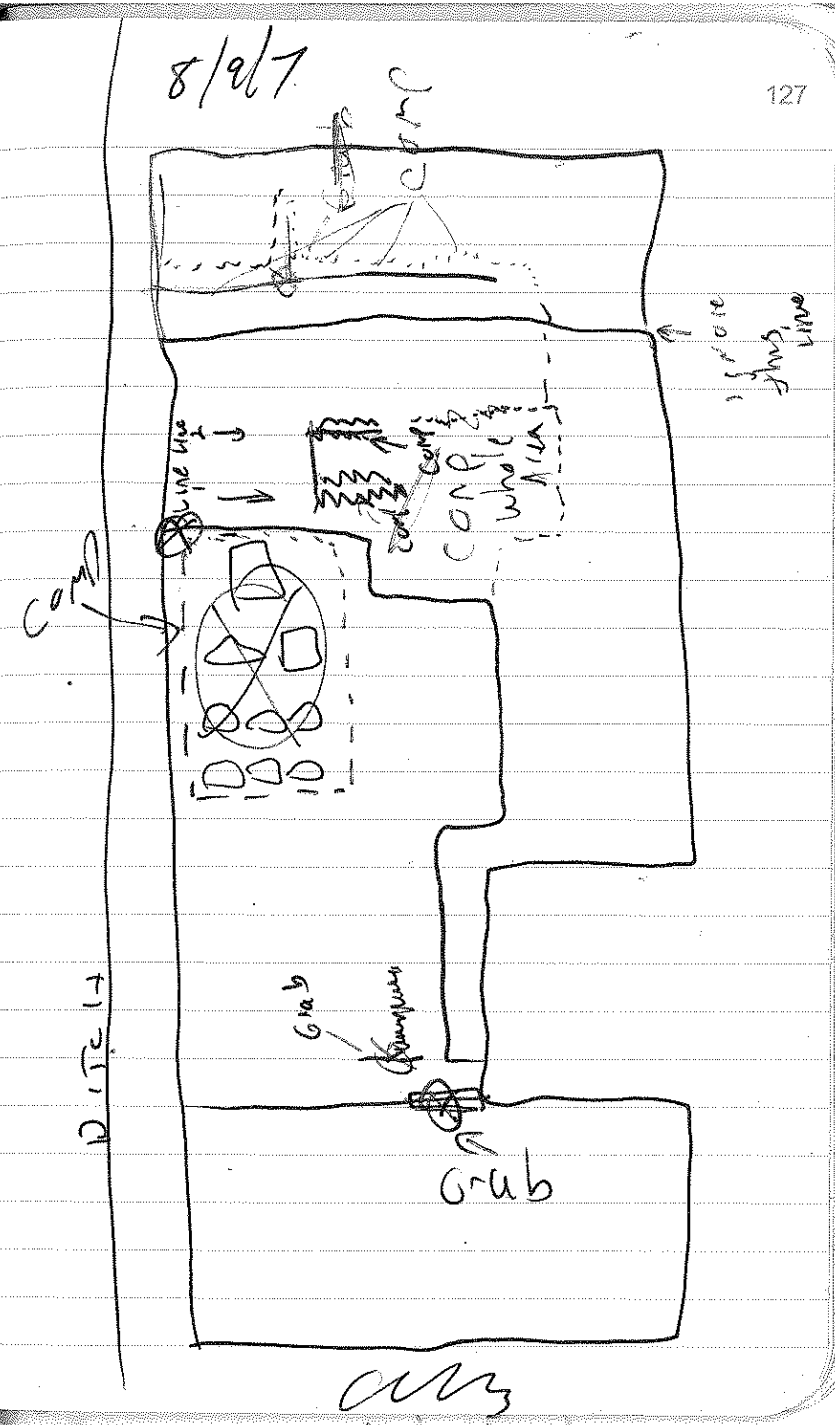
1445 Walk Site w/ OSC Carter Williamson to pin point soil sample locations

1530 Develop Soil sampling map

1600 Rework cost est to reflect Regional Lab soil analysis

CL3

8/9/1

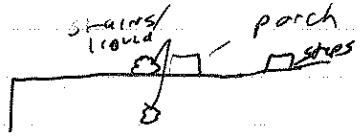


CL3

8/9/7

1600 (cont) Drops $ Needed to Complete to $1,750. Suggest to OSC CW to wait until Field work is over to submit add'l CE Agrees. Send email for confirm.

1620 STrange oily/water liquid seeping up through concrete & out through side of foundation. Check for flam.



Not flammable. 'Pops' when lit with lighter. Contains H_2O in liquid. Bi layer: thin top is dark brown & globular/ emulsified. Balance clear H_2O,

1700 START offsite for Atl. EMRS offsite.

8/15/7

0610 START on site. CMC has moved start time to 0600. Already in zone.

WEATHER - High near 105. Heat advisory in effect & air quality advisory also.

WORKPLAN

- collect samples from beneath slab in dugout areas
- De water WWTP pits & remove concrete. Water/sludge is Cd contaminated according to SS.
- Tod neutral liquids from frac tanks in rear.

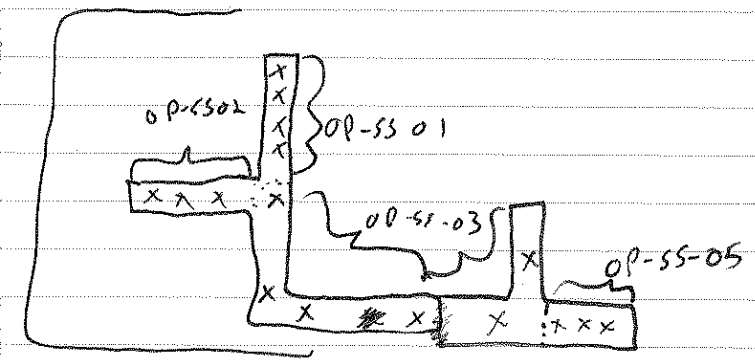
0630 CMC pumping frac tanks into tankers.

0700 One tank is damaged (offsite) & has to be pumped into another.

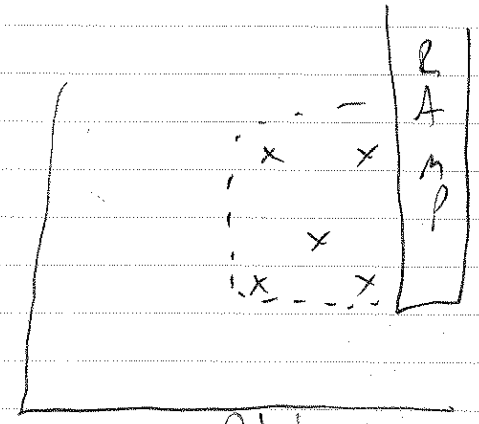
0745 START beginning soil sampling

8/15/6 cm 7

0800 OP-SS-01 from drain line



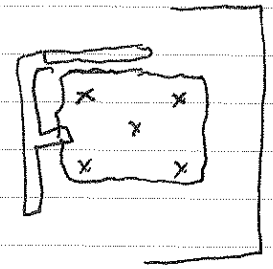
0815 Collect OP-SS-02
0830 OP-SS-03
0845 OP-SS-05
0900 OP-SS-08



8/15/7

0405 Collect OP-SS-09 from beneath bldg. hole is full of H_2O. will let sample air dry prior to mixing. about 90% water.

0945 Collect OP-SS-04 and OP-SS-04D



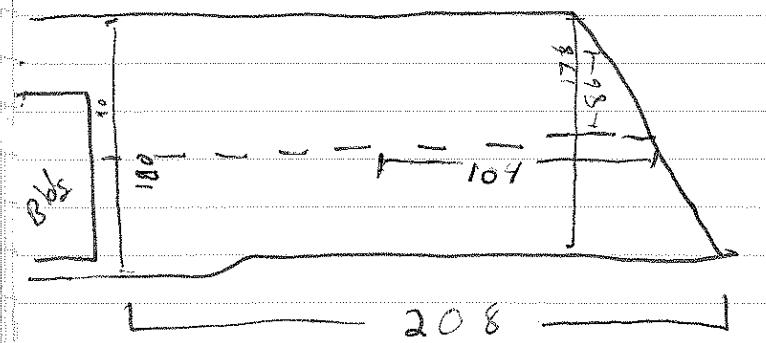
1015 Collect OP-SB-04 from same collection points as above

1040 Collect OP-SS-10 from sump in small cylinder block enclosure.

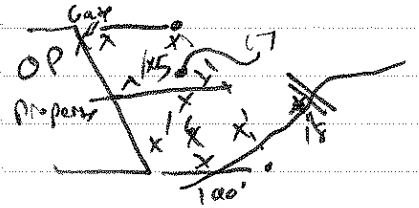
1100 Mark off rear of lot as shown on following page

1130 Lunch

8/15/7



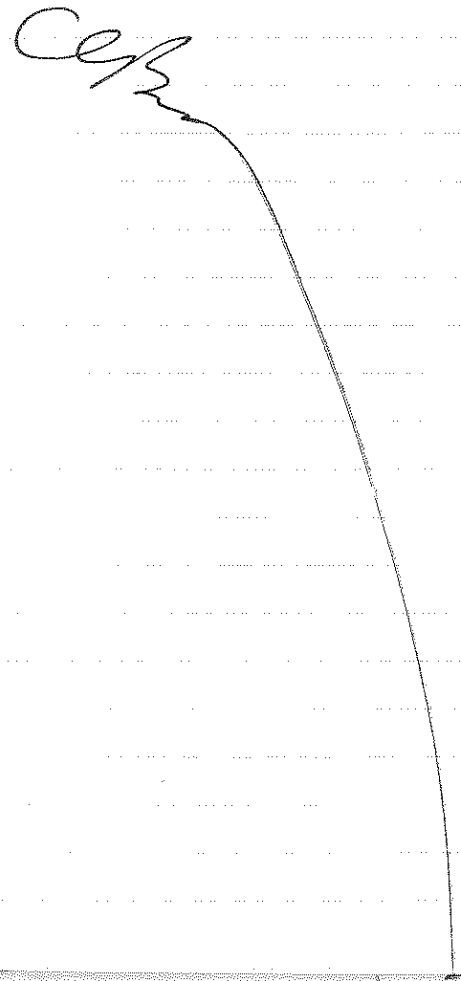
1300 Collect OP-55-11
1320 OP-55-12
1345 OP-55-13
1430 OP-55-14
1500 Get through improperly secured gate at rear of lot.
1515 OP-55-19 at treeline on Rainbow City Sewer + Water Property for eastern end.
1530 Set up add'l 100' grids



1600 Collect OP-55-15 & OP-55-16
1630 Collect OP-55-17 from

8/15/7

1630 (cont) mound of dirt in grid 15.
- Collect OP-55-18 from just in front of 'bridge' over creek.
1635 START offsite.

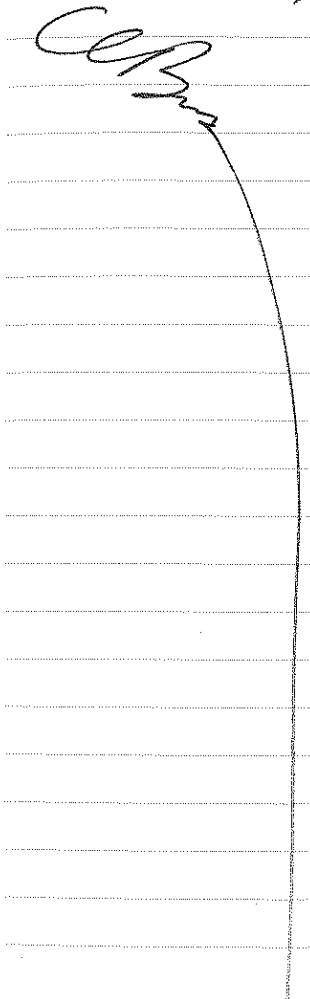


8/16/7

0600 START, CMC, USCG on site,
WEATHER - Hot, High near 105, Sunny. Heat + Air quality advisory.
Workplan -
- Package + ship samples
- Plot sample points with GPS
- Pump water from pits.
- Remove sludge from pits
- Solidify sludges with Portland
0630 START purchases ice for samples.
0700 START begins F2L COC process
1200 at lunch
1245 Return, packaging samples
1400 Drop samples off at FedEx
1430 Email + fax sample info to D. Colquitt
1500 START collecting GPS data. GPS is working again
1600 GPS data collected. CMC crews breaking down for

8/16/7

1600 (cont) weekend demob. Will return to site at 0600 Tuesday.
1630 CMC offsite
1700 START, GST offsite



8/22/7

1100 START Berry arrives on site. CMC actively working in zone.

1130 Lunch

1200 Return. Begin survey of previous days operations. CMC reports that polymer test on sludge was unsuccessful. Re examine mixing ratios & determine not enough polyacrimide used. Suggest increasing to 1% minimus. ~~0.1%~~ 0.1% used previously

- Est based on 21,000lb of material (300 ft³ @ 7.2 sq/ft³ + 10lb/gal) CMC put in 20 lbs. Should have used 200 lbs.

1300 CMC wants to use Kiln dust.

1400 Speak w/OSC Williamson, START Suggests using the highly discolored soil from Area 4 as a solidification agent. The CW is that this area needs to be removed, Visible Cracked ON ground, Rainbow colors,

8/22/7

1400 (cont) occur in two

1300 prominent streaks where the vats previously sat. CMC will scrape off visibly contaminated soil from these areas.

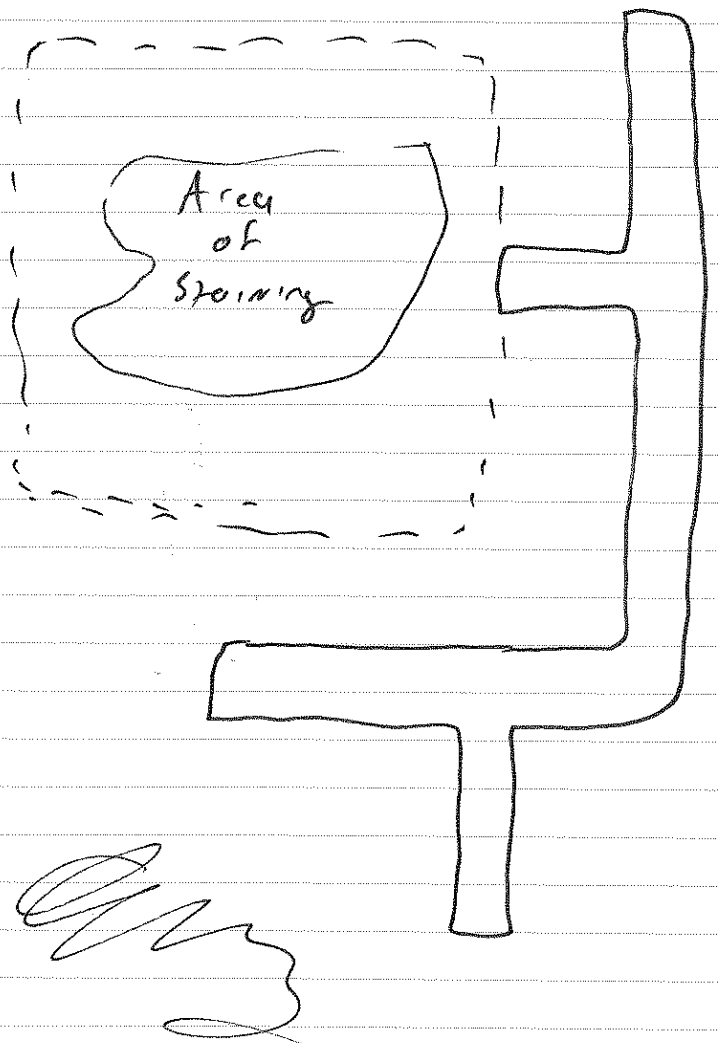
- Results of soil sampling indicate NO ~~soil~~ → additional soil will have to be removed. The two 'streaks' in question were not included in the sampling last week. START did not collect an aliquot from these areas as it was assumed they would be excavated regardless of analytical data due to the perception of contamination.

1330 CMC Begins scraping 'streaks' see p138 for diagram

1400 CMC on break

find another foundation below existing one ≈ 20" below Top of soil. Water Perched on top. PH = 4.5.

8/22/7



8/22/7

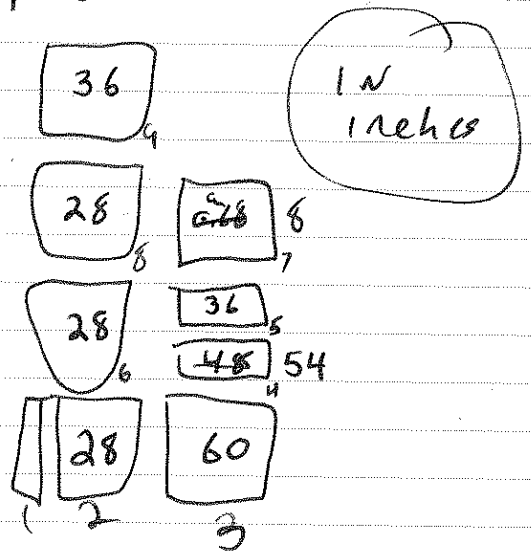
1400 (cont) wall blocks and floor grating are exposed within the excavation. It appears the current, raised building, is built on top of another plating facility level with the natural surface.

1430 CMC back in zone. Discuss sit w/ DG. Decide to hold off on further soil excavation until CW has a chance to examine

8/23/7

0600 CMC, START on site
- WEATHER HOT! Low 100's
No rain. Air Quality warning
- WORKPLAN –
- Work out solidification plan.
- Wash ~~Hoppers~~ vats (stainless)
- Test density of sludge to see how much polyacrimide it will take to solidify

0645 CMC vacuuming free water from pits.



8/23/7

~~4.5-gallon weights~~ 4.0 gal wts

SUMP	Wt lbs	-191
9	231	40
8		44
7		39.5
6		43
5		covered assume 44
4		39
3		39 46
2		40.5

0800 Working on volumes, wts, and costs for each solidification option.

0900 Finish Cost analysis. Gel is much less ($7500) and 2 whole truckloads of material to dispose of less.

0940 CMC on break. Hg disposal truck arrives, but without packaging requested. Drives off empty

0930 CMC returns to ZMC. Will evacuate sludge into SS vats in order to just move it out.

CEB

8/23/7

0935 Speak w/ Randy Brayles at Astro American Chemical, Will be out here this a'noon with add'l sample to help run bench test.

1030 Get w/ CMC to discuss bench-scale test prep. Will mix 20 gal (200 lb) of sludge w/ 2 lb gel (1%) + assess. Then add 2 more (2%) + assess - Then try it on ≈ 55 gallons (500-700 lbs) + use 1 + 2 % mixes (10-14 lbs) —

1130 Lunch

1200 Return, work on soil report.

1300 CMC has emptied sumps 3, 4, 5, + 7 into The

1440 CMC has drums prepped

1515 R. Brayles of Astro American Chem on site. Begin mix Test.

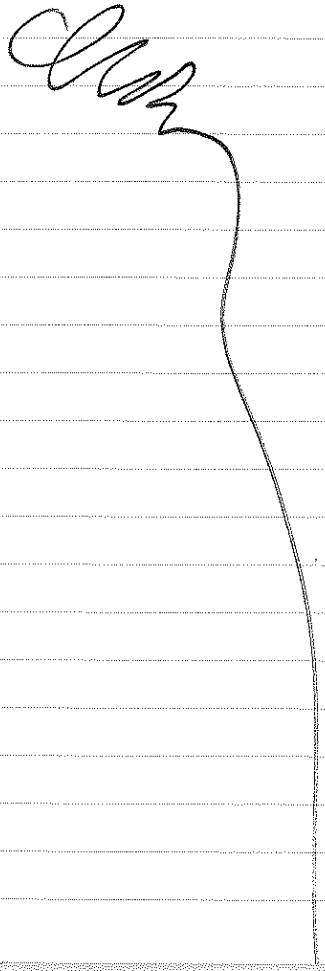
1630 20-gal test reached 8% before even beginning to jel.

Cem

8/23/7

1630 CMC odds it. START will take sample back + perform bench-test w/ more accurate scales.

1700 START add's site for A+1.



8/29/7

1340 START onsite. CMC in ZONE.
- Mixing & moving sludge from pits.
- Using hoe-ram to break concrete in Pits 1 & 2.
- Using sump pump to dewater at SS-09.

1515 CMC continues to dewater with sump pump in remaining building
- Continue breaking concrete in WWTP.
- Have almost all the sludge solidified w/ Portland

1615 CMC crews coming in for day through decon.

1630 START/CMC offsite. Thunder in distance.

8/30/7

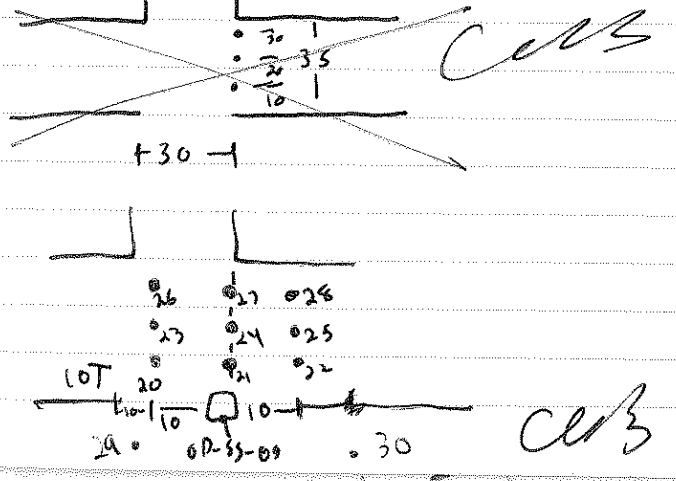
0600 START, CMC onsite H&S/workplan Meeting

WEATHER - 70% chance of a'noon t'storms. High 88. Currently 72.

WORKPLAN
- Load out acid for disposal
- core drill in ~~Area~~ Area D.
- Continue breaking concrete in WWTP
- Continue solidification

0615 - Heritage on site for acid. Begin transfer.

0745 Transfer complete.
- START marks core locations in Area D



8/30/7

0800 Speak w. N. Turner. She will set up lab. RCRA 8 only (as no Cr⁶ found in earlier samples). Will set for 15 including GA/AC. —

0900 Coring proceeding well 3 holes completed. Will collect 2 add'l (#29 + 30) from nearby low spots which hold water. —

1045 Uploaded images to OSC Web page

1120 Collect OP-SS-20 from Area D. There is a 2nd foundation beneath the 1st, & CMC must rebore each hole down through this level + use vac hose to pull out the core. Sample was VERY wet (100% saturated + flowing). Had to Grind out with an auger & then scoop out by hand. Hole is too small (4") for spoon or scoop. —

- CMC at lunch

1145 Speak w/ OSC Williamson on

8/30/7

1145 (cont) soil sampling Draft submitted to him physically this morning, wants changes to indicate Industrial PRGs will be the "mandatory" limit but 'residential PRG will be a 'discretionary' limit.

- START at lunch

1215 START back at site. Making changes.

- CMC loading up 3rd trackhoe for demob. —

1300 Robbie D Wood truck arrives on site for Cd-water.

1315 CMC completes redrilling holes.

- Suck water out w/ vac hose. —

1320 OP-SS-21

1330 OP-SS-22

1340 OP-SS-23 not collected. Only Gravel to 2'

1350 OP-SS-24

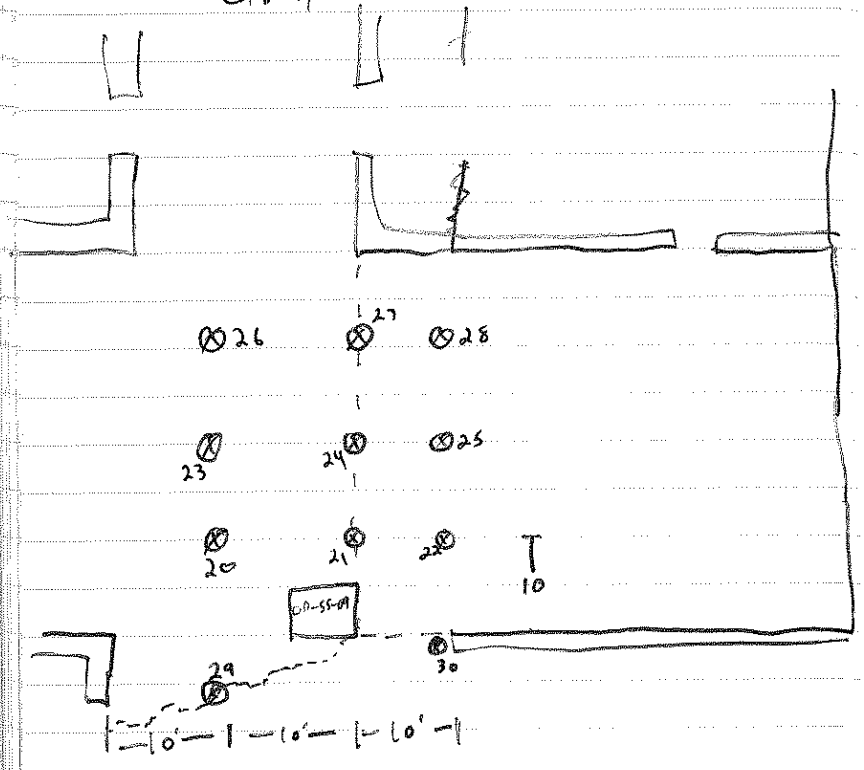
1400 OP-SS-25 MS/MSD 2x volume

1410 OP-SS-26

1415 OP-SS-27

1420 OP-SS-28 not collected. Gravel to 2'

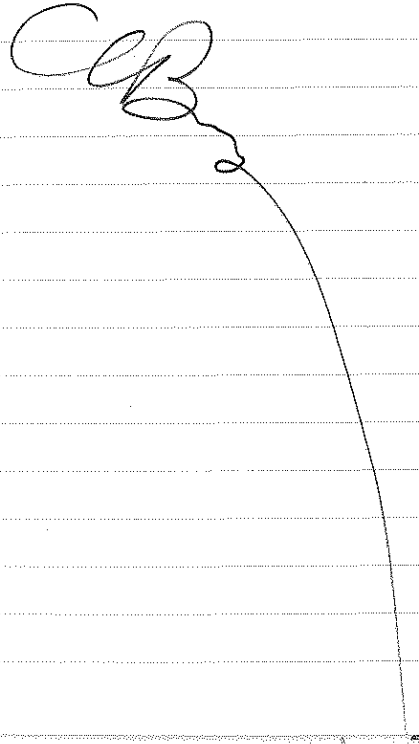
~~8/29~~ 8/30/7



1430 OP-55-29
1440 OP-55-30
- CMC on break
1500 - CMC back in zone. Continue solidification. ~~using~~ Blending in soil from rear of property along with Portland.
1530 Finalize soil sampling rpt. w/cw. Send out final.

8/30/7

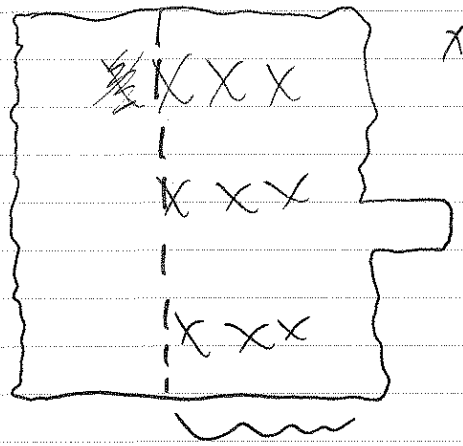
1545 Robbie D. Wood departing site with another load of D006 cadmium waste.
1600 CMC crews closing down site for holiday weekend. Will demob tomorrow, remob trucks & start back 0600 Wednesday. START received CLP info from N. Turner. Will setup shipment for Thursday delivery next week.
1610 START off site for Atl.



9/6/7

0600 START / CMC on site.
WEATHER - Sunny early, increasing clouds, High 93 10% chance rain
WORKPLAN
- Pack + ship out samples collected last week.
- Confined space entry to clean Rx tanks.
- solidify sludge
- dig up Area '4' discolored soil.

0630 Walk Area '4' w/ J.J..



X = highly discolored surface soil

excavating to 2' depth
- START will then confirm. sample

9/6/7

0630 (cont) Odor of soil is exactly like the interior of the building smelled when it was still standing. Acrid, metallic odor.
0700 CMC has allowed fractank to vent overnight. Set up fan on top vent + is now entering to pressure wash. First moving all the sludge to the end + ~~wasting out~~ Vacuuming out. Level C.
0740 START finalizing CLP paperwork.
1000 Bag + Tag Completed
1030 CMC encountered piping beneath the Area '4' excavation PVC filled w/ dirt covered in black soil beneath cut 55-gal drums scalloped over to cover during subsequent burial.
1045 Walk site w/ CW to discuss soil ops. Wants to break concrete back 4' from WWTP pits + excavate.

9/6/17

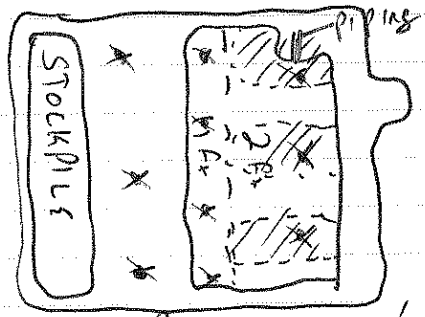
1045 (cont) Wants confirm. Sample collected after that.
- Concrete separated & sampled independently from soil.

1115 START offsite to FedEx/lunch.

1200 At Walmart to purchase cooler + ice. ——

1215 K-MART. Walmart didn't have small coolers. K-Mart doesn't either. Buy closest thing. —

1300 Collect 'BP-CON-01' from 'Area 4' 10 pt Composite.



- ~~Equal~~ Proportionately weigh 'discolored' areas with 'normal' areas. ——

1400 Drop sample at FedEx.

1530 Complete write-up about soil & piping & email photos

Cer

9/6/17

1530 (cont) to CW.
- CMC has begun filling in trench lines with 'clean' rubble. Block from the building's walls w/o any visible contamination. Normal C+D debris - ——

1600 CMC covering stockpile & closing up the site.

1615 START offsite to demobe to Atlanta. Sample results will be delivered from Shealy Env lab in West Columbia COB monday.

Cer

9/20/07

0800 START ON site. CMC in zone excavating. —
- WWTP sumps have been removed & excavated to an ≈4" perimeter & ≈10' deep at East end & 6' deep at west.

0830 Speak w/ QC Williamson. wants floor, each wall sampled seperately. —

0900 START off-site RO1 supplies

1015 START collects OP-WWCON-West

1025 OP-WWCON-floor —

1030 OP-WWCON-North —

1035 OP-WWCON-South —

1040 OP-WWCON-East —

1100 START waiting on sample #s & Lab info for CLP. —

1200 Lunch —

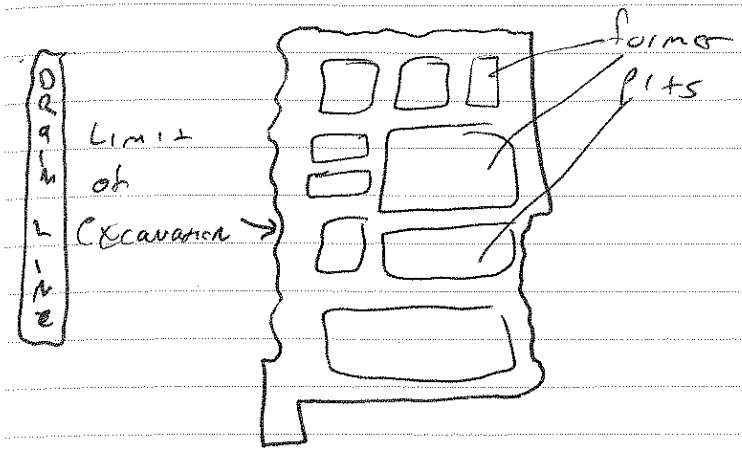
1240 Return CMC continues excavating another draw line ≈ 20 ft N of WWTP pit. —

1430 Receive lab & # info, Sent to bagging & tagging samples

1545 Email COC to D. Colquitt.

1630 START in zone.

9/20/7



1630 CMC pulling out for day (MC has loaded concrete rubble into drainage ditch at WWTP. —
- START off site for FedEx & demob to ATL.

APPENDIX B

PHOTOGRAPHIC LOG

(61 pages)

OFFICIAL PHOTOGRAPH NO. 1
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	South	**Date:**	5/21/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Neville Kingham, Kingham Consulting Services, Inc. (KCSI)
Subject:	Containers in Area E prior to removal activities.		

OFFICIAL PHOTOGRAPH NO. 2
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	East	**Date:**	5/21/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Neville Kingham, KCSI
Subject:	Containers in Area E prior to removal activities.		

OFFICIAL PHOTOGRAPH NO. 3
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	South	**Date:**	6/4/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Neville Kingham, KCSI
Subject:	Collapsed roof covering containers in Area G.		

OFFICIAL PHOTOGRAPH NO. 4
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	South	**Date:**	5/22/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Neville Kingham, KCSI

Subject: Deteriorated condition of the office areas prior to demolition. The numerous leaks in the roof contributed heavily to the deterioration and caused serious mold issues for workers when entering the office areas.

OFFICIAL PHOTOGRAPH NO. 5
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	West	**Date:**	5/9/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Neville Kingham, KCSI
Subject:	Setup of site infrastructure. CMC mobilized office trailers, crew trailers, and sanitary facilities and connected utilities.		

OFFICIAL PHOTOGRAPH NO. 6
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	South	**Date:**	5/10/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Neville Kingham, KCSI

Subject: Removal of debris to gain access to the rear of the site and the east entrance to the building. CMC created workspace by removing debris and coalescing soil piles. The debris was removed as non-hazardous material, and the soil was eventually mixed into the sludge as a solidifying agent.

OFFICIAL PHOTOGRAPH NO. 7
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	West	**Date:**	5/22/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Neville Kingham, KCSI

Subject: United States Coast Guard personnel setting out DataRAM particulate monitors. The monitors were used to track off-site dust migration throughout the removal process. If off-site migration was noted, dust suppression measures were enacted.

OFFICIAL PHOTOGRAPH NO. 8
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	East	**Date:**	5/18/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Neville Kingham, KCSI

Subject: CMC suppressing dust. A simple garden hose was used to keep the dirt in the rear of the lot damp. A more spohisticated system was unnecessary because the area was small.

OFFICIAL PHOTOGRAPH NO. 9
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	South	**Date:**	5/23/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Neville Kingham, KCSI
Subject:	CMC conducting a pre-entry safety meeting. These meetings were used to walk-through the activities, discuss emergency procedures, and ensure all employees were operating in unity.		

OFFICIAL PHOTOGRAPH NO. 10
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	South	**Date:**	5/18/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Neville Kingham, KCSI
Subject:	Decontamination of debris. All items removed from the building were subjected to a rinse to remove any contaminated dust.		

OFFICIAL PHOTOGRAPH NO. 11
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	South	**Date:**	5/22/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Neville Kingham, KCSI

Subject: Unstacking and staging of containers. CMC used a grappler to remove double-stacked drums and arrange them in orderly rows to facilitate sampling and emergency removal of leaking containers.

OFFICIAL PHOTOGRAPH NO. 12
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	West	**Date:**	5/31/2007
Photographer:	Brian Croft, Tetra Tech	**Witness:**	Neville Kingham, KCSI

Subject: Small containers removed from the laboratory. Approximately 320 small containers were removed from the laboratory in Area I. Additional small containers were scattered throughout the building and were added to the collection. NOTE: The camera date stamp is inaccurate.

OFFICIAL PHOTOGRAPH NO. 13
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	NA	**Date:**	6/11/2007
Photographer:	Brian Croft, Tetra Tech	**Witness:**	Neville Kingham, KCSI

Subject: Drum sampling. Glass tubes were used to extract a small amount (2 to 4 ounces), which were placed into glass containers and given to the chemist for testing. Superfund Technical Assessment and Response Team (START) recorded drum data, including volume, color, and labeling information.

OFFICIAL PHOTOGRAPH NO. 14
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	NA	**Date:**	6/5/2007
Photographer:	Brian Croft, Tetra Tech	**Witness:**	Neville Kingham, KCSI

Subject: Drum Sampling. CMC downgraded the level of protection from the Level B personal protective equipment (PPE) normally used for drum sampling to Level C based on discussions between START, Emergency and Rapid Response Services (ERRS), and U.S. Environmental Protection Agency (EPA) representatives, and conversations with former operators about the nature of the chemicals present.

OFFICIAL PHOTOGRAPH NO. 15
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	North	**Date:**	7/9/2007
Photographer:	Kyle Russell, Tetra Tech	**Witness:**	Neville Kingham, KCSI

Subject: Bulking of acid liquids. CMC bulked acids, bases, and oxidizers together. Two mixing containers were used to allow for reactions to proceed in one while bulking could still continue in the other.

OFFICIAL PHOTOGRAPH NO. 16
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	West	**Date:**	7/18/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Neville Kingham, KCSI

Subject: Bulking of neutral liquids. Rinsate from debris as well as neutral liquids in drums were mixed in the pool to allow any reaction to occur prior to being placed into frac tanks. No reactions occurred during this process.

OFFICIAL PHOTOGRAPH NO. 17
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	West	**Date:**	7/25/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Neville Kingham, KCSI

Subject: Bulking of flammable liquids. An oil/water separator was made from a tote. Water was allowed to flow out the bottom spigot into the neutral liquids. The lighter organics were collected in a separate tank for later disposal.

OFFICIAL PHOTOGRAPH NO. 18
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	East	**Date:**	7/25/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Neville Kingham, KCSI

Subject: Bulking of solids. All solids, including all S- and G- prefix containers were mixed into a single container. The resultant mixture reacted together, forming a dark grey liquid and releasing heat, steam, and gas. The mixture was allowed to sit for several weeks before being mixed with the sludges and solidified.

OFFICIAL PHOTOGRAPH NO. 19
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	West	**Date:**	6/20/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Neville Kingham, KCSI
Subject:	Frac tanks used to hold bulked liquid wastes until disposal arrangements could be made. Each tank has a 20,000 gallon capacity.		

OFFICIAL PHOTOGRAPH NO. 20
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	NA	**Date:**	6/27/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Neville Kingham, KCSI

Subject: Wastewater treatment plant (WWTP) pit sludge. Note the large amount of debris, wood, shingles, and production material. The sludges were eventually solidified with portland cement and disposed of as hazardous waste.

OFFICIAL PHOTOGRAPH NO. 21
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	NA	**Date:**	6/20/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Neville Kingham, KCSI

Subject: Vat sludge. The sludge was removed from the vats and placed into a bulking container. The sludge was eventually mixed with the WWTP sludge, solidified, and disposed of as hazardous waste. Note the large amount of automobile parts still in the vat.

OFFICIAL PHOTOGRAPH NO. 22
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	East	**Date:**	8/29/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Jim Jarvis, CMC

Subject: Solidification of sludge. After determining that portland cement was the most cost effective method of solidification, CMC used a trackhoe to mix portions of sludge until a solid texture was obtained. The sludge was then staged on site until disposal arrangements could be made. NOTE: The camera date stamp is incorrect.

OFFICIAL PHOTOGRAPH NO. 23
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	South	**Date:**	8/29/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Jim Jarvis, CMC
Subject:	Solidified sludge staged for loading. Once complete, each pile was covered with plastic until removed from the site. NOTE: The camera date stamp is incorrect.		

OFFICIAL PHOTOGRAPH NO. 24
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	South	**Date:**	6/27/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Jim Jarvis, CMC
Subject:	CMC and USCG donning safety harnesses prior to using the boom lift.		

OFFICIAL PHOTOGRAPH NO. 25
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	West	**Date:**	5/31/2007
Photographer:	Brian Croft, Tetra Tech	**Witness:**	Neville Kingham, KCSI

Subject: CMC using the boom lift to remove mercury vapor bulbs prior to demolition. The bulbs were collected and sent to an appropriate disposal facility. NOTE: The camera date stamp is incorrect.

OFFICIAL PHOTOGRAPH NO. 26
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	North	**Date:**	7/9/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Jim Jarvis, CMC
Subject:	Electronic components removed from the office prior to demolition. The components were taken to an electronics recycler.		

OFFICIAL PHOTOGRAPH NO. 27
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	West	**Date:**	6/5/2007
Photographer:	Brian Croft, Tetra Tech	**Witness:**	Jim Jarvis, CMC
Subject:	Demolition of Area H. This is the initial demolition stage.		

OFFICIAL PHOTOGRAPH NO. 28
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	South	**Date:**	6/7/2007
Photographer:	Brian Croft, Tetra Tech	**Witness:**	Jim Jarvis, CMC
Subject:	Removal of containers from beneath the collapsed roof in Area G. The containers were subsequently staged for sampling.		

OFFICIAL PHOTOGRAPH NO. 29
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Numbe r:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	West	**Date:**	6/7/2007
Photographer:	Brian Croft, Tetra Tech	**Witness:**	Jim Jarvis, CMC
Subject:	Loading of construction debris. The debris was disposed of as non-hazardous construction and demolition debris.		

OFFICIAL PHOTOGRAPH NO. 30
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	East	**Date:**	6/21/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Jim Jarvis, CMC

Subject: Demolition of the office section of the building. EPA originally desired to save these sections from demolition, but subsequent examination showed them too damaged to safely leave standing.

OFFICIAL PHOTOGRAPH NO. 31
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	South	**Date:**	8/9/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Jim Jarvis, CMC

Subject: Demolition of interior block walls. The block in these uncontaminated walls was used to fill in excavated areas of the site prior to demobilization. NOTE: The camera date stamp is incorrect.

OFFICIAL PHOTOGRAPH NO. 32
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	West	**Date:**	6/14/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Jim Jarvis, CMC

Subject: Removal of building from around vats. The building was removed from over the vats to allow heavy equipment to get in and cut the steel framework of the vat lines and drag the vats to remove the sludge.

OFFICIAL PHOTOGRAPH NO. 33
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	South	**Date:**	6/20/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Jim Jarvis, CMC
Subject:	Vat removal. Using metal shears, CMC cut the vat line frames and dragged the vats out to a work area to remove the sludge.		

OFFICIAL PHOTOGRAPH NO. 34
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	West	**Date:**	6/21/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Jim Jarvis, CMC
Subject:	Vat removal. The metal frames of the vat lines were cut into short pieces and sent off site for recycling.		

OFFICIAL PHOTOGRAPH NO. 35
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	West	**Date:**	6/27/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Jim Jarvis, CMC
Subject:	The site viewed from the top of the boom lift. The vats have been exposed, and the sludge removal area is in the foreground.		

OFFICIAL PHOTOGRAPH NO. 36
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	East	**Date:**	7/25/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Jim Jarvis, CMC

Subject: Vat sludge removal. Many of the vats contained liquids and sludge, but were not removeable by mechanical means because of the large amount of debris and production material in the vats. CMC elected to simply dump these out and scrape up the sludge with heavy equipment. The concrete where this was done was stained from leaking vats prior to the initiation of removal activities and was chosen for this reason.

OFFICIAL PHOTOGRAPH NO. 37
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	North	**Date:**	7/26/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Jim Jarvis, CMC

Subject: Vat sludge cleanup. After dumping these vats out, CMC used heavy equipment and large pieces of metal as a scoop to place the sludge into containers. Note the staining of the concrete that was subsequently removed.

OFFICIAL PHOTOGRAPH NO. 38
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	NA	**Date:**	7/19/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Jim Jarvis, CMC
Subject:	Zinc anodes removed from the vats. These were decontaminated as best as practicable and sold to a recycler.		

OFFICIAL PHOTOGRAPH NO. 39
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	South	**Date:**	7/19/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Jim Jarvis, CMC
Subject:	Vat destruction. CMC used large metal shears to cut the vats into manageable pieces prior to decontamination.		

OFFICIAL PHOTOGRAPH NO. 40
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	South	**Date:**	7/19/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Jim Jarvis, CMC

Subject: Decontamination of vats. CMC used a pressure sprayer to remove gross contamination from the vat and other metal pieces prior to shipping off site for recycling. The wash water was contained in the WWTP pits and eventually sent off site for disposal.

OFFICIAL PHOTOGRAPH NO. 41
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	West	**Date:**	7/19/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Jim Jarvis, CMC
Subject:	Decontaminated vat metal. Note the color difference from the metal shown in Photograph 39.		

OFFICIAL PHOTOGRAPH NO. 42
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	North	**Date:**	6/27/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Jim Jarvis, CMC
Subject:	Scrap metal recycling. CMC recycled nearly 200 tons of metal from the site.		

OFFICIAL PHOTOGRAPH NO. 43
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	East	**Date:**	7/26/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Jim Jarvis, CMC
Subject:	Concrete removal. CMC used a hydraulic ram to break the concrete up in heavily stained areas. NOTE: The camera date stamp is incorrect.		

OFFICIAL PHOTOGRAPH NO. 44
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	NA	**Date:**	8/23/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Jim Jarvis, CMC
Subject:	Empty WWTP pit. Note the breaks in the liner, which likely led to infiltration in the soil. NOTE: The camera date stamp is incorrect.		

OFFICIAL PHOTOGRAPH NO. 45
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	West	**Date:**	8/29/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Jim Jarvis, CMC

Subject: Breaking of WWTP concrete. The concrete was heavily stained and was mixed with the sludge and shipped off site as hazardous waste. NOTE: The camera date stamp is incorrect.

OFFICIAL PHOTOGRAPH NO. 46
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	NA	**Date:**	8/22/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Jim Jarvis, CMC

Subject: WWTP concrete staining. Chromatic seep from the walls of the WWTP. The visible soil behind the missing portion of the wall suggested years of infiltration from the pits had occurred. NOTE: The camera date stamp is incorrect.

OFFICIAL PHOTOGRAPH NO. 47
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	NA	**Date:**	8/22/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Jim Jarvis, CMC

Subject: Stained soil. Deep red stains on the soil are indicative of chromic acid leaks, as evidenced by the rectangular shape of the stain. This soil was later removed. NOTE: The camera date stamp is incorrect.

OFFICIAL PHOTOGRAPH NO. 48
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	East	**Date:**	8/22/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Jim Jarvis, CMC

Subject: Removal of stained soil. Due to concerns about public perception, EPA determined that all stained soil be removed to a minimum depth of 1 foot below ground surface. NOTE: The camera date stamp is incorrect.

OFFICIAL PHOTOGRAPH NO. 49
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	East	**Date:**	9/20/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Jim Jarvis, CMC
Subject:	Excavated WWTP. CMC removed a 4-foot buffer from around the pits. START collected confirmation samples from the walls and floor of the pit prior to backfill with cinder block and rubble.		

OFFICIAL PHOTOGRAPH NO. 50
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	North	**Date:**	5/17/2007
Photographer:	USCG	**Witness:**	Charles Berry, Tetra Tech

Subject: Soil X-ray fluorescence (XRF) analysis. START used the XRF to screen site soils prior to laboratory analysis. Correlation between laboratory and XRF analysis was poor, leading to the abandonment of XRF analysis for the remainder of site activities.

OFFICIAL PHOTOGRAPH NO. 51
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	North	**Date:**	5/17/2007
Photographer:	USCG	**Witness:**	Charles Berry, Tetra Tech

Subject: Soil sample collection in the perimeter ditch on the south side of the site. START, assisted by CMC and USCG, collected four samples from the ditch separating the facility from the adjoining neighborhood. Analysis showed no contamination in the ditch at the surface or 1 foot below ground surface.

OFFICIAL PHOTOGRAPH NO. 52
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	East	**Date:**	9/28/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Steve Mangum, CMC
Subject:	Loading of solidified sludge. CMC shipped 1,536 tons of solidified sludge off site as hazardous waste.		

OFFICIAL PHOTOGRAPH NO. 53
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	East	**Date:**	8/15/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Donald Springer, CMC

Subject: Loading of neutral liquids. CMC transported 67,489 gallons of neutral liquids off site as hazardous waste due to chromium contamination. NOTE: The camera date stamp is incorrect.

OFFICIAL PHOTOGRAPH NO. 54
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	NA	**Date:**	8/9/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Jim Jarvis, CMC

Subject: Decontamination of frac tanks. CMC performed a permit-required confined-space-entry to remove contamination from inside the frac tanks prior to their demobilization. START acted as the entrance supervisor and monitored the air to ensure worker safety.

OFFICIAL PHOTOGRAPH NO. 55
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	NA	**Date:**	8/9/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Jim Jarvis, CMC
Subject:	Frac tanks after decontamination. A strong surfactant was required to remove the oily film.		

OFFICIAL PHOTOGRAPH NO. 56
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	NA	**Date:**	6/14/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Jim Jarvis, CMC

Subject: Business records. EPA removed all business files from the office areas of the building prior to demolition. EPA cost recovery and criminal investigators later reviewed these documents. Those remaining were later disposed of with the construction debris.

OFFICIAL PHOTOGRAPH NO. 57
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	NA	**Date:**	6/14/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Jim Jarvis, CMC

Subject: Melted drums. Although no fire was ever recorded at the facility, several drums were found to have been exposed to some significant heat source, melting parts of them. A sister facility owned by the former owner did burn down after BEP Development, LLC, purchased the facility, and anecdotal evidence from former employees indicates the former owner moved several containers from the burned facility to this facility.

OFFICIAL PHOTOGRAPH NO. 58
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	West	**Date:**	10/12/2007
Photographer:	Brian Croft, Tetra Tech	**Witness:**	Jim Jarvis, CMC

Subject: Final demolition. As a final act before demobilization, CMC tore down the barrier wall between the facility and the nearby residences. The block was used to fill in the WWTP excavation.

OFFICIAL PHOTOGRAPH NO. 59
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	West	**Date:**	10/18/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	None
Subject:	Post-demobilization site conditions. The rear of the building as viewed from the back fence.		

OFFICIAL PHOTOGRAPH NO. 60
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	East	**Date:**	10/18/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	None
Subject:	Post-demobilization site conditions. The foundation slab and remaining portion of the building. Note the filled in areas.		

OFFICIAL PHOTOGRAPH NO. 61
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0037	**Location:**	Owens Plating
Orientation:	East	**Date:**	10/18/2007
Photographer:	Charles Berry, Tetra Tech	**Witness:**	None

Subject: Post-demobilization site conditions. The property as viewed from Sutton Bridge Road. The fence was left up and completed to fully encircle the site. Once CMC removed its remaining equipment, the gates would be closed and locked.

APPENDIX C

CONTAINER INVENTORY

(Electronic copy on compact disc.
Bundled with Appendix E.)

APPENDIX D

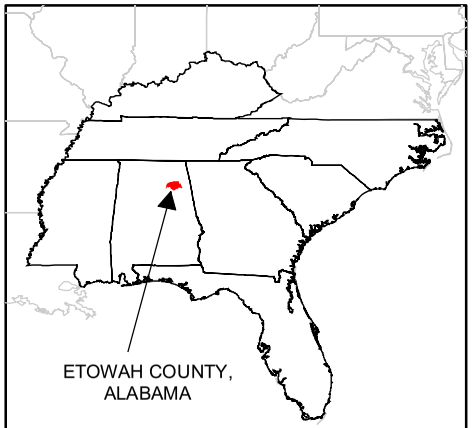
FIGURES

(5 Pages)

0 1,000 2,000 Feet

1:23,781

MAP SOURCE:
USGS, DUNAWAY MOUNTAIN AL
TOPOGRAPHIC QUADRANGLE, 1972



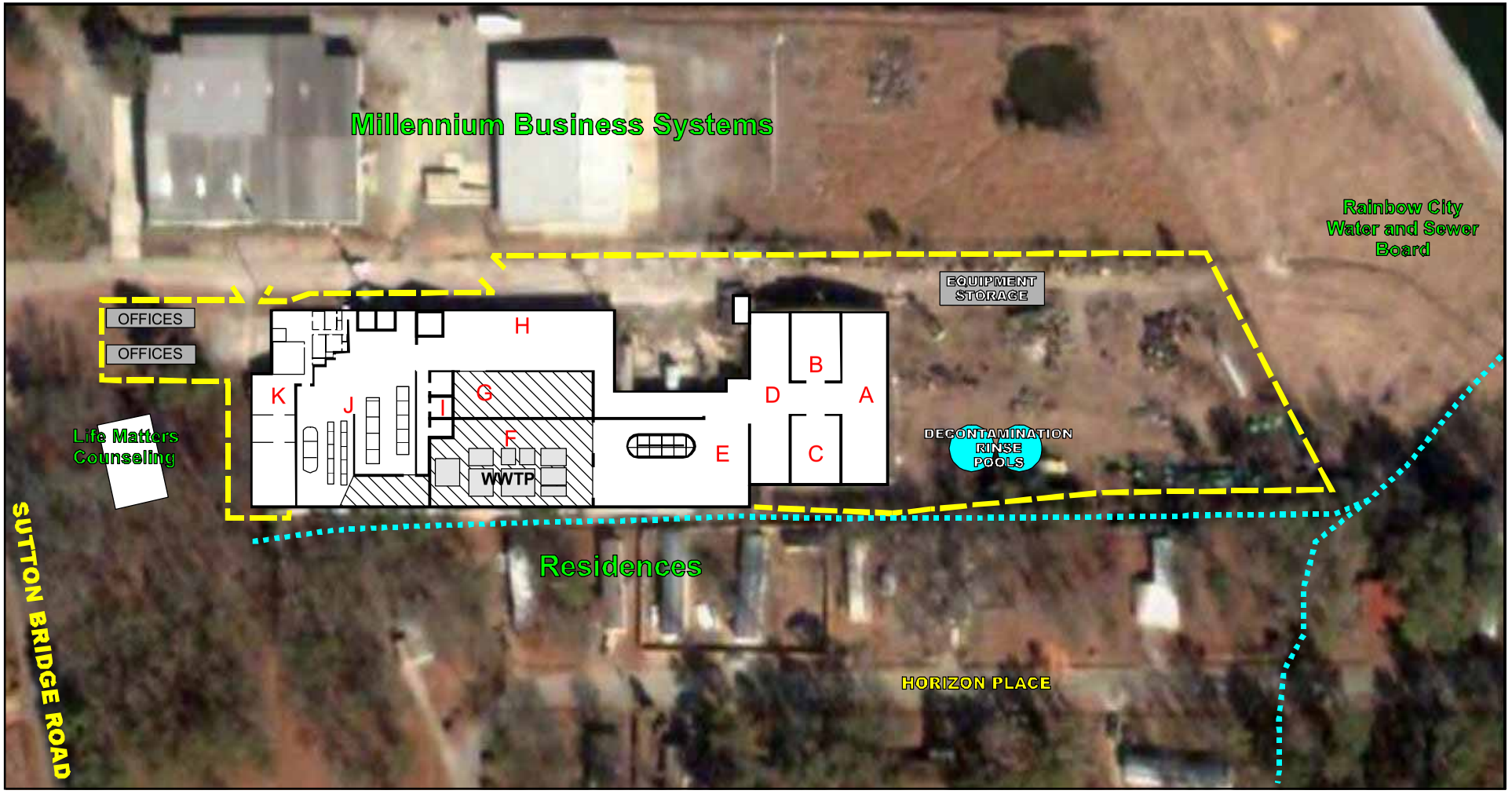
United States Environmental Protection Agency

OWENS PLATING REMOVAL
RAINBOW CITY,
ETOWAH COUNTY,
ALABAMA
TDD No.TTEMI-05-001-0037

FIGURE 1
SITE LOCATION

TETRA TECH

2007-11-21 \GIS_Workspace\TTEMI-05-001-0037_Owens_Plating_Removal\Figures\GISMXDs\Site Location Maps\OWENS PLATING REMOVAL SITE LOC MAP 11-21-07.mxd TTEMI-GA2 courtney.roden



ROOM LETTERING LEGEND			
LETTER	NAME / USE	LETTER	NAME / USE
A	DRUMSTORAGE	G	COLLAPSED ROOF
B	EMPTYDRUMS	H	HALLWAY
C	USED PPE / TRASH	I	LABORATORY
D	SOLIDBINS	J	ZINC LINES
E	PHOSPHATE LINE	K	OFFICES
F	WWTP		

LEGEND

- Vats
- DamagedRoof
- Fence
- Ditch

N

0 50 100 Feet

UnitedStates Environmental ProtectionAgency

TETRA TECH

OWENSPLATINGREMOVAL
RAINBOWCITY,
ETOWAHCOUNTY,
ALABAMA
TDDNo.TTEMI-05-001-0037

FIGURE 2
SITE LAYOUT

LEGEND

Demolishedstructure

Excavatedconcreteandsoil

Numbersindicateexcavationdepthinfeet.

0 50 100 Feet

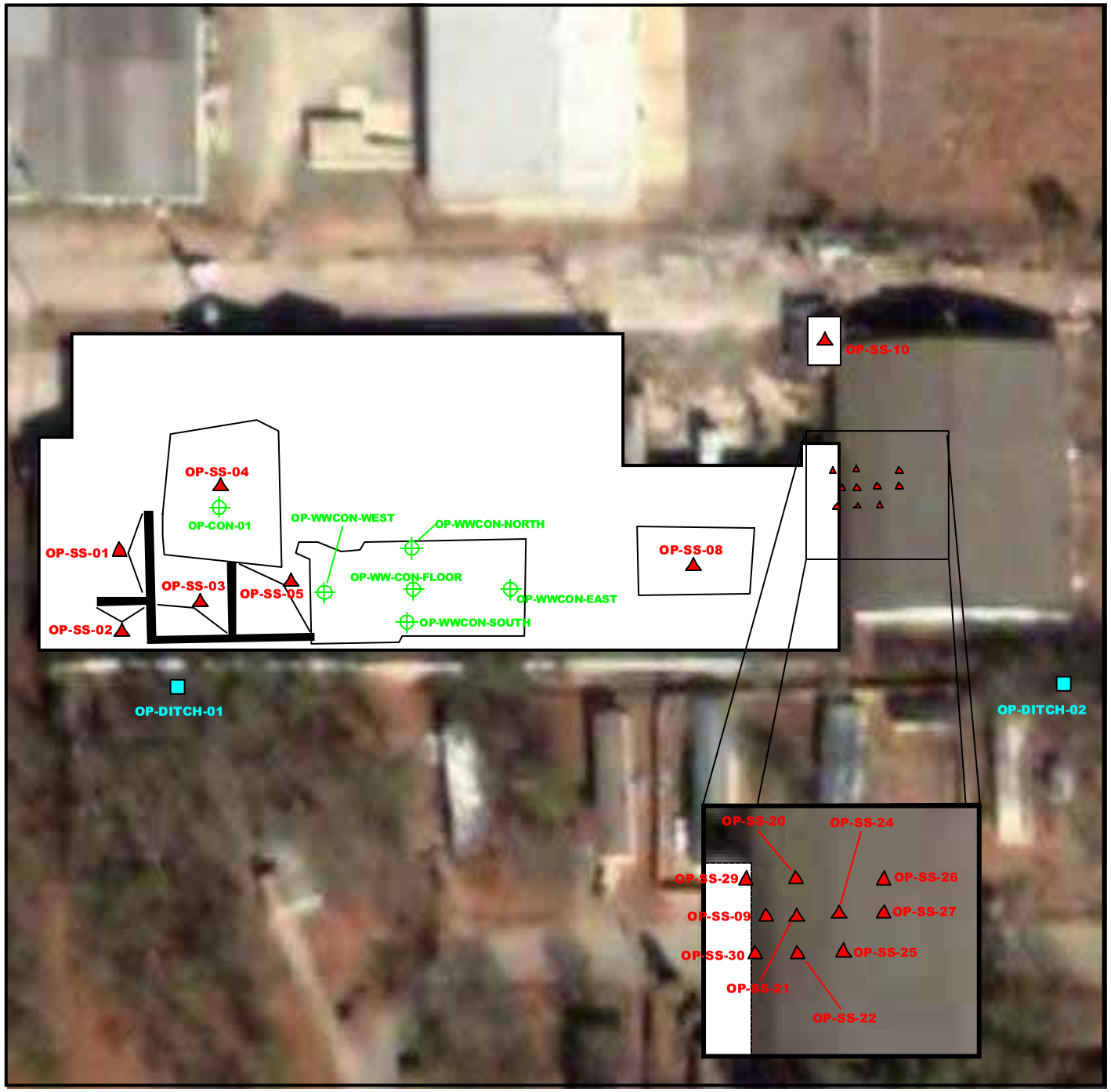
1 inch = 100 feet

UnitedStatesEnvironmentalProtectionAgency

OWENSPLATINGREMOVAL
RAINBOWCITY,
ETOWAHCOUNTY,
ALABAMA
TDDNo.TTEMI-05-001-0037

FIGURE3
DEMOLITIONAND
SOILEXCAVATION

TETRA TECH



LEGEND

- SoilSamplingLocation
- ConfirmationSampleLocation
- DitchSampleLocation
- OP OwensPlatingRemoval
- SS SoilSample
- CON ConfirmationSample

N

0 50 100 Feet

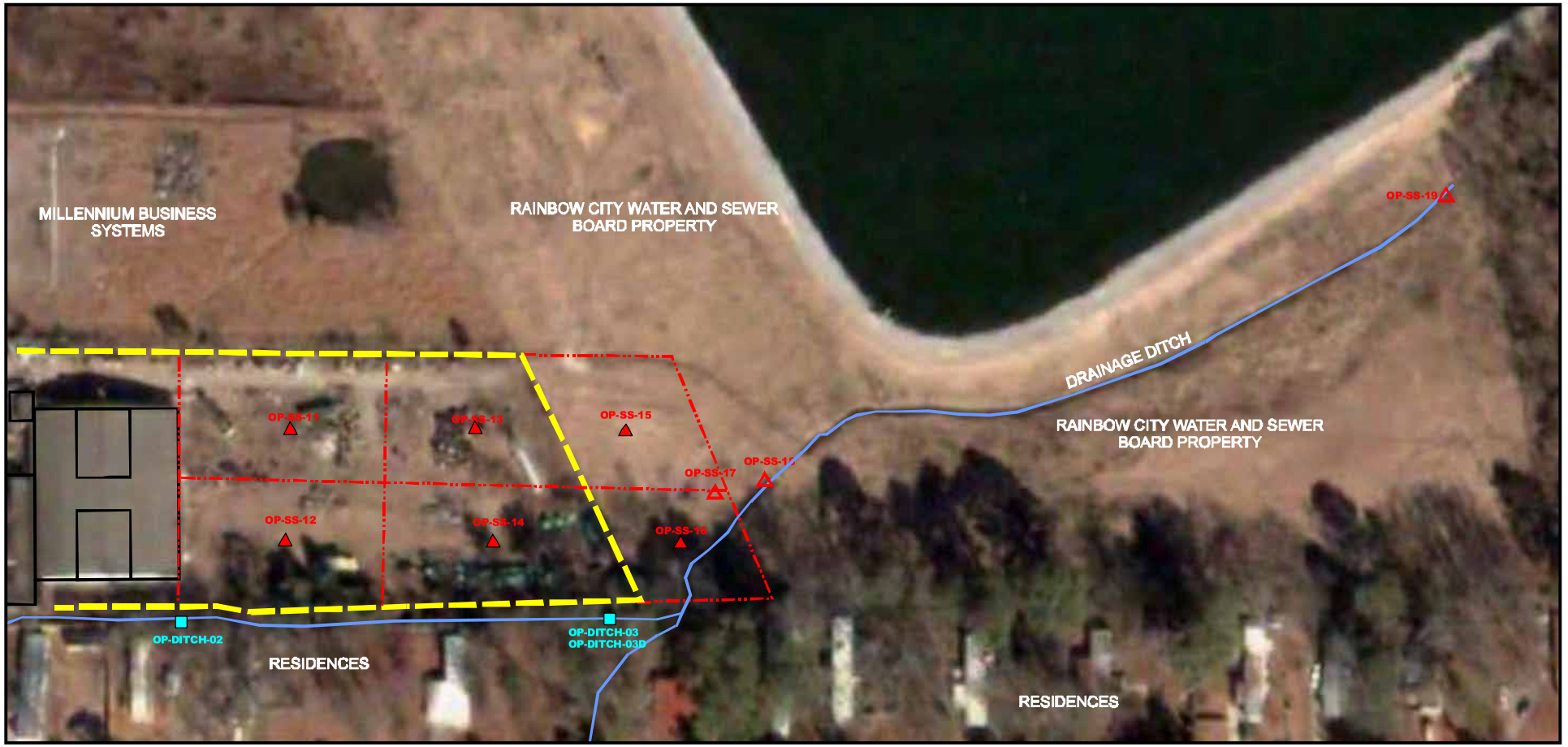
1:802

UnitedStatesEnvironmentalProtectionAgency

OWENSPLATINGREMOVAL
RAINBOWCITY,
ETOWAHCOUNTY,
ALABAMA
TDDNo.TTEMI-05-001-0037

FIGURE4
FOUNDATIONAND
DITCH SOILSAMPLING
LOCATIONS

TETRA TECH



LEGEND

GridBoundary Lines	OP	OwensPlatingRemoval
CompositeSampleLocation	SS-##	SurfaceSoilSample
GrabSampleLocation	DITCH-##	DitchSample
DitchSampleLocation	DITCH-##D	QualityControlDuplicateSample
Ditch		SiteFenceline(approximates property boundary)

N

0 50 100 Feet

UnitedStates Environmental ProtectionAgency

TETRA TECH

OWENSPLATINGREMOVAL
RAINBOWCITY,
ETOWAHCOUNTY,
ALABAMA
TDDNo.TTEMI-05-001-0037

FIGURE 5
SOILANDDITCH SAMPLING LOCATIONS

APPENDIX E

ANALYTICAL DATA PACKAGES

(Electronic copy on compact disc.
Bundled with Appendix C)

APPENDIX F

SOIL SAMPLING SUMMARY TABLES

(5 Pages)

OWENS PLATING REMOVAL
TABLE 1
PERIMETER DITCH SOIL SAMPLING ANALYTICAL RESULTS

	Sample Number							
Analyte	**OP-DITCH 1 - SS**	**OP-DITCH 1 - SB**	**OP-DITCH 2 - SS**	**OP-DITCH 2 - SB**	**OP-DITCH 3 - SS**	**OP-DITCH 3 - SSD**	**OP-DITCH 3 - SB**	**OP-DITCH 3 - SBD**
Aluminum	17,300	21,600	18,900	17,800	20,200	17,700	16,600	17,700
Antimony	5.58 U	5.37 U	5.1 U	5.55 U	5.37 U	5.83U U	5.12 U	5.53 U
Arsenic	5.58 U	5.37 U	5.1 U	5.55 U	5.37 U	5.83 U	5.12 U	5.53 U
Barium	246	210	357	215	337	302	98.5	135
Beryllium	2.79 U	2.69 U	2.55 U	2.77 U	2.68 U	2.91 U	2.56 U	2.76 U
Cadmium	2.79 U	2.69 U	4.59	2.77 U	2.68 U	2.91 U	2.56 U	2.76 U
Calcium	12,500	7,760	14,200	9,890	19,000	14,900	5,200	38,800
Chromium, Total	44.9	33	170	99.2	68.2	75.4	28.8	29.2
Chromium, Hexavalent	1.24 U	1.22 U	1.2 U	1.21 U	1.21 U	1.24 U	1.18 U	1.17 U
Cobalt	29.8	16.6	32.5	24.2	37	38.4	10.6	19.1
Copper	14.6	13.9	31.2	22.7	30.7	27.9	18.7	23
Cyanide, Total	1.23 U	1.19 U	1.2 U	1.19 U	1.21 U	1.21 U	1.15 U	1.15 U
Iron	49,000	40,000	48,500	50,200	81,100	47,400	18,200	18,800
Lead	23.5	20	27.2	19.6	39	21	8.01	5.53 U
Magnesium	3,560	6,510	4,220	3,960	6,130	5,740	6,140	8,410
Manganese	1030	590	858	872	2260	1940	109	326
Mercury	0.123 U	0.122 U	0.118 U	0.12 U	0.119 U	0.121 U	0.116 U	0.117 U
Nickel	20.7	21.1	172	54.3	94.8	87.3	23	28.9
Potassium	1,120	701	1,760	1,890	1,610	1,620	670	1,070
Selenium	5.58 U	5.37 U	5.1 U	5.55 U	5.37 U	5.83 U	5.12 U	5.53 U
Silver	2.79 U	2.69 U	2.55 U	2.77 U	2.68 U	2.91 U	2.56 U	2.76 U
Sodium	217	218	231	198	211	199	129	161
Thallium	5.58 U	5.37 U	5.1 U	5.55 U	5.37 U	5.83 U	5.12 U	5.53 U
Vanadium	33.3	26	33.4	29.1	38.3	27	13.7	15.6
Zinc	144	42	4,280	2,140	2,080	1,700	56	61

Notes:

D	Duplicate
mg/kg	Milligram per kilogram
OP	Owens Plating Removal
SB	Sub-surface soil sample
SS	Surface soil sample
U	Analyte was not detected above its minimum detection limit

OWENS PLATING REMOVAL
TABLE 2
SOIL SAMPLING ANALYTICAL LABORATORY RESULTS VERSUS XRF SCREENING

	Sample Number							
	OP-DITCH 1 - SS				OP-DITCH 1 - SB			
Analyte (mg/kg)	**ICP**	**XRF**	**XRF Error**	**% Dif.**	**ICP**	**XRF**	**XRF Error**	**% Dif**
Chromium, Total	44.9	1564	+/-215	3483.30%	33	279.3	+/-141.8	846.36%

	Sample Number							
	OP-DITCH 2 - SS				OP-DITCH 2 - SB			
Analyte (mg/kg)	**ICP**	**XRF**	**XRF Error**	**% Dif.**	**ICP**	**XRF**	**XRF Error**	**% Dif.**
Chromium, Total	170	346.3	+/-166.5	203.71%	99.2	NA	NA	NA

	Sample Number							
	OP-DITCH 3 - SS				OP-DITCH 3 - SSD			
Analyte (mg/kg)	**ICP**	**XRF**	**XRF Error**	**% Dif.**	**ICP**	**XRF**	**XRF Error**	**% Dif.**
Chromium, Total	68.2	681.9	+/-231.9	999.85%	75.4	NA	NA	NA

	Sample Number							
	OP-DITCH 3 - SB				OP-DITCH 3 - SBD			
Analyte (mg/kg)	**ICP**	**XRF**	**XRF Error**	**% Dif.**	**ICP**	**XRF**	**XRF Error**	**% Dif.**
Chromium, Total	28.8	<165	NA	NA	29.2	<188	NA	NA

Average % difference: **922.20%**

Notes:

Dif.	Difference
ICP	Inductively-coupled plasma
OP	Owens Plating Removal
XRF	X-ray fluorescence

OWENS PLATING REMOVAL
TABLE 3
AUGUST 15-16, 2007, SOIL SAMPLING EVENT ANALYTICAL RESULTS

Analyte (mg/kg)	Sample Number							
	OP-SS-01	OP-SS-02	OP-SS-03	OP-SS-04	OP-SS-04D	OP-SB-04*	OP-SS-05	OP-SS-08
Chromium, Hexavalent	5.5 UJ	22 J	6.3 UJ	5.7 UJ	5.9 UJ	6.2 UJ	5.4 UJ	5.7 UJ
Mercury	0.096	0.33	0.23	0.05 U	0.05 U	0.05 UJ	0.062	0.21
Arsenic	3.5	6.0	6.6	3.3	3.4	2.5	5.7	5.6
Barium	38	150	54	28	25	22	37	130
Cadmium	17 J	8.3	22	33	37	0.74	6.8	19
Chromium, Total	1100	3200	1400	290	280	29	1800	300
Lead	16	86	40	42	32	18	23	45
Selenium	2.0 UJ	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Silver	8.8	25	23	2.5 U	2.5 U	0.99 U	14	1.5 U

Analyte (mg/kg)	Sample Number							
	OP-SS-09	OP-SS-10	OP-SS-11	OP-SS-12	OP-SS-13	OP-SS-14	OP-SS-15	OP-SS-16
Chromium, Hexavalent	5.0 UJ	7.7 UJ	4.9 UJ	4.9 J	4.6 UJ	7.6 J	5.7 UJ	5.3 UJ
Mercury	0.24	0.093	0.083	0.053	0.05 U	0.074	0.05 U	0.05 U
Arsenic	6.2	9.6	6.1	4.8	4.8	4.8	10	14
Barium	76	310	200	190	180	110	160	340
Cadmium	71	4.5	34	22	16	8.9	10	5.1
Chromium, Total	420	230	450	330	240	350	110	120
Lead	55	28	290	71	82	51	36	50
Selenium	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Silver	5.4	2.5 U	1.7	1.7	1.0	1.5 U	1.3	0.99 U

Analyte (mg/kg)	Sample Number		
	OP-SS-17	OP-SS-18	OP-SS-19
Chromium, Hexavalent	4.8 UJ	7.0 UJ	7.6 UJ
Mercury	0.05 U	0.05 U	0.05 U
Arsenic	15	13	8.0
Barium	160	150	130
Cadmium	5.1	2.0	2.0
Chromium	200	72	85
Lead	21	20	23
Selenium	2.0 U	2.0 U	2.0 U
Silver	1.5 U	0.99 U	0.99 U

Notes:

*	Only one subsurface soil sample was collected
D	Duplicate sample
J	Estimated value
mg/kg	Milligrams per kilogram
OP	Owens Plating
SB	Subsurface soil sample
SS	Surface soil sample
U	Analyte was not detected at or above the reporting limit

OWENS PLATING REMOVAL
TABLE 4
AUGUST 30, 2007 SOIL SAMPLING EVENT ANALYTICAL RESULTS

Analyte (mg/kg)	Sample Number				
	OP-SS-20	OP-SS-21	OP-SS-22	OP-SS-24	OP-SS-25
Arsenic	5.7	3.9	4.5	8.1	1.2 U
Barium	137	127	15.8 UJ	18.6 UJ	24.4
Cadmium	92.7 J	20.6 J	0.55 J	1.8 J	3.9 J
Chromium*	301 J	258 J	16.3 J	27.7 J	17.6 J
Lead	74.9 J	27 J	3.4 J	6.3 J	5.0 J
Mercury	0.13 U	0.059 J	0.12 U	0.12 U	0.18
Selenium	4.6 U	4.2 U	4.0 U	4.2 U	4.1 U
Silver	1.3 U	2.3	0.38 J	1.2 U	0.41 J

Analyte (mg/kg)	Sample Number				
	OP-SS-25D	OP-SS-26	OP-SS-27	OP-SS-29	OP-SS-30
Arsenic	1.7	5.6	6.6	3.4	7.3
Barium	35.3	73	70.3	259	7.8 UJ
Cadmium	1.6	11.1 J	15 J	334 J	0.8 J
Chromium*	61.5	134 J	200 J	171 J	23.9 J
Lead	7.2	7.1 J	16.4 J	19.3 J	4.8 J
Mercury	0.15	0.12 U	0.12 U	0.14 U	0.11 U
Selenium	4.1 U	4.3 U	4.2 U	4.9 U	3.9 U
Silver	0.42 J	1.1 J	3.9	1.6	1.1 U

Notes:

*	Based on previous investigations, it is assumed 100% of the total chromium present is Chromium III.
D	Duplicate sample
J	Estimated value
mg/kg	Milligrams per kilogram
OP	Owens Plating Removal
SS	Surface soil sample
U	Analyte was not detected above its minimum detection limit

OWENS PLATING REMOVAL
TABLE 5
EXCAVATION CONFIRMATION SAMPLING
ANALYTICAL RESULTS

Analyte (mg/kg)	Sample Number					
	OP-CON-01	OP-WWCON-EAST	OP-WWCON-FLOOR	OP-WWCON-NORTH	OP-WWCON-SOUTH	OP-WWCON-WEST
Arsenic	5.9	0.63 J	1.3 U	1.5	1.3 U	0.59 J
Barium	82	213	207	218	168	133
Cadmium	1.9	0.59 U	0.63 U	6.2	1.4	0.61 U
Chromium*	420	72.3	48.0	586	37.2	36.6
Lead	24	14.6	8.2	19.7	5.8	8.9
Mercury	0.096 U	0.056 J	0.13 U	0.074 J	0.12 U	0.13 U
Selenium	1.2 U	4.1 U	4.4 U	4.3 U	4.4 U	4.3 U
Silver	2.9 U	1.2 U	1.3 U	2.7	1.3 U	1.2 U

Notes:

*	Based on previous investigations, it is assumed 100% of the total chromium present is Chromium III.
J	Estimated value
mg/kg	Milligrams per kilogram
OP	Owens Plating Removal
WWCON	Wastewater treatment area excavation confirmation sample
U	Analyte was not detected above its minimum detection limit

APPENDIX G

CONFIDENTIAL ENFORCEMENT AND COST RECOVERY ISSUES

THIS SECTION HAS BEEN DELETED FOR PUBLIC RELEASE

APPENDIX H

TABLE OF WITNESSES

(1 Page)

TABLE OF WITNESSES
OWENS PLATING REMOVAL
RAINBOW CITY, ETOWAH COUNTY, ALABAMA

Carter Williamson, On-Scene Coordinator
United States Environmental Protection Agency
61 Forsyth Street
Atlanta, GA 30303
(404) 562-8742
Williamson.carter@epa.gov

Chet Davis, Petty Officer 1st Class
United States Coast Guard
Gulf Strike Team
8501 Tanner Williams Road
Mobile, AL 36608
chet.s.davis@uscg.mil

Charles Berry, Site Manager
Tetra Tech, Inc.
1955 Evergreen Blvd, Building 200, Suite 300
Duluth, GA 30096
(678) 775-3098
chuck.berry@ttemi.com

Brian Croft, Project Manager
Tetra Tech, Inc.
1955 Evergreen Blvd, Building 200, Suite 300
Duluth, GA 30096
(678) 775-3113
brian.croft@ttemi.com

Kyle Russell
Tetra Tech, Inc.
101 Church St., Suite. 201
Huntsville, AL 35801
(256) 551-1965
kyle.russell@ttemi.com

Jim Jarvis (Deceased), Project Manager
Janice Willoughby, Program Manager
CMC, Inc.
1151 Jessamine Station Pike
Nicholasville, KY 40356
(859) 881-1463
cmcr4u@aol.com

Steve Mangum, Project Manager
CMC, Inc.
1151 Jessamine Station Pike
Nicholasville, KY 40356
(859) 881-1463
cmcr4u@aol.com

Neville Kingham, Chemist
Kingham Consulting Services, Inc.
1445 Marietta Blvd. Atlanta, GA 30318
(404) 433-3344
neville@kinghamcsi.com