



March 8, 2013

Ms. Alyssa Hughes
Federal On-Scene Coordinator
U.S. EPA Region 4
Emergency Response Branch
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, Georgia 30303

**Subject: Letter Report
Villa Mobile Home Park
Kannapolis, Cabarrus County, North Carolina
Technical Direction Document (TDD) No.: TNA-05-001-0176
Contract No.: EP-W-05-053**

Dear Ms. Hughes:

The Oneida Total Integrated Enterprises (OTIE) Superfund Technical Assessment and Response Team (START) has prepared this Letter Report summarizing field activities conducted in support of the U.S. Environmental Protection Agency (EPA) at the Villa Mobile Home Park Battery Dump site (the site) in Kannapolis, Cabarrus County, North Carolina (NC). START provided technical support to the EPA On-Scene Coordinator (OSC) during a time-critical removal involving lead in residential soils at the site. Specifically, START was tasked to sample surface and subsurface soils, conduct soil screening with a portable X-ray fluorescence (XRF) analyzer, document removal activities and on-site conditions with written logbook notes and digital photographs, and prepare a Letter Report summarizing the emergency response activities, field activities, and findings.

This Letter Report summarizes the activities at the site. Figures are presented as Appendix A, tables are presented as Appendix B, a photographic log of the site activities is presented as Appendix C, copies of all laboratory analytical results are presented as Appendix D, and a copy of the field logbook notes are presented as Appendix E.

Physical Location

The site consists of an area of approximately 50,000 square feet in a largely uninhabited mobile home park located approximately 1,000 feet to the east of US Highway 29 in Kannapolis, Cabarrus County, North Carolina (Appendix A, Figures 1 and 2). The mobile home park

consists of multiple parcels spanning approximately 10 acres and containing around 55 single-wide trailers. The southern boundary of the site consists of a steep, wooded embankment rising approximately 15 feet upon which the eastern terminus of Irene Avenue is situated. The site extends eastward to the intersection of Verona and Genoa Streets. The geographic coordinates of the approximate center of the site are latitude 35.485786° N and longitude 80.607892° W (see Figures 1 and 2). The area of concern, located within the site boundary, is situated to the north and west by Verona and Venice Streets, respectively.

The site is located in a mixed residential and commercial neighborhood. An unnamed, piped and channelized tributary travels west-to-east along the southern edge of the site at the base of the embankment, and empties into Cold Water Creek approximately 350 feet down gradient of the site to the east. The piping system appears to consist of former above ground storage tanks (ASTs) that have been placed end-to-end with the ends cut off. Cold Water Creek feeds into Lake Concord, which is a municipal drinking water source for the City of Concord.

Site History

A citizen complaint to the City of Kannapolis in the summer of 2010 led to the discovery of numerous battery casings in an open pit drainage area that served as a junction box for two sections of pipe carrying a small stream from west-to-east across the site before emptying into Cold Water Creek. According to residents and on-site observation, significant precipitation events overflow the section of pipe underneath Venice Street, which forces stormwater to travel overland before returning to the piped channel via the open pit on the south side of the street. Over time, this has led to the erosion of soils placed around the pipes and the exposure of battery casings.

In August 2010, at the request of EPA, TetraTech conducted sampling and analysis of soils in and around the open pit drainage area. Analytical results of these samples indicated lead in soil as high as 5,400 milligrams per kilogram (mg/kg), which is over 13 times the residential Removal Management Level (RML) of 400 mg/kg for lead in residential soils.

In September 2010, the potentially responsible party (PRP) attempted a corrective action to stabilize and cover the battery casings in the open pit drainage area by placing a heavy-gauge plastic liner over the exposed soils and covering the plastic with large rip rap rock. Subsequent stormwater flow through the open pit drainage area dislodged the rip rap rock and damaged the plastic liner to the point that it was no longer effectively blocking the exposure risk to residents.

In November 2011, S&ME was contracted by North Carolina Department of Environment and Natural Resources - Inactive Hazardous Sites Branch (NCDENR IHSB) to delineate the vertical and horizontal extent of battery casings. S&ME employed Ground Penetrating Radar (GPR) surveys and excavated nine test pits during this assessment. Results of investigative activities performed by S&ME indicated casing contaminated soils present above and below groundwater totaling approximately 376 cubic yards (yds³), for an approximate total weight of 568 tons.

Assessment

In July 2012, EPA and OTIE START personnel conducted a limited site assessment of surface soils, subsurface soils, and sediments in the areas indicated by the S&ME report, *Mitigation Action Plan*, dated April 24, 2012. START performed soil screening with a portable XRF analyzer at eight different locations around the open pit drainage area at intervals of 0 inches (surface), 0 to 6 inches below ground surface (bgs), and 2 to 3 feet bgs where conditions allowed. Samples for XRF screening were extracted using a stainless steel hand auger and composited prior to screening. Seven samples were collected during this assessment including two sediment samples collected from the surface stream floor at the McLain Road crossing, and approximately 50 feet east of McLain Road, respectively. Results of sample analysis indicated lead levels in excess of the RML of 400 mg/kg in five of the seven samples (see Table 1 and Figure 3). All work described above was performed under TDD #TNA-05-003-0171.

Removal Activities

On October 30, 2012, EPA, OTIE START, and the Emergency Response and Removal Services (ERRS) contractor, Environmental Restoration, mobilized to the site to conduct a removal action. Due to the accessibility of the impacted soils, the extent of battery casings, and the tendency of the nearby low-lying soils to erode during periods of heavy precipitation, EPA concluded that the removal of the entire cache of battery casings, rather than only those posing the most significant exposure threat, was warranted. NCDENR will be conducting a stream restoration at the site following removal activities, restoring a natural winding channel for a surface stream beginning at the piped crossing of Venice Street, traveling approximately 250 feet overland, and ending back in the existing pipe.

Environmental Restoration utilized a Komatsu PC 200 LC excavator, a John Deere 450J LGP bulldozer, and a Bobcat T250 skid steer to conduct the removal. A series of test pits were excavated to help further delineate the extent of buried casings. Test pits at the eastern end of the site indicated a greater extent of buried casing than originally thought.

From October 30, 2012 to November 1, 2012, ERRS excavated casing soils working from the east of the site to the west, chasing veins of visibly impacted soils vertically and horizontally as casings were encountered. Clean overburden soils were stockpiled apart from casing soils and used as clean backfill wherever possible. START collected 5-point composite samples of the overburden stockpiles, homogenized and dried the samples, and screened them with XRF. Screening indicated concentrations of lead at 61 parts per million (ppm) in the overburden stockpile, well below the RML of 400 ppm. START documented approximate removal volumes and locations, and conducted XRF screening of subsurface soils when the visible extent of casing-contaminated soils had been reached. Lead concentrations detected throughout the excavation floor with XRF screening ranged from less than 100 mg/kg to over 12,000 mg/kg (see Figure 4). Due to the depth of excavation and the inaccessibility of these soils by residents, these high-concentration soils were left in place to be covered with clean backfill. A wastewater line servicing a number of residences located upgradient of the site was encountered during this excavation. The pipe is situated diagonally across the site running from

the southwest corner to the northeast corner. It was removed in sections as the excavation proceeded and replaced at the end of each day.

During excavation on November 1, 2012, water began leaching from the upgradient sidewall of the trench and pooling in the excavation. The water appeared to be flowing out of the casing layer, and stopped after several hours. On-site observation suggested that the water had previously leaked out of the drainage pipe at the south side of the site and pooled in this low lying area. The pipe segments did not appear to be installed in a manner that would allow them to drain properly, and the sections of pipe adjacent to the excavation in this area created a “belly”, where water could pool. This created a sag in the contour of the drainage pipe that may have allowed water to back-up and infiltrate this loosely packed casing layer. The water was confined in a sump pit at a depth of approximately 10 feet bgs and sampled by START for metals analysis. Lead and arsenic were detected at 331,000 micrograms per liter ($\mu\text{g/L}$) and 99 $\mu\text{g/L}$, respectively (see Table 2). Most of the wastewater percolated into the walls and floor of the sump pit and the remainder was covered with clean backfill the following week.

On November 2, 2012, START and ERRS collected a representative sample of stockpiled casing soils and shipped it to Premier Magnesia, LLC in West Conshohocken, Pennsylvania for a bench study. Premier Magnesia, LLC is the producer and distributor of EnviroBlend, a mixture of magnesium oxide and calcium phosphates that is often used to stabilize metals in soil so that it may be disposed of as non-hazardous waste. The bench study indicated that the product was well suited to treat the contaminant levels and soil type present on site. From November 2012 to January 2013, a total of 182.88 tons of EnviroBlend was delivered to the site from distribution points in Delaware and Alabama.

On November 13, 2012, EPA, START, and ERRS remobilized to the site after completion of the bench study to receive the first shipment of EnviroBlend and begin treating the stockpile of casing soils. From November 13, 2012 to November 16, 2012, EnviroBlend was mixed into the stockpile and treated soils were moved across the site, staging them for loading and shipping. On November 14, 2012, a sample was collected for Toxic Characteristic Leaching Procedure (TCLP) analysis and shipped by ERRS. Results of TCLP analysis indicated that all RCRA 8 metals were below the reporting limit (BRL); therefore, the casing soils were treated as non-hazardous waste for disposal purposes. START also collected a surface water sample from the unnamed tributary approximately 50 feet south of McLain Road and submitted it for metals analysis. All RCRA 8 metals were below their respective reporting limits (see Table 3). Excavation, treatment, and staging activities continued through November 20, 2012 when worked ceased for the Thanksgiving holiday weekend. It was during this period that the thickest caches of casing soils were encountered. One exposed sidewall of the excavation to the north of the open pit area revealed a solid 6 foot layer of black plastic battery casings extending approximately 30 feet to the east where it tapered to a 4 foot layer (see Figure 5).

After remobilizing to the site on November 28, 2012, ERRS completed mixing and staging all soils excavated to date. Three additional stockpile samples were collected by ERRS and START for TCLP analysis. Shipment of previously sampled soils began the following morning. From November 29, 2012 through December 6, 2012, 2,048.88 tons of battery casings and soil were shipped off site, and approximately 864 yds³ of fill dirt were delivered. The casing soils were shipped as nonhazardous waste to Waste Connections at 375 Dozer Drive, Polkton,

North Carolina (NC). Fill material placed at the site was sampled by ERRS and analyzed for metals. Fill material was provided by Eckard's Grading and Hauling of Kannapolis, NC, and sourced from 1625 Hwy 29 South, China Grove, NC. On December 7, 2012, ERRS cleaned and maintained their equipment, dressed the soils, secured the perimeter fence, and demobilized until the stream restoration plans were completed.

On January 22, 2013, EPA, START and ERRS remobilized to the site to complete the excavation of casing soils, and to remove the current piped drainage system. Through January 23, 2013, ERRS excavated the remaining casing soils and approximately 150 feet of converted AST pipes. The soils were treated on site with EnviroBlend and staged for shipping. A final TCLP sample was collected by ERRS on January 25, 2013 and submitted for analysis. The ASTs were cleaned of soil, flattened, and shipped on January 28, 2013 to Custom Recycling of Charlotte, NC for scrap. From January 29, 2013 through February 5, 2013, Eckard's Grading and Hauling delivered an additional 2,172 yds³ of fill material, bringing the total approximate yardage of fill material to 3,036 yds³. From January 31, 2013 through February 5, 2013, 1,528.83 tons of casing soils were shipped as nonhazardous waste to Waste Connections, bringing the total tonnage of soil material shipped off site to 3,577.71 tons.

It should be noted that, due to a delay in finalizing plans for the stream restoration project planned by NCDENR, ERRS was unable to excavate all of the soils containing battery casings during one work period and demobilized from December 7, 2012 until January 22, 2013. Soils in and around the open pit area at the northwest corner of the site, as well as the AST pipe segments and soils immediately surrounding these segments along the southern edge of the site were left in place to manage stormwater moving through the site until NCDENR's contractor, S&ME, completed the plans.

Other items of note include work that was performed by City of Kannapolis personnel in close proximity to the site during this work period. During the December 2012 through January 2013 demobilization, city crews cleared vegetation and stripped the asphalt surface from the closed and partially flooded segment of McLain Road located to the east of the site. The headwalls and buried pipe that channeled the unnamed tributary underneath the roadway were removed and a channel was dug to allow free flow of surface waters. The remaining gravel bed was left in place and seeded with native wetland vegetation. This area experienced some influx of sediment due to the erosion of placed fill materials from the site as a result of a major precipitation event on January 30, 2013.

The site was affected by two significant precipitation events during the removal action. Upon remobilizing to the site on January 22, 2013, it was evident that stormwater had flooded the site after debris clogged the pipe that channels stormwater underneath Venice Street. Stormwater overflowed the pipe, traveled over the street, and impacted fill material placed along the western end of the site. Most dislodged soils settled in a depression at the south side of the excavation and remained on site. No evidence of sedimentation of surface waters was evident after this event. A second major precipitation event on the night of January 30, 2013 (and into morning of January 31, 2013) brought more than one inch of rain in less than two hours. ERRS had prepared for this event by carving a channel through previously placed fill material so that stormwater could move through the site to the existing piped channel. Silt fencing was placed in two different points throughout this channel and on-site stockpiles were covered with plastic and

sandbags. Although ERRS had previously cleaned out the clogged inlet at Venice Street, stormwater again overflowed the pipe and impacted the west end of the site. Erosion of placed fill material was significant and silt fencing placed the previous day by ERRS was washed out. A significant amount of sedimentation was observed at the outfall of the piped stream to the east of McLain Road after this rain event.

On February 5, 2013, the last load of casing soil was shipped out and the remaining fill material was delivered. Environmental Restoration was awarded the contract by NCDENR to implement the stream restoration plans designed by S&ME. At day's end, oversight of the Villa Mobile Home Site was transferred to NCDENR for completion.

No further activities are anticipated by START for this site. If you should have any questions or need further assistance, please contact myself or Greg Kowalski, START Program Manager, at (678) 355-5550.

Sincerely,



Eric Morris
Environmental Scientist
Project Manager / Letter Report Author



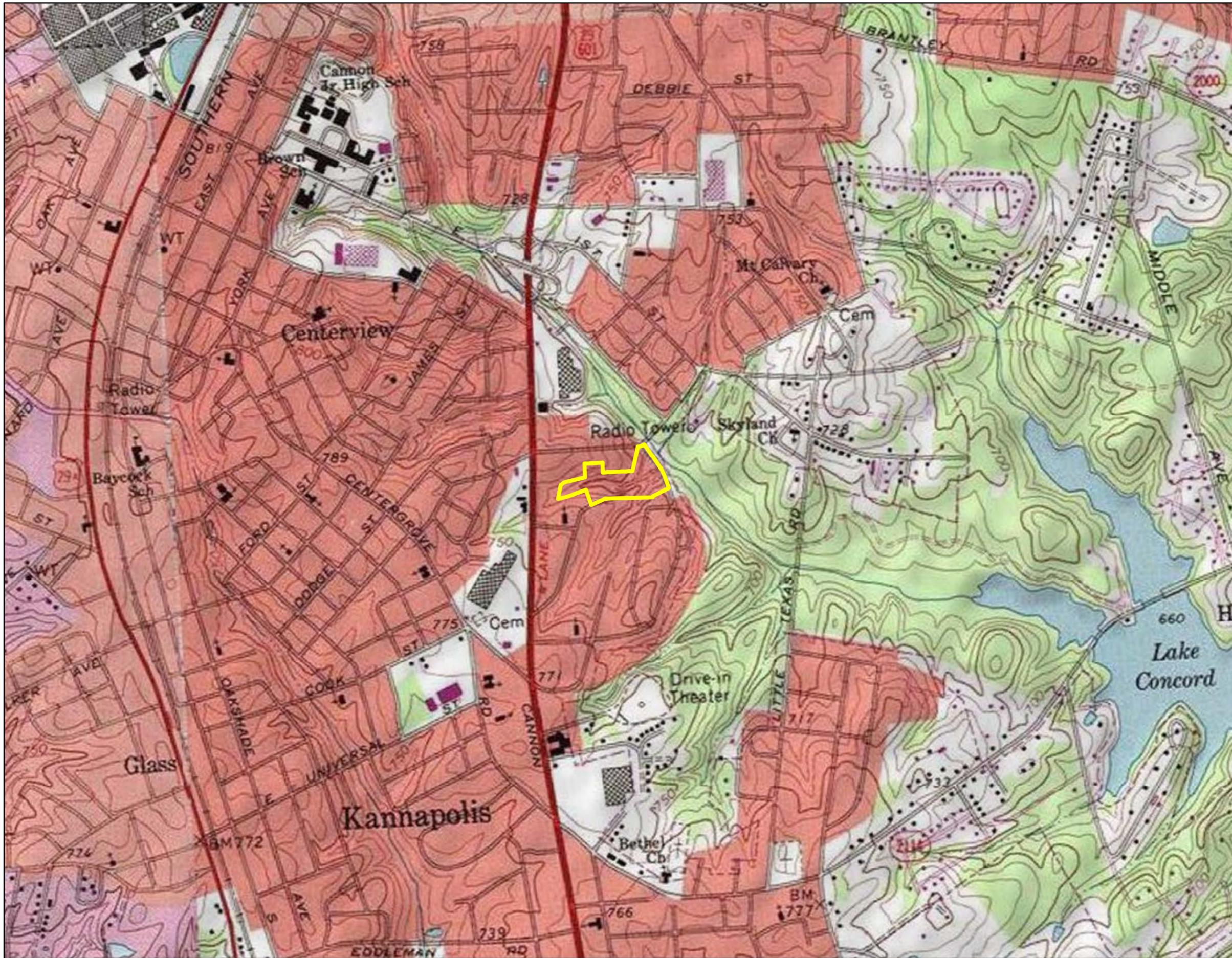
Allyson Warrington
Senior Scientist
Technical Reviewer

cc: Katrina Jones, EPA Project Officer
Greg Kowalski, OTIE START Contract Manager
OTIE Project Files

Enclosure

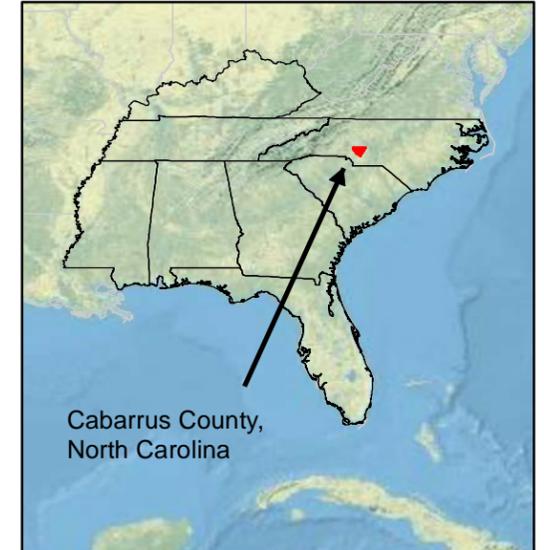
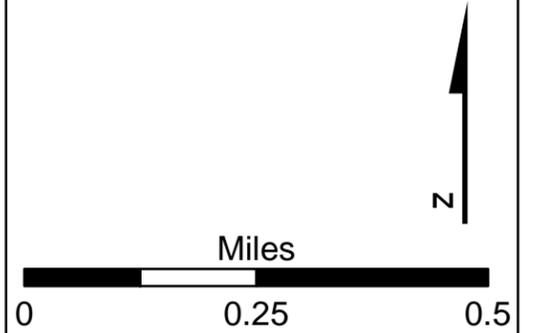
APPENDIX A

FIGURES



Legend

 Villa Mobile Home Park

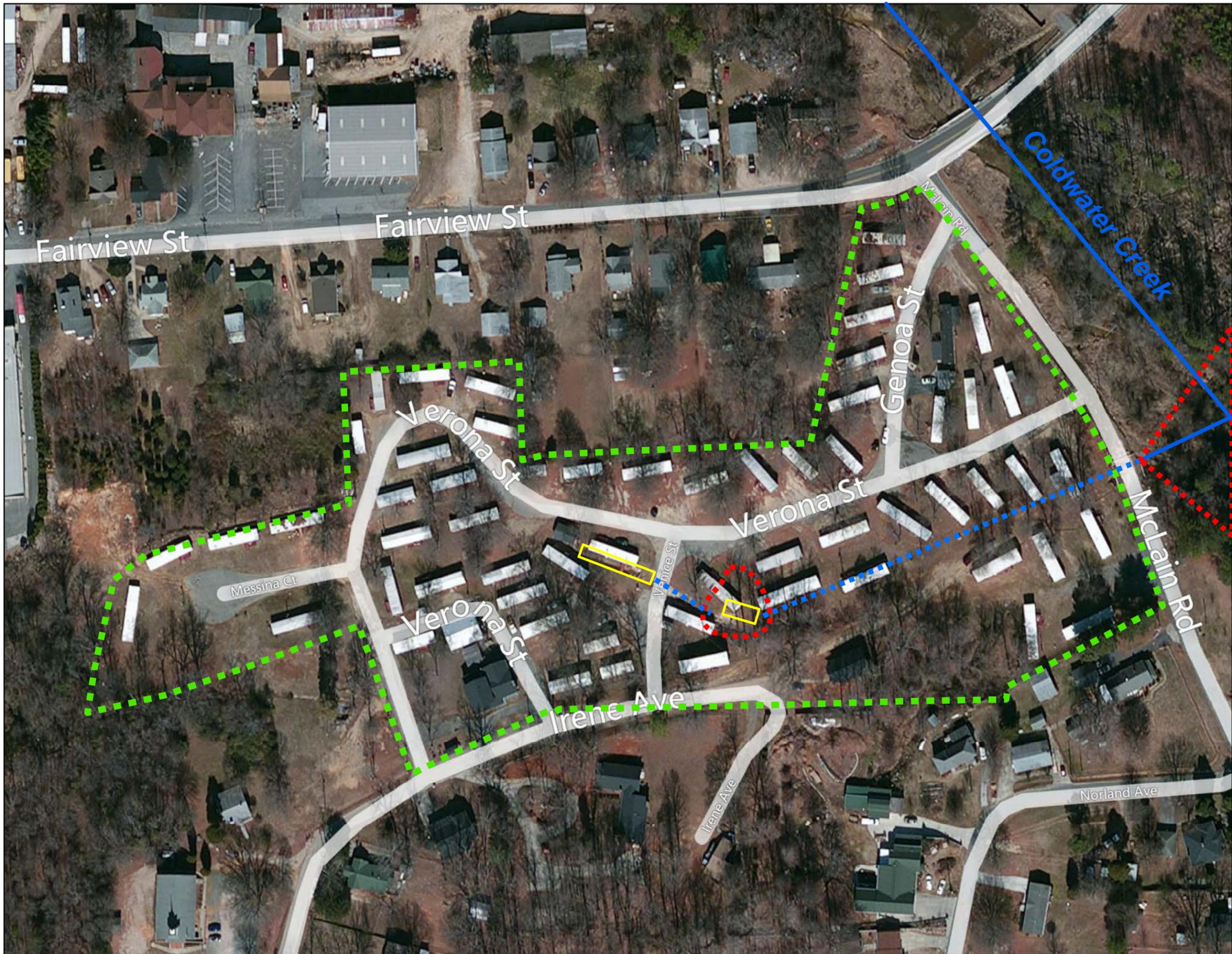


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KANNAPOLIS,
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TDD No. TNA-05-001-0176**

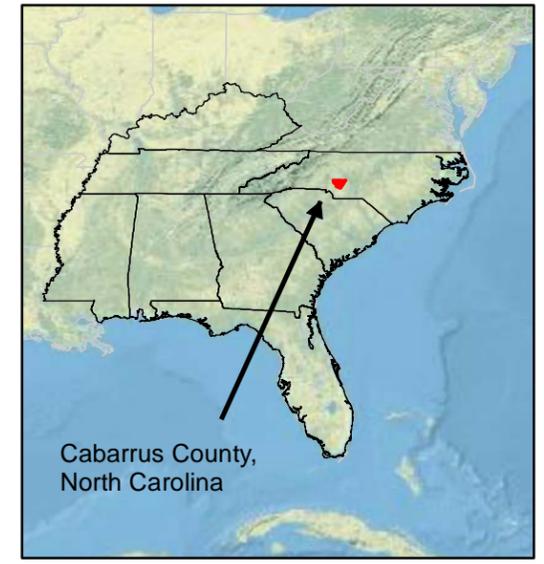
**FIGURE 1
TOPOGRAPHIC MAP**





Legend

-  Villa Mobile Home Park
 -  Subsurface drainage conduit
 -  Open drainage channel
 -  Study Area
- N
↑
- 0 100 200
Feet

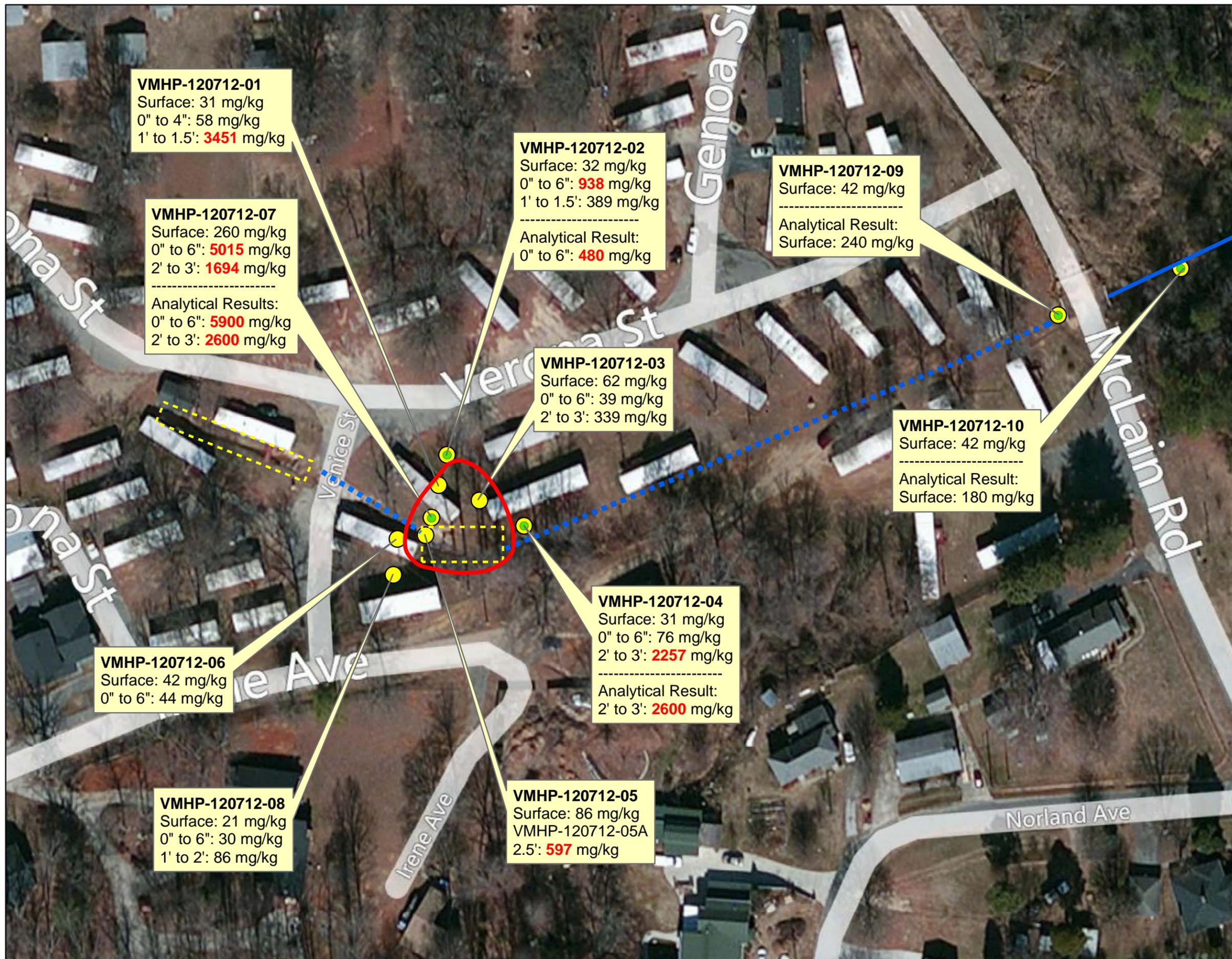


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**FIGURE 2
AERIAL SITE MAP**



Aerial photograph provided by Bing Maps



VMHP-120712-01
 Surface: 31 mg/kg
 0" to 4": 58 mg/kg
 1' to 1.5': **3451** mg/kg

VMHP-120712-07
 Surface: 260 mg/kg
 0" to 6": **5015** mg/kg
 2' to 3': **1694** mg/kg

 Analytical Results:
 0" to 6": **5900** mg/kg
 2' to 3': **2600** mg/kg

VMHP-120712-02
 Surface: 32 mg/kg
 0" to 6": **938** mg/kg
 1' to 1.5': 389 mg/kg

 Analytical Result:
 0" to 6": **480** mg/kg

VMHP-120712-09
 Surface: 42 mg/kg

 Analytical Result:
 Surface: 240 mg/kg

VMHP-120712-03
 Surface: 62 mg/kg
 0" to 6": 39 mg/kg
 2' to 3': 339 mg/kg

VMHP-120712-10
 Surface: 42 mg/kg

 Analytical Result:
 Surface: 180 mg/kg

VMHP-120712-04
 Surface: 31 mg/kg
 0" to 6": 76 mg/kg
 2' to 3': **2257** mg/kg

 Analytical Result:
 2' to 3': **2600** mg/kg

VMHP-120712-06
 Surface: 42 mg/kg
 0" to 6": 44 mg/kg

VMHP-120712-08
 Surface: 21 mg/kg
 0" to 6": 30 mg/kg
 1' to 2': 86 mg/kg

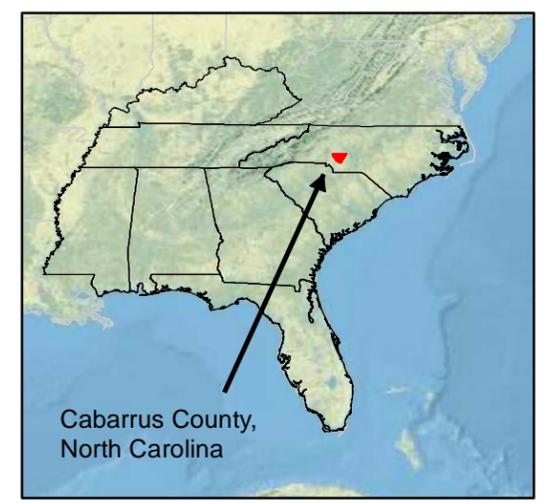
VMHP-120712-05
 Surface: 86 mg/kg
 VMHP-120712-05A
 2.5': **597** mg/kg

LEGEND

- Sample Collected
- XRF Screening Sites
- - - - - Subsurface drainage conduit
- - - - - Open drainage channel
- - - - - Approximate Extent of Battery Casing Dump

Notes:
 -Values in **RED** exceed Removal Management Level (RML) of 400 milligrams per kilogram (mg/kg)
 -XRF: X-Ray Fluorescence
 -Feet / Inches are represented with ' / " respectively
 -VMHP labels identify the sample site

0 75 150 Feet



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**FIGURE 3
 XRF AND ANALYTICAL RESULTS
 FOR LEAD - JULY 12, 2012**

EMERGENCY RESPONSE
EPA
 ENVIRONMENTAL PROTECTION AGENCY

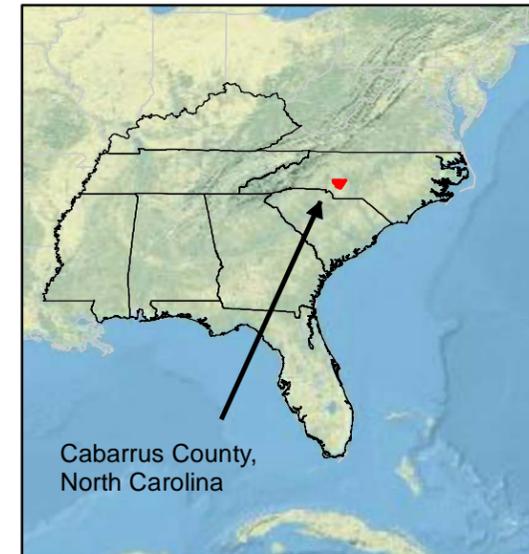
OTIE
 Oneida Total Integrated Enterprises

Aerial photograph provided by Bing Maps



LEGEND

- Extent of Excavation
 - Lead Concentration < RML
 - Lead Concentration > RML
 - Piped Stream
 - Conduit Removed
- Notes:
 - RML: Removal Management Level of 400 milligrams per kilogram (mg/kg)
 - XRF: X-Ray Fluorescence
- 0 25 50 Feet



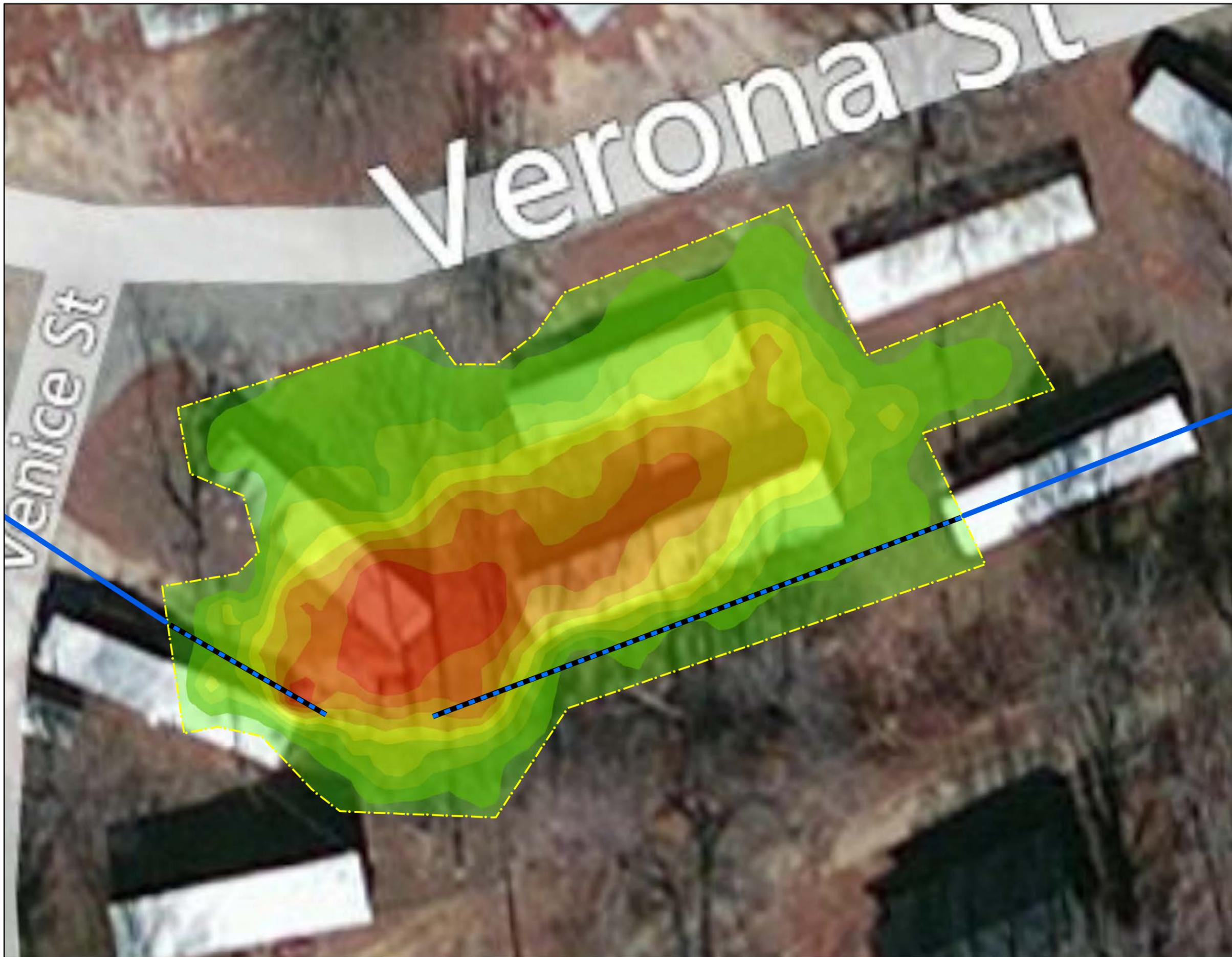
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**FIGURE 4
 XRF SCREENING
 OF EXCAVATION FLOOR**



Aerial photograph provided by Bing Maps



LEGEND

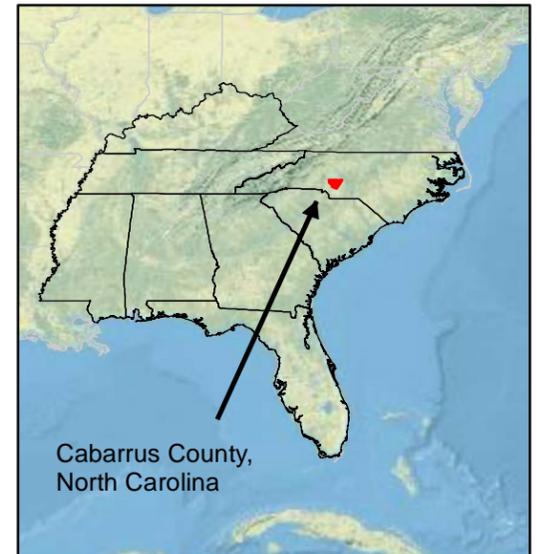
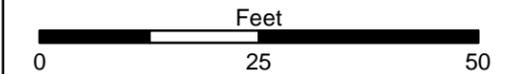
Extent of Excavation

>1ft
3ft Casing Layer
6ft

Piped Stream

Conduit Removed

Note:
- **Casing Layer** values indicate thickness of the battery casing layer, not depth below grade surface.
- ft: feet



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**FIGURE 5
BATTERY CASING REMOVAL
ESTIMATES**



APPENDIX B

TABLES

Table 2
Analytical Results for Lead in Surface Soils at Villa Mobile Home Park
Assessment Samples collected 07/12/12

Sample ID	XRF Screening Results	Lab Results
VMHP-02SB-120712	389	480
VMHP-04SB-120712	2,257	2,600
VMHP-07SB-120712	1,694	2,600
VMHP-07SS-120712	5,015	5,900
VMHP-09SD-120712	42	240
VMHP-10SD-120712	42	180

Notes:

Results are in milligrams per kilogram (mg/kg)

Shaded Gray: result exceeds RML of 400 mg/kg

Table 3
Analytical Results for Metals in Excavation Water at Villa Mobile Home Park
Assessment Sample VMHP-01W collected 11/01/2012

RCRA 8 Metals	Lab result
Arsenic	99.0
Barium	2,710
Cadmium	43.0
Chromium	174
Lead	331,000
Mercury	2.44
Selenium	BRL
Silver	BRL

Notes:

Results are in mg/kg

BRL: Below Reporting Limit

Table 4
Analytical Results for Metals in Surface Water at Villa Mobile Home Park
Assessment Sample VMHP-02W collected 11/14/2012

RCRA 8 Metals	Lab result
Arsenic	BRL
Barium	82.1
Cadmium	BRL
Chromium	BRL
Lead	BRL
Mercury	BRL
Selenium	BRL
Silver	BRL

Notes:

Results are in mg/kg

BRL: Below Reporting Limit

APPENDIX C
PHOTOGRAPHIC LOG



Official Photograph No. 1

Site Name: Villa Mobile Home Park Battery Dump Site

Date: July 7, 2012

Location: Kannapolis, Cabarrus County, North Carolina

TDD No: TNA-05-001-0176

Photographer: Eric Morris, OTIE - EPA Region 4 START Contractor

Subject: Exposed battery casings in open pit drainage with dislodged plastic and rip rap rock.



Official Photograph No. 2

Site Name: Villa Mobile Home Park Battery Dump Site

Date: July 7, 2012

Location: Kannapolis, Cabarrus County, North Carolina

TDD No: TNA-05-001-0176

Photographer: Eric Morris, OTIE - EPA Region 4 START Contractor

Subject: Standing on Venice Street facing east where overland flow has scoured surface soils leading to open pit.



Official Photograph No. 3

Site Name: Villa Mobile Home Park Battery Dump Site **Date:** July 7, 2012
Location: Kannapolis, Cabarrus County, North Carolina **TDD No:** TNA-05-001-0176
Photographer: Eric Morris, OTIE - EPA Region 4 START Contractor
Subject: Facing north on closed segment of McLain Road where tributary is piped underneath roadway.



Official Photograph No. 4

Site Name: Villa Mobile Home Park Battery Dump Site **Date:** October 30, 2012
Location: Kannapolis, Cabarrus County, North Carolina **TDD No:** TNA-05-001-0176
Photographer: Eric Morris, OTIE - EPA Region 4 START Contractor
Subject: Condition of site prior to removal action – facing east from northwest corner of the site at intersection of Venice Street and Verona Street.



Official Photograph No. 5

Site Name: Villa Mobile Home Park Battery Dump Site **Date:** October 30, 2012
Location: Kannapolis, Cabarrus County, North Carolina **TDD No:** TNA-05-001-0176
Photographer: Eric Morris, OTIE - EPA Region 4 START Contractor
Subject: Condition of site prior to removal action – facing west from southeast corner of the site.



Official Photograph No. 6

Site Name: Villa Mobile Home Park Battery Dump Site **Date:** October 30, 2012
Location: Kannapolis, Cabarrus County, North Carolina **TDD No:** TNA-05-001-0176
Photographer: Eric Morris, OTIE - EPA Region 4 START Contractor
Subject: Water from casing layer flooding test pit.



Official Photograph No. 7

Site Name: Villa Mobile Home Park Battery Dump Site

Date: October 30, 2012

Location: Kannapolis, Cabarrus County, North Carolina

TDD No: TNA-05-001-0176

Photographer: Eric Morris, OTIE - EPA Region 4 START Contractor

Subject: Battery casings and saturated soil from test pit.



Official Photograph No. 8

Site Name: Villa Mobile Home Park Battery Dump Site

Date: October 31, 2012

Location: Kannapolis, Cabarrus County, North Carolina

TDD No: TNA-05-001-0176

Photographer: Eric Morris, OTIE - EPA Region 4 START Contractor

Subject: Excavating battery casings and soil from approximately -6' to -8' below grade surface (bgs).



Official Photograph No. 9

Site Name: Villa Mobile Home Park Battery Dump Site **Date:** October 31, 2012
Location: Kannapolis, Cabarrus County, North Carolina **TDD No:** TNA-05-001-0176
Photographer: Eric Morris, OTIE - EPA Region 4 START Contractor
Subject: Battery casing layer extending from approximately -5' to -8' bgs.



Official Photograph No. 10

Site Name: Villa Mobile Home Park Battery Dump Site **Date:** November 14, 2012
Location: Kannapolis, Cabarrus County, North Carolina **TDD No:** TNA-05-001-0176
Photographer: Eric Morris, OTIE - EPA Region 4 START Contractor
Subject: ERRS personnel mixing EnviroBlend into casing soils and spraying for dust control.



Official Photograph No. 11

Site Name: Villa Mobile Home Park Battery Dump Site **Date:** November 18, 2012
Location: Kannapolis, Cabarrus County, North Carolina **TDD No:** TNA-05-001-0176
Photographer: Eric Morris, OTIE - EPA Region 4 START Contractor
Subject: Test pit at far west end of the site.



Official Photograph No. 12

Site Name: Villa Mobile Home Park Battery Dump Site **Date:** November 19, 2012
Location: Kannapolis, Cabarrus County, North Carolina **TDD No:** TNA-05-001-0176
Photographer: Eric Morris, OTIE - EPA Region 4 START Contractor
Subject: Side wall of excavation where a six-foot later of battery casings was buried. Area is immediately north of open pit where casings were first observed.



Official Photograph No. 13

Site Name: Villa Mobile Home Park Battery Dump Site **Date:** November 19, 2012
Location: Kannapolis, Cabarrus County, North Carolina **TDD No:** TNA-05-001-0176
Photographer: Eric Morris, OTIE - EPA Region 4 START Contractor
Subject: Facing west from floor of excavation near center of site. Repaired septic line visible in north-facing sidewall.



Official Photograph No. 14

Site Name: Villa Mobile Home Park Battery Dump Site **Date:** November 20, 2012
Location: Kannapolis, Cabarrus County, North Carolina **TDD No:** TNA-05-001-0176
Photographer: Eric Morris, OTIE - EPA Region 4 START Contractor
Subject: Condition of site upon Thanksgiving demobilization.



Official Photograph No. 15

Site Name: Villa Mobile Home Park Battery Dump Site

Date: November 29, 2012

Location: Kannapolis, Cabarrus County, North Carolina

TDD No: TNA-05-001-0176

Photographer: Eric Morris, OTIE - EPA Region 4 START Contractor

Subject: Loading treated casing soils for shipment.



Official Photograph No. 16

Site Name: Villa Mobile Home Park Battery Dump Site

Date: December 3, 2012

Location: Kannapolis, Cabarrus County, North Carolina

TDD No: TNA-05-001-0176

Photographer: Eric Morris, OTIE - EPA Region 4 START Contractor

Subject: Delivery of clean backfill material from Eckard Grading & Hauling.



Official Photograph No. 17

Site Name: Villa Mobile Home Park Battery Dump Site **Date:** December 7, 2012
Location: Kannapolis, Cabarrus County, North Carolina **TDD No:** TNA-05-001-0176
Photographer: Eric Morris, OTIE - EPA Region 4 START Contractor
Subject: Open pit and surrounding soils, as well as ASTs buried along southern edge of site (right of photo) left in place over December demobilization.



Official Photograph No. 18

Site Name: Villa Mobile Home Park Battery Dump Site **Date:** December 7, 2012
Location: Kannapolis, Cabarrus County, North Carolina **TDD No:** TNA-05-001-0176
Photographer: Eric Morris, OTIE - EPA Region 4 START Contractor
Subject: Condition of site upon December demobilization – facing east from northwest corner of the site at intersection of Venice Street and Verona Street.



Official Photograph No. 19

Site Name: Villa Mobile Home Park Battery Dump Site **Date:** December 7, 2012
Location: Kannapolis, Cabarrus County, North Carolina **TDD No:** TNA-05-001-0176
Photographer: Eric Morris, OTIE - EPA Region 4 START Contractor
Subject: Condition of site upon December demobilization – facing west from southeast corner of the site.



Official Photograph No. 20

Site Name: Villa Mobile Home Park Battery Dump Site **Date:** January 22, 2013
Location: Kannapolis, Cabarrus County, North Carolina **TDD No:** TNA-05-001-0176
Photographer: Eric Morris, OTIE - EPA Region 4 START Contractor
Subject: Erosion damage caused by overland flow of stormwater discovered upon remobilization to the site.



Official Photograph No. 21

Site Name: Villa Mobile Home Park Battery Dump Site **Date:** January 22, 2013
Location: Kannapolis, Cabarrus County, North Carolina **TDD No:** TNA-05-001-0176
Photographer: Eric Morris, OTIE - EPA Region 4 START Contractor
Subject: Upstream blockage of piped tributary on the west side of Venice Street that resulted in erosion of fill materials placed at the west end of the site.



Official Photograph No. 22

Site Name: Villa Mobile Home Park Battery Dump Site **Date:** January 22, 2013
Location: Kannapolis, Cabarrus County, North Carolina **TDD No:** TNA-05-001-0176
Photographer: Eric Morris, OTIE - EPA Region 4 START Contractor
Subject: Removal of converted AST pipe segments.



Official Photograph No. 23

Site Name: Villa Mobile Home Park Battery Dump Site

Date: January 22, 2013

Location: Kannapolis, Cabarrus County, North Carolina

TDD No: TNA-05-001-0176

Photographer: Eric Morris, OTIE - EPA Region 4 START Contractor

Subject: Facing south on McLain Road following removal of asphalt, headwalls and conduit by City of Kannapolis personnel.



Official Photograph No. 24

Site Name: Villa Mobile Home Park Battery Dump Site

Date: January 28, 2013

Location: Kannapolis, Cabarrus County, North Carolina

TDD No: TNA-05-001-0176

Photographer: Eric Morris, OTIE - EPA Region 4 START Contractor

Subject: Loading flattened AST segments for shipping.



Official Photograph No. 25

Site Name: Villa Mobile Home Park Battery Dump Site **Date:** January 29, 2013
Location: Kannapolis, Cabarrus County, North Carolina **TDD No:** TNA-05-001-0176
Photographer: Eric Morris, OTIE - EPA Region 4 START Contractor
Subject: Western extent of excavation -- facing north from the top of embankment at southwest corner of site.



Official Photograph No. 26

Site Name: Villa Mobile Home Park Battery Dump Site **Date:** January 30, 2013
Location: Kannapolis, Cabarrus County, North Carolina **TDD No:** TNA-05-001-0176
Photographer: Eric Morris, OTIE - EPA Region 4 START Contractor
Subject: Measures taken to prepare for major overnight precipitation event.



Official Photograph No. 27

Site Name: Villa Mobile Home Park Battery Dump Site

Date: January 31, 2013

Location: Kannapolis, Cabarrus County, North Carolina

TDD No: TNA-05-001-0176

Photographer: Eric Morris, OTIE - EPA Region 4 START Contractor

Subject: Erosion damage caused by major overnight precipitation event.



Official Photograph No. 28

Site Name: Villa Mobile Home Park Battery Dump Site

Date: January 31, 2013

Location: Kannapolis, Cabarrus County, North Carolina

TDD No: TNA-05-001-0176

Photographer: Eric Morris, OTIE - EPA Region 4 START Contractor

Subject: Erosion damage caused by major overnight precipitation event.



Official Photograph No. 29

Site Name: Villa Mobile Home Park Battery Dump Site

Date: January 31, 2013

Location: Kannapolis, Cabarrus County, North Carolina

TDD No: TNA-05-001-0176

Photographer: Eric Morris, OTIE - EPA Region 4 START Contractor

Subject: Blockage of piped tributary on the west side of Venice Street that resulted in erosion. Debris from a previous obstruction had been removed by ERRS personnel prior to overnight precipitation event.



Official Photograph No. 30

Site Name: Villa Mobile Home Park Battery Dump Site

Date: January 31, 2013

Location: Kannapolis, Cabarrus County, North Carolina

TDD No: TNA-05-001-0176

Photographer: Eric Morris, OTIE - EPA Region 4 START Contractor

Subject: Sedimentation of tributary at McLain Road resulting from erosion of placed fill material after overnight precipitation event.



Official Photograph No. 31

Site Name: Villa Mobile Home Park Battery Dump Site **Date:** February 5, 2013
Location: Kannapolis, Cabarrus County, North Carolina **TDD No:** TNA-05-001-0176
Photographer: Eric Morris, OTIE - EPA Region 4 START Contractor
Subject: Condition of site upon transfer of oversight to NCDENR - facing east from northwest corner of the site at intersection of Venice Street and Verona Street.



Official Photograph No. 32

Site Name: Villa Mobile Home Park Battery Dump Site **Date:** February 5, 2013
Location: Kannapolis, Cabarrus County, North Carolina **TDD No:** TNA-05-001-0176
Photographer: Eric Morris, OTIE - EPA Region 4 START Contractor
Subject: Condition of site upon transfer of oversight to NCDENR - facing west from southeast corner of the site.

APPENDIX D

LABORATORY ANALYTICAL REPORT



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 4 Science and Ecosystem Support Division
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 12-0572

Project: 12-0572, Villa Mobile Home Park Site - Reported by Denise Goddard

August 3, 2012

4SESD-MTSB

MEMORANDUM

SUBJECT: FINAL Analytical Report
Project: 12-0572, Villa Mobile Home Park Site
Superfund Emergency Response and Removal

FROM: Denise Goddard
Quality Assurance Section Chemist

THRU: Marilyn Maycock, Chief
Quality Assurance Section

TO: Alyssa Hughes

Attached are the final results for the analytical groups listed below. These analyses were performed in accordance with the associated contract Statement Of Work (SOW). In general, project data quality objectives have not been used to evaluate these data prior to release by the Quality Assurance Section. For a listing of specific data qualifiers and explanations, please refer to the Data Qualifier Definitions included in this report.

Analyses Included in this report:

Method Used:

Total Metals (TMTL)

Total Mercury
Total Metals

CLP Inorganics
CLP Inorganics



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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D.A.R.T. Id: 12-0572

Project: 12-0572, Villa Mobile Home Park Site - Reported by Denise Goddard

Report Narrative for Project: 12-0572

Inorganic Data Review and Validation Report

Site Name: Villa Mobile Home Park Site, Kannapolis, NC

Case No.: 42733, Project No. 12-0572, Work Order Nos. C123001, 123002

ELEMENT Sample IDs.: C123001-01 – 08, C123002-01 - 03

Sampling Date(s): 07/12/12

Validated Time of Sample Receipt: 07/20/12

Laboratory Performing Inorganic Analyses: Chemtech Consulting Group, Mountainside, NJ

Date Received from Lab: 07/27/12

Analyses conducted: Total Metals and Mercury

The ESAT Work Team has reviewed the above-captioned CLP data package consisting of ten soil samples and one water sample for Total Metals by ICP-AES and mercury analyses according to the contract Statement of Work ISM01.3 and EPA guidelines. The water sample was a rinse blank and there were no matrix quality control samples analyzed with it and no water performance evaluation samples were sent.

This package presents acceptable contractual and technical performance with qualifications. additional details are provided below.

Examination of laboratory blank samples revealed apparent low-level contamination with several elements. Reported detection limits were adjusted as high as ten times the blank levels to discount possible false positives due to contamination in laboratory blanks. The rinse blank contained mercury at 0.22 µg/L which is above the CRQL.

ICP-AES Analysis

PE Sample Results

The performance evaluation sample recoveries for metals in soil were scored as warning high for lead by the web-based SPS Web software. All sample results for lead in soil were considered estimated and “J” qualified.

Other QA/QC Results

Serial dilution percent recovery was above control limits for chromium in soil in SDG MD6Y17 (11%). All soil sample results for chromium in SDG MD6Y17 were considered estimated and “J” qualified.

Mercury Analysis

PE Sample Results

The performance evaluation sample recovery for mercury in soil was scored as warning high by the web-based SPS Web software. There were no positive mercury results in the soil samples submitted for this case, therefore, no data qualifiers were applied to sample results for mercury in soil based on these criteria.

Other QA/QC Results

There were no other QA/QC problems observed for mercury analysis. Therefore, no data qualifiers were applied to the sample results for mercury based on these criteria.

A Stage 4 validation consisting of electronic and manual review was performed on the inorganic samples submitted for this case.



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D.A.R.T. Id: 12-0572
Project: 12-0572, Villa Mobile Home Park Site - Reported by Denise Goddard

cc: Nardina Turner



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Project: 12-0572, Villa Mobile Home Park Site - Reported by Denise Goddard

SAMPLES INCLUDED IN THIS REPORT

Project: 12-0572, Villa Mobile Home Park Site

Contract Lab Case: 42733

Sample ID	Laboratory ID	MD#	D#	Matrix	Date Collected
VHMP-RB-01	C123001-01	6Y27		Equipment Rinse Blank	7/12/12 08:30
VMHP-02SB-120712	C123001-02	6Y20		Surface Soil	7/12/12 12:00
VMHP-04SB-120712	C123001-03	6Y21		Subsurface Soil	7/12/12 13:55
VMHP-070-120712	C123001-04	6Y24		Surface Soil	7/12/12 17:20
VMHP-07SB-120712	C123001-05	6Y23		Subsurface Soil	7/12/12 15:15
VMHP-07SS-120712	C123001-06	6Y22		Surface Soil	7/12/12 14:57
VMHP-09SD-120712	C123001-07	6Y25		Sediment	7/12/12 16:05
VMHP-10SD-120712	C123001-08	6Y26		Sediment	7/12/12 16:20



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D.A.R.T. Id: 12-0572

Project: 12-0572, Villa Mobile Home Park Site - Reported by Denise Goddard

DATA QUALIFIER DEFINITIONS

- U The analyte was not detected at or above the reporting limit.
- B-4 Level in blank impacts MRLs.
- CLP26 PE sample recovery scored as warning-high.
- CLP36 Identification/Concentration of analyte not confirmed by ICP-MS.
- J The identification of the analyte is acceptable; the reported value is an estimate.
- Q-2 Result greater than MDL but less than MRL.
- Q-5 Serial dilution precision outside method control limits

ACRONYMS AND ABBREVIATIONS

- CAS Chemical Abstracts Service
Note: Analytes with no known CAS identifiers have been assigned codes beginning with "E", the EPA ID as assigned by the EPA Substance Registry System (www.epa.gov/srs), or beginning with "R4-", a unique identifier assigned by the EPA Region 4 laboratory.
- MDL Method Detection Limit - The minimum concentration of a substance (an analyte) that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero.
- MRL Minimum Reporting Limit - Analyte concentration that corresponds to the lowest demonstrated level of acceptable quantitation. The MRL is sample-specific and accounts for preparation weights and volumes, dilutions, and moisture content of soil/sediments.
- TIC Tentatively Identified Compound - An analyte identified based on a match with the instrument software's mass spectral library. A calibration standard has not been analyzed to confirm the compound's identification or the estimated concentration reported.



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D.A.R.T. Id: 12-0572

Project: 12-0572, Villa Mobile Home Park Site - Reported by Denise Goddard

Total Metals

Project: 12-0572, Villa Mobile Home Park Site

Contract Lab Case: 42733

Sample ID: VHMP-RB-01

Lab ID: C123001-01

MD No: 6Y27 CHEM

Station ID:

Matrix: Equipment Rinse Blank

D No:

Date Collected: 7/12/12 8:30

<i>CAS Number</i>	<i>Analyte</i>	<i>Results</i>	<i>Qualifiers</i>	<i>Units</i>	<i>MRL</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Method</i>
7439-97-6	Mercury	0.22		ug/L	0.20	7/22/12	7/23/12	CLP ISM01.3 CV
7440-38-2	Arsenic	2.7	J, Q-2	ug/L	10	7/23/12	7/23/12	CLP ISM01.3 P
7440-39-3	Barium	200	U	ug/L	200	7/23/12	7/23/12	CLP ISM01.3 P
7440-43-9	Cadmium	5.0	U	ug/L	5.0	7/23/12	7/23/12	CLP ISM01.3 P
7440-47-3	Chromium	10	U	ug/L	10	7/23/12	7/23/12	CLP ISM01.3 P
7439-92-1	Lead	10	U	ug/L	10	7/23/12	7/23/12	CLP ISM01.3 P
7782-49-2	Selenium	35	U	ug/L	35	7/23/12	7/23/12	CLP ISM01.3 P
7440-22-4	Silver	10	U	ug/L	10	7/23/12	7/23/12	CLP ISM01.3 P



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D.A.R.T. Id: 12-0572

Project: 12-0572, Villa Mobile Home Park Site - Reported by Denise Goddard

Total Metals

Project: 12-0572, Villa Mobile Home Park Site

Contract Lab Case: 42733

Sample ID: VMHP-02SB-120712

Lab ID: C123001-02

MD No: 6Y20 CHEM

Station ID: VMHP02

Matrix: Surface Soil

D No:

Date Collected: 7/12/12 12:00

<i>CAS Number</i>	<i>Analyte</i>	<i>Results</i>	<i>Qualifiers</i>	<i>Units</i>	<i>MRL</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Method</i>
7439-97-6	Mercury	0.11	U	mg/kg dry	0.11	7/23/12	7/24/12	CLP ISM01.3 CV
E1642941	% Solids	87		%		7/23/12	7/23/12	CLP Inorganics
7440-38-2	Arsenic	3.0	CLP36	mg/kg dry	1.1	7/23/12	7/23/12	CLP ISM01.3 P
7440-39-3	Barium	32		mg/kg dry	22	7/23/12	7/23/12	CLP ISM01.3 P
7440-43-9	Cadmium	0.54	U	mg/kg dry	0.54	7/23/12	7/23/12	CLP ISM01.3 P
7440-47-3	Chromium	10	J, Q-5	mg/kg dry	1.1	7/23/12	7/23/12	CLP ISM01.3 P
7439-92-1	Lead	480	J, CLP26	mg/kg dry	1.1	7/23/12	7/23/12	CLP ISM01.3 P
7782-49-2	Selenium	3.8	U	mg/kg dry	3.8	7/23/12	7/23/12	CLP ISM01.3 P
7440-22-4	Silver	1.1	U	mg/kg dry	1.1	7/23/12	7/23/12	CLP ISM01.3 P



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D.A.R.T. Id: 12-0572

Project: 12-0572, Villa Mobile Home Park Site - Reported by Denise Goddard

Total Metals

Project: 12-0572, Villa Mobile Home Park Site

Contract Lab Case: 42733

Sample ID: VMHP-04SB-120712

Lab ID: C123001-03

MD No: 6Y21 CHEM

Station ID: VMHP04

Matrix: Subsurface Soil

D No:

Date Collected: 7/12/12 13:55

<i>CAS Number</i>	<i>Analyte</i>	<i>Results</i>	<i>Qualifiers</i>	<i>Units</i>	<i>MRL</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Method</i>
7439-97-6	Mercury	0.11	U	mg/kg dry	0.11	7/23/12	7/24/12	CLP ISM01.3 CV
E1642941	% Solids	83		%		7/23/12	7/23/12	CLP Inorganics
7440-38-2	Arsenic	3.3	CLP36	mg/kg dry	1.1	7/23/12	7/23/12	CLP ISM01.3 P
7440-39-3	Barium	54		mg/kg dry	22	7/23/12	7/23/12	CLP ISM01.3 P
7440-43-9	Cadmium	0.55	U	mg/kg dry	0.55	7/23/12	7/23/12	CLP ISM01.3 P
7440-47-3	Chromium	14	J, Q-5	mg/kg dry	1.1	7/23/12	7/23/12	CLP ISM01.3 P
7439-92-1	Lead	2600	J, CLP26	mg/kg dry	1.1	7/23/12	7/23/12	CLP ISM01.3 P
7782-49-2	Selenium	3.9	U	mg/kg dry	3.9	7/23/12	7/23/12	CLP ISM01.3 P
7440-22-4	Silver	1.1	U	mg/kg dry	1.1	7/23/12	7/23/12	CLP ISM01.3 P



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D.A.R.T. Id: 12-0572

Project: 12-0572, Villa Mobile Home Park Site - Reported by Denise Goddard

Total Metals

Project: 12-0572, Villa Mobile Home Park Site

Contract Lab Case: 42733

Sample ID: VMHP-070-120712

Lab ID: C123001-04

MD No: 6Y24 CHEM

Station ID: VMHP07

Matrix: Surface Soil

D No:

Date Collected: 7/12/12 17:20

<i>CAS Number</i>	<i>Analyte</i>	<i>Results</i>	<i>Qualifiers</i>	<i>Units</i>	<i>MRL</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Method</i>
7439-97-6	Mercury	0.14	U	mg/kg dry	0.14	7/23/12	7/24/12	CLP ISM01.3 CV
E1642941	% Solids	71		%		7/23/12	7/23/12	CLP Inorganics
7440-38-2	Arsenic	3.5	CLP36	mg/kg dry	1.1	7/23/12	7/23/12	CLP ISM01.3 P
7440-39-3	Barium	59		mg/kg dry	21	7/23/12	7/23/12	CLP ISM01.3 P
7440-43-9	Cadmium	0.53	U	mg/kg dry	0.53	7/23/12	7/23/12	CLP ISM01.3 P
7440-47-3	Chromium	9.5	J, Q-5	mg/kg dry	1.1	7/23/12	7/23/12	CLP ISM01.3 P
7439-92-1	Lead	3400	J, CLP26	mg/kg dry	1.1	7/23/12	7/23/12	CLP ISM01.3 P
7782-49-2	Selenium	3.7	U	mg/kg dry	3.7	7/23/12	7/23/12	CLP ISM01.3 P
7440-22-4	Silver	1.1	U	mg/kg dry	1.1	7/23/12	7/23/12	CLP ISM01.3 P



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D.A.R.T. Id: 12-0572

Project: 12-0572, Villa Mobile Home Park Site - Reported by Denise Goddard

Total Metals

Project: 12-0572, Villa Mobile Home Park Site

Contract Lab Case: 42733

Sample ID: VMHP-07SB-120712

Lab ID: C123001-05

MD No: 6Y23 CHEM

Station ID: VMHP07

Matrix: Subsurface Soil

D No:

Date Collected: 7/12/12 15:15

<i>CAS Number</i>	<i>Analyte</i>	<i>Results</i>	<i>Qualifiers</i>	<i>Units</i>	<i>MRL</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Method</i>
7439-97-6	Mercury	0.11	U	mg/kg dry	0.11	7/23/12	7/24/12	CLP ISM01.3 CV
E1642941	% Solids	82		%		7/23/12	7/23/12	CLP Inorganics
7440-38-2	Arsenic	3.4	CLP36	mg/kg dry	0.99	7/23/12	7/23/12	CLP ISM01.3 P
7440-39-3	Barium	44		mg/kg dry	20	7/23/12	7/23/12	CLP ISM01.3 P
7440-43-9	Cadmium	0.49	U	mg/kg dry	0.49	7/23/12	7/23/12	CLP ISM01.3 P
7440-47-3	Chromium	12	J, Q-5	mg/kg dry	0.99	7/23/12	7/23/12	CLP ISM01.3 P
7439-92-1	Lead	2600	J, CLP26	mg/kg dry	0.99	7/23/12	7/23/12	CLP ISM01.3 P
7782-49-2	Selenium	3.5	U	mg/kg dry	3.5	7/23/12	7/23/12	CLP ISM01.3 P
7440-22-4	Silver	0.99	U	mg/kg dry	0.99	7/23/12	7/23/12	CLP ISM01.3 P



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D.A.R.T. Id: 12-0572

Project: 12-0572, Villa Mobile Home Park Site - Reported by Denise Goddard

Total Metals

Project: 12-0572, Villa Mobile Home Park Site

Contract Lab Case: 42733

Sample ID: VMHP-07SS-120712

Lab ID: C123001-06

MD No: 6Y22 CHEM

Station ID: VMHP07

Matrix: Surface Soil

D No:

Date Collected: 7/12/12 14:57

<i>CAS Number</i>	<i>Analyte</i>	<i>Results</i>	<i>Qualifiers</i>	<i>Units</i>	<i>MRL</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Method</i>
7439-97-6	Mercury	0.11	U	mg/kg dry	0.11	7/23/12	7/24/12	CLP ISM01.3 CV
E1642941	% Solids	85		%		7/23/12	7/23/12	CLP Inorganics
7440-38-2	Arsenic	4.2	CLP36	mg/kg dry	1.1	7/23/12	7/23/12	CLP ISM01.3 P
7440-39-3	Barium	54		mg/kg dry	21	7/23/12	7/23/12	CLP ISM01.3 P
7440-43-9	Cadmium	0.53	U	mg/kg dry	0.53	7/23/12	7/23/12	CLP ISM01.3 P
7440-47-3	Chromium	11	J, Q-5	mg/kg dry	1.1	7/23/12	7/23/12	CLP ISM01.3 P
7439-92-1	Lead	5900	J, CLP26	mg/kg dry	11	7/23/12	7/23/12	CLP ISM01.3 P
7782-49-2	Selenium	3.7	U	mg/kg dry	3.7	7/23/12	7/23/12	CLP ISM01.3 P
7440-22-4	Silver	1.1	U	mg/kg dry	1.1	7/23/12	7/23/12	CLP ISM01.3 P



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Project: 12-0572, Villa Mobile Home Park Site - Reported by Denise Goddard

Total Metals

Project: 12-0572, Villa Mobile Home Park Site

Contract Lab Case: 42733

Sample ID: VMHP-09SD-120712

Lab ID: C123001-07

MD No: 6Y25 CHEM

Station ID: VMHP09

Matrix: Sediment

D No:

Date Collected: 7/12/12 16:05

<i>CAS Number</i>	<i>Analyte</i>	<i>Results</i>	<i>Qualifiers</i>	<i>Units</i>	<i>MRL</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Method</i>
7439-97-6	Mercury	0.11	U	mg/kg dry	0.11	7/23/12	7/24/12	CLP ISM01.3 CV
E1642941	% Solids	80		%		7/23/12	7/23/12	CLP Inorganics
7440-38-2	Arsenic	0.35	J, CLP36, Q-2	mg/kg dry	0.99	7/23/12	7/23/12	CLP ISM01.3 P
7440-39-3	Barium	8.7	J, Q-2	mg/kg dry	20	7/23/12	7/23/12	CLP ISM01.3 P
7440-43-9	Cadmium	0.49	U	mg/kg dry	0.49	7/23/12	7/23/12	CLP ISM01.3 P
7440-47-3	Chromium	1.2	U, J, Q-5, B-4	mg/kg dry	0.99	7/23/12	7/23/12	CLP ISM01.3 P
7439-92-1	Lead	240	J, CLP26	mg/kg dry	0.99	7/23/12	7/23/12	CLP ISM01.3 P
7782-49-2	Selenium	3.5	U	mg/kg dry	3.5	7/23/12	7/23/12	CLP ISM01.3 P
7440-22-4	Silver	0.99	U	mg/kg dry	0.99	7/23/12	7/23/12	CLP ISM01.3 P



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D.A.R.T. Id: 12-0572

Project: 12-0572, Villa Mobile Home Park Site - Reported by Denise Goddard

Total Metals

Project: 12-0572, Villa Mobile Home Park Site

Contract Lab Case: 42733

Sample ID: VMHP-10SD-120712

Lab ID: C123001-08

MD No: 6Y26 CHEM

Station ID: VMHP10

Matrix: Sediment

D No:

Date Collected: 7/12/12 16:20

<i>CAS Number</i>	<i>Analyte</i>	<i>Results</i>	<i>Qualifiers</i>	<i>Units</i>	<i>MRL</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Method</i>
7439-97-6	Mercury	0.10	U	mg/kg dry	0.10	7/23/12	7/24/12	CLP ISM01.3 CV
E1642941	% Solids	83		%		7/23/12	7/23/12	CLP Inorganics
7440-38-2	Arsenic	0.39	J, CLP36, Q-2	mg/kg dry	1.0	7/23/12	7/23/12	CLP ISM01.3 P
7440-39-3	Barium	11	J, Q-2	mg/kg dry	20	7/23/12	7/23/12	CLP ISM01.3 P
7440-43-9	Cadmium	0.50	U	mg/kg dry	0.50	7/23/12	7/23/12	CLP ISM01.3 P
7440-47-3	Chromium	1.4	U, J, Q-5, B-4	mg/kg dry	1.0	7/23/12	7/23/12	CLP ISM01.3 P
7439-92-1	Lead	180	J, CLP26	mg/kg dry	1.0	7/23/12	7/23/12	CLP ISM01.3 P
7782-49-2	Selenium	3.5	U	mg/kg dry	3.5	7/23/12	7/23/12	CLP ISM01.3 P
7440-22-4	Silver	1.0	U	mg/kg dry	1.0	7/23/12	7/23/12	CLP ISM01.3 P



CompuChem

A Division Of

Liberty Analytical Corp.

11/6/2012

ERIC MORRIS
ONEIDA TOTAL INTEGRATED ENTERPRISES
6300 LIMOUSINE DRIVE, SUITE 130

RALEIGH, NC 27617

Subject:

Report of Data - Project: VILLA MHP/1399

WorkOrder: 1211005

Attn.: ERIC MORRIS

Enclosed are the results of analytical work performed in accordance with the referenced account number. This report covers sample(s) appearing on the listing.

Thank you for selecting CompuChem for your sample analysis. If you should have questions or require additional analytical services, please contact your representative at 1-800-833-5097

Sincerely,

CompuChem

a division of Liberty Analytical Corporation

Attachment

TOTAL NUMBER OF PAGES _____

CompuChem, a division of Liberty Analytical

Client: ONEIDA TOTAL INTEGRATED ENTERPRISES

Work: 1211005

Project: VILLA MHP/1399

Sdg: 1211005

Lab ID	Client ID	Matrix	Date Sampled	Date Received
1211005-01	VMHP-01W	Water	11/01/2012 10:30	11/02/2012 09:49
1211005-02	VMHP-010W	Water	11/01/2012 10:30	11/02/2012 09:49

ANALYSES DATA PACKAGE COVER PAGE

Client: ONEIDA TOTAL INTEGRATED ENTERPRISES

Project: VILLA MHP/1399

Laboratory: COMPUCHEM

SDG: 1211005

Client Sample Id:

VMHP-01W

VMHP-01W

VMHP-010W

VMHP-010W

Lab Sample Id:

1211005-01

1211005-01RE1

1211005-02

1211005-02RE1

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the Electronic Data Deliverable has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Patricia A. Murphy for

Name: Susan Bass

Date: 11/05/2012

Title: Senior Chemist



Compu Chem

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SDG NARRATIVE

SDG # 1211005

Client: ONEIDA TOTAL INTEGRATED ENTERPRISES

Project: VILLA MHP/1399

The indicated Sample Delivery Group (SDG) consisting of two (2) water samples were received into the laboratory information management system (LIMS) on November 2, 2012 intact and in good condition with the Chain of Custody (COC) Records in order, unless otherwise noted in any attachments or Quality Assurance Notices. The cooler temperature indicator bottle was found with the samples and the samples temperature was 0.6 degrees Celsius. Temperature was recorded by IR temperature gun.

The samples were prepared and analyzed in accordance with SW846 3030C/6010C/7470A methodology for the requested RCRA metals and mercury.

EQUATIONS FOR LIQUID SAMPLE CALCULATIONS:

Equation for obtaining metals sample results in $\mu\text{g/L}$ as presented on Analysis Data Sheet data sheets from ICP instrument acquired results in $\mu\text{g/L}$ (ppb).

$$\frac{C \times F}{I}$$

Where

C = concentration ($\mu\text{g/L}$)

F = final volume in liters after sample preparation

I = initial volume in liters

Example: Arsenic for sample VMHP-01W

$$\frac{99.02268 \mu\text{g/L (C)} \times 0.05 \text{ L (F)}}{0.05 \text{ L (I)}} = 99.02 \mu\text{g/L reported as } 99.0 \mu\text{g/L}$$

INSTRUMENTAL QUALITY CONTROL:

All calibration verification solutions (LLICV, LLCCV, ICV & CCV), blanks (ICB, & CCB), and interference check samples (ICSA & ICSAB) associated with this data were confirmed to be within SW-846 methodology.

SAMPLE PREPARATION QUALITY CONTROL:

The sample preparation procedure verifications (LCSW, LCSWD, & PBW) were found to be within acceptable ranges and the field samples were prepared and analyzed within the contract specified holding times. Due to insufficient sample volume no matrix spikes could be performed for mercury.

MATRIX RELATED QUALITY CONTROL:

The ICP sample matrix spike, CCN = 2110225-MS1 (VMHP-01WS) was found to be inside control limits except arsenic, selenium, and silver.

The ICP sample matrix duplicate spike, CCN = 2110225-MSD1 (VMHP-01WSD) was found to be inside control limits except arsenic, selenium, and silver.

The ICP sample duplicate, CCN = 2110225-DUP1 (VMHP-01WD) was found to be inside control limits.

A five-fold serial dilution of sample, CCN = SDI1211005-01 (VMHP-01WL) was performed in accordance with SW-846 requirements for ICP analysis.

The adjusted sample concentration was inside control limits except arsenic.

I certify that the tests used in this report meet all requirements of the NELAC standards unless otherwise stated in the SDG narrative or QA notice.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on CD has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.



Susan W. Bass
Senior Chemist
November 5, 2012

INORGANIC DATA REPORTING QUALIFIERS

On the Form I, under the column labeled “Q” for qualifier, each result is flagged with the specific data reporting qualifiers listed below, as appropriate. The qualifiers used are:

- U : This flag indicates the compound was analyzed for, not detected and is reported as less than the Method Detection Limit (MDL) (or as defined by the client). The Reporting Limit (RL), or Limit of Quantitation (LOQ), and the MDL will be adjusted to reflect any dilution or concentration of the sample and, for soils, the percent moisture.
- J : This flag indicates the reported result is an estimated value. The flag is used when an analyte is detected and the result is less than the adjusted RL/LOQ but equal to or greater than the MDL.
- Q : This flag denotes that one or more quality control criteria have failed (e.g., LCS recovery, Continuing Calibration Verification, CCV, and interference check standards for ICP-AES/ICP-MS) and reanalyses can't be performed. The Q flag is applied to all specific analyte(s) in all samples associated with the failed quality control criteria.
- B : This flag is used when the analyte is found in the associated method or calibration blank as well as in the sample. It indicates probable blank contamination and warns the data user to take appropriate action. The combination of flags BU or UB is not an allowable policy. Blank contaminants are flagged B only when they are detected in the sample.
- D : This flag is applied to an analyte when the reported result is based on a dilution.
- X/Y/Z : Other specific flags may be required to properly define the results. If used, the flags will be fully described in the SDG Narrative. The laboratory-defined flags are limited to X, Y, and Z.

The extensions: D, S, SD, L, and A are added to the end of the Client ID and represent the following:

- D – Matrix Duplicate**
- S – Matrix Spike**
- SD – Matrix Spike Duplicate**
- L – Serial Dilution**
- A – Post Digestion Spike**

Revision 0 (11-09-2010)



ENVIRONMENTAL CONSERVATION LABORATORIES CHAIN-OF-CUSTODY RECORD

10775 Central Port Dr.
Orlando, FL 32824
(407) 826-5314 Fax (407) 850-6945

4810 Executive Park Court, Suite 211
Jacksonville, FL 32216-6069
(904) 296-3007 Fax (904) 296-6210

102-A Woodwinds Industrial Ct.
Cary, NC 27511
(919) 467-3090 Fax (919) 467-3515

Page of

Client Name OTIE	Project Number 1399	Requested Analyses R S R T S METALS #
Address 6500 LINDSAY DR - STE 130 RALEIGH NC 27607	Project Name/Desc VILLA MHP	PO # / Billing Info
City/State/Zip RALEIGH NC 27607	Reporting Contact	
Tel 919-215-9207	Billing Contact	
Fax	Facility # (if required)	
Sample(s) Name, Abbrev (Print) ERIC MORRIS - OTIE		
Sample(s) Signature <i>[Signature]</i>		

Item #	Sample ID (Field Identification)	Collection Date	Collection Time	Comp / Grab	Matrix (see codes)	Total # of Containers	Handl	Preservation (See Codes) (Combine as necessary)	Sample Comments
	VMHP-01W	11/1/12	1030	G	GW	1	✓	1211005-01	TAKE EXTRA CAUTION IN HANDLING SAMPLES THEY ARE CONTAIN UNREACTED SEWAGE
	VMHP-01W NS/MSD		1030	G	GW	1	✓	1211005-02	
	VMHP-01PW		1030	G	GW	1	✓		

Sample Kit Prepared By	Date/Time	Relinquished By <i>[Signature]</i>	Date/Time 11/1/12	Received By <i>[Signature]</i>	Date/Time 11/2/12 @ 0949
Comments EMAIL RESULTS TO EMORRIS@OTIE.COM		Relinquished By	Date/Time	Received By	Date/Time
Cooler #s & Temps on Receipt Rec'd @ 0160C		Condition Upon Receipt Acceptable Unacceptable			

Matrix: GW-Groundwater SO-Soil SE-Sediment SW-Surface Water WW-Wastewater A-Air O-Other (detail in comments)
 Preservation: H-HCl N-HNO3 S-H2SO4 NO-NaOH O-Other (detail in comments)
 Note: All samples submitted to ENCO Labs are in accordance with the terms and conditions listed on the reverse of this form, unless prior written agreements exist

Client: **ONEIDA TOTAL INTEGRATED ENTERPRISE** Project Manager: **Cathy Dover**
 Project: **VILLA MHP/1399** Project Number: **VILLA MHP/1399**
 SDG: **1211005** CASE: Status: **Reported**

Report To: ONEIDA TOTAL INTEGRATED ENTERPRISES
 ERIC MORRIS
 6300 LIMOUSINE DRIVE, SUITE 130
 RALEIGH, NC 27617
 Phone: (919) 215-9207
 Fax: -

Invoice To: ONEIDA TOTAL INTEGRATED ENTERPRISES
 ACCOUNTS PAYABLE
 1033 NORHT MAYFAIR ROAD, SUITE 200
 MILWAUKEE, WI 53226
 Phone :-
 Fax: -

Date Due: 11/05/2012 00:00 (3 day TAT)
 Received By: Cathy Dover Date Received: 11/02/2012 09:49
 Logged In By: Cathy Dover Date Logged In: 11/02/2012 10:32

J & B Flags?: YES TICS?: NO Deliverable: Style 3 EDD : 68) LATA EXCEL
 Metals ND to? MDL Spike Level: FULL Spike

USE 1211005-01 FOR QC*CAUTION:SAMPLES COULD CONTAIN SOME RAW SEWAGE*3030C/6010C/7470A
 METALS=RCRA*3030C PREP HT=11/4/12 @ 10:30AM*RESULTS DUE BY COB MONDAY 11/5/12

Analysis	Due	TAT	Expires	Received	Comments
1211005-01 VMHP-01W [Water] Sampled 11/01/2012 10:30 Eastern					USE FOR QC
3030C 6010C METALS	11/03/2012 16:00	1	11/04/2012 10:30	11/02/2012 09:49	
6010 METALS DOD	01/01/1980 00:00		11/01/2012 10:30	11/02/2012 09:49	Added for SequenceQC in: 2K05001
6010C METALS	01/01/1980 00:00		11/01/2012 10:30	11/02/2012 09:49	Added for SequenceQC in: 2K05001
7470A 7471B Mercury	11/03/2012 16:00	1	11/29/2012 10:30	11/02/2012 09:49	
1211005-02 VMHP-010W [Water] Sampled 11/01/2012 10:30 Eastern					
3030C 6010C METALS	11/03/2012 16:00	1	11/04/2012 10:30	11/02/2012 09:49	
7470A 7471B Mercury	11/03/2012 16:00	1	11/29/2012 10:30	11/02/2012 09:49	

WORK ORDER

1211005

Printed: 11/5/2012 3:52:25PM

COMPUCHEM

Client: ONEDA TOTAL INTEGRATED ENTERPRISES	Project Manager: Cathy Dover
Project: VILLA MHP/1399	Project Number: VILLA MHP/1399
SDG: 1211005	CASE: Status: Reported

ANALYSIS DATA SHEET

VMHP-01W

Client: ONEIDA TOTAL INTEGRATED ENTEI SDG: 1211005 Project: VILLA MHP/1399

Lab ID: 1211005-01 % Solid: Matrix: Water Sampled: 11/01/12 Received: 11/02/12

CAS NO.	Analyte	Conc. (ug/L)	MDL	RL	D.F.	Q	Method	Sequence	Analyzed
7440-38-2	Arsenic	99.0	2.92	10.0	1		EPA 6010C	2K05001	11/3/12 21:21
7440-39-3	Barium	2710	0.230	200	1		EPA 6010C	2K05001	11/3/12 21:21
7440-43-9	Cadmium	43.0	0.600	5.00	1		EPA 6010C	2K05001	11/3/12 21:21
7440-47-3	Chromium	174	0.730	10.0	1		EPA 6010C	2K05001	11/3/12 21:21
7439-92-1	Lead	331000	22.9	100	10	D	EPA 6010C	2K05009	11/5/12 9:35
7439-97-6	Mercury	2.44	0.0355	0.200	1		EPA 7470A	2K05008	11/5/12 10:23
7782-49-2	Selenium		3.39	10.0	1	U	EPA 6010C	2K05001	11/3/12 21:21
7440-22-4	Silver		1.34	5.00	1	U	EPA 6010C	2K05001	11/3/12 21:21



ANALYSIS DATA SHEET

VMHP-010W

Client: ONEIDA TOTAL INTEGRATED ENTEI SDG: 1211005 Project: VILLA MHP/1399

Lab ID: 1211005-02 % Solid: Matrix: Water Sampled: 11/01/12 Received: 11/02/12

CAS NO.	Analyte	Conc. (ug/L)	MDL	RL	D.F.	Q	Method	Sequence	Analyzed
7440-38-2	Arsenic	95.5	2.92	10.0	1		EPA 6010C	2K05001	11/3/12 22:23
7440-39-3	Barium	3620	0.230	200	1		EPA 6010C	2K05001	11/3/12 22:23
7440-43-9	Cadmium	36.1	0.600	5.00	1		EPA 6010C	2K05001	11/3/12 22:23
7440-47-3	Chromium	154	0.730	10.0	1		EPA 6010C	2K05001	11/3/12 22:23
7439-92-1	Lead	224000	22.9	100	10	D	EPA 6010C	2K05009	11/5/12 10:11
7439-97-6	Mercury	2.61	0.0355	0.200	1		EPA 7470A	2K05008	11/5/12 10:25
7782-49-2	Selenium		3.39	10.0	1	U	EPA 6010C	2K05001	11/3/12 22:23
7440-22-4	Silver		1.34	5.00	1	U	EPA 6010C	2K05001	11/3/12 22:23



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BLANKS

EPA 6010C

Client: ONEIDA TOTAL INTEGRATED ENTERJ SDG: 1211005 Project: VILLA MHP/1399

Sequence: 2K05001

Instrument ID: P4

Client ID	Lab Sample ID	Analyte	Found	MDL	RL	Units	Q	Method
ICB	2K05001-ICB1	Arsenic	-0.612	2.92	10.0	ug/L	U	EPA 6010C
ICB	2K05001-ICB1	Barium	-0.347	0.230	200	ug/L	J	EPA 6010C
ICB	2K05001-ICB1	Cadmium	-0.281	0.600	5.00	ug/L	U	EPA 6010C
ICB	2K05001-ICB1	Chromium	-0.544	0.730	10.0	ug/L	U	EPA 6010C
ICB	2K05001-ICB1	Lead	-1.97	2.29	10.0	ug/L	U	EPA 6010C
ICB	2K05001-ICB1	Selenium	0.906	3.39	10.0	ug/L	U	EPA 6010C
ICB	2K05001-ICB1	Silver	-0.258	1.34	5.00	ug/L	U	EPA 6010C
CCB1	2K05001-CCB1	Arsenic	-1.96	2.92	10.0	ug/L	U	EPA 6010C
CCB1	2K05001-CCB1	Barium	-0.308	0.230	200	ug/L	J	EPA 6010C
CCB1	2K05001-CCB1	Cadmium	0.00541	0.600	5.00	ug/L	U	EPA 6010C
CCB1	2K05001-CCB1	Chromium	-1.22	0.730	10.0	ug/L	J	EPA 6010C
CCB1	2K05001-CCB1	Lead	-1.30	2.29	10.0	ug/L	U	EPA 6010C
CCB1	2K05001-CCB1	Selenium	-1.84	3.39	10.0	ug/L	U	EPA 6010C
CCB1	2K05001-CCB1	Silver	-0.210	1.34	5.00	ug/L	U	EPA 6010C
PBW	2110225-BLK1	Arsenic		2.92	10.0	ug/L	U	EPA 6010C
PBW	2110225-BLK1	Barium		0.230	200	ug/L	U	EPA 6010C
PBW	2110225-BLK1	Cadmium		0.600	5.00	ug/L	U	EPA 6010C
PBW	2110225-BLK1	Chromium		0.730	10.0	ug/L	U	EPA 6010C
PBW	2110225-BLK1	Lead		2.29	10.0	ug/L	U	EPA 6010C
PBW	2110225-BLK1	Selenium		3.39	10.0	ug/L	U	EPA 6010C
PBW	2110225-BLK1	Silver		1.34	5.00	ug/L	U	EPA 6010C
CCB1	2K05001-CCB2	Arsenic	1.03	2.92	10.0	ug/L	U	EPA 6010C
CCB1	2K05001-CCB2	Barium	-0.407	0.230	200	ug/L	J	EPA 6010C
CCB1	2K05001-CCB2	Cadmium	-0.264	0.600	5.00	ug/L	U	EPA 6010C
CCB1	2K05001-CCB2	Chromium	-0.695	0.730	10.0	ug/L	U	EPA 6010C
CCB1	2K05001-CCB2	Lead	-0.399	2.29	10.0	ug/L	U	EPA 6010C
CCB1	2K05001-CCB2	Selenium	0.199	3.39	10.0	ug/L	U	EPA 6010C
CCB1	2K05001-CCB2	Silver	-0.0382	1.34	5.00	ug/L	U	EPA 6010C
CCB1	2K05001-CCB3	Arsenic	0.0535	2.92	10.0	ug/L	U	EPA 6010C
CCB1	2K05001-CCB3	Barium	-0.222	0.230	200	ug/L	U	EPA 6010C
CCB1	2K05001-CCB3	Cadmium	-0.275	0.600	5.00	ug/L	U	EPA 6010C



BLANKS

EPA 6010C

Client: ONEIDA TOTAL INTEGRATED ENTERJ SDG: 1211005 Project: VILLA MHP/1399

Sequence: 2K0500I

Instrument ID: P4

Client ID	Lab Sample ID	Analyte	Found	MDL	RL	Units	Q	Method
CCB1	2K05001-CCB3	Chromium	-0.845	0.730	10.0	ug/L	J	EPA 6010C
CCB1	2K05001-CCB3	Lead	-2.56	2.29	10.0	ug/L	J	EPA 6010C
CCB1	2K05001-CCB3	Selenium	0.954	3.39	10.0	ug/L	U	EPA 6010C
CCB1	2K05001-CCB3	Silver	-0.392	1.34	5.00	ug/L	U	EPA 6010C



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BLANKS

EPA 7470A

Client: ONEIDA TOTAL INTEGRATED ENTERJ SDG: 1211005 Project: VILLA MHP/1399

Sequence: 2K05008

Instrument ID: V4

Client ID	Lab Sample ID	Analyte	Found	MDL	RL	Units	Q	Method
ICB	2K05008-ICB1	Mercury	-0.103	0.0355	0.200	ug/L	J	EPA 7470A
CCB	2K05008-CCB1	Mercury	-0.0110	0.0355	0.200	ug/L	U	EPA 7470A
PBW	2110226-BLK1	Mercury		0.0355	0.200	ug/L	U	EPA 7470A
CCB	2K05008-CCB2	Mercury	-0.0410	0.0355	0.200	ug/L	J	EPA 7470A



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BLANKS

EPA 6010C

Client: ONEIDA TOTAL INTEGRATED ENTERJ SDG: 1211005 Project: VILLA MHP/1399

Sequence: 2K05009

Instrument ID: P4

Client ID	Lab Sample ID	Analyte	Found	MDL	RL	Units	Q	Method
ICB	2K05009-ICB1	Arsenic	2.47	2.92	10.0	ug/L	U	EPA 6010C
ICB	2K05009-ICB1	Barium	-0.223	0.230	200	ug/L	U	EPA 6010C
ICB	2K05009-ICB1	Cadmium	0.642	0.600	5.00	ug/L	J	EPA 6010C
ICB	2K05009-ICB1	Chromium	0.00177	0.730	10.0	ug/L	U	EPA 6010C
ICB	2K05009-ICB1	Lead	-0.717	2.29	10.0	ug/L	U	EPA 6010C
ICB	2K05009-ICB1	Selenium	1.21	3.39	10.0	ug/L	U	EPA 6010C
ICB	2K05009-ICB1	Silver	0.281	1.34	5.00	ug/L	U	EPA 6010C
CCB1	2K05009-CCB1	Arsenic	0.758	2.92	10.0	ug/L	U	EPA 6010C
CCB1	2K05009-CCB1	Barium	-0.152	0.230	200	ug/L	U	EPA 6010C
CCB1	2K05009-CCB1	Cadmium	0.345	0.600	5.00	ug/L	U	EPA 6010C
CCB1	2K05009-CCB1	Chromium	-0.364	0.730	10.0	ug/L	U	EPA 6010C
CCB1	2K05009-CCB1	Lead	-1.96	2.29	10.0	ug/L	U	EPA 6010C
CCB1	2K05009-CCB1	Selenium	1.34	3.39	10.0	ug/L	U	EPA 6010C
CCB1	2K05009-CCB1	Silver	0.418	1.34	5.00	ug/L	U	EPA 6010C
CCB1	2K05009-CCB2	Arsenic	0.629	2.92	10.0	ug/L	U	EPA 6010C
CCB1	2K05009-CCB2	Barium	-0.162	0.230	200	ug/L	U	EPA 6010C
CCB1	2K05009-CCB2	Cadmium	1.28	0.600	5.00	ug/L	J	EPA 6010C
CCB1	2K05009-CCB2	Chromium	-0.117	0.730	10.0	ug/L	U	EPA 6010C
CCB1	2K05009-CCB2	Lead	-3.15	2.29	10.0	ug/L	J	EPA 6010C
CCB1	2K05009-CCB2	Selenium	3.17	3.39	10.0	ug/L	U	EPA 6010C
CCB1	2K05009-CCB2	Silver	0.000000100	1.34	5.00	ug/L	U	EPA 6010C
CCB1	2K05009-CCB3	Arsenic	2.94	2.92	10.0	ug/L	J	EPA 6010C
CCB1	2K05009-CCB3	Barium	-0.177	0.230	200	ug/L	U	EPA 6010C
CCB1	2K05009-CCB3	Cadmium	0.658	0.600	5.00	ug/L	J	EPA 6010C
CCB1	2K05009-CCB3	Chromium	-0.499	0.730	10.0	ug/L	U	EPA 6010C
CCB1	2K05009-CCB3	Lead	-2.75	2.29	10.0	ug/L	J	EPA 6010C
CCB1	2K05009-CCB3	Selenium	1.19	3.39	10.0	ug/L	U	EPA 6010C
CCB1	2K05009-CCB3	Silver	0.472	1.34	5.00	ug/L	U	EPA 6010C



DUPLICATES
EPA 6010C

VMHP-01WD

Client: ONEIDA TOTAL INTEGRATED ENTEI SDG: 1211005 Project: VILLA MHP/1399

Lab ID: 2110225-DUP1 % Solid: NA Matrix: Water Lab Source ID: 1211005-01 Source Sample: VMHP-01W

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (ug/L)	DUPLICATE CONCENTRATION (ug/L)	RPD %	Q	METHOD
Arsenic	20	99.0	98.5	0.544		EPA 6010C
Barium	20	2710	2830	4.38		EPA 6010C
Cadmium	20	43.0	45.4	5.52		EPA 6010C
Chromium	20	174	183	5.47		EPA 6010C
Selenium	20	10.0 U	10.0 U			EPA 6010C
Silver	20	5.00 U	5.00 U			EPA 6010C



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DUPLICATES
EPA 6010C

VMHP-01WD

Client: ONEIDA TOTAL INTEGRATED ENTEI SDG: 1211005 Project: VILLA MHP/1399

Lab ID: 2110225-DUP2 % Solid: NA Matrix: Water Lab Source ID: 1211005-01RE1 Source Sample: VMHP-01W

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (ug/L)	DUPLICATE CONCENTRATION (ug/L)	RPD %	Q	METHOD
Lead	20	331000 D	303000 D	8.73		EPA 6010C



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MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

VMHP-01WS

EPA 6010C

Client: ONEIDA TOTAL INTEGRATED ENTERI SDG: 1211005 Project: VILLA MHP/1399

Lab ID: 2110225-MS1 % Solid: NA Matrix: Water Lab Source ID: 1211005-01 Source Sample: VMHP-01W

ANALYTE	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC.	Q	QC LIMITS REC.
Arsenic	40.00	99.0	125	64.8	*	75 - 125
Barium	2000	2710	4900	110		75 - 125
Cadmium	50.00	43.0	94.9	104		75 - 125
Chromium	200.0	174	398	112		75 - 125
Selenium	10.00	10.0 U	10.0 U	-80.3	*	75 - 125
Silver	50.00	5.00 U	5.00 U	-40.2	*	75 - 125

ANALYTE	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD	Q	QC LIMITS	
						RPD	REC.
Arsenic	40.00	119	51.2	23.5	* *	20	75 - 125
Barium	2000	4920	110	0.842		20	75 - 125
Cadmium	50.00	96.4	107	2.83		20	75 - 125
Chromium	200.0	405	116	2.69		20	75 - 125
Selenium	10.00	10.0 U	-110	-31.2	*	20	75 - 125
Silver	50.00	5.00 U	-40.6	-0.946	*	20	75 - 125



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MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

VMHP-01WS

EPA 6010C

Client: ONEIDA TOTAL INTEGRATED ENTERI SDG: 1211005 Project: VILLA MHP/1399

Lab ID: 2110225-MS2 % Solid: NA Matrix: Water Lab Source ID: 1211005-01RE1 Source Sample: VMHP-01W

ANALYTE	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC.	Q	QC LIMITS REC.
Lead	20.00	331000 D	282000 D	-248000		75 - 125

ANALYTE	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD	Q	QC LIMITS	
						RPD	REC.
Lead	20.00	292000 D	-195000	-23.9		20	75 - 125



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SERIAL DILUTION

EPA 6010C

VMHP-01WL

Client: ONEIDA TOTAL INTEGRATED ENTER SDG: 1211005

Project: VILLA MHP/1399

Lab ID: 2K05001-SRD1

Matrix: Water

Lab Source ID: 1211005-01

Source Sample: VMHP-01W

Sequence: 2K05001

Dilution: 5

Report to MDL: YES

Analyte	Initial Sample Result (I)	Serial Dilution Result (S)	RL	% Difference	Q	Method	QC Limits % Difference
Arsenic	99.02	124.69	10.0	25.9	*	EPA 6010C	10
Barium	2708.20	2718.93	200	0.397		EPA 6010C	10
Cadmium	43.00	42.83	5.00	0.381		EPA 6010C	10
Chromium	173.56	174.65	10.0	0.625		EPA 6010C	10
Selenium	10.00 U	50.00 U	10.0			EPA 6010C	10
Silver	5.00 U	25.00 U	5.00			EPA 6010C	10



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SERIAL DILUTION

EPA 6010C

VMHP-01WL

Client: ONEIDA TOTAL INTEGRATED ENTERSDG: 1211005

Project: VILLA MHP/1399

Lab ID: 2K05009-SRD1

Matrix: Water

Lab Source ID: 1211005-01RE1

Source Sample: VMHP-01W

Sequence: 2K05009

Dilution: 50

Report to MDL: YES

Analyte	Initial Sample Result (I)	Serial Dilution Result (S)	RL	% Difference	Q	Method	QC Limits % Difference
Lead	331130.00 D	325038.40	10.0	1.84		EPA 6010C	10



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LCS / LCS DUPLICATE RECOVERY

EPA 6010C

Client: ONEIDA TOTAL INTEGRATED ENTERI SDG: 1211005 Project: VILLA MHP/1399

Lab ID: 2110225-BS1 Matrix: Water Client ID: LCSW Batch: 2110225

ANALYTE	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC.	Q	QC LIMITS REC.
Arsenic	500.0	476	95.2		80 - 120
Barium	10000	9220	92.2		80 - 120
Cadmium	200.0	192	96.2		80 - 120
Chromium	500.0	479	95.8		80 - 120
Lead	500.0	474	94.7		80 - 120
Selenium	200.0	192	95.8		80 - 120
Silver	500.0	488	97.5		80 - 120



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LCS / LCS DUPLICATE RECOVERY

EPA 7470A

Client: ONEIDA TOTAL INTEGRATED ENTERI SDG: 1211005 Project: VILLA MHP/1399

Lab ID: 2110226-BS1 Matrix: Water Client ID: LCSW Batch: 2110226

ANALYTE	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC.	Q	QC LIMITS REC.
Mercury	4.000	3.35	84		80 - 120

ANALYTE	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC. #	% RPD #	QC LIMITS		
					RPD	Q	REC.
Mercury	4.000	3.36	84	0.3	20		80 - 120



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METHOD DETECTION AND REPORTING LIMITS

Laboratory: COMPUCHEM

SDG: 1211005

Client: ONEIDA TOTAL INTEGRATED ENTERPRISES

Project: VILLA MHP/1399

Matrix: Water

Instrument: P4

Analyte	MDL	RL	Units	Method
Arsenic	2.92	10.00	ug/L	EPA 6010C
Barium	0.23	200.00	ug/L	EPA 6010C
Cadmium	0.6	5.00	ug/L	EPA 6010C
Chromium	0.73	10.00	ug/L	EPA 6010C
Lead	2.29	10.00	ug/L	EPA 6010C
Selenium	3.39	10.00	ug/L	EPA 6010C
Silver	1.34	5.00	ug/L	EPA 6010C



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METHOD DETECTION AND REPORTING LIMITS

Laboratory: COMPUCHEM

SDG: 1211005

Client: ONEIDA TOTAL INTEGRATED ENTERPRISES

Project: VILLA MHP/1399

Matrix: Water

Instrument: V4

Analyte	MDL	RL	Units	Method
Mercury	0.0355	0.20	ug/L	EPA 7470A



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PREPARATION BATCH SUMMARY

EPA 6010C

Client: ONEIDA TOTAL INTEGRATED ENTERPR SDG: 1211005 Project: VILLA MHP/1399

Batch: 2110225

Matrix: Water

Preparation: 3030C

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL/WT (mL)	FINAL VOL/WT (mL)
VMHP-01W	1211005-01	11/02/12 13:30	50.0	50.0
VMHP-01W	1211005-01RE1	11/02/12 13:30	50.0	50.0
VMHP-010W	1211005-02	11/02/12 13:30	50.0	50.0
VMHP-010W	1211005-02RE1	11/02/12 13:30	50.0	50.0
PBW	2110225-BLK1	11/02/12 13:30	50.0	50.0
LCSW	2110225-BS1	11/02/12 13:30	50.0	50.0
VMHP-01WD	2110225-DUP1	11/02/12 13:30	50.0	50.0
VMHP-01WD	2110225-DUP2	11/02/12 13:30	50.0	50.0
VMHP-01WS	2110225-MS1	11/02/12 13:30	50.0	50.0
VMHP-01WS	2110225-MS2	11/02/12 13:30	50.0	50.0
VMHP-01WSD	2110225-MSD1	11/02/12 13:30	50.0	50.0
VMHP-01WSD	2110225-MSD2	11/02/12 13:30	50.0	50.0
VMHP-01WA	2110225-PS1	11/02/12 13:30	50.0	50.0



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PREPARATION BATCH SUMMARY

EPA 7470A

Client: ONEIDA TOTAL INTEGRATED ENTERPR SDG: 1211005 Project: VILLA MHP/1399

Batch: 2110226

Matrix: Water

Preparation: EPA 7470A Prep

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL/WT (mL)	FINAL VOL/WT (mL)
VMHP-01W	1211005-01	11/02/12 13:30	100	100
VMHP-010W	1211005-02	11/02/12 13:30	100	100
PBW	2110226-BLK1	11/02/12 13:30	100	100
LCSW	2110226-BS1	11/02/12 13:30	100	100
LCSWD	2110226-BSD1	11/02/12 13:30	100	100



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11/27/2012

ERIC MORRIS
ONEIDA TOTAL INTEGRATED ENTERPRISES
6300 LIMOUSINE DRIVE, SUITE 130

RALEIGH, NC 27617

Subject:

Report of Data - Project: VILLA MHP/1423

WorkOrder: 1211081

Attn.: ERIC MORRIS

Enclosed are the results of analytical work performed in accordance with the referenced account number. This report covers sample(s) appearing on the listing.

Thank you for selecting CompuChem for your sample analysis. If you should have questions or require additional analytical services, please contact your representative at 1-800-833-5097

Sincerely,

A handwritten signature in black ink, appearing to read "Eric Morris".

CompuChem

a division of Liberty Analytical Corporation

Attachment

TOTAL NUMBER OF PAGES _____

CompuChem, a division of Liberty Analytical

Client: ONEIDA TOTAL INTEGRATED ENTERPRISES

Work: 1211081

Project: VILLA MHP/1423

Sdg: 1211081

Lab ID	Client ID	Matrix	Date Sampled	Date Received
1211081-01	VMHP-02W	Water	11/14/2012 14:00	11/16/2012 09:53

ANALYSES DATA PACKAGE COVER PAGE

Client: ONEIDA TOTAL INTEGRATED ENTERPRISES

Project: VILLA MHP/1423

Laboratory: COMPUCHEM

SDG: 1211081

Client Sample Id:

VMHP-02W

Lab Sample Id:

1211081-01

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the Electronic Data Deliverable has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature:

Susan Bass

Name:

Susan Bass

Date:

11/27/2012

Title:

Senior Chemist



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CompuChem

a Division of Liberty Analytical Corp.

501 Madison Avenue
Cary, NC 27513

SDG NARRATIVE

SDG # 1211081

Client: ONEIDA TOTAL INTEGRATED ENTERPRISES

Project: VILLA MHP/1423

The indicated Sample Delivery Group (SDG) consisting of one (1) water sample was received into the laboratory information management system (LIMS) on November 16, 2012 intact and in good condition with the Chain of Custody (COC) Records in order, unless otherwise noted in any attachments or Quality Assurance Notices. The cooler temperature indicator bottle was found with the sample and the sample's temperature was 1.1 degrees Celsius. Temperature was recorded by IR temperature gun.

The sample was prepared and analyzed in accordance with SW846 6010C/7470A methodology for the requested RCRA metals and mercury.

EQUATIONS FOR LIQUID SAMPLE CALCULATIONS:

Equation for obtaining metals sample results in $\mu\text{g/L}$ as presented on Analysis Data Sheet data sheets from ICP instrument acquired results in $\mu\text{g/L}$ (ppb).

$$\frac{C \times F}{I}$$

Where

C = concentration ($\mu\text{g/L}$)

F = final volume in liters after sample preparation

I = initial volume in liters

Example: Barium for sample VMHP-02W

$$\frac{82.12486 \mu\text{g/L (C)} \times 0.05 \text{ L (F)}}{0.05 \text{ L (I)}} = 82.12 \mu\text{g/L reported as } 82.1 \mu\text{g/L}$$

INSTRUMENTAL QUALITY CONTROL:

All calibration verification solutions (LLICV, LLCCV, ICV & CCV), blanks (ICB, & CCB), and interference check samples (ICSA & ICSAB) associated with this data were confirmed to be within SW-846 methodology.

SAMPLE PREPARATION QUALITY CONTROL:

The sample preparation procedure verifications (LCSW, LCSWD, & PBW) were found to be within acceptable ranges and the field sample was prepared and analyzed within the contract specified holding times.

MATRIX RELATED QUALITY CONTROL:

No matrix spikes were requested for this sample.

A five-fold serial dilution of sample, CCN = SDI1211081-01 (VMHP-02WL) was performed in accordance with SW-846 requirements for ICP analysis.

The adjusted sample concentration was inside control limits.

I certify that the tests used in this report meet all requirements of the NELAC standards unless otherwise stated in the SDG narrative or QA notice.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on CD has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.



Susan W. Bass
Senior Chemist
November 27, 2012

CompuChem

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INORGANIC DATA REPORTING QUALIFIERS

On the Form I, under the column labeled "Q" for qualifier, each result is flagged with the specific data reporting qualifiers listed below, as appropriate. The qualifiers used are:

- U : This flag indicates the compound was analyzed for, not detected and is reported as less than the Method Detection Limit (MDL) (or as defined by the client). The Reporting Limit (RL), or Limit of Quantitation (LOQ), and the MDL will be adjusted to reflect any dilution or concentration of the sample and, for soils, the percent moisture.
- J : This flag indicates the reported result is an estimated value. The flag is used when an analyte is detected and the result is less than the adjusted RL/LOQ but equal to or greater than the MDL.
- Q : This flag denotes that one or more quality control criteria have failed (e.g., LCS recovery, Continuing Calibration Verification, CCV, and interference check standards for ICP-AES/ICP-MS) and reanalyses can't be performed. The Q flag is applied to all specific analyte(s) in all samples associated with the failed quality control criteria.
- B : This flag is used when the analyte is found in the associated method or calibration blank as well as in the sample. It indicates probable blank contamination and warns the data user to take appropriate action. The combination of flags BU or UB is not an allowable policy. Blank contaminants are flagged B only when they are detected in the sample.
- D: This flag is applied to an analyte when the reported result is based on a dilution.
- X/Y/Z : Other specific flags may be required to properly define the results. If used, the flags will be fully described in the SDG Narrative. The laboratory-defined flags are limited to X, Y, and Z.

The extensions: D, S, SD, L, and A are added to the end of the Client ID and represent the following:

- D – Matrix Duplicate**
- S – Matrix Spike**
- SD – Matrix Spike Duplicate**
- L – Serial Dilution**
- A – Post Digestion Spike**

Revision 0 (11-09-2010)

1211081

COMPUCHEM

Client: ONEIDA TOTAL INTEGRATED ENTERPRISES Project: VILLA MHP/1423 SDG: 1211081 CASE:	Project Manager: Cathy Dover Project Number: VILLA MHP/1423 Status: Batched
--	--

Report To:

ONEIDA TOTAL INTEGRATED ENTERPRISES
 ERIC MORRIS
 6300 LIMOUSINE DRIVE, SUITE 130
 RALEIGH, NC 27617
 Phone: (919) 215-9207
 Fax: -

Invoice To:

ONEIDA TOTAL INTEGRATED ENTERPRISES
 ERIC MORRIS
 6300 LIMOUSINE DRIVE, SUITE 130
 RALEIGH, NC 27617
 Phone : (919) 215-9207
 Fax: -

Date Due: 11/29/2012 00:00 (13 day TAT)

Received By: Cathy Dover

Date Received: 11/16/2012 09:53

Logged In By: Cathy Dover

Date Logged In: 11/16/2012 12:27

J & B Flags?: YES	TICS?: NO	Deliverable: Style 3	EDD : 68) LATA EXCEL
Metals ND to? MDL	Spike Level: FULL Spike		

LCS/LCSD*3030C/6010C RCRA METALS

Analysis	Due	TAT	Expires	Received	Comments
1211081-01 VMHP-02W [Water] Sampled 11/14/2012 14:00 Eastern					
3030C 6010C METALS	11/29/2012 16:00	13	11/17/2012 14:00	11/16/2012 09:53	
7470A 7471B Mercury	11/29/2012 16:00	13	12/12/2012 14:00	11/16/2012 09:53	

INTERNAL DIGESTION COC

2111621

COMPUCHEM

Printed: 11/16/2012 12:40:15PM

Matrix: Water

Prepared using: METALS - EPA 7470A Prep

Lab Number	Client ID	Sample Type	
1211081-01	VMHP-02W	Sample	
2111621-BLK1	PBW	Blank	
2111621-BS1	LCSW	LCS	
2111621-BSD1	LCSWD	LCS Dup	

for M
 Relinquished By
Hg Sts
 Relinquished By
Waste
 Relinquished By
 Relinquished By

11-16-12 ¹⁵⁰⁵ ~~11-16-12~~ ₁₁₋₁₆₋₁₂
 Date
 11/19/12 1045
 Date
 11/19/12 1300
 Date
 Date

Hg Sts.
 Received By
Waste
 Received By
Waste
 Received By
 Received By

11-16-12 ¹⁵⁰⁵ ~~11-16-12~~ ₁₁₋₁₆₋₁₂
 Date
 11/19/12 1045
 Date
 11/19/12 1300
 Date
 Date

Metals Internal Chain of Custody Sheet

Batch: 2111620 Status: Batched

Analysis: 3030C 6010C METALS

Lab Id	Client_Id	Received	Container	Extraction	Preservative	Matrix	Due Date	Cust Date
1211081-01 A	VMHP-02W	11/16/12	3i_250mL Plastic, HNO3	3030C	Add HNO3 to pH<2	Water	11/29/2012	

Relinquished By Ambsht st. Date/Time 11-16-12 1250 ~~1315~~ PM 11/16/12
 Relinquished By [Signature] Date/Time 11-16-12 1315 PM 11/16/12

Received By [Signature] Date/Time 11-16-12 1250 ~~1315~~ PM 11/16/12
 Received By Ambsht st. Date/Time 11-16-12 1315 PM 11/16/12

Relinquished By _____ Date/Time _____ Received By _____ Date/Time _____

Relinquished By _____ Date/Time _____ Received By _____ Date/Time _____

ANALYSIS DATA SHEET

VMHP-02W

Client: ONEIDA TOTAL INTEGRATED ENTEI SDG: 1211081 Project: VILLA MHP/1423

Lab ID: 1211081-01 % Solid: Matrix: Water Sampled: 11/14/12 Received: 11/16/12

CAS NO.	Analyte	Conc. (ug/L)	MDL	RL	D.F.	Q	Method	Sequence	Analyzed
7440-38-2	Arsenic		2.92	10.0	1	U	EPA 6010C	2K27001	11/26/12 16:46
7440-39-3	Barium	82.1	0.230	200	1	J	EPA 6010C	2K27001	11/26/12 16:46
7440-43-9	Cadmium		0.600	5.00	1	U	EPA 6010C	2K27001	11/26/12 16:46
7440-47-3	Chromium		0.730	10.0	1	U	EPA 6010C	2K27001	11/26/12 16:46
7439-92-1	Lead		2.29	10.0	1	U	EPA 6010C	2K27001	11/26/12 16:46
7439-97-6	Mercury		0.0355	0.200	1	U	EPA 7470A	2K19017	11/19/12 12:10
7782-49-2	Selenium		3.39	10.0	1	U	EPA 6010C	2K27001	11/26/12 16:46
7440-22-4	Silver		1.34	5.00	1	U	EPA 6010C	2K27001	11/26/12 16:46



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BLANKS

EPA 7470A

Client: ONEIDA TOTAL INTEGRATED ENTERJ SDG: 1211081 Project: VILLA MHP/1423

Sequence: 2K19017

Instrument ID: V4

Client ID	Lab Sample ID	Analyte	Found	MDL	RL	Units	Q	Method
ICB	2K19017-ICB1	Mercury	-0.0280	0.0355	0.200	ug/L	U	EPA 7470A
CCB	2K19017-CCB1	Mercury	-0.0770	0.0355	0.200	ug/L	J	EPA 7470A
PBW	2111621-BLK1	Mercury		0.0355	0.200	ug/L	U	EPA 7470A
CCB	2K19017-CCB2	Mercury	-0.0850	0.0355	0.200	ug/L	J	EPA 7470A



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BLANKS

EPA 6010C

Client: ONEIDA TOTAL INTEGRATED ENTERI SDG: 1211081 Project: VILLA MHP/1423

Sequence: 2K27001

Instrument ID: P4

Client ID	Lab Sample ID	Analyte	Found	MDL	RL	Units	Q	Method
ICB	2K27001-ICB1	Arsenic	-3.64	2.92	10.0	ug/L	J	EPA 6010C
ICB	2K27001-ICB1	Barium	-0.578	0.230	200	ug/L	J	EPA 6010C
ICB	2K27001-ICB1	Cadmium	-0.0215	0.600	5.00	ug/L	U	EPA 6010C
ICB	2K27001-ICB1	Chromium	-1.07	0.730	10.0	ug/L	J	EPA 6010C
ICB	2K27001-ICB1	Lead	-1.30	2.29	10.0	ug/L	U	EPA 6010C
ICB	2K27001-ICB1	Selenium	0.976	3.39	10.0	ug/L	U	EPA 6010C
ICB	2K27001-ICB1	Silver	-1.35	1.34	5.00	ug/L	J	EPA 6010C
CCB1	2K27001-CCB1	Arsenic	-0.739	2.92	10.0	ug/L	U	EPA 6010C
CCB1	2K27001-CCB1	Barium	-0.310	0.230	200	ug/L	J	EPA 6010C
CCB1	2K27001-CCB1	Cadmium	0.114	0.600	5.00	ug/L	U	EPA 6010C
CCB1	2K27001-CCB1	Chromium	-0.588	0.730	10.0	ug/L	U	EPA 6010C
CCB1	2K27001-CCB1	Lead	0.334	2.29	10.0	ug/L	U	EPA 6010C
CCB1	2K27001-CCB1	Selenium	-2.40	3.39	10.0	ug/L	U	EPA 6010C
CCB1	2K27001-CCB1	Silver	-0.750	1.34	5.00	ug/L	U	EPA 6010C
PBW	2111620-BLK1	Arsenic	-3.13	2.92	10.0	ug/L	J	EPA 6010C
PBW	2111620-BLK1	Barium		0.230	200	ug/L	U	EPA 6010C
PBW	2111620-BLK1	Cadmium	-0.837	0.600	5.00	ug/L	J	EPA 6010C
PBW	2111620-BLK1	Chromium		0.730	10.0	ug/L	U	EPA 6010C
PBW	2111620-BLK1	Lead		2.29	10.0	ug/L	U	EPA 6010C
PBW	2111620-BLK1	Selenium		3.39	10.0	ug/L	U	EPA 6010C
PBW	2111620-BLK1	Silver		1.34	5.00	ug/L	U	EPA 6010C
CCB1	2K27001-CCB2	Arsenic	0.536	2.92	10.0	ug/L	U	EPA 6010C
CCB1	2K27001-CCB2	Barium	-0.168	0.230	200	ug/L	U	EPA 6010C
CCB1	2K27001-CCB2	Cadmium	0.348	0.600	5.00	ug/L	U	EPA 6010C
CCB1	2K27001-CCB2	Chromium	-0.325	0.730	10.0	ug/L	U	EPA 6010C
CCB1	2K27001-CCB2	Lead	-1.22	2.29	10.0	ug/L	U	EPA 6010C
CCB1	2K27001-CCB2	Selenium	-0.611	3.39	10.0	ug/L	U	EPA 6010C
CCB1	2K27001-CCB2	Silver	-0.704	1.34	5.00	ug/L	U	EPA 6010C
CCB1	2K27001-CCB3	Arsenic	-3.05	2.92	10.0	ug/L	J	EPA 6010C
CCB1	2K27001-CCB3	Barium	-0.323	0.230	200	ug/L	J	EPA 6010C
CCB1	2K27001-CCB3	Cadmium	0.234	0.600	5.00	ug/L	U	EPA 6010C



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BLANKS

EPA 6010C

Client: ONEIDA TOTAL INTEGRATED ENTERJ SDG: 1211081 Project: VILLA MHP/1423

Sequence: 2K27001

Instrument ID: P4

Client ID	Lab Sample ID	Analyte	Found	MDL	RL	Units	Q	Method
CCB1	2K27001-CCB3	Chromium	-0.369	0.730	10.0	ug/L	U	EPA 6010C
CCB1	2K27001-CCB3	Lead	-0.797	2.29	10.0	ug/L	U	EPA 6010C
CCB1	2K27001-CCB3	Selenium	-1.74	3.39	10.0	ug/L	U	EPA 6010C
CCB1	2K27001-CCB3	Silver	-0.392	1.34	5.00	ug/L	U	EPA 6010C



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SERIAL DILUTION

EPA 6010C

VMHP-02WL

Client: ONEIDA TOTAL INTEGRATED ENTER SDG: 1211081

Project: VILLA MHP/1423

Lab ID: 2K27001-SRD1

Matrix: Water

Lab Source ID: 1211081-01

Source Sample: VMHP-02W

Sequence: 2K27001

Dilution: 5

Report to MDL: YES

Analyte	Initial Sample Result (I)	Serial Dilution Result (S)	RL	% Difference	Q	Method	QC Limits % Difference
Arsenic	10.00 U	50.00 U	10.0			EPA 6010C	10
Barium	82.13 J	80.08 J	200			EPA 6010C	10
Cadmium	5.00 U	25.00 U	5.00			EPA 6010C	10
Chromium	10.00 U	50.00 U	10.0			EPA 6010C	10
Lead	10.00 U	50.00 U	10.0			EPA 6010C	10
Selenium	10.00 U	50.00 U	10.0			EPA 6010C	10
Silver	5.00 U	25.00 U	5.00			EPA 6010C	10



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LCS / LCS DUPLICATE RECOVERY

EPA 6010C

Client: ONEIDA TOTAL INTEGRATED ENTERI SDG: 1211081 Project: VILLA MHP/1423

Lab ID: 2111620-BS1 Matrix: Water Client ID: LCSW Batch: 2111620

ANALYTE	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC.	Q	QC LIMITS REC.
Arsenic	1100	1070	97.1		80 - 120
Barium	550.0	520	94.6		80 - 120
Cadmium	550.0	525	95.4		80 - 120
Chromium	550.0	529	96.2		80 - 120
Lead	1100	1060	96.0		80 - 120
Selenium	1100	1070	97.2		80 - 120
Silver	550.0	522	95.0		80 - 120

ANALYTE	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC. #	% RPD #	QC LIMITS		
					RPD	Q	REC.
Arsenic	1100	1060	96.4	0.738	20		80 - 120
Barium	550.0	517	94.0	0.619	20		80 - 120
Cadmium	550.0	518	94.1	1.32	20		80 - 120
Chromium	550.0	521	94.6	1.62	20		80 - 120
Lead	1100	1040	94.5	1.54	20		80 - 120
Selenium	1100	1050	95.5	1.71	20		80 - 120
Silver	550.0	508	92.4	2.79	20		80 - 120



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LCS / LCS DUPLICATE RECOVERY

EPA 7470A

Client: ONEIDA TOTAL INTEGRATED ENTERI SDG: 1211081 Project: VILLA MHP/1423

Lab ID: 2111621-BS1 Matrix: Water Client ID: LCSW Batch: 2111621

ANALYTE	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC.	Q	QC LIMITS REC.
Mercury	4.000	4.46	112		80 - 120

ANALYTE	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC. #	% RPD #	QC LIMITS		
					RPD	Q	REC.
Mercury	4.000	4.19	105	6	20		80 - 120



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METHOD DETECTION AND REPORTING LIMITS

Laboratory: COMPUCHEM

SDG: 1211081

Client: ONEIDA TOTAL INTEGRATED ENTERPRISES

Project: VILLA MHP/1423

Matrix: Water

Instrument: P4

Analyte	MDL	RL	Units	Method
Arsenic	2.92	10.00	ug/L	EPA 6010C
Barium	0.23	200.00	ug/L	EPA 6010C
Cadmium	0.6	5.00	ug/L	EPA 6010C
Chromium	0.73	10.00	ug/L	EPA 6010C
Lead	2.29	10.00	ug/L	EPA 6010C
Selenium	3.39	10.00	ug/L	EPA 6010C
Silver	1.34	5.00	ug/L	EPA 6010C



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METHOD DETECTION AND REPORTING LIMITS

Laboratory: COMPUCHEM

SDG: 1211081

Client: ONEIDA TOTAL INTEGRATED ENTERPRISES

Project: VILLA MHP/1423

Matrix: Water

Instrument: V4

Analyte	MDL	RL	Units	Method
Mercury	0.0355	0.20	ug/L	EPA 7470A



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PREPARATION BATCH SUMMARY

EPA 6010C

Client: ONEIDA TOTAL INTEGRATED ENTERPR SDG: 1211081 Project: VILLA MHP/1423

Batch: 2111620 Matrix: Water Preparation: 3030C

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL/WT (mL)	FINAL VOL/WT (mL)
VMHP-02W	1211081-01	11/16/12 12:55	50.0	50.0
PBW	2111620-BLK1	11/16/12 12:55	50.0	50.0
LCSW	2111620-BS1	11/16/12 12:55	50.0	50.0
LCSWD	2111620-BSD1	11/16/12 12:55	50.0	50.0



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PREPARATION BATCH SUMMARY

EPA 7470A

Client: ONEIDA TOTAL INTEGRATED ENTERPR SDG: 1211081 Project: VILLA MHP/1423

Batch: 2111621 Matrix: Water Preparation: EPA 7470A Prep

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL/WT (mL)	FINAL VOL/WT (mL)
VMHP-02W	1211081-01	11/16/12 12:55	100	100
PBW	2111621-BLK1	11/16/12 12:55	100	100
LCSW	2111621-BS1	11/16/12 12:55	100	100
LCSWD	2111621-BSD1	11/16/12 12:55	100	100



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APPENDIX E
LOGBOOK NOTES

7/12/12

0800 EPA/STAFF ON-SITE
- THE 2 TRAILERS LOCATED WITHIN
SOME'S APPROXIMATE BATTERY CASINE DUMP
HAVE BEEN REMOVED

1930 BATTERY CASINGS OBSERVED IN
CREEK E NE OF McCLAIN EXTENDING
~ 50'
IMAGE 566 SITE OF FORMER
TRAILER # ~~800~~ 612
567

571 END OF DRAINAGE UPSTREAM FROM
McCLAIN
APPROX COORD, LAT 35.48617°
LONG - 80.60044°

0945 MIGUEL ALVAREZ (NCDNR) ON SITE
- OWNER REMOVED TRAILERS FOR NCDNR
#612 FOR ACCESS TO SUBSOILS
~ MARCH 2012

NCDNR -- 3/12

TEST PIT #	COORD
1	LAT 35.485762 / -80.607896
2	35.485788 / -80.607991
3	35.485897 / -80.607939
4	35.485737 / -80.608115
5	35.485707 / -80.608015
6	35.485701 / -80.607986
7	35.485723 / -80.607912
8	35.485760 / -80.607819
9	35.485934 / -80.607939

- DRAINAGE FROM CARBON OVERLAYS
- o OPEN PIT @ NW OF VENICE
- ± ERODES FUNDAMENTAL OF 612.
- ERODED SEDIMENTS AMASSED @
- McCLAIN HAVE BEEN PLACED AS
- DRIVEWAY GRAVEL @ SOME SPACES
- UNDERSIZED CONDUIT UNDER VENICE
- * McCLAIN HAS ACCELERATED EROSION
- CORRODED VST CONDUIT @ SE OF VENICE
- OUTFALL TO OPEN PIT HAS CORRODED AWAY
- AT BOTTOM HALF EXPOSED BATTERY CASINGS
- ARE VISIBLE BENEATH CORRODED VST
- PIC # 578

1115 ^{off} START SCREENING w/ XRF

VMHP- ϕ 1-12 ϕ 712

SURFACE 31 PPM

ϕ -4" 56 PPM

1 TO 1.5 FT 3451 PPM

AUGER REFUSAL @ 1.5 FT

VMHP- ϕ 2-12 ϕ 712

SURFACE 32 PPM

ϕ -6" 936 PPM

1'-1.5' 389 PPM

REFUSAL @ 1.5'

2 ϕ SAMPLE COLLECTED VMHP- ϕ 2-12 ϕ 712
FOR EM

VMHP- ϕ 3-12 ϕ 712

SURFACE

62 PPM

FROM SANDY SOIL

ϕ -6" 39 PPM

" \rightarrow RED CLAY

2-3'

35 PPM

WHILE RED SANDY CLAY w/ CHIPS

2-3' DUP 1 233

SAMPLE CONTAINS CASING CHUNKS

2-3' DUP 2 841

DIRECTLY ON CASING CHIP

133 ϕ VMHP- ϕ 4-12 ϕ 712

SURFACE 31 PPM

ϕ -6" 76 PPM

2-3' 225 PPM

133S COLLECT SAMPLE VMHT- ϕ 4-12 ϕ 712

141 ϕ VMHP- ϕ 5-12 ϕ 712

SURFACE 86 PPM

AUG. REFUSAL @ SURFACE

northside of drainage

\sim 13' SW of VMHP- ϕ 5

VMHP- ϕ 5A-12 ϕ 712 - located

SURFACE 59 PPM 2.5' bags

Southside of drainage below grade

Photo # 579: up close at auger hole

hit refusal \sim 6" bags

VMHP- ϕ 6-12 ϕ 712

SURFACE 42 PPM

ϕ -6" 44 PPM

AUGER REFUSAL @ 8"

144S VMHP-07-120712
 SURFACE 260 PPM
 0-6" 5015 PPM
 1457 COLLECT VMHP-07-120712
 2'-3" - 1694 PPM
 ALBTR REFUSAL @ 2'9"
 131S COLLECT SAMPLE VMHP-07SSB-120712

VMHP-08-120712
 SURFACE 21 PPM
 0-6" 30 PPM
 1-2' 86 PPM

160S COLLECT VMHP-09SD-120712
 4 POINT COMPOSITE SEDIMENT SAMPLE @
 W/IFALL
 42 PPM

1620 COLLECT VMHP-10SD-120712
 3 POINT COMPOSITE SEDIMENT
 42 PPM

1700 COLLECT VMHP-70-120712
 - DUPLICATE FOR VMHP-07-120712
 0-6" 3144 PPM

1730 SWBT OFF-SITE

10/30/12

0730 EPA / SWBT ERRS ON SITE TO
 BEGIN REMEDIAL ACTION

* TRAINERS @ 802, 804, 806, = 400S
 VERONIA NAME BEEN REMOVED
 W/ NOTIFICATION OF REMEDIAL ACTION

EPA: ALYSSA HUGHES
 ERRS: ER -- DAVE MANG
 FRANK MONROE
 CARY PUPPERT
 ANDREW PIERCE
 PAUL PERONARD

0500 ERRS BEGN EXCAVATING 0-1'
 ALONG S END OF PERIMETER
 WORKING @ S BUFFER ALONG PIPE

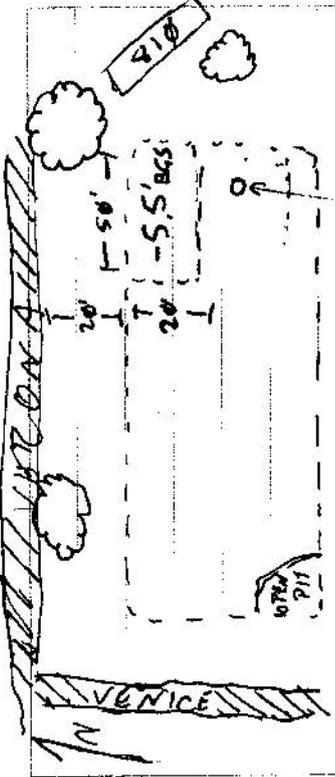
0800 TEST PIT DUG APPROX 8' NW OF
 POWER POLE #808
 - NO CASINGS OBS. 0'-5'
 354X567
 - 8060772

- VERONA
- TEST PIT 2 @ 35' S of 80' x 20' V of E PERIMETER
 - CASINGS + GROUNDWATER OBS. @ 5 FEET BELOW GRADE
 - XRF SCREENING ON OVERBURDEN SOILS .42 PPM
 - XRF CASING SOILS .162 PPM
 - TEST PIT 3 @ 45' S of VERONA @ E PERIMETER = N/S TO POLE 808
 - CASINGS ENCOUNTERED @ -5 FT
 - 1000 - TEST PIT 4 @ 25' S of VERONA
 - EQUAL ON N/S LINE TO OVER POLE 808
 - NO CASING OBSERVED @ 5'
 - TEST PIT 5 @ 60' S of VERONA
 - ON N/S LINE 1/2 PP 808
 - MINIMAL CASING OBS. @ 0'-8'
 - TEST PITS INDICATE GREATER EXTENT OF CASINGS THAN ORIGINALLY SUSPECTED EXTENDING DOWN GRADIENT TO THE E @ APPROX 4-6' BGS

Scale: 1 square =

- EQUIPMENT ON-SITE:
- KOMATSU PC 200 LC TRACK NOE
- BOBCAT T250 SVD STEER
- ER HAS ORDERED A D-6 BULLDOZER TO SCRAPER OFF OVERBURDEN
- 1100 - ER EXTENDING GRASS SAFETY FENCE TO INCLUDE NEW AREA TO EAST
- FILLING TEST PITS + STOCKPILING EXCAV. SOILS
- 1300 BIDS EXCAVATING CONT. SOILS @ NW QUADRANT OF SITE (SEE DIAG)
- 1600 - 55' BGS END OF ^{EM} WASTAGE VISIBLE CASINGS
- BEGUN BACKFILL ACTIVITY w/ OVERBURDEN ON-SITE SOILS
- START COLLECT 5-TONN COMPOSITE SAMPLE OF BACKFILL STOCKPILE FOR XRF ANALYSIS -- OVEN DRY - 9/11 PPM

Scale: 1 square =



1640 SKID STEEL BEARS DOWN
 • CONTINUE BACKFILLING 4' TRACE HOSE

1500 EPA / START / ERS OFF SITE

EM

10/31/12

0730 EPA / START / ERS ON SITE

- SAFETY BRIEF
- OVERHEAD POWER LINES
- SLITS / TRIPS / FANS
- HERTZ DEWELERS (S0J) LGP DOZER

0800: - BE CONTINUE BACKFILLING EXCAVATION

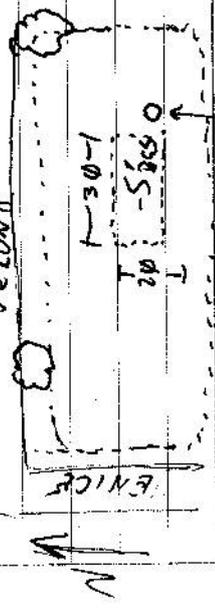
- FROM 10/30
- EXCAVATING OVERBUDEN TO N/NW OF POWER POLE S08
- CASINGS ENCOUNTERED ~ 4' BGS ~ 1 FT CONT, SOIL EXCAVATED

0900 START SCREENING S-POINT COMPOSITE

- COLLECTED FROM EXCAVATED OVERBUDEN STOCKPILE -- OVER DRY
- S0 / PPM

0930 OVERBUDEN STOCKPILE PLACED IN

EXCAVATION e N/NW OF POLE #S08



S08

11/1/12

0730 START/ERS ON-SITE

- SAFETY BRIEFING / WORK PLAN
- SLIPS / TRIPS / FALLS
- OVERHEAD POWER LINES
- FUEL EQUIP / GENERATORS

0800 - FUELING TRUCK MOE

- CONSOLIDATING CONTAMINATED SOILS

0945 - EXCAVATING APPROX 15' N OF DRAINAGE PIPE 45' W OF POLE 808
 TRIP + CASINGS OBSERVED @ 4 FT DECS

0945 - SIGNIFICANT IN-FLOW OF WATER

FROM AN UNKNOWN SOURCE AS

FLOODING EXCAVATION

- ERS DIGGING SURF PIT ADJACENT TO EXCAVATION FOR TEMPORARY STORAGE

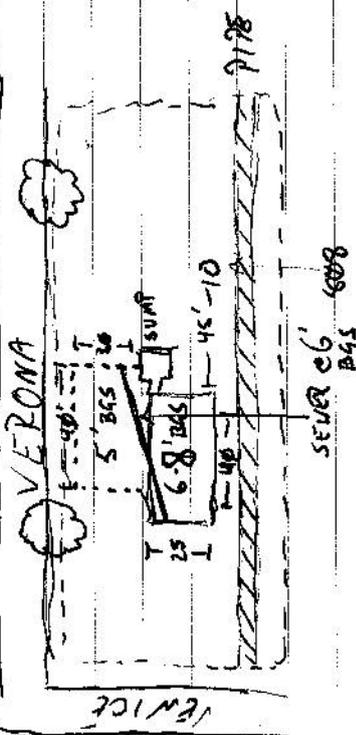
1000 MIGUEL ALVALLE ON-SITE

DSC HUGHES ON-SITE

1030 START COLLECT WATER SAMPLE
 VMHP-01 W
 VMHP-010 W - PUT
 VMHP-01 MS/MSD

COLLECTED FROM EXCAVATOR BUCKET

1100 ERS CAN'T EXAMINATION OF CONT. SOILS
 @ 4'-6' BGS TO 7' BGS TO 8' BGS



1200 START OFF SITE TO SHIP SAMPLES TO COMPAGRENT, CARY NC
 COMPUTHER

1320 - START ON-SITE

- ERS EXCAVATED GREAT CASING-FREE SOIL @ 8 FT IN EXCAVATION AREA
- BEGAN BACKFILLING W/ CLEAN OVERBURDEN

1400 - EXCAVATION @ 20' S OF VERMONT
 WEDS CHIPS @ 3 FT BGS

- EXCAVATED TO APPROX 5 FT BGS
 IN AREA APPROX 40' x 30' (SEE DIAG)
- RENEWED ANOTHER SECTION OF SEWER LINE

1600 - CONSOLIDATING STOCKPILE & PLACING
 BACKFILL IN AM EXCAVATION / LAYING
 FOUNDATION BRIDGE FOR SEWER REPAIR

- XRF SCREENING @ FLOOR OF EXCAVATION
 INDICATED SUBSOILS CONTAMINATED
 FROM 2000 PPM TO 12,000 PPM

XRF: 214mg 12,101 PPM, 359 PPM, 892 PPM

1700 - REPAIR SEWER LINE

1800 ETA/START/ETRS OFF-SITE

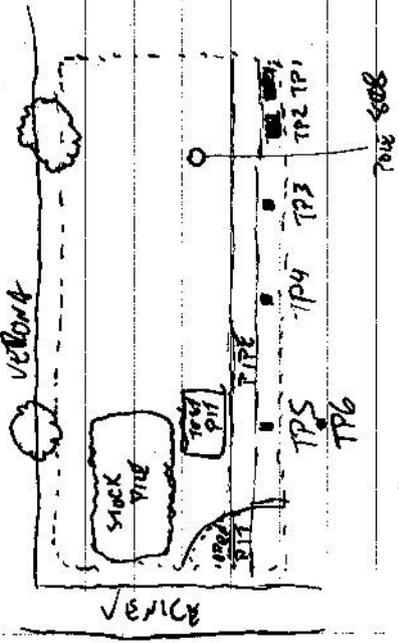
11/2/12

0730 - EPA/START/ETRS ON SITE

- SAFETY BRIEF
- OVERHEAD LINES
- SLIPS/TRIPS/FALLS
- OPERATOR AWARENESS
- VISITORS => OSC

0800 - BACKFILLING EXCAVATION FROM "1/1

0830 - TEST PIT @ SW CORNER OF
 SITE (SEE DIAG) INDICATED CAGING
 LAYER FROM 4' TO 6' BGS



1000 - CONSOLIDATING STOCKPILE
 - BACKFILLING / GRADING

1130 - TPS DIGGING TEST PITS AREAS

SIDE OF PIPE

- TP 1 @ E END OF SITE
- NO CASINGS OBS @ 0-5'
- TP 2 - NO CASINGS OBS @ 0-6'
- TP 3 - NO CASINGS OBS @ 0-6'

RESIDENT OF ADJACENT PROPERTY

- BRUCE WOODARD

846 FAIRVIEW ST

~ 40 YRS @ THIS LOCATION
ALSO OWNS 840 + 835 + 833 FAIRVIEW

11545 CONTINUE TEST PITS

- TP 4 NO CASINGS OBS @ 0-6'
- TP 5 CASINGS OBS @ 2' BES
- TP 6 1/2 WAY UP BANK TO S
OF TPS,
- CASINGS OBS @ 3'

11430 - BACKFILLING / TURNING STOCKPILE TO DRY

11600 EPA/START ERRS OFF SITE

A SAMPLE OF THE CONTAMINATED STOCKPILE HAS BEEN SENT BY ERRS TO ENVIRTEL ON 11/1. THE RESULTS OF THEIR PILOT STUDY WILL DETERMINE WHETHER SOILS WILL BE TREATED ON-SITE OR DEPOSED OF AS HAZ. RESULTS ARE EXPECTED ON MONOR TUES OF NEXT WEEK. THE STOCKPILE IS SITTING A TOP THE REMAINING CONTAMINATED SUB SOILS, SO NO FURTHER EXCAVATION CAN BE PERFORMED AT THIS TIME. SAME IS CURRENTLY DRAFTING PLANS FOR STREAM RESTORATION, SO THE DRAINAGE PIPE WILL REMAIN IN PLACE UNTIL THOSE PLANS CAN BE IMPLEMENTED. ERRS WILL REMAIN IN KANSASPOLIS THROUGH THE WEEKENDS + COVER THE STOCKPILE IF PRECIPITATION IS EXPECTED, OTHERWISE THE PILE WILL REMAIN UNCOVERED IN AN EFFORT TO DRY IT OUT FOR SHIPPING.

11/7/12

0730 - EPA/START/ERS ON SITE

• SAFETY BOOBY

0800 - ERS HAS RECEIVED RESULTS FROM ENVIRONMENTAL SOIL WILL BE TREATED ON-SITE IN A 3:1 RATIO & LANDFILLED AS NON-HAZ. ERS IS WORKING ON A CONTRACT W/ ENVIRONMENTAL & WILL BEGIN REMEDIATION LATE THIS WEEK OR EARLY NEXT WEEK. ERS REMAINED ON SITE OVER THE WEEKEND & PERIODICALLY TURNED THE STOCKPILE IN AN EFFORT TO DRY IT OUT.

0600 - ERS BACKFILLING AROUND EXISTING SEWER LINE TO CONSTRUCT A FOUNDATION FOR A MIXING AREA TO TREAT CONTAMINATED SOIL.

- PUMPING FILL FROM EAST END OF SITE AND SOUTH SIDE OF DRAINAGE PIPE

0930 - BUILDING A RAMP ALONG NORTH SIDE OF VERONA TO ALLOW OFF-LOADING OF ENVIRONMENTAL ELEMENTS

Scale: 1 square =

1300 START SCREENING IN-SITU XRF

ON STOCKPILE AVERAGE OF

20 READINGS FROM STOCKPILE

INDICATE LEAD CONCENTRATION OF

~960 PPM

1400 DEPARTING SILT FENCE AROUND

STOCKPILE

1430 COVERING STOCKPILE

1500 ERS/START OFF SITE

EA

Scale: 1 square =

11/13/12

1130p - START/ERS ON SITE.

- 22.5 TONS ENVIRONMENTAL DEWATERED THIS MORNING

- EPRS MIXERS INTO NE CORNER OF STOCKPILE

- SPIN TO 0.75 RPM: TCUV VALUE FOR ENVIRONMENTAL TREATED SOILS PER L. Von Oetting

1230p START SCREENING TREATED STOCKPILE w/ XRF & THE REQUEST OF EPRS START HAS ADVISED EPRS THAT XRF RESULTS ARE NOT INDICATIVE OF

SUCCESS / FAILURE OF ENVIRONMENTAL TREATMENT
- 1435^{PM} 1281, 1313, 1502, 1467

1300 CONTINUED MIXING OF STOCKPILE

1515 XRF SCREENING OF STOCKPILE
• 1644, 1589, 1500, 1523• EPRS SPRINKLING H₂O ON STOCKPILE FOR DUST SUPPRESSION

Scale: 1 square =

1530p - CONTINUED MIXING / SPRINKLING

1715 STOCKPILE SCREENING
- 1370, 1606, 1522, 1590

1730p - EPRS / START OFF SITE

(M)

Scale: 1 square =

11/14/12

0700: EPA/START/ETRS ON SITE

- SAFETY
- EYE CONTACT w/ OPER.
- DUST CONTROL
- TYNEK, APR ON SKYLINE
- WORK PLAN
- MOVE TREATED SOIL TO E END OF SITE
- RECEIVE 2-3 SHIMMERS OF ENVIRONMENT

0730: 1ST LOAD OF EB DELIVERED

0745 MOVING TREATED SOIL TO E END OF SITE

0800 MIXING EB INTO REMAINING STOCKPILE

0930 2ND LOAD OF EB DELIVERED
CONTINUED MIXING/STRAVING1400 START COLLECTING SURFACE H₂O
SAMPLE APPROX SQ E OF McLANE ST.

ID: VMHP-02W

Scale: 1 square=

1430 SOME ON SITE TO DISCUSS STREAM CHANNEL OPTIONS

- CAN SEWER BE RELOCATED ALONG BANK @ S OF SITE?
- WINDING STREAM CHANNEL AROUND MIDDLE OF SITE
- REMOVE CULVERT NOW + PUMP AROUND SITE UNTIL STREAM READY?
- 1 TO 1.5 DAYS TO RIP CULVERT
- STREAM PLAN NOT LIKELY UNTIL JAN.

1500 MOVING TREATED SOIL TO STOCKPILE
• E END OF SITE

1515 START/ETRS COLLECTING COMPOSITE SOIL SAMPLE FOR TCLP

1530 START OFF SITE TO FEDEX SAMPLES

1630 START ON SITE

1730 EPA/START/ETRS OFF SITE

EM

Scale: 1 square=

11/15/12

0830 • INCREMENT WEATHER NECESSITATED

A LATE START TODAY

• ERPS / START ON-SITE

0845 • ERPS LAYING OUT DRY, LEVEL SOIL
FOR OFF LOADS OF EB SHIPMENT

0900 • FUELLING EQUIPMENT

• EPA ON-SITE

0920 • MIXING EB INTO REMAINING
STOCKPILE1015 • 4TH LOAD OF EB DELIVERED

• CONTINUED MIXING / SPRAYING

1130 LIGHT RAIN

1430 • MOVING TREATED MATERIAL TO E END
OF SITE

• CONTINUED MIXING / SPRAYING

1730 EPA / START / ERPS OFF SITE

Scale: 1 square =

Scale: 1 square =

11/16/12

0700 EPA / START / ERPS ON SITE

• SAFETY BRIEF

• COLD WEATHER, HORNETS

• EYE CONTACT w/ OTER

• WORK PLAN

• MIXING

• MOVING REMAINDER OF STOCKPILE TO E

0730 ADDRESSING EQUIPMENT ISSUE w/
HYDRAULICS ON TRACK-HOE

0800 CONTINUE MIXING / SPRAYING / MOVING

0930 • RETRACING AND FILTER / ADDING HYD.
FLUID TO SKID STEER1100 HERTZ ON-SITE TO REPAIR HYDRAULIC
PROBLEM ON EXCAVATOR "THUMB"

1120 REPAIR COMPLETE

• CONTINUED MIXING / MOVING

1500 EPA OFF-SITE

Scale: 1 square =

Scale: 1 square =

1600 START SCREENING STOCKPILES ~ 1 XRF

NIGHT: 1900

LOW: 600

AVG: ~ 1000

1730 START ERRS OFF SITE

64

11/17/12

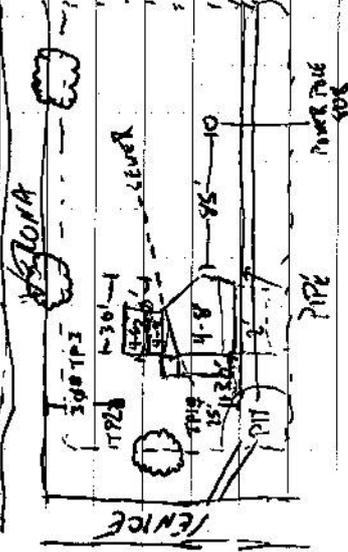
0700 - START/ERRS ON-SITE

- SAFETY BRIEF / WORK PLAN

0715 CONTINUE MOVING REMAINDER OF EXISTING STOCKPILE TO E END OF SITE

0900 REMAINDER OF STOCKPILE ALL RELOCATED TO E OF SITE

0730 EXCAVATING ABOVE DRAINAGE PIPE AND ALONG SIDES, CASINGS OBS R APPROX 4-8' XRF SCREENING @ 6' INDICATES ~ 1000PPM CEM - 11/15/12



1100 EXCAVATED TO TOP OF PIPE TREATING EXCAVATED MATERIAL W/ EB MIXING / SPRAYING

1345 MOVING TREATED SOIL TO TREATED STOCKPILE @ E END OF SITE

1430 CONTINUED EXCAVATION OF CONTAMINATED SOILS

1530 TEST PILING W END OF SITE

TP.1 CASINGS ENCOUNTERED @ 1.5'

- THICK DENSE LAYER

TP.2 THIN LAYER OBS @ 2'

TP.3 NO CASINGS OBS @ 6'

1545 CONTINUED EXCAVATION

1740 REPLACING BROKEN SEGMENT OF SEWER LINE

1730 START/ERRS OFF SITE

~~END~~

11/18/12

0900 START/ERRS ON SITE

SAFETY BRIEF / VOOC PLAN

- START OVER BURDEN FROM REMAINS

CONTAMINATED SOILS @ W END

OF SITE TO USE AS FILL IN

AREAS EXCAVATED ON 11/17.

- MAKE NEW CONTAMINATED STOCKPILE

TO S SIDE OF SITE

0930 - CONTINUED EXCAVATION AT NW EDGE

OF AREA EXCAVATED ON 11/17.

- REMOVED SECTION OF REMOVED SEWER LINE

TO AVOID DAMAGING NEW PIPE.

- MINIMAL EXCAVATION TO LEAVE A NEAR LINE

TO ENDS LATER

1000

- STARTING OVERBURDEN @ W ENDS

- PROCEEDING 11/17 EXCAVATION

1000

TEST PIT IN NEWLY STRIPPED AREA

REVEALS APPROX 3' OF SOLID CASINGS

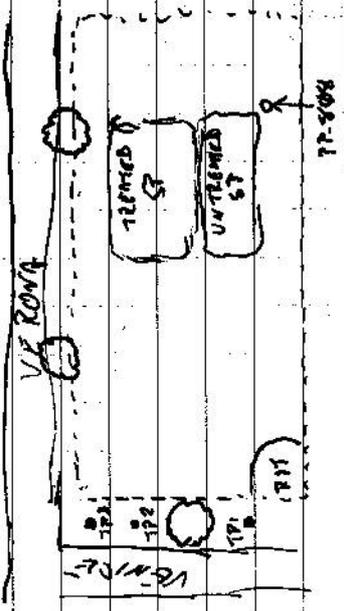
1115

- BACK FILLING

- REPLACING SEWER SEGMENT

1230 MOVING CONTAMINATED STOCKPILE TO SE QUAD OF SITE

1400 LEVELING STOCKPILE TO COVER



1500 TEST PITS OUTSIDE W PERIMETER

TP1 : NO CASINGS OBS 0-3'

TP2 : " "

TP3 : " "

1515 CONTINUE STRIPPING OVERBURDEN FILLING

1645 COVERING STOCKPILES W/ TOLY

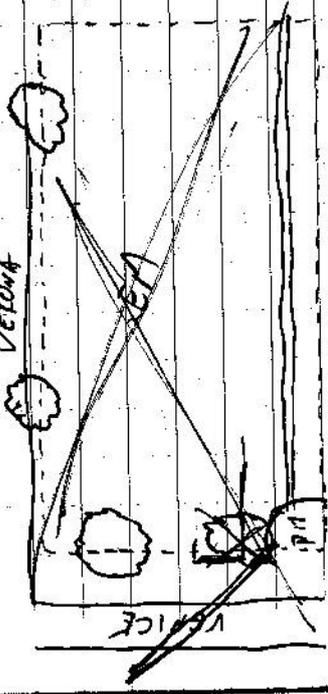
1730 START/EXRS OFF SITE

11/9/12

0700 START/EXRS ON SITE

- SAFETY BRIEF / LOCK PLAN

0730 EXCAVATING @ W END OF SITE



- APPROX - 2' to - 7' BATTERY CASINGS

- SOLID LAYER OF CASINGS - 4' to - 7'

- APPEAR TO CONTINUE S^W TO PIT AND

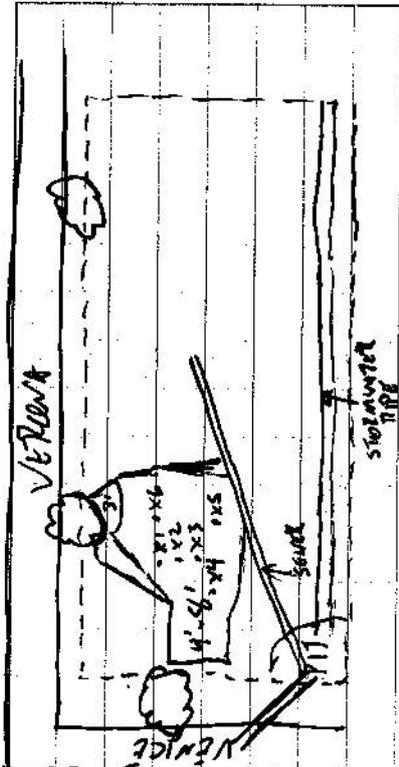
MAY CONTINUE BETWEEN PIT (VEHICLE)

- APPEAR TO CONTINUE TO ROAD ALONG PIPE

* MAY CONTINUE BENEATH ROAD AS

EVIDENCED BY SUBS IDENCE OF ASPHALT IN-LINE W/ VEIN OF CASINGS AND PIPE

1100 OSC HUGHES ON SITE



1300 - XRF SCREENING OF SUB SOILS

- X1: 842 -1'
- X2: 230 -3'
- X3: 1409 -4'
- X4: 4396 -8'
- X5: 256 -6'
- X6: 195 -3'

- BRIS COLLECTING COMPOSITE OF CASINGS / SOIL FOR ENVIRONMENTAL BEACH STUDY

1430 - MIGUEL AVENUE (INCIDENT) ON SITE

! STOP - REVERTING REMOVING STRUCTURE OF EB TO SE CORNER OF SITE TO ACCESS

CASINGS CONTAINING SOILS

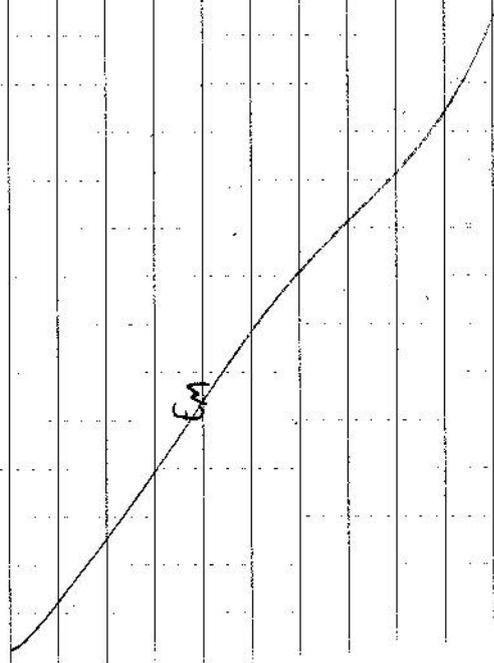
1600 - ESTIMATE BATTERY CASINGS WERE DUMPED LATE 1970S AS PER DISCUSSION w/ MR BRUCE WOODWARD

• FILLING / SMOOTHING TOPHS EXCAVATION

~~1730~~ • EXCAVATING CONTAMINATED SOILS

AROUND TREE @ SW SIDE OF SITE WHERE STRUCTURE OF EB WAS REMOVED

1730 EPA / SUB7 / EPRS OFF SITE



11/29/12

0700 EPA/START/ERRS ON-SITE

- SAFETY BRIEF / WORK PLAN
- TREAT STOCKPILE w/ REMAINING EB
- INSTALL SILT FENCE & STOCKPILE
- SAFETY FENCE & OPEN EXCAVATION
- CAUTION ON GROUND STOCKPILE
- OVERHEAD POWER LINES
- DUST CONTROL w/ EB
- CLOSE UP SITE FOR HOLIDAY

0715 FUELING EQUIPMENT

0800 - MIXING EB INTO SW CORNER OF STOCKPILE

- CONTINUED GRADING OF 1/19 EXCAVATION

1130 COVERING STOCKPILES

1500 RETURNS SILT FENCE / SAFETY FENCES

1530 EPA/START/ERRS OFF SITE

EPA

11/27/12

0700 START/ERRS ON-SITE

- SAFETY BRIEF / WORKPLAN
- LUBE EQUIPMENT
- CONTINUE MIXING

0845 SITE LOAD OF EB DELIVERED

- CONTINUED MIXING / SPRAYING FOR DUST CONTROL

0930 6TH LOAD OF EB DELIVERED

- CONTINUED MIXING / SPRAYING

1000 : MILES AVENUE (NCDENR) ON SITE
DANC PINK/WHITE(ER) ON SITE

1100 NCDENR OFF SITE

- CONTINUED MIXING / SPRAYING

1130 EPA ON SITE

1600 LIGHT RAIN - COVERING STOCKPILES

1700 EPA/START/ERRS OFF SITE

11/25/12

0700 ETA/START ERRS ON SITE

WORK PLAN

- MIX + MOVE

- SAFETY

- SUITS/TRIPS ON VET TUBING

- OVER HEAD LINES

0730 - LUBE/MAINTAIN EQUIPMENT

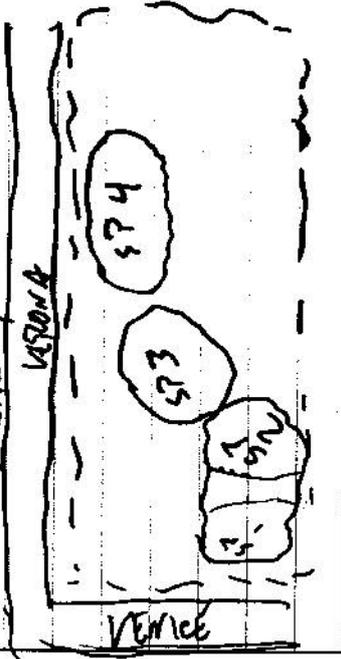
0800 CONTINUE MIXING/MOVING/STRAYING

1400 ETA/START COLLECTING SAMPLES FOR TCEP ANALYSIS

• SAMPLE 02

• SAMPLE 3

• SAMPLE 4



Scale: 1 square =

1450 START OFF SITE TO DELIVER SAMPLES TO PTIISM LABS, CHARLOTTE NC

1600 START ON SITE

1630 ETA/START ERRS OFF SITE

60

Scale: 1 square =

11/29/12

0700 START/ERRS ON SITE • EPA
ERRS LAYING OUT ROY CARP e
LOADING ZONE ON VERANDA

0710 LOADING 1ST TRUCK ~ 20T

0720 LOADING 2ND TRUCK ~ 18T 16.10

0725 LOADING 3RD TRUCK ~ 18T 15.90

0745 " 4TH ~ 24T 23.77

0755 " 5TH ~ 25T 23.74

0805 " 6TH ~ 23T 25.58

0930 " 7TH ~ 18T

1050 " 8TH 26.52

1040 " 9TH 22.76

1050 " 10TH 22.52

Scale: 1 square=

1105 LOADING 11TH TRUCK 17.62

1115 " 12TH 16.75

1120 " 13TH 14.05

1125 " 14TH 14.54

1220 " 15TH 19.01

1230 " 16TH 21.81

1240 " 17TH 19.17

1245 " 18TH 17.84

1320 " 19TH

1330 " 20TH

1350 " 21TH

1405 " 22TH

Scale: 1 square=

1500 LOADING 23RD TRUCK1520 " 24TH1600 " 25TH

26,227

TOTAL MATERIAL LOADED OUT

014:566.16 ~~546.16~~ TONS

\$14,377.04

1700 EPA/START/ERRS OFF SITE

• A PUDDLE HAS FORMED OVER THE
WELL @ THE E END OF THE SITE.

APPEARANCE + NOISE SUGGEST THE Puddle
IS UNTREATED SEWAGE. CITY MAINTENANCE
PERSONNEL HAVE BEEN WORKING IN THE
AREA ATTEMPTING TO JET CLEAR THE SM ANY
OBSTRUCTION THAT MAY BE CAUSING THE
BACK UP

~~2-11~~

~~0700~~ 11/30/12

0700 EPA/START/ERRS ON SITE

0710 LOADING 1ST TRUCK0720 " 2ND "0725 " 3RD TRUCK0735 " 4TH "0745 " 5TH "0750 " 6TH "0755 " 7TH "0805 " 8TH "0830 " 9TH "

0930 CAROLINA SURVEYORS ON SITE

- THOMAS WHITE FZ

- CONTRACTOR FOR STME

1005 LOADING 10TH TRUCK1015 " 11TH TRUCK1025 " 12TH "1030 " 13TH "1050 " 14TH "1055 " 15TH "1105 " 16TH "

1115	LOADING	17 TH	TRUCK
1125	"	18 TH	"
1300	"	19 TH	"
1305	"	20 TH	"
1400	"	21 ST	"
1430	"	22 ND	"

TOTAL TONNAGE ON THIS DATE: 459.59
 1530 START/END OF SITE

- MATERIAL UNFILLED NON-HAZ AT:
 WASTE CONNECTIONS
 POLKTON, NC

12/3/12

0700 START/ENDS ON SITE

FILL DIRT BEING SOURCED FROM

4615 29/60TH on

1625 Hwy 29 SOUTH

CHINA GROVE, NC 28023

704-855-2550

OWNER: JIM WHITNEY

CONTRACTOR: JOHN ECKARD

3 LOADS OF FILL DIRT

DELIVERED TO SITE

APPROX 40 TONS TOTAL ~42 TONS

BEGAN FILLING FROM SW CORNER

3 TANDERS + 1 ENDS - JUNE (12, 13, 18)

3 LOADS FILL DELIVERED

- APPROX 42 TONS

3 LOADS FILL DELIVERED

- ~42 TONS

3 LOADS FILL DELIVERED

- ~42 TONS

MOVING REMAINDER OF STOCKPILE
3/4 TO STREETSIDE S VERONA
FOR EASY LOADING

1110 5 LOADS FILL DELIVERED
~42 TONS

1135 3 LOADS FILL
~42 TONS

1200 ~42 TONS DELIVERED

1230 3 LOADS FILL
~42 TONS

1200 3 LOADS FILL
~42

1330 2 LOADS FILL
~42: ~30

1530 START/ETRS OFF-SITE

12/4/12

1100 START/ETRS OFF-SITE

DUE TO A DELAY IN RECEIVING
FINAL TCLP RESULTS ON REMAINDER
OF STOCKPILE, NO WORK WAS PERFORMED
THIS MORNING. ETRRS WILL BE
REPAIRING THE SKID STEER +
MAKING PREPARATIONS TO LOAD OUT
THE REMAINING STOCKPILE OF CASING
SOILS TOMORROW MORNING

1230 REPAIR TO SKID STEER COMPLETE
DRESSING SITE / STOCKPILE

1530 START/ETRS OFF-SITE

GIN

Location _____ Date _____

Project / Client _____

1440	CONTINUED REPAIR OF BROKEN SEWER LINE			
1600	LOADING 38 TH TRUCK			WT1
	CONTINUED SEWER REPAIR			
	PRESSING REMAINDER OF STRUCTURE/SITE			
1630	SEWER REPAIR COMPLETE			
	PUMPING LIGHTS INTO NEARBY MACHINERY			
1730	EPA/STAFF/ERRS OFF SITE			

6/11

Location _____ Date _____

Project / Client _____

1055	LOADING	22 ⁰⁰	"	TRUCK	H-20
1100	"	23 ⁰⁰	"	"	H 55
1120	"	24 TH	"	"	JH 65
1240	"	25 TH	"	"	G2
1245	"	26 TH	"	"	SD
1255	"	27 TH	"	"	59
1305	"	28 TH	"	"	KPP2
1310	"	29 TH	"	"	WT1
1315	"	30 TH	"	"	7
1355	"	31 ST	"	"	52
1400	"	32 ⁰⁰	"	"	65
1330	ERRS ATTEMPTING TO LOCATE SOURCE OF SEWER LEAK THAT WAS CREATED A PUZZLE OF SEWAGE @ E END OF SITE. SLOAN LINDS WERE ENCOUNTERED IN TRAILER OF SEWER HOODUP FROM THE FORMER TRAILER SINCE WERE CASING SPILLS HAD BEEN EXCAVATED				
1410	LOADING	33 ⁰⁰		TRUCK	#64
1415	"	34 TH		"	H 20
1420	"	36 TH		"	JH 55
1430	"	36 TH		"	JH 65
1435	"	37 TH		"	KPP1

Location 12/6/12 Date _____

Project / Client _____

0700	EPA/START/ETRS	ON SITE	
0710	DIGGING SUMP PIT TO PUMP REMAINS		
	SEWAGE		
0720	LOADING 1 ST TRUCK	652	
0730	" 2 ND "	65	
0740	" 3 RD "	64	
1030	" 4 TH "	52	
1040	" 5 TH "	65	
1050	" 6 TH "	64	
1150	2 TANKEN-DUMP LOADS OF		
	FILL MATERIAL DELIVERED		
1220	2 TANKEN-DUMPS OF FILL		
1245	3 "		
1310	" "		
1340	" "		
1345	" "		
350	LOADING 7 TH TRUCK	65	
	" 8 TH "	52	EN BREAKDOWN
	1 TANKEN DUMP OF FILL DELIVERED		
	LOADING 9 TH TRUCK	64	

Location _____ Date _____

Project / Client _____

1400	LOAD #	FILL	DELIVERED
1410	"	"	
1415	"	"	
1420	"	"	
1430	"	"	
1440	"	"	
1445	"	"	
1450	"	"	
1500	"	"	
1505	"	"	
1510	"	"	
1520	"	"	
1530	"	"	
1535	"	"	
1550	"	"	
1605	"	"	
1610	"	"	
1620	"	"	
1635	"	"	
1645	"	"	
1650	"	"	
1700	"	"	
1710	"	"	
1720	"	"	1730 EPA START/ETRS OFF SITE

Location _____

12/7/12

Date _____

Project / Client _____

06700	EPA/ERES/START	ON SITE
	SPREADING LAST FEW LOADS OF FILL DELIVERED 12/6	
0830	POWER WASHING EQUIPMENT	
0930	HERTZ ON SITE TO LOAD ON BULLDOZER	
1230	EPA/START	OFF SITE

Location _____

1/22/13

Date _____

Project / Client _____

0700	START/ERES ON-SITE	
	SAFETY BRIEF	
	- COLD STRESS (MEASURED H: 37°F)	
	- OVERHEAD LINES	
	- UPSTREAM BURSTAGE OF PIPED STREAM LED TO SIGNIFICANT EROSION OF TOPSOILS PAVED @ W END OF SITE. ORGANIC DEBRIS WAS CLOGGED INLET OF PIPE THAT CARRIES WATER UNDERNEATH VENICE ST. RESULTING IN STORMWATER TRAVELING OVER THE STREET & WASHING INTO THE W END AND N SIDE. ERODES SOILS SETTLED MOSTLY IN DEPRESSION ALONG S SIDE OF SITE ON TOP OF PIPE	
0800	REMAINING SATURATED SOILS FROM ABOVE PIPE @ S SIDE OF SITE. MALFUNCTIONING EXCAVATOR RESULTS IN WORK BEING PERFORMED W/ TRACK-HOE ONLY	

Location _____ Date _____

Project / Client _____

09140 HERTZ ON SITE TO REPAIR EXCAVATOR

09140 REPAIR COMPLETE. HERTZ OFF SITE

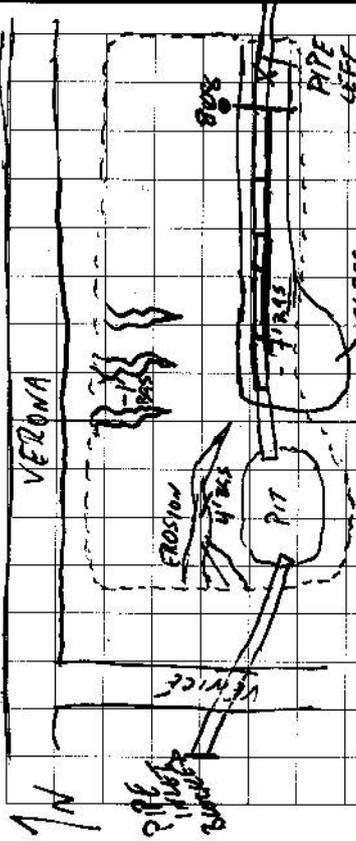
1000 BEG. EXCAVATING SECTIONS OF TIRE/US
SOME PIPE SEGMENTS APPEAR FLATTENED
TO THE POINT WHERE LITTLE TO NO
WATER COULD PASS THROUGH CASINGS
EXCAVATED @ APPROX. 80' W OF
POWER POLE YARD -- SCATTERED / MIXED IN
TOP SOIL LAYER NO CASINGS OR SERIES
IN SUBSOILS BENEATH PIPE.

- SOMETIME SINCE DEC DEMO, THE
ASPHALT OR MCLAIN RS HAS BEEN
STRIPPED & THE CULVERT / HEADWALL REMOVED,
SANDY SOILS CONSISTENT W/ THE TORRIZED
ARE OBSERVED FILLING APPROX 1/2 OF PIPED
OUTFALL @ W SIDE OF ROADWAY.

1500 AT APPROX 90' W OF POWER POLE SCOB CASINGS
OBS. EXTENDING INTO BANK @ APPROX
- 4' BGS OUTSIDE OF SAFETY FENCE

Location _____ Date _____

Project / Client _____



ALL AREAS EXCAVATED ON THIS DATE
EXTEND TO THE DEPTH OF THE BOTTOM
OF US/PIPE -- APPROX 7' BGS EXCAVATOR
ALONG BANK EXTENDS 3/4 OF WAY UP BANK
TO APPROX 15' FROM TOP OF BANK TO
BOTTOM OF PIPE DEPTH. 1/2 SEGMENT OF
UST REMAINS IN-PLACE @ E SIDE OF PIT

1730 START/ENDS OFF-SITE

EM

0700 EPA/START/ERRS ON SITE

0840 EPA/START OFF SITE TO CONDUCT RSE •
PATERSON AVE BATTERY DUMP

ERRS COMPLETED EXCAVATION OF CASINGS
ON THIS DATE. CASINGS EXTENDED W/ TO
24" CONCRETE CONDUIT THAT PASSES UNDER
VENICE ST. TO A DEPTH OF APPROX -6' BGS.
SOUTHERN EXTENT REACHES INTO BANK
APPROX 3/4 OF WAY UP APPROX 8' SOUTH
OF POWER POLE 612 + APPROX 15' N OF
TRUNK # 616 @ 125K AVE

EM

0700 ^{EPA/}START/ERRS ON SITE

0730 FLATTENING ASTS FOR TRANSPORT/
DISPOSAL

0800 FUELING EQUIPMENT

0830 FUELING COMPLETE - CONTINUE
FLATTENING ASTS

1000 BEGIN MIXING REMAINING
ENVIRONMENTAL INTO STOCKPILE

1100 CONTINUED MIXING, STAGING TREATED
STOCKPILE ALONG N SIDE OF SITE
@ VERONA ST.

1500 EPA/START OFF SITE TO PATERSON AVE

EM

1/28/13

Date

Location

Project / Client

0700	START/ETRS ON-SITE
0730	MIXING ENVIROBLEND INTO REMAINING STOCKPILE
0830	CONTINUED MIXING / STAGING FOR SHIPMENT
1100	METALS RECYCLING SERVICES FOR ON-SITE TO SHIP ASTS TO CUSTOM RECYCLING - CHARLOTTE, NC
1200	ASTS LOADED -- METALS RECY. SERV. OFF-SITE
1230	CONTINUED MIXING / STAGING
1530	START/ETRS OFF-SITE

EM

1/25/13

Date

Location

Project / Client

0700	EPA/START/ETRS ON-SITE
0720	LOAD OF ENVIROBLEND DELIVERED
0745	UNLOADED & OFF-SITE
0800	MIXING / STAGING STOCKPILE
	- LIGHT RAIN / SWEET FALLS
1100	ETRS COLLECTING SAMPLE FOR T&P
	- CAN'T MIXING / STAGING
1300	START OFF-SITE

EM

0700	START/ETA/ERRORS	ON-SITE	
	- SAFETY BRIEF	LARGE PLAN	
	- ANDREW OUT	W/ HURT ANKLE FROM	
	FALL IN THE SHOWER		
0800	2 TANDEM DUMPS (10)	DELIVER FILL	~24
	1 END-DUMP (18T)	" "	~42
	- ECEARD'S GRADING + HAULING		
0830	2 TANDEM DUMPS DEL.		66
0845	1 END DUMP DEL.		84
0900	2 TANDEM DUMP DEL.		108
0915	1 TANDEM DUMP DEL.		120
0925	1 END DUMP DEL.		144
0935	2 TANDEM DUMP DEL.		168
1000	1 END DUMP DEL.		182
	1 TANDEM DEL.		197
1015	1 TANDEM		206
1025	1 TANDEM		219
1040	1 END DUMP		236
1045	1 TANDEM		249
1120	2 TANDEM		272
1150	1 END DUMP		290
1200	1 TANDEM		302
1205	1 TANDEM		314

1300	- 2 TANDEM	338	
	- MICHAEL RATTNER ON SITE		
	FOR KIMMORONS TO OBSERVE		
	RESTORATION C McLEAN RD.		
1300	- 1 END DUMP	~356	
1335	- 1 TANDEM	~368	
1340	- 1 TANDEM	~380	
1345	- 1 TANDEM	~392	
1405	- 1 END DUMP	~410	
1410	- 1 TANDEM	~422	
1415	- 1 TANDEM	~434	
	- "	~446	
	- TCUP RESULTS INDICATE ALL ROYAL		
	METALS AS BEYOND PERMITTING LIMITS		
1600	COVERING STOCKPILE W/ POLY		
1640	REPLACING SEWER OF SEWER LINE		
	REMOVED THIS MORNING TO ACCOMMODATE		
	DUMP TRUCKS		
1730	SWEETING ROADWAY		
1800	ETA/START/ERRORS OFF-SITE		

Location 1/30/13

Date

Project / Client

0700 EPA/START/ERRS ON-SITE
 0710 1 TANDEN DUMP ~ 12 T
 0715 1 END DUMP 30P
 0730 1 TANDEN 42
 0740 1 TANDEN 54
 0800 1 END DUMP 72

INCREASED IN-DUSTIAL HAS LED TO CANCELLATION
 OF FILL ACTIVITIES MEASURES BEING TAKEN TO
 WINDPROOF POLY COVER ON STOCKPILE *
 PREVENT RUNOFF FLOWERS DUE AROUND
 STORMWATER TO FLOW ALONG S/E EDGE OF
 SITE.

0930 EPA/START/ERRS OFF-SITE

- WORK CANCELLED DUE TO INCLEMENT
 WEATHER

EPA

Location 1/31/13

Date

Project / Client

0700 EPA/START/ERRS ON-SITE
 - BEGAN LOADS OUT TREATED
 STOCKPILE TO WASTE CONNECTIONS --
 POULTON, NC

- OVERNIGHT STORMS BROUGHT PRECIP.
 ~ 1" OVER A PERIOD OF ~ 2 HRS.
 SEVERE SCOURING OF STORMWATER
 TRENCH ALONG S EDGE OF SITE
 RESULVED IN SEDIMENT TRAVELING OFF
 THE SITE

14 TANDENS, QUADS, & END DUMPS
 WERE LOADED OUT IN-CIRCUIT
 THROUGHOUT THE DAY. A TOTAL
 OF 43 LOADS WERE SHIPPED
 OFF-SITE TOTALING

1630 EPA/START/ERRS OFF-SITE

EPA

0700 - EPA START/ETRS ON-SITE

- BEGN' LOADING OUT TREATED CASING SOILS

- 24 WDRS SHIPPED ON THIS

DATE -- ONLY REMAINING MATERIALS REQUIRE CASING/DRESSING --

1230 EPA START/ETRS OFF-SITE

EPA

0700 START/ETRS ON-SITE

- LOAD 2 TANDEN AXLE DUMPS OF CASING SOILS

0800 - FILL MATERIAL ARRIVING VIA

2 TANDEN AXLES + 1 ETRD DUMP

- SUPERING VERONA ST w/ BOBCAT

1000 - 2 TANDEN DUMPS LOADED w/ CASING SOILS

- CONTINUED BACKFILLING

1330 JUSTIN ON-SITE FOR ETRD

1635 LOADING / TANDEN DUMP w/ REMAINING CASING SOILS

- CONTINUED BACKFILLING

1730 START/ETRS OFF-SITE

EPA

