



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 work 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



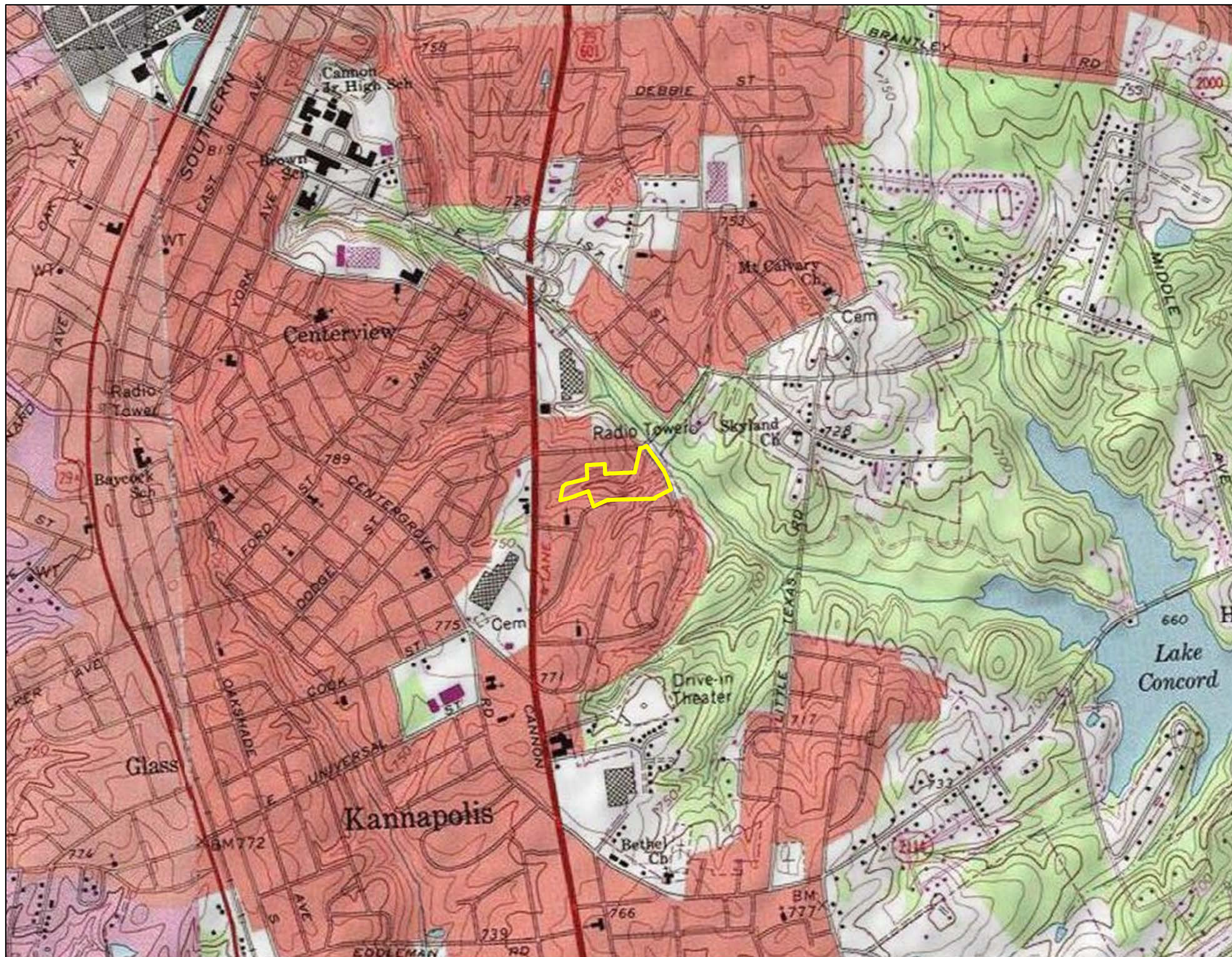
Allyson Warrington
Senior Scientist
Technical Reviewer

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

Enclosure

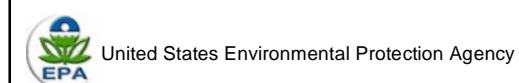
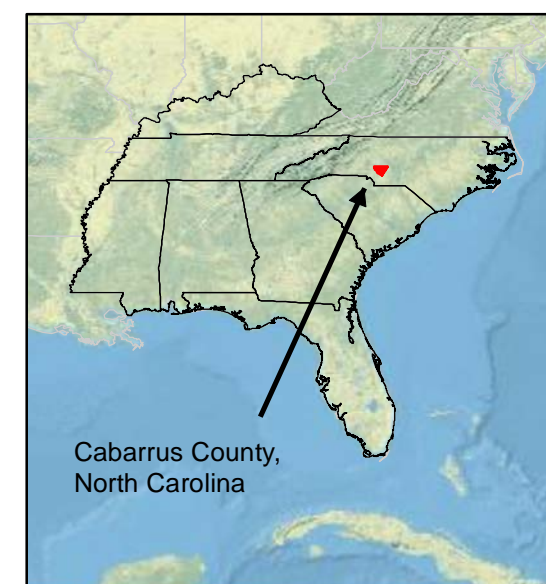
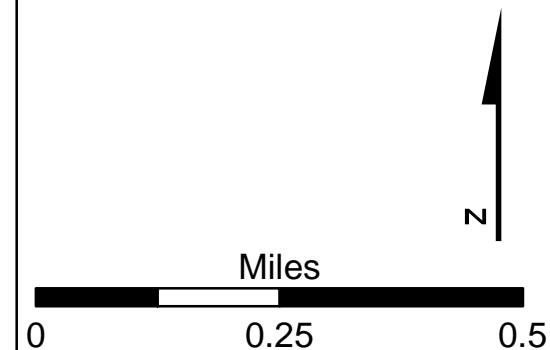
APPENDIX A

FIGURES



Legend

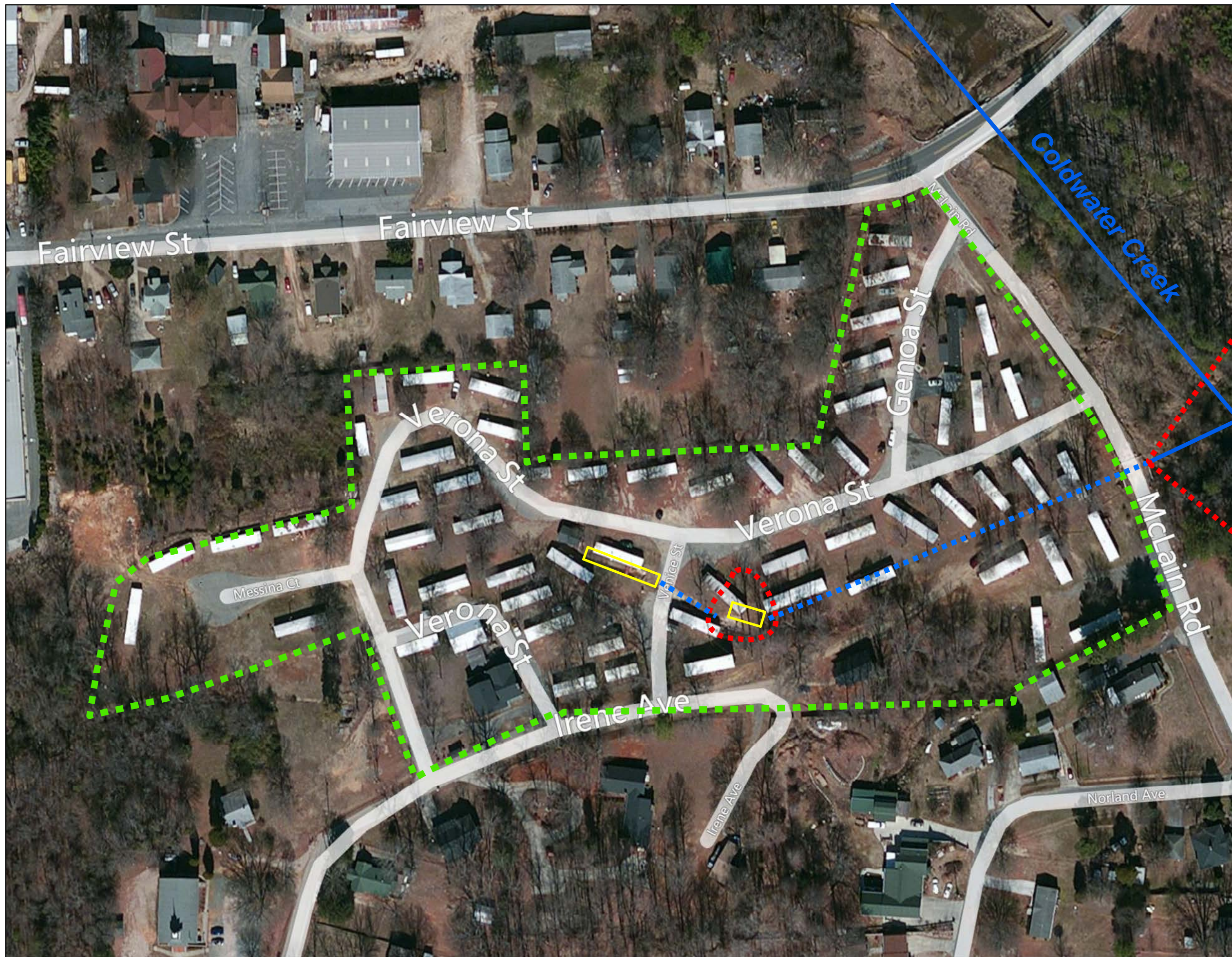
 Villa Mobile Home Park



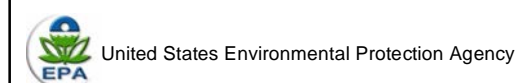
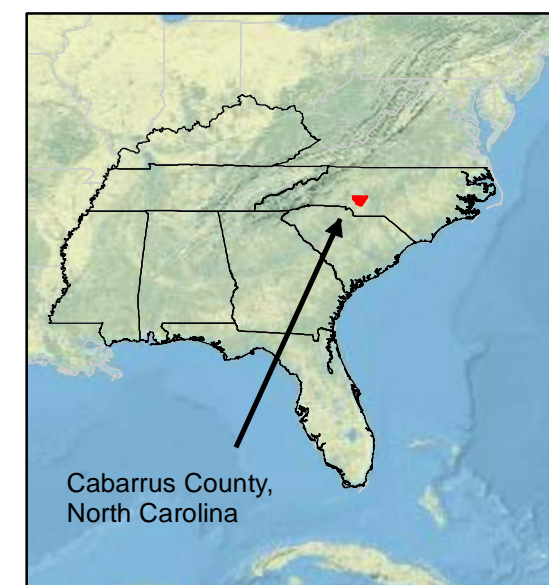
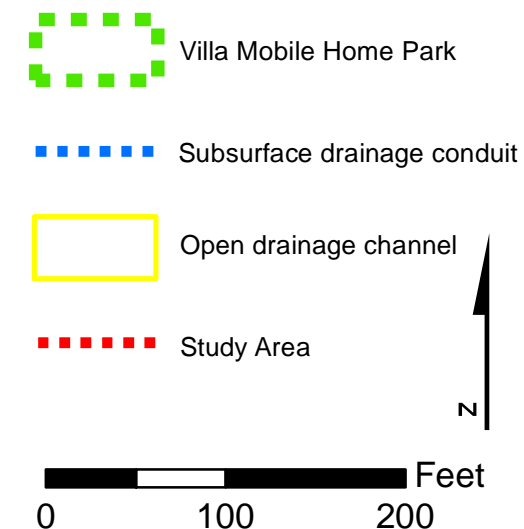
**VILLA MOBILE HOME PARK
KANNAPOLIS,
CABARRUS COUNTY,
NORTH CAROLINA
TDD No. TNA-05-001-0176**

**FIGURE 1
TOPOGRAPHIC MAP**





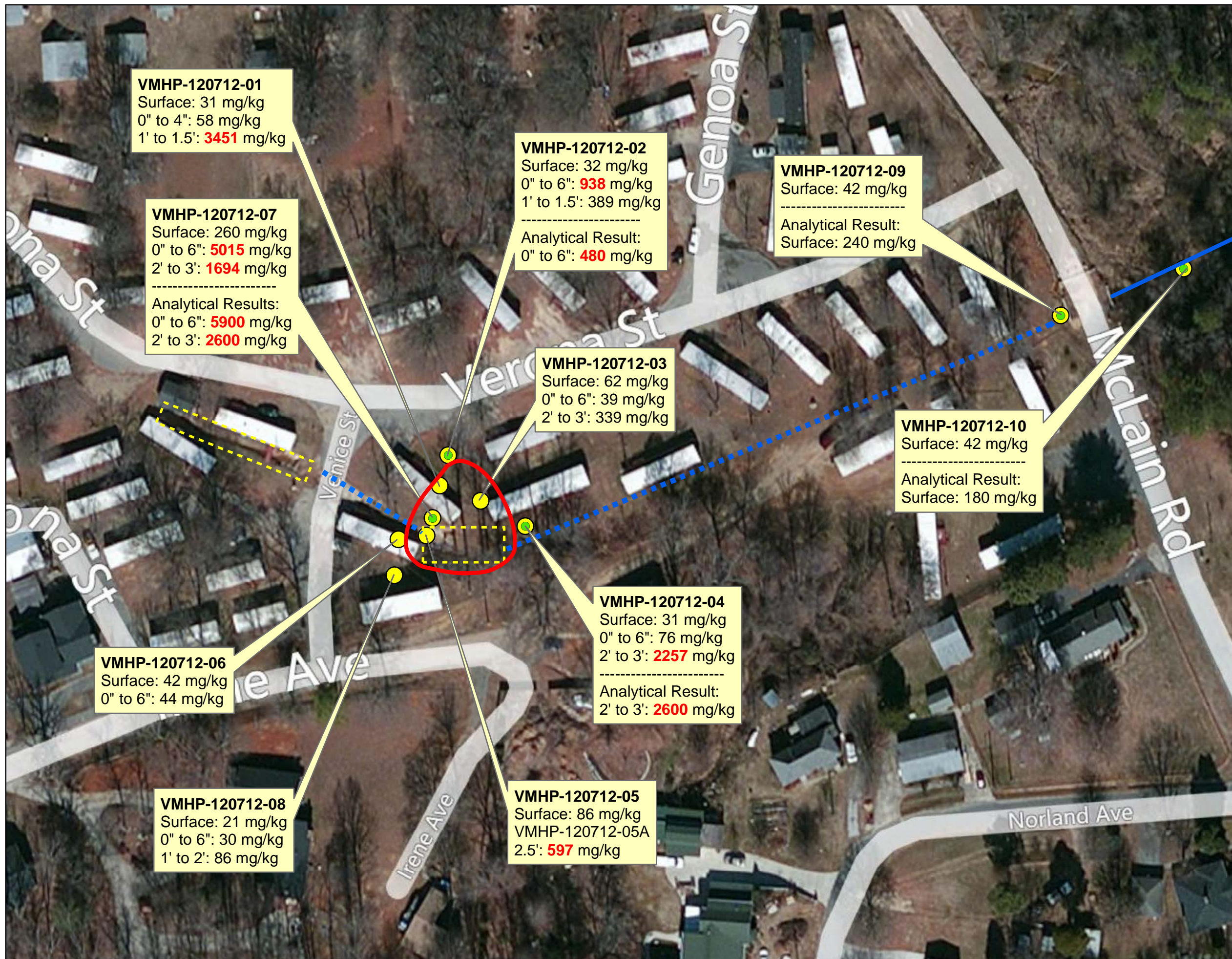
Legend



**VILLA MOBILE HOME PARK
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TDD No. TNA-05-001-0176**

**FIGURE 2
AERIAL SITE MAP**



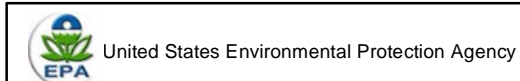
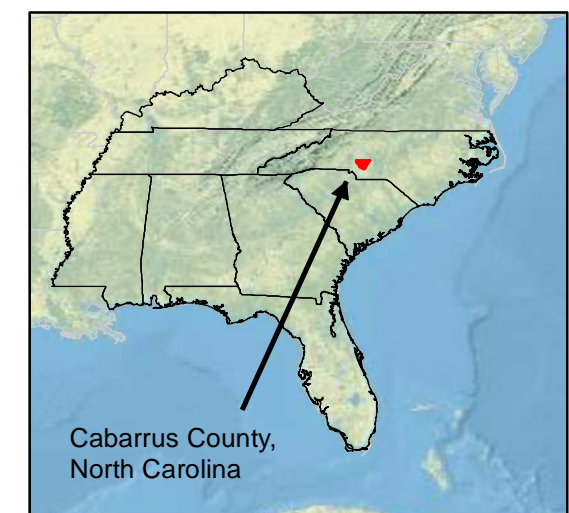


LEGEND

- 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



**VILLA MOBILE HOME PARK
KANNAPOLIS,
CABARRUS COUNTY,
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TDD No. TNA-05-001-0176**

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





LEGEND

Extent of Excavation

Lead Concentration < RML

Lead Concentration > RML

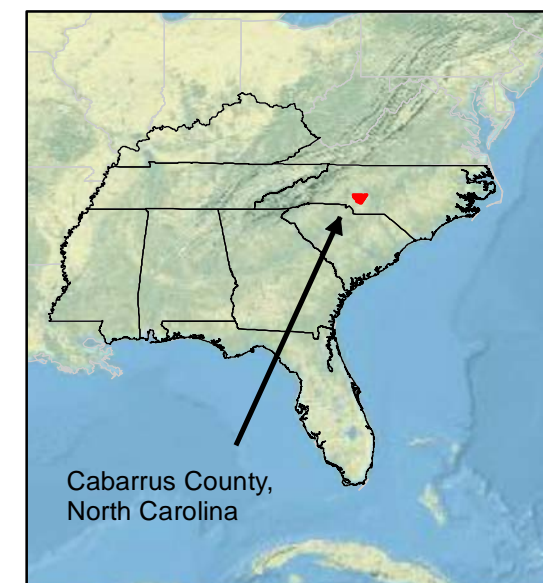
Piped Stream

Conduit Removed

Notes:

- RML: Removal Management Level of 400 milligrams per kilogram (mg/kg)
- XRF: X-Ray Fluorescence

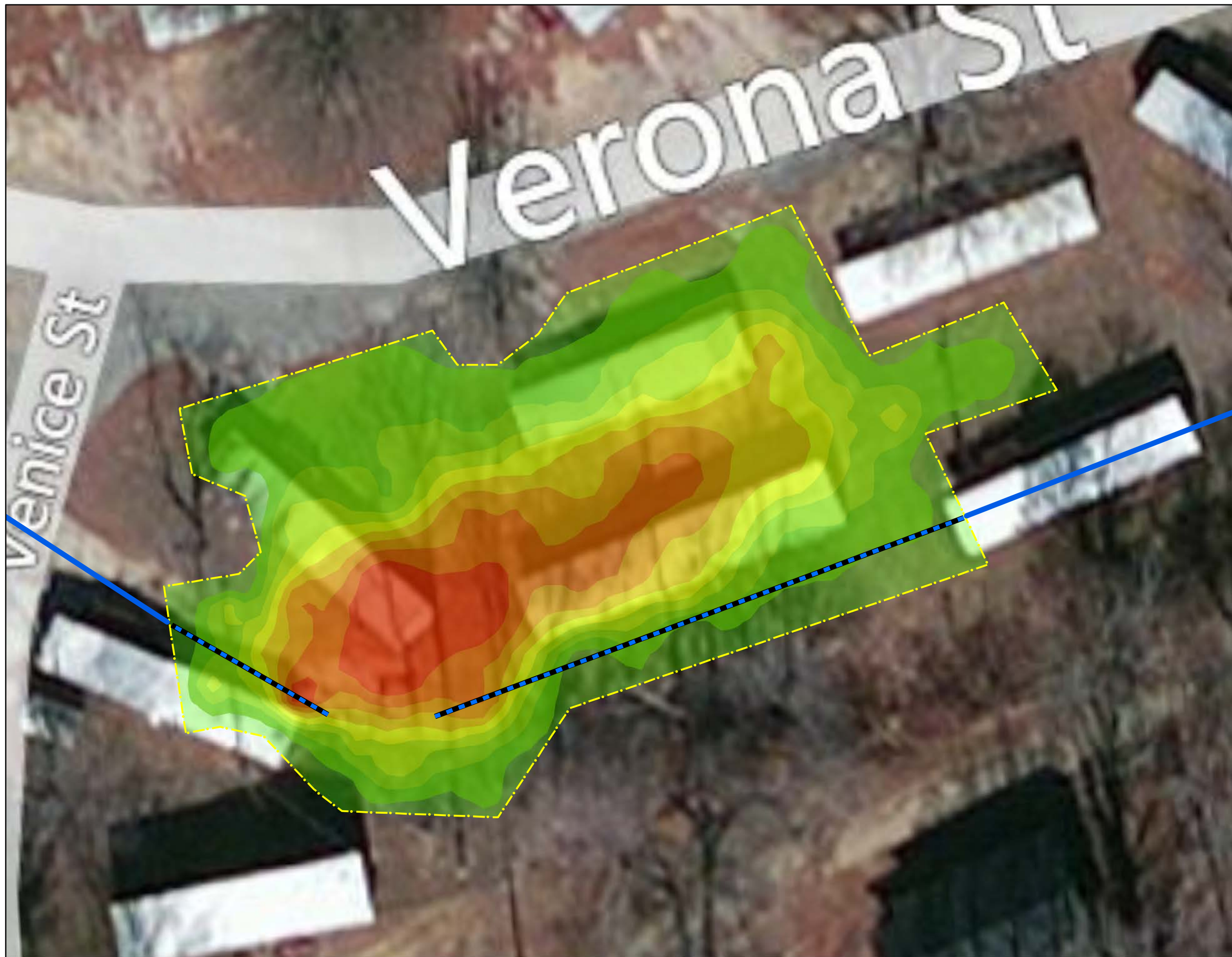
Feet
0 25 50



United States Environmental Protection Agency

**VILLA MOBILE HOME PARK
KANNAPOLIS,
CABARRUS COUNTY,
NORTH CAROLINA
TDD No. TNA-05-001-0176**

**FIGURE 4
XRF SCREENING
OF EXCAVATION FLOOR**



LEGEND

Extent of Excavation

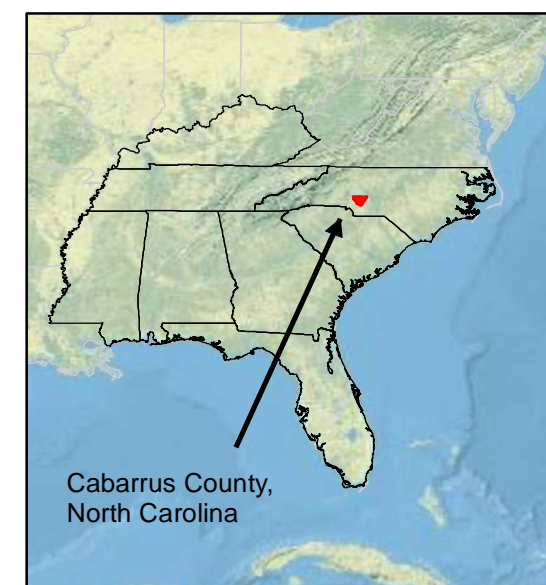
>1ft
3ft Casing Layer
6ft

Piped Stream

Conduit Removed

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

Feet
0 25 50



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VILLA MOBILE HOME PARK
KANNAPOLIS,
CABARRUS COUNTY,
NORTH CAROLINA
TDD No. TNA-05-001-0176

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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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

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.



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

cc: Nardina Turner



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

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



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

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.



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

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

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
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

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
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



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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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

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

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
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

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
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

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
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



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

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

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
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



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

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

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
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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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

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

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
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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Liberty Analytical Corp.

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 µg/L as presented on Analysis Data Sheet data sheets from ICP instrument acquired results in µg/L (ppb).

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

Where

C = concentration (µg/L)

F = final volume in liters after sample preparation

I = initial volume in liters

Example: Arsenic for sample VMHP-01W

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

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.

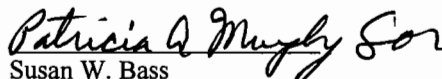
The ICP sample duplicate, CCN = 2110225-DUP1 (VMHP-01WD) was found to be inside control limits.

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)

Client Name	OTIE	Project Number	1399
Address ¹	6500 LINDSINE DR - STE 139	Project Name/Desc	VILLA MHP
City/State/Zip	PALEIGH NC 27667	PO # / Billing Info	
Tel	919-215-9207	Fax	
Sample(s) Name, Abbrev (Print)	ERIC METRIS - OTIE	Reporting Contact	
Signature		Billing Contact	
Facility # (if required)			
Requested Turnaround Times			
Note: Rush requests subject to acceptance by the facility			
Standard			
X Expedited			
Due 24HR			
Lab Workorder			

[illegible]

Sample Kit Prepared By		Date/Time	
Comments EMAIL RESULTS TO EMORIS@OTIE.COM		Relinquished By	Date/Time
		Relinquished By	Date/Time
		Relinquished By	Date/Time
		Relinquished By	Date/Time
Cooler #'s & Temps on Receipt		Received By	Date/Time
rec'd @ 016°C Condition Upon Receipt Acceptable		Received By	Date/Time
		Received By	Date/Time
		Received By	Date/Time

Matrix: GW-Groundwater SO-Soil SE-Sediment SM-Surface Water WW-Wastewater A-Air O-Other (detail in comments)	Preservation: H-HCl M-HNO ₃ S-H ₂ SO ₄ NO-NaOH O-Other (detail in comments)
<p>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</p>	

1211005

COMPUCHEM

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

Project Manager: Cathy Dover
 Project Number: VILLA MHP/1399
 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

Logged In By: Cathy Dover

Date Received: 11/02/2012 09:49

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	

1211005

COMPUCHEM

Client: ONEIDA 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/1399Lab 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

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ANALYSIS DATA SHEET

VMHP-010W

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



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 ENTERPRISES 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 ENTERPRISES 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

EPA 6010C

VMHP-01WS

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

EPA 6010C

VMHP-01WS

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 ENTER SDG: 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



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



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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Liberty Analytical Corp.

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



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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Liberty Analytical Corp.

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,

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



CompuChem

A Division Of

Liberty Analytical Corp.

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 µg/L as presented on Analysis Data Sheet data sheets from ICP instrument acquired results in µg/L (ppb).

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

Where

C = concentration (µg/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:

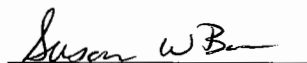
No matrix spikes were requested for this sample.

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

a division of Liberty Analytical Corporation

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)

Client Name	OTIE		Project Number	1423	
Address	6300 LIMOUSINE DR STE 130		Project Name/Desc	VILLAGE MHP	
City/State/Zip	RALEIGH NC 27617		PO # / Billing Info		
Tel	915-215-9207		Reporting Contact		
	Fax		Billing Contact		
Sample(s) Name, Affiliation (Print)			OTIE		
Sample(s) Signature			Facility # (if required)		
Requester Name			Requester Address		
Requester Phone			Requester Fax		
Requester Email			Requester Title		
Requester Organization			Requester Department		
Requester Project			Requester Budget		
Requester Date			Requester Location		
Requester Signature			Requester Stamp		
Requester Initials			Requester Date		
Requester Address			Requester City		
Requester State			Requester Zip		
Requester Country			Requester Continent		
Requester Latitude			Requester Longitude		
Requester Elevation			Requester Timezone		
Requester Population			Requester Density		
Requester Area			Requester Perimeter		
Requester Volume			Requester Weight		
Requester Mass			Requester Energy		
Requester Power			Requester Force		
Requester Pressure			Requester Temperature		
Requester Humidity			Requester Wind Speed		
Requester Wind Direction			Requester Cloud Cover		
Requester Precipitation			Requester Snowfall		
Requester Ice Accumulation			Requester Fog Frequency		
Requester Visibility			Requester Air Quality		
Requester Noise Level			Requester Light Intensity		
Requester Magnetic Field			Requester Electric Field		
Requester Radioactivity			Requester Seismicity		
Requester Tectonic Activity			Requester Volcanic Activity		
Requester Meteorological Data			Requester Oceanographic Data		
Requester Astronomical Data			Requester Geological Data		
Requester Biological Data			Requester Chemical Data		
Requester Physical Data			Requester Environmental Data		
Requester Social Data			Requester Economic Data		
Requester Cultural Data			Requester Historical Data		
Requester Linguistic Data			Requester Archaeological Data		
Requester Anthropological Data			Requester Paleontological Data		
Requester Botanical Data			Requester Zoological Data		
Requester Mineralogical Data			Requester Petrological Data		
Requester Cosmological Data			Requester Astrophysical Data		
Requester Planetary Data			Requester Solar System Data		
Requester Interstellar Data			Requester Galactic Data		
Requester Extragalactic Data			Requester Cosmological Data		
Requester Dark Matter Data			Requester Dark Energy Data		
Requester Quantum Data			Requester Relativistic Data		
Requester Particle Data			Requester Field Data		
Requester Wave Data			Requester Signal Data		
Requester Information Data			Requester Knowledge Data		
Requester Wisdom Data			Requester Understanding Data		
Requester Experience Data			Requester Expertise Data		
Requester Skill Data			Requester Ability Data		
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Requester Influence Data			Requester Impact Data		
Requester Legacy Data			Requester Reputation Data		
Requester Honor Data			Requester Respect Data		
Requester Dignity Data			Requester Grace Data		
Requester Virtue Data			Requester Integrity Data		
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Requester Responsibility Data			Requester Commitment Data		
Requester Dedication Data			Requester Passion Data		
Requester Enthusiasm Data			Requester Energy Data		
Requester Motivation Data			Requester Drive Data		
Requester Ambition Data			Requester Aspiration Data		
Requester Vision Data			Requester Dream Data		
Requester Hope Data			Requester Faith Data		
Requester Love Data			Requester Compassion Data		
Requester Kindness Data			Requester Gentleness Data		
Requester Patience Data			Requester Self-Control Data		
Requester Moderation Data			Requester Temperance Data		
Requester Prudence Data			Requester Wisdom Data		
Requester Understanding Data			Requester Knowledge Data		
Requester Experience Data			Requester Expertise Data		
Requester Skill Data			Requester Ability Data		
Requester Talent Data			Requester Potential Data		
Requester Capacity Data			Requester Power Data		
Requester Influence Data			Requester Impact Data		
Requester Legacy Data			Requester Reputation Data		
Requester Honor Data			Requester Respect Data		
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Requester Talent Data			Requester Potential Data		
Requester Capacity Data			Requester Power Data		
Requester Influence Data			Requester Impact Data		
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Requester Dignity Data			Requester Grace Data		
Requester Virtue Data			Requester Integrity Data		
Requester Honesty Data			Requester Trustworthiness Data		
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Requester Responsibility Data			Requester Commitment Data		
Requester Dedication Data			Requester Passion Data		
Requester Enthusiasm Data			Requester Energy Data		
Requester Motivation Data			Requester Drive Data		
Requester Ambition Data			Requester Aspiration Data		
Requester Vision Data					

[illegible]

Sample Kit Prepared By		Date/Time			< Total # of Containers		
Comments			Relinquished By <i>[Signature]</i>	Date/Time 11/14/12 1500	Received By <i>[Signature]</i>	Date/Time 11/16/12 0953	
EMail RESULTS: EMORIS @ AT&T.COM			Relinquished By	Date/Time	Received By	Date/Time	
Cooler #'s & Temps on Receipt 1.100							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-NH₃ 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

WORK ORDER

Printed: 11/17/2012 11:35:21AM

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

2111620

COMPUCHEM

Printed: 11/16/2012 12:40:19PM

Matrix: Water

Prepared using: METALS - 3030C

Lab Number	Client ID	Sample Type	
1211081-01	VMHP-02W	Sample	
2111620-BLK1	PBW	Blank	
2111620-BS1	LCSW	LCS	
2111620-BSD1	LCSWD	LCS Dup	

Relinquished By

ICP Sts.

Date

11-25-12 1730

Relinquished By

Date

11-27-12 1115

Relinquished By

Date

Relinquished By

Date

Received By

Received By

Received By

Received By

Date

11-25-12 1730

Date

11-27-12 1115

Date

Date

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	

Relinquished By

Date

Received By

Date

Relinquished By

Date

Received By

Date

Relinquished By

Date

Received By

Date

Relinquished By

Date

Received By

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	

<u>Ambs st.</u>		<u>11-16-12</u>	<u>1250</u>	<u>11-16-12</u>	<u>1250</u>
Relinquished By	Date/Time	<u>1315</u>	Received By	Date/Time	<u>1315</u>
<u>Ambs st.</u>	<u>11-16-12</u>	<u>1315</u>	<u>Ambs st.</u>	<u>11-16-12</u>	<u>1315</u>
Relinquished By	Date/Time		Received By	Date/Time	
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 ENTERPRISES SDG: 1211081 Project: VILLA MHP/1423Lab 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

**CompuChem**A Division Of
Liberty Analytical Corp.

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 ENTER 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
LCSD	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 McLAIN EXTENDING ~ 50'

IMAGE 566 SITE OF FORMER TRAILER #806612

567

571 END OF DRAINAGE UPSTREAM FROM McLAIN

APPROX COORD. LAT 3548617°
LONG -8060044°

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

OPEN PIT E NW OF VENICE

± ERODES FUNDATION OF 612.

- FLOODED SEDIMENTS AMASSED @

McLAIN HAVE BEEN PLACED AS

DRIVEWAY GRAVEL @ SOME WADERS

- UNDERSIZED CONDUIT UNDER VENICE

McLAIN HAS ACCELERATED EROSION

- CORRODED UST CONDUIT @ SE OF VENICE

OUTFALL TO OPEN PIT HAS CORRODED AWAY

AT BOTTOM HALF EXPOSED BATTERY CASINGS

ARE VISIBLE BENEATH CORRODED UST

PIC # 578

Scale: 1 square =

FX in 3 minutes after 5111

VMHP-01-120712

surface : 3/PPM

Q-4" 5567720

1 to 1.5 ft 345 ppm

AUG 27 REFUSAL @ 1.5 FT

VMHP-02-120712

50749E

Φ-6" 9347m

51-1
W-1082

REFUSAL @ 15'

REF SAMPLE COLLECTED VMHP-02-120712

VMHP-03-120712

3741815

39702

2-3-

2-3' DOW 233 - SAMPLE ROOMS CAGING CHUCKS

2.3' DUP 284) ... DIRECTLY ON CASING CHIP

1330 VM#P-04-120712

SURFACE : 3/22m

W-1297-9

2.2. 22522

13SS collect sample VMH7-04-120712

1416 VHP - 05-120712

SURFACE : 4672m

AUG, REFUSAL - SURFACES

northside of drainage

$\sim 13' \text{ SW}$ of $V_{MHP} - 65$

VMP-05A-120712-located

SURFACE S97mm 2.5' less

Southside of drainage below grade
photo # 579: up close at upper hole
hit refusal ~ 6" bags

✓MHP-06-120712

SURFACE 4290M

4477m
Φ-6"

AUGER REFUSAL @ 8"

144S VMHP- $\phi 7-12\phi 712$

SURFACE 26 ϕ PM

$\phi-6"$ 5 ϕ 15 PM

1457 COLLECT VMHP- $\phi 7-12\phi 712$

2'-3" - 1694 PM

AUGER REFUSAL @ 2'9"

131S COLLECT SAMPLE VMHP- $\phi 7SB-12\phi 712$

VMHP- $\phi 8-12\phi 712$

SURFACE 21 PM

$\phi-6"$ 3 ϕ PM

1-2' 86 PM

16 ϕ S COLLECT VMHP- $\phi 9SD-12\phi 712$

4 POINT COMPOSITE SEDIMENT SAMPLE @

W/IFALL

42 PM

162 ϕ COLLECT VMHP-16SD-12 $\phi 712$

3 POINT COMPOSITE SEDIMENT

EM

42 PM

162 ϕ COLLECT VMHP-7 $\phi-12\phi 712$

172 ϕ - DUPLICATE FOR VMHP- $\phi 7-12\phi 712$

$\phi-6"$ 3144 PM

173 ϕ SWBT OFF-SITE

Scale: 1 square =

10/30/12

0730 EPA / SVDT / EPRS ON SITE TO

BEGIN REMEDIAL ACTION

* FRAMES @ $\phi 2, \phi 4, \phi 6, \phi 8, \phi 10$

VERONA HAVE BEEN REMOVED

W ANTICIPATION OF REMEDIAL ACTION

EPA: ALEXA HUGHES

EPRS: ER -- DAVE MANG

FRANK MONROE

CARY DUBBERT

ANDREW PIERCE

PAUL PERONARD

0500 EPRS BEGIN EXCAVATING $\phi-1'$

ALONG S END OF PERIMETER

WORKING @ 5' BUFFER ALONG PIPE

0600 TEST PIT 1 DUG APPROX 8' NW OF

POWER POLE #808

- NO CASINGS OBS. $\phi-5'$

3548567

- 8060772

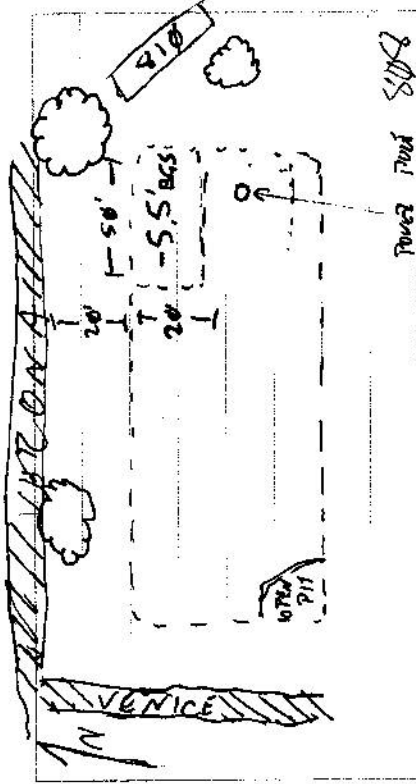
Scale: 1 square =

VERONA
 • TEST PIT 2 @ 35' S of 808
 20' V at 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 EXCAVATED @ - SFT
 1000 - TEST PIT 4 @ 25' S of VERONA
 • EQUAL ON N/S LINE TO OVER 808
 - NO CASING OBSERVED @ 5'
 808
 • TEST PIT 5 @ 60' S of VERONA
 • ON N/S LINE 1/2 PP 808
 - MINIMAL CASINGS 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 =

Scale: square =

- EQUIPMENT ON-SITE:
 • KOMATSU PC 200 LC TRUCK NOE
 • BOBCAT T250 SVD STEER
 - ER HAS ORDERED A D-6 ROLLER
 TO SCRAPE OFF OVERBURDEN
 1100 - ER EXTENDING ARMS SAFETY
 FENCE TO INCLUDE NEW AREA TO
 EAST
 - FILLING TEST PITS + STOCKPILING
 EXCAV. SOILS
 1300 ER'S EXCAVATING CONT. SOILS @ NW
 QUADRANT OF SITE (SEE DIAG)
 @ M
 1600 - 55' BGS END OF WASTE VISIBLE
 CASINGS
 - BEGIN BACKFILL ACTIVITY w/ OVERBURDEN
 ON-SITE SOILS
 - START COLLECT 5-POINT COMPOSITE
 SAMPLE OF BACKFILL STOCKPILE FOR
 XRF ANALYSIS -- OPEN DRY
 - 9/27 PM



1640 SKID STEER BEARS DOWN

• CONTINUE BACKFILLING 4' TRAIL HOE

1500 EPA/STUDY/ERS OFF SITE

Scale: 1 square =

10/31/12

0730 EPA/STUDY/ERS ON SITE

- SAFETY BRIEF

- OVERHEAD POWER LINES

- SLITS/TREES/FANS

- HERTZ DELIVERS (50) LGP DOZER

0800:

- BE CONTINUE BACKFILLING EXCAVATION

FROM 10/30

- EXCAVATING OVERBURN TO

N/NW OF POWER POLE 808

- CASINGS ENCOUNTERED ~ 4' BGS

~ 1 FT CONT. SOIL EXCAVATED

0900 START SCREENING S-POINT COMPOSITE

COLLECTED FROM EXCAVATED OVERBURN

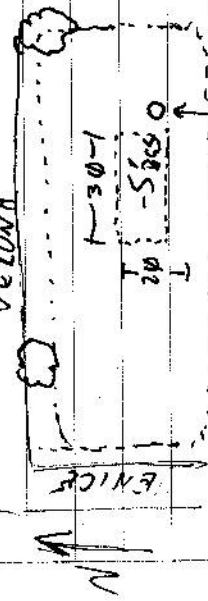
STACKPILE -- OPEN DRY

- 50/PPM

0930 OVERBURN STACKPILE PLACED IN

EXCAVATION @ N/NW OF POLE #808

VENUE



Scale: 1 square =

11/1/12

0730 START/ERRS ON-SITE

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

0800 FUELING TRUCK NOE

- CONSOLIDATING CONTAMINATED SLOPES

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

- ERRS DIGGING SUPP PIT ADJACENT

TO EXCAVATION FOR TEMPORARY

STORAGE

1000 MIGUEL ALVALLE ON-SITE

DSC HUGHES ON-SITE

Scale: 1 square =

1030 START COLLECT WATER SAMPLE

VMHP-01 W

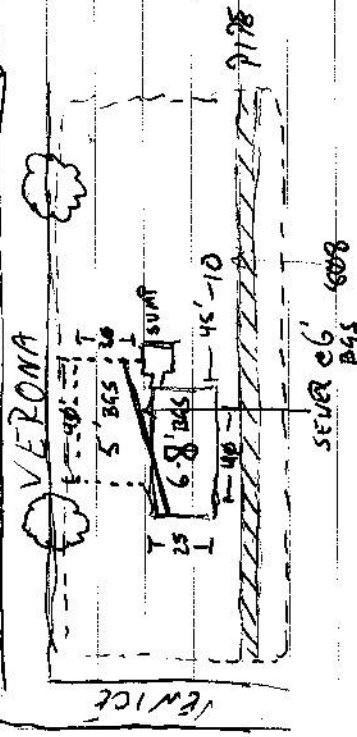
VMHP-010 W - DUT

VMHP-01 MS/MSD

COLLECTED FROM EXCAVATOR BUCKET

1100 ERRS CAN'T EXAMINATION OF CONT. SOILS

c 4'-6' BGS TO 7' BGS TO 8' BGS



1200 START OFF SITE TO SHIP SAMPLES

TO COMPAGN, CARY NC

COMPUGHER

1300 START ON-SITE

ERRS EXCAVATED ~~ON~~ CASING-FREE

SOILS @ ~8 FT IN EXCAVATION ABOVE

4 BGS CAN ROCK FILLING W/ CLEAN OVERBORDEN

Scale: 1 square =

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

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

1100 - CONSOLIDATING STOCKPILE & PLACING
BACKFILL IN AN EXCAVATION / LAYING
FOUNDATION BRIDGE FOR SEWER REPAIR

- XRF SCREENING & FLOOR OF EXCAVATION
INDICATES SUBSOILS CONTAMINATED
FROM 2000 PM TO 12,000 PM

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

1700 - REPAIR SEWER LINE

1000 ETA/START/ENDS OFF-SITE

Scale: 1 square =

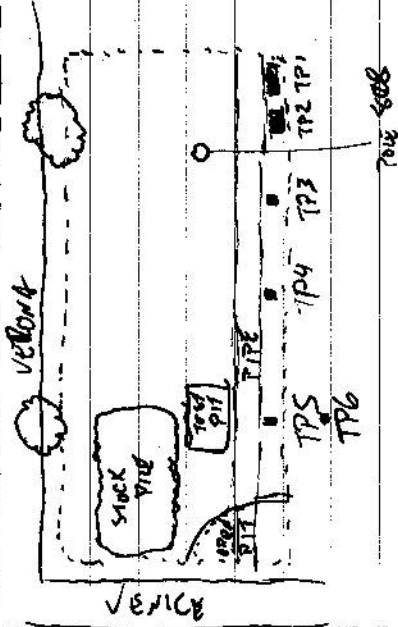
11/2/12

0730 - ETA/START/ENDS ON SITE
- SAFETY BRIEF

- OVERHEAD LINES
- SLIPS/TRIPS/FALLS
- OPERATION AWARENESS
- VISITORS → OSC

0800 - BACKFILLING EXCAVATION FROM "1"

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



1000 - CONSOLIDATING STOCKPILE
- BACKFILLING / GRADING

Scale: 1 square =

1130 - TPS DIGGING TEST PITS AREAS

SIDE OF PIPE

TP 1 @ E END OF SNE

- NO CASINGS OBS @ 0'-5'

- TP 2 - NO CASINGS OBS @ 0'-6'

- TP 3 - NO CASINGS OBS @ 0'-6'

RESIDENT OF ADJACENT PROPERTY

- Bruce Woodward

846 FAIRVIEW ST

~ 40 YRS @ THIS LOCATION

ALSO OWNS 840 + 835 + 833 FAIRVIEW

1345 CONTINUE TEST PITS

- TP 4 NO CASINGS OBS @ 0'-6'

- TP 5 CASINGS OBS @ 2' BES

- TP 6 1/2 IN UP BANK TO S

OF TPS.

- CASINGS OBS @ 3'

1430 BACKFILLING / TURNING STOCKPILE TO DRY

1600 EPA/SMART/ERS OFF SITE

Scale: 1 square =

A SAMPLE OF THE CONTAMINATED STOCKPILE HAS BEEN SENT BY ERS TO ENVIRONMENTAL. THE RESULTS OF THEIR PILOT STUDY WILL DETERMINE WHETHER SOILS WILL BE TREATED ON-SITE OR DEPOSED OF AS HAZ. RESULTS ARE EXPECTED ON MONDAY 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. ERS WILL REMAIN IN KANSAS CITY THROUGH THE WEEKEND & COVER THE STOCKPILE IF PRECIPITATION IS EXPECTED. OTHERWISE THE PILE WILL REMAIN UNCOVERED IN AN EFFORT TO DRY IT OUT FOR SHIPPING.

Scale: 1 square =

11/7/12

0730 - EPA/SMART/ERS ON SITE

SAFETY BOARDS

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

IMMEDIATELY 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 EXPOSED

SEWER LINE TO CONSTRUCT A

FOUNDATION FOR A MIXING AREA

TO TREAT CONTAMINATED SOIL

- PULLING FILL FROM EAST END OF

SITE AND SOUTH SIDE OF DRAINAGE PIPE

0930 - BUILDING A RAMP ALONG NORTH

SIDE & VERTONA TO ALLOW OFF-LOADING

OF ENVIRONMENTAL EQUIPMENT

Scale: 1 square =

1300 SMART SCREENING IN-SITU XRF

ON STOCKPILE AVERAGE OF

20 READINGS FROM STOCKPILE

INDICATE LEAD CONCENTRATION OF

~960 PPM

1400 DEPARTING SILENCE AROUND

STOCKPILE

1430 COVERING STOCKPILE

1500 ERS/SMART OFF SITE

Scale: 1 square =

11/13/12

1130p - START ERS ON SITE.

- 22.5 TONS ENVIRONMENTAL DELIVERED

THIS MORNING

- ERS MIXING INTO NE CORNER
OF STOCKPILE

- SPIN TO 0.75 RPM: TCU VALUE

FOR ENVIRONMENTAL TREATED SOILS PER

L. Von Oetting

1230p START SCREENING TREATED STOCKPILE

w/ XRF & THE REQUEST OF ERS

START HAS ADVISED ERS THAT XRF

RESULTS ARE NOT INDICATIVE OF

SUCCESS / FAILURE OF ENVIRONMENTAL TREATMENT

- 1433pm 1281, 1313, 1502,

1467

1300p CONTINUED MIXING OF STOCKPILE

1515 XRF SCREENING OF STOCKPILE

• 1644, 1589, 1500, 1523

• ERS SPRINKLING H₂O ON STOCKPILE FOR

DUST SUPPRESSION

Scale: 1 square =

1530p - CONTINUED MIXING / SPRINKLING

1715 STOCKPILE SCREENING

- 1370, 1606, 1522, 1500

1730p - ERS / START OFF SITE

(M)

Scale: 1 square =

11/14/12

0700: EPA/START/ERRS ON SITE

- SAFETY
- EYE CONTACT w/ OPER.
- DUST CONTROL
- TYVEK, APR ON CONCRETE
- WORK PLAN
- MOVE TREATED SOIL TO E
- END OF SITE
- RECEIVE 2-3 SHREDS OF
- ENVELOPES

0730: 1ST LOAD OF EB DELIVERED

0745 MOVING TREATED SOIL TO E END OF SITE

0800 MIXING EB INTO REMAINING STOCKPILE

0830 2ND LOAD OF EB DELIVERED
CONTINUED MIXING/STRAILING1400 START COLLECTING SURFACE H₂O
SAMPLE APPROX SQ E OF MCLANG ST.

ID: VMHP-02W

Scale: 1 square=

1430 SAME 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 SITE1515 START/ERRS COLLECTING COMPOSITE
SOIL SAMPLE FOR TCLP

1530 START OFF SITE TO FEDEX SAMPLES

1630 START ON SITE

1730 EPA/START/ERRS OFF SITE

EM

Scale: 1 square=

11/15/12

0830 • INCLEMENT WEATHER NECESSITATED

A LATE START TODAY

• ERPS / START ON-SITE

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

0900 • FUELING EQUIPMENT

• EPA ON-SITE

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

• CONTINUED MIXING / SPREADING

1130 • LIGHT RAIN

1430 • MOVING TREATED MATERIAL TO E END
OF SITE

• CONTINUED MIXING / SPREADING

1730 EPA / START / ERPS OFF SITE

Scale: 1 square =

11/16/12

0700 EPA / START / ERPS ON SITE

• SAFETY BRIEF

• COLD WEATHER, HORNETS

• EYE CONTACT w/ OIL

• VORC PLAN

• MIXING

• MOVING REMAINDER OF STOCKPILE TO E

0730 ADDRESSING EQUIPMENT ISSUE w/
HYDRAULICS ON TRACK-HOE

0800 CONTINUE MIXING / SPREADING / MOVING

0930 • RETRACTING 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 =

1600 START SCREENING STOCKPILE ~ 1 XRF

NIGHT: 1900

LOW: 600

AVG: ~ 1000

1730 START ERRS OFF SITE

64

Scale: 1 square =

11/17/12

0700 - START ERRS ON-SITE

- SAFETY BRIEF / WORK PLAN

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

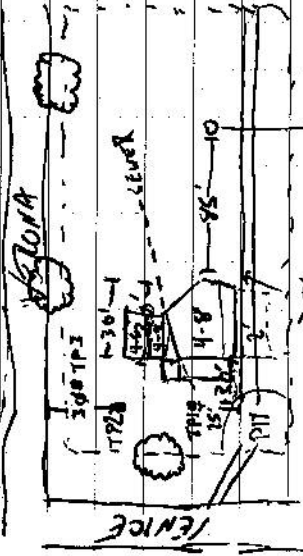
0900 REMAINDER OF STOCKPILE ALL RELOCATED TO E OF SITE

0930 EXCAVATING ABOVE DRAINAGE PIPE

ADD ALONG SIDES, CASINGS OBS R

APPROX 4'-8" XRF SCREENING @ 6'

INDICATES ~ 100000 LBS - 11/15/12



EXCAVATED TO TOP OF PIPE

1100 TREATING EXCAVATED MATERIAL W/ EB

MAXIMIZING SPRAYING

Scale: 1 square =

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

1430 CONTINUED EXCAVATION OF
CONTAMINATED SOILS

1530 TEST PITTING 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/ENDS OFF SITE

END

Scale: 1 square =

11/18/12

0900 START/ENDS ON SITE

SAFETY BRIEF / VOOC PLAN

- START OVERBURDEN 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 CORNER
OF AREA EXCAVATED ON 11/17.

- REMOVED SECTION OF REMOVED SEWER LINE
TO AVOID PLACING NEW PIPE.

- MINIMAL EXCAVATION TO LEAVE A NEW LINE
TO END LATER

1000 - STARTING OVERBURDEN @ W END

- BACKFILLING 11/17 EXCAVATION

1100 TEST PIT IN NEWLY STRIPPED AREA
REVEALS APPROX 3' OF SOLID CASINGS

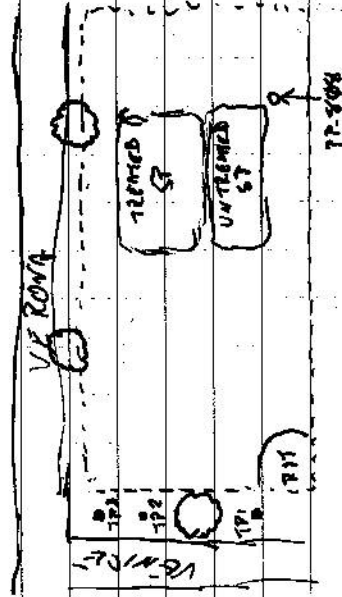
1115 - BACK FILLING

- REPLACING SEWER SEGMENT

Scale: 1 square =

1230 MOVE CONTAMINATED STOCKPILE
TO SE END 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/ POLY

1730 START/EXPOS OFF SITE

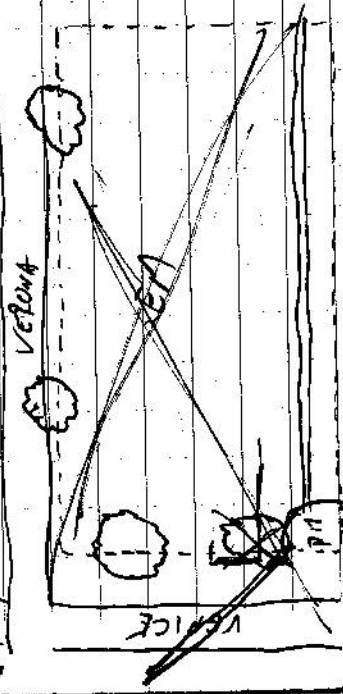
Scale: 1 square =

11/19/12

0700 START/EXPOS ON SITE

- SAFETY BRIEF / WORK PLAN

0730 EXCAVATING @ W END OF SITE



- APPROX -2' to -7' BATTERY CASINGS

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

- APPEAR TO CONTINUE 5' to 7' TO PIT AND

MAY CONTINUE BEYOND PIT (VEHICLE)

- APPEAR TO CONTINUE TO ROAD ALONG PIPE

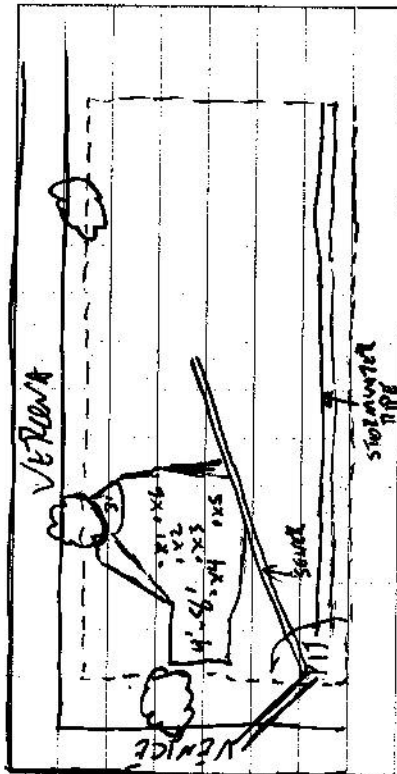
* MAY CONTINUE BENEATH ROAD AS

EVIDENCED BY SUBSIDENCE OF ASPHALT

IN-LINE W/ VEIN OF CASINGS AND PIPE

1100 OSC HUGHES ON SITE

Scale: 1 square =



1300 - XRF SCREENING OF SUB SOILS

X1: 842 -1'
 X2: 230 -3'
 X3: 1409 -4'
 X4: 4398 -8'
 X5: 256 -6'
 X6: 195 -3'

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

1430 - MIGUEL AVENUE (ACCIDENT) ON SITE

! STOP - REVERTING REMOVING STRUCTURE OF EB
 TO SE CORNER OF SITE TO CROSS
 CASINGS-CONTAMINATE SOILS

Scale: 1 square =

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

• FILLING / SMOOTING TOP OF EXCAVATION

1730 - EXCAVATING CONTAMINATED SOILS

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

1730 EPA / SURT / EDRS OFF SITE

EA

Scale: 1 square =

11/29/12

0700 EPA/SART/ERS ON SITE

- SAFETY BRIEF / WORK PLAN
- TREAT STOCKPILE w/ REMAINING EB
- INSURE 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 11/19 EXCAVATION

1130 COVERING STOCKPILES

1500 RETURNS SILT FENCE / SAFETY FENCE

1530 EPA/SART/ERS OFF SITE

EPA

Scale: 1 square =

11/27/12

0700 START/ERS ON-SITE

- SAFETY BRIEF / WORKPLAN
- LUBE EQUIPMENT
- CONTINUE MIXING

0845 SITE LOAD OF EB DELIVERED

- CONTINUED MIXING / SPREADING FOR DUST CONTROL

0930 6TH LOAD OF EB DELIVERED

- CONTINUED MIXING / SPREADING

1000 : MILLER AVENUE (NORFOLK) ON SITE
DANE PUMP/GENERATOR ON SITE

1100 NORFOLK OFF SITE

- CONTINUED MIXING / SPREADING

1130 EPA ON SITE

1600 LIGHT RAIN - COVERING STOCKPILES

1700 EPA/SART/ERS OFF SITE

Scale: 1 square =

11/24/12

0700 ETA/START/ENDS ON SITE

WORK PLAN

- MIX & MOVE

- SAFETY

- SUITS/TRIPS ON VET TUBING

- OVER HEAD LINES

0730 - LUBE/MAINTAIN EQUIPMENT

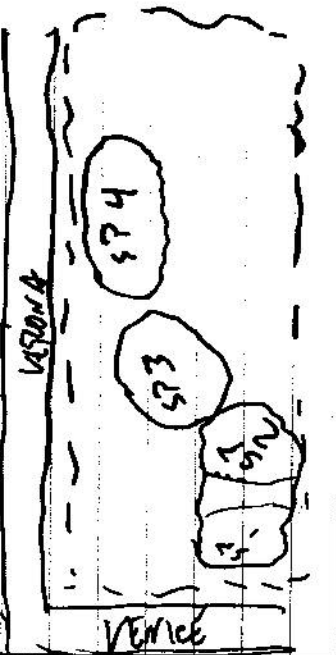
0800 CONTINUE MIXING/MOVING/STRAINING

1400 ETA/START COLLECTING SAMPLES FOR
TCLP ANALYSIS

• SAMPLE # 2

• SAMPLE 3

• SAMPLE 4



Scale: 1 square =

1430 START OFF SITE TO DELIVER SAMPLES TO
PTIISM LABS, CHARLOTTE NC

1600 START ON SITE

1630 ETA/START/ENDS OFF SITE

601

Scale: 1 square =

11/29/12

0700 START/ERRS ON SITE - EPA
 ERRS LAYING OUT POY TARI e
 LOADING ZONE ON VERANDA

0710 LOADING 1ST TRUCK ~ 20T

0720 LOADING 2ND TRUCK ~ 18T 16.10

0730 LOADING 3RD TRUCK ~ 18T 15.90

0745 " 4TH ~ 24T 23.77

0755 " 5TH ~ 25T 23.74

0805 " 6TH ~ 23T 15.58

0830 " 7TH ~ 18T

0850 " 8TH 26.52

0910 " 9TH 22.76

0930 " 10TH ~ 22.52

Scale: 1 square=

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 19.17-16

1245 " 18TH 17.84

1320 " 19TH

1330 " 20TH

1350 " 21TH

1405 " 22TH

1500	LOADING	23 RD	TRUCK
1520	"	24 TH	
1600	"	25 TH	
		26 TH	
TOTAL MATERIAL LOADED OUT			
ON: 566.16 544.16 TONS			
\$14,377.04			
1700	ETA/START/ERRS	OFF SITE	
<p>• A PUDDLE HAS FORMED OVER THE WEEL @ THE E END OF THE SITE. APPEARANCE - DOES SUGGEST THE PUDDLE IS UNTREATED SEWAGE. CITY MAINTENANCE PERSONNEL HAVE BEEN WORKING IN THE AREA ATTEMPTING TO GET CLEAR THE SM AND OBSTRUCTION THAT MAY BE CAUSING THE BACK UP</p>			
<p style="text-align: center;">2-11</p>			

Scale: 1 square=

0700	ETA/START/ERRS	ON SITE
0710	LOADING	1 ST TRUCK
0720	"	2 ND "
0725	"	3 RD TRUCK
0735	"	4 TH "
0745	"	5 TH "
0750	"	6 TH "
0755	"	7 TH "
0825	"	8 TH "
0830	"	9 TH "
0930	CAROLINA SURVEYORS ON SITE	
	- THOMAS WHITE + 2	
	- CONTRACTOR FOR S+ME	
0905	LOADING	10 TH TRUCK
0915	"	11 TH TRUCK
0925	"	12 TH "
0930	"	13 TH "
0950	"	14 TH "
0955	"	15 TH "
1105	"	16 TH "

Scale: 1 square=

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-HOT AT:
WASTE CONNECTIONS
POULTON, NC

Scale: 1 square =

12/3/12

0700 START/ENDS ON SITE

FILL DIRT BEING SOURCED FROM

4615 29/60+ in

1625 Hwy 29 SOUTH

CHINA GROVE, NC 28023

704-855-2550

OWNER: JIM WHITEY

CONTRACTOR: JOHN ECKARD

0830

3 LOADS OF FILL DIRT

DELIVERED TO SITE

APPROX 40 TONS TOTAL ~42 TONS

BEGAN FILLING FROM SW CORNER

3 TANDEN + 1 ENDS - DIRT (12, 12, 18)

0930

3 LOADS FILL DELIVERED

- APPROX 42 TONS

1000

3 LOADS FILL DELIVERED

- ~42 TONS

1100

3 LOADS FILL DELIVERED

- ~42 TONS

Scale: 1 square =

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

1110 3 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

Scale: 1 square =

Scale: 1 square =

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. ETRS WILL BE
DEPARTING THE SKID STEER &
MAKING PREPARATIONS TO LOAD OUT
THE REMAINING STOCKPILE OF CASING
SOILS TOMORROW MORNING

1230 DEPART TO SKID STEER COMPLETE
DRESSING SITE / STOCKPILE

1330 START/ETRS OFF-SITE

END

Location:

Date: _____

Project / Client

Ø700	ETA / EDS / START	on SITE
Ø700	LOADING CASING SOLDS	on 1st TRUCK
Ø710	LOADING 2ND TRUCK	14PP2
Ø715	" 3RD TRUCK	14PP1
Ø720	" 4TH TRUCK	65
Ø730	" 5TH	64
Ø740	" 6TH	252
Ø750	" 7TH	124
Ø750	" 8TH	7
Ø750	" 9TH	14-20
Ø780	" 10TH	14-55
Ø830	" 11TH	471
Ø850	" 12TH	NA
Ø850	" 13TH	50
Ø850	" 14TH	59
Ø900	" 15TH	62
Ø900	" 16TH	14PP2
Ø905	" 17TH	14PP1
Ø920	" 18TH	51
Ø950	" 19TH	7
Ø950	" 20TH	64
Ø950	" 21TH	52
Ø950	" 22TH	65

12/5/12

Location _____ Date _____
 Project / Client _____

1440	CONTINUED REPAIR OF SEWER LINE	BTEN
1600	LOADING 38" TRUCK	WT1
	CONTINUED SEWER REPAIR	
	DRESSING REMAINDER OF STOCKPILE/SITE	
1630	SEWER REPAIR COMPLETE PUMPING LIQUIDS INTO NEAREST MANHOLE	
1730	EPA/STAFF/EPRS OFF SITE	

4 Location _____ Date _____
 Project / Client _____

1055	LOADING	220	"	TRUCK	H-20
1100	"	230	"	"	H 55
1120	"	24 TH	"	"	JH 65
1240	"	25 TH	"	"	62
1245	"	26 TH	"	"	50
1255	"	27 TH	"	"	59
1305	"	28 TH	"	"	KPP2
1310	"	29 TH	"	"	WT1
1315	"	30 TH	"	"	7
1355	"	31 ST	"	"	52
1400	"	32 ND	"	"	65

1330 EPAS ATTEMPTING TO LOCATE SOURCE OF
 SEWER LEAK THAT WAS CREATED A PUZZLE
 OF SEWAGE O' E' END OF SITE. SLOAN LINDS
 WERE ENCOUNTERED IN TOMBARD OF SEWER
 HOODUP FROM THIS FORMER TRAILER SING WERE
 CASING SOILS HAD BEEN EXCAVATED

1410	LOADING	330	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/STAT/ETRS	on site	
0710	DIGGING SUMP PIT TO PUMP REMAINS		
	SEWAGE		
0720	LOADING 1 st TRUCK	52	
0730	" 2 nd	65	
0740	" 3 rd	64	
1030	" 4 th	52	
1040	" 5 th	65	
1050	" 6 th	64	
1150	2 TAKEN-DUMP LOADS OF FILL MATERIAL DELIVERED		
1220	2 TAKEN-DUMPS OF FILL		
1245	3		
1310	"	"	
1340	"	"	
1345	"	"	
350	LOADING 7 th TRUCK	65	
	" 8 th	52	EN BRACKDOWN
	1 TAKEN-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/STAT/ETRS	OFF SITE	

Location

12/7/12

Date

Project / Client

06700	EPA/ERES/START	ON SITE
	SPREADING LAST	FEL LOADS OF
	FILL DELIVERED	12/6
0830	POWER WASHING EQUIPMENT	
0930	HEBIZ ON SITE TO LOAD ON	
	BULLDOZER	
1230	EPA/START	OFF SITE
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 BLOCKAGE OF PAVED STREAM	
	LED TO SIGNIFICANT EROSION OF	
	TO SOILS PLACED @ 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/	
	BACK-HOE ONLY	

Location _____ Date _____

Project / Client _____

0940 HERTZ ON SITE TO REPAIR EXCAVATOR

0940 HERTZ COMPLETE - HERTZ OFF SITE

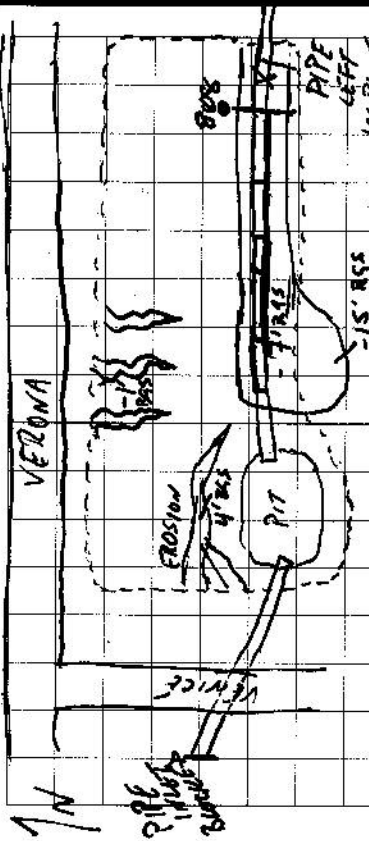
1000 BEGIN EXCAVATING SECTIONS OF TIRE/US
SOME PIPE SEGMENTS APPEAR FLATTENED
TO THE POINT WHERE LITTLE TO NO
WATER COULD PASS THROUGH CASINGS
EXCAVATED • APPROX. 80' W OF
POWER POLE Y088 - SCATTERED MIXED IN
TOP SOIL LAYER NO CASINGS OR SERIES
IN SUBSOILS BENEATH PIPE.

- SOMETIME SINCE DEC 2008, THE
ASPHALT ON McLAIRD RD HAS BEEN
STRIPPED & THE CULVERT / HEADWALL REMOVED.
SANDY SOILS CONSISTENT W/ THE FORTIFIED
ARE OBSERVED FILLING APPROX 1/2 OF PIPED
OUTFALL @ W SIDE OF ROADWAY.

1500 AT APPROX 90' W OF POWER POLE SC08 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 US1/PIT - APPROX. 7' BGS. EXCAVATOR
ALONG BANK EXTENDS 3/4 OF WAY UP BANK
TO APPROX 15' FROM TOP OF BANK TO
BOTTOM OF PIT DEPTH. 1 SEGMENT OF
US1 REMAINS IN-PLACE @ E SIDE OF PIT

1730 START/ENDS OFF-SITE

END

12

Location

1/23/13

Date

Project / Client

0700 EPA/START/ERRS ON SITE

0840 EPA/START OFF SITE TO CONDUCT RSE •

PATTERSON AVE BATTERY DUMP

ERRS COMPLETED EXCAVATION OF CASINGS
ON THIS DATE. CASINGS EXTENDED W/ TO24" 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 #616012EN AVE

EM

13

Location

1/24/13

Date

Project / Client

0700 EPA/START/ERRS ON SITE

0730 FLATTENING ASTS FOR TRANSPORT/
DISPOSAL

0800 FUELING EQUIPMENT

0830 FUELING COMPLETE - CONTINUE
FLATTENING ASTS1000 BEGIN MIXING REMAINING
ENVIRONMENTAL INTO STOCKPILE1100 CONTINUED MIXING, STAGING TREATED
STOCKPILE ALONG N SIDE OF SITE
• VERONA ST.

1500 EPA/START OFF SITE TO PATTERSON AVE

EM

1/24/13

Location

Date

Project / Client

0700	START/ETRS ON-SITE
0730	MIXING ENVIRONMENT INTO DEMOLITION STOCKPILE
0830	CONTINUED MIXING / STARTING FOR SHIPMENT
1100	METALS RECYCLING SERVICES FOR RECYCLING ON-SITE TO SHIP ASTS TO CUSTOM RECYCLING - CHARLOTTE, NC
1200	ASTS LOADED - METALS RECY SERVICE OFF-SITE
1230	CONTINUED MIXING / STARTING
1530	START/ETRS OFF-SITE

EN

1/25/13

Location

Date

Project / Client

0700	EPA/START/ETRS ON SITE
0720	LOAD OF ENVIRONMENT DELIVERED
0745	UNLOADED & OFF-SITE
0800	MIXING / STARTING STOCKPILE
	- LIGHT RAIN / SWEET FALLING
1100	ETRS COLLECTING SAMPLE FOR KLP
	- CAN'T MIXING / STARTING
1300	START OFF SITE

EN

1/29/13

0700	START/ETA/ERRORS	ON-SITE	
	- SAFETY BRIEF / LUNCH PLAN		
	- ANDREW OUT w/ HURT ANKLE FROM FALL IN THE SHOWER		
0800	2 TANDEM DUMPS (12) DELIVER FILL		~24
	1 END-DUMP (18T)		~42
	- ECKARD'S GRADING + MANUAL		
0830	2 TANDEM DUMPS DEL.		66
0845	1 END DUMP DEL		84
0900	2 TANDEM DUMP DEL.		408
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		194
1015	1 TANDEM		206
1025	1 TANDEM		218
1040	1 END DUMP		236
1045	1 TANDEM		248
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 KIMMOROUS 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	
1400	1 TANDEM	~422	
1415	1 TANDEM	~434	
	"	~446	
	- TCUP RESULTS INDICATE ALL ROPA 8 METALS AS BEING REPEATING LIMITS		
1600	COVERING STOCKPILE w/ POLY		
1640	REPLACING SECURITY 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

ETA/START/ENDS	ON SITE
0700 1 TANDEN DUMP	~ 12 T
0715 1 END DUMP	30
0730 1 TANDEN	42
0740 1 TANDEN	54
0800 1 END DUMP	72

INCREASED IN DRAINAGE HAS LED TO CONCERN
OF FILL ACTIVITIES MEASURES BEING TAKEN TO
VINDICATE POLY COVER OF STOCKPILE &
PREVENT RUNOFF FLOW DUE AROUND
STORMWATER TO FLOW ALONG S/E EDGE OF
SITE.

0930 ETA/START/ENDS OFF-SITE

- WORK CANCELLED DUE TO INCLEMENT
WEATHER

EPA

Location 1/31/13

Date

Project / Client

0700 EPA/START/ENDS ON SITE
- BEGAN LOADING OUT TREATED
STOCKPILE TO WASTE CONNECTIONS--
DOUTON, NC

- OVERNIGHT STORMS BROUGHT PRECIP.
≥ 1" OVER A PERIOD OF ~ 2 HRS.
SEVERE SCOURING OF STORMWATER
TRENCH ALONG S EDGE OF SITE
RESULTED IN SEDIMENT TRAVELLING 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/ENDS OFF SITE

EPA

2/1/13

Project / Client

0700 - GRAVEL START/ENDS ON-SITE

- BEGN' LOADING OUT TREATED

CASING SOILS

- 24 WDS SHIPPED ON THIS

DATE -- ONLY REMAINING MATERIALS REQUIRE

CASING/DRESSING --

1230 END START/ENDS OFF SITE

E N

2/4/13

Project / Client

0700 START/ENDS OFF-SITE

- LOAD 2 TARDEN ARIE DUMPS

OF CASING SOILS

0800 - FILL MATERIAL ARRIVING VIA

2 TARDEN AXLES + 1 END DUMP

- SUBPUMP VERONA ST w/ BOBCAT

1000 - 2 TARDEN DUMPS LOADED w/

CASING SOILS

- CONTINUED BACKFILLING

1330 JUSTIN

OFF-SITE FOR EDDS

1635

LOADING / TARDEN DUMP w/ REMAINING

CASING SOILS

- CONTINUED BACKFILLING

1730 START/ENDS OFF-SITE

E N

2/5/13

07000 START/ERRS on-site

- DELIVER FILL DIRT FROM ECARD

08000

LAGR LOAD OF CRUSHING SOILS OFF-SITE

CONTINUED FILLING

APPROX 580 YDS³ FILL DELIVERED

16000

FILL ACTIVITY COMPLETE. SITE IS NOW
 UNDER THE OVERSIGHT OF NC DENR
 FOR RESTORATION. ER WILL STAY ON SITE
 UNDER CONTRACT W/ NC DENR

- START OFF SITE

CM