



August 18, 2010

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

**Subject: Final Removal Assessment Letter Report
Villa Mobile Home Park Battery Dump
Kannapolis, Cabarrus County, North Carolina
EPA Contract No. EP-W-05-054
TDD No. TTEMI-05-003-0100**

Dear Mr. Tanner:

The Tetra Tech EM Inc. (Tetra Tech) Superfund Technical Assessment and Response Team (START) is submitting the final removal assessment (RA) letter report for the Villa Mobile Home Park Battery Dump (VBD) site located in Kannapolis, Cabarrus County, North Carolina. This report includes figures (Appendix A), a table (Appendix B), a photographic log (Appendix C), and field logbook notes (Appendix D). The analytical data package is included in Attachment 1. This letter report summarizes field activities conducted on the property during the RA at the VBD site on August 5 and 6, 2010. The general purposes of the RA were to characterize total lead concentrations in surface and subsurface soils and sediment on residential properties by performing x-ray fluorescence (XRF) screening, collecting soil and sediment samples for laboratory analysis, and comparing laboratory analytical results to EPA's regional screening level (RSL) for lead in residential soil.

SITE BACKGROUND

The VBD site is located in Kannapolis, Cabarrus County, North Carolina, in a predominantly residential area (see Figure 1 in Appendix A). The geographic coordinates for the VBD site are latitude 35.65225° north and longitude 80.608875° west. The site is comprised of about 56 mobile homes on 11 parcels of land that encompass a footprint of approximately 10 acres in area. The site layout is depicted on Figure 2 in Appendix A.

A complaint was received from the City of Kannapolis on June 17, 2010 regarding battery casings found in a ditch at the Villa Mobile Home Park. The ditch area of concern is located south of the intersection of Verona Street and Venice Street behind the mobile home at 612 Venice Street. Personnel representing the North Carolina Department of Environment and Natural Resources (NCDENR), Division of Water Quality (DWQ) observed layers of battery chips throughout the ditch bank profile. No internal battery components were observed protruding from banks. DWQ personnel collected pH measurements from the ditch at locations upstream area of concern, at the area of concern within the mobile home park, and downstream of the area of concern; the pH measurements were 6.4, 6.8, and 6.9 respectively. DWQ indicated that these levels were acceptable.

XRF SCREENING AND SAMPLING ACTIVITIES

Tetra Tech START collected a total of 11 soil and 2 sediment samples from the VBD site. More specifically, Tetra Tech collected 5 composite surface soil, 6 grab subsurface soil, and 2 grab sediment samples, including background and duplicate samples. Surface samples were collected from 0 to 6 inches below ground surface (bgs) and subsurface soil samples were collected from 6 inches to 2 feet bgs. Two of the grab subsurface soil samples were collected in the ditch, 0 to 6 inches into the sidewall which was about 3.5 to 4 feet bgs where with exposed battery chips were observed. The sediment samples were collected at 0 to 4 inches below the bed of the ditch. A background sample was collected for each sample type (surface and subsurface soil and sediment) and a duplicate subsurface soil sample was collected.

NCDENR screened all soil and sediment samples collected with an XRF unit. Based upon screening results of the aliquots for the composite surface soil samples, Tetra Tech collected a grab subsurface soil sample from the aliquot location with the highest XRF lead screening result.

The individual aliquots and grab samples were collected using stainless steel spoons and augers, placed into disposable aluminum pans and glass pans, and homogenized prior to screening and sampling activities. A field blank and an equipment rinsate blank were also collected. Tetra Tech conducted soil and sediment sampling activities in accordance with the EPA Region 4 Science and Ecosystem Support Division (SESD), Field Branches Quality System and Technical Procedures (FBQSTP) operating procedures for soil sampling, SESDPROC-300-R1 and for sediment sampling, SESDPROC-200-R1.

DEVIATIONS FROM QUALITY ASSURANCE PROJECT PLAN

Deviations from the quality assurance project plan (QAPP) for the VBA site were made during assessment activities. Subsurface samples were collected as grab rather than composite in an attempt to reveal worst-case risk of lead contamination in the residential soils. Also, the QAPP outlines sampling to occur in front, back, and side yards around each mobile home in the park. Based upon the proximity and number of the homes on each parcel of land, it was determined during field activities that the area would be better represented by assigning one composite and one grab sample for each parcel of land or area of interest. Because the ditch flow is intermittent, sediment samples were collected from the ditch instead of surface water samples. Also, in areas where water was present, an adequate amount of water was not present for surface water sampling. Figure 2 in Appendix A displays the sampling locations and the laboratory result for total lead.

SCREENING AND ANALYTICAL RESULTS

Grab and composite surface soil and sediment samples were submitted to Environmental Conservation Laboratories, Inc. (ENCO) for analysis of lead using EPA Method SW-846 6010C. A cursory review of the analytical data was performed in accordance with the U.S. Environmental Protection Agency Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (January 2010). The only quality control issue observed for the analytical data was the matrix spike recovery for sample VBD-MESSINA_CT-SF, which was below quality control (QC) limits. However, the matrix spike duplicate recovery, the average of the matrix spike and matrix spike duplicate recoveries, the relative percent difference between matrix spike and matrix spike duplicate results, and the post-digestion spike recovery were all within QC limits. Therefore, the reported concentrations for all solid samples were qualified as estimated and possibly biased low (“J-” flag). The lead distribution within sample VBD-MESSINA_CT-SF is probably heterogeneous, and similar heterogeneity may exist at other sample locations.

The analytical results of the soil and sediment samples were compared to the EPA RSLs dated May 2010 for lead in residential soil. Analytical results for subsurface soil samples VBD-VERONA_ST-02-DITCH-SB and VBD-VERONA_ST-02-DITCH-SB DUP indicated the presence of lead at 4,130 milligrams per kilogram (mg/kg) and 5,400 mg/kg, respectively. These concentrations are above the EPA RSL of 400 mg/kg for lead in residential soil (see Table 1 in Appendix B). Subsurface soil samples VBD-VERONA_ST-02-DITCH-SB and VBD-VERONA_ST-02-DITCH-SB DUP were from the side

wall of the ditch area of concern where exposed battery chips were first observed. This area is behind the mobile home at 612 Venice Street. As a result, NCDENR personnel performed additional in situ screen around the ditch to delineate the area of contamination. NCDENR's report of the site visit provides more detail of their findings.

Analytical results of lead in all other soil (surface and subsurface) and sediment samples were found to be below 154 mg/kg, which is well below the RSL of 400 mg/kg. Figure 2 in Appendix A presents analytical results in relation to their sampling locations. Attachment 1 contains the ENCO analytical data package. Table 1 in Appendix B provides the XRF screening results as well as the laboratory analytical results for each sample submitted for analysis. In most cases the XRF results reported a more conservative value (higher) than was confirmed by the contract laboratory.

CONCLUSION

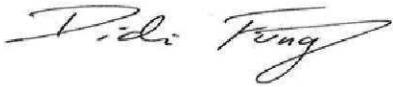
During the RA Tetra Tech START collected 5 composite surface soil, 6 grab subsurface surface soil, and 2 grab sediment samples to characterize total lead concentrations over the 10-acre VBD site. NCDENR conducted XRF screening of surface and subsurface soils as well as sediment samples in conjunction with Tetra Tech's sample collection activities. Lead was detected above the EPA RSL of 400 mg/kg in 2 of the subsurface soil samples collected in the ditch behind 612 Venice Street, where exposed battery chips were first observed. Analytical results of lead in all other samples were below 154 mg/kg.

Based on the results of XRF screening and analytical results of samples collected for laboratory analysis, lead contamination is present above EPA RSL in the ditch area near 612 Venice Street of the VBD site. Future activities at the site to address lead contamination in the Verona Street ditch are at the discretion of EPA.

Mr. Tanner
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August 18, 2010

If you have any questions or need additional copies of this final RA letter report, please contact me (Didi Fung) at (678) 775-3095 or Sandra Harrigan at (678) 775-3088.

Sincerely,



Didi Fung
START III Site Manager



Andrew F. Johnson
START III Program Manager

Attachments (5)

cc: Katrina Jones, EPA Project Officer
Angel Reed, START Document Control Coordinator

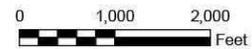
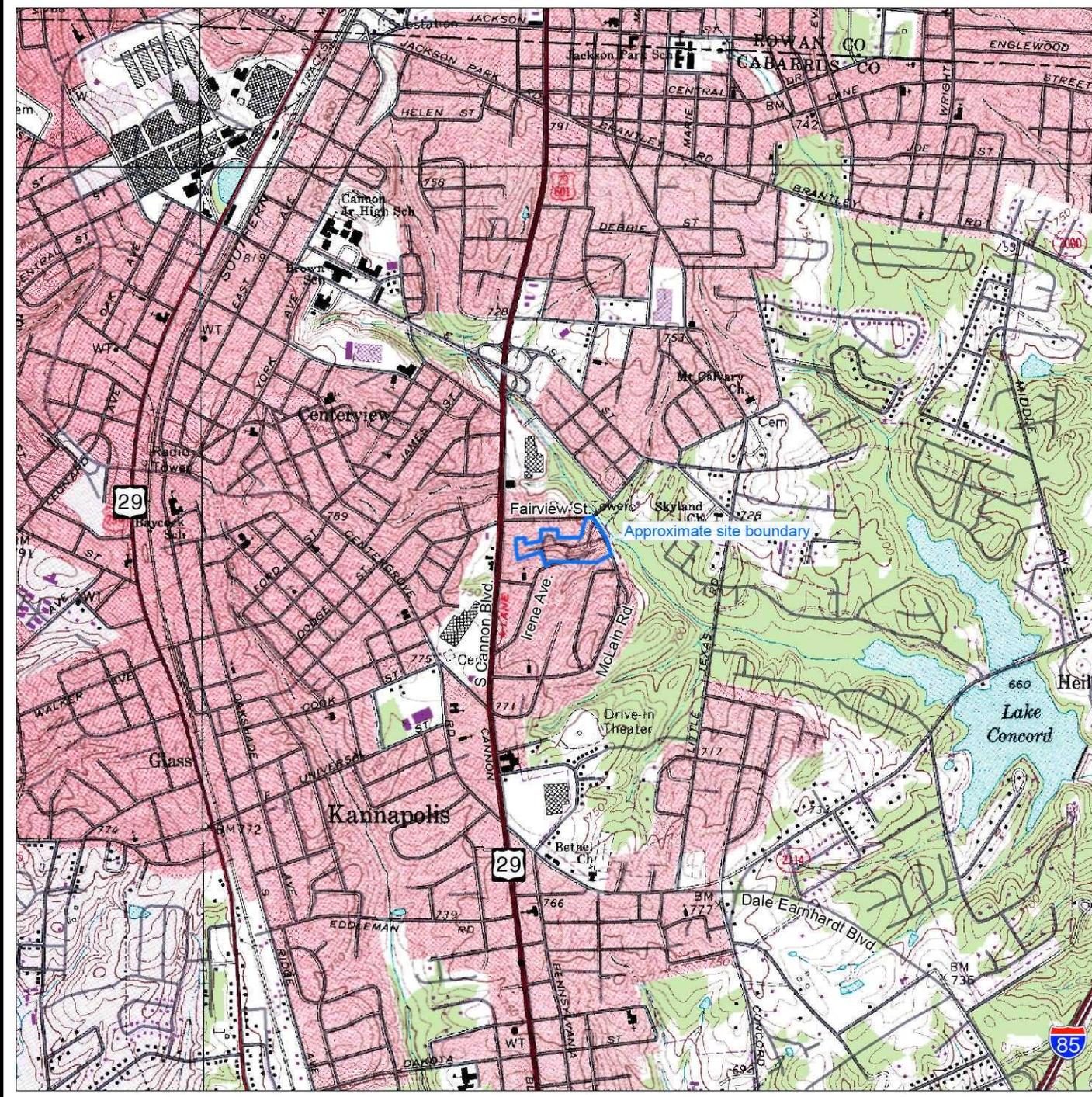
APPENDIX A

FIGURES

(Two Pages)

FIGURE

- 1 SITE LOCATION MAP
- 2 SAMPLE LOCATION MAP



MAP SOURCE:
 MODIFIED FROM USGS 7.5-MINUTE SERIES
 TOPOGRAPHIC QUADRANGLES: CHINA GROVE, NORTH
 CAROLINA, 1970, PHOTOREVISED 1987; CONCORD,
 NORTH CAROLINA, 1969, PHOTOREVISED 1987;
 ENOCHVILLE, NORTH CAROLINA, 1993; KANNAPOLIS,
 NORTH CAROLINA, 1993



Legend

- Approximate mobile home park boundary
- Streets



VILLA MOBILE HOME PARK
 BATTERY DUMP
 KANNAPOLIS,
 CABARRUS COUNTY,
 NORTH CAROLINA
 TDD No. TTEMI-05-003-0100

**FIGURE 1
 SITE LOCATION**





Legend

- Ditch area of concern
- Approximate boundary of Villa Mobile Home Park
- Tax parcel boundary

Composite sampling area

- VBD-BG-01-SF
- VBD-MESSINA-CT-SF
- VBD-VERONA-ST-02-SF
- VBD-VERONA-ST-03-SF

Composite sampling areas are labeled with their composite sample ID. Lead concentrations (in mg/kg) appear in brackets below sample IDs. Lead concentrations at location VBD-VERONA-ST-02-DITCH are in red text because they exceed the RSL for lead (400 mg/kg).

Notes:

- 614 Property address
- + Ditch subsurface soil sampling location
- x Sediment sampling location

Composite surface soil sampling locations *

- ♦ VBD-BG-01-SF
- VBD-MESSINA-CT-SF
- VBD-VERONA-ST-02-SF
- VBD-VERONA-ST-03-SF

* Individual aliquots are labeled only with their aliquot number. Grab sampling locations are labeled with their full sample ID.

Notes:

BG = Background
 CT = Court
 DUP = Field Duplicate
 EPA = U.S. Environmental Protection Agency
 FY = Front Yard

J- = The analyte was positively identified; the associated value is an estimated concentration of the analyte in the sample and is possibly biased low.

mg/kg = Milligrams per kilogram
 Pb = Lead
 RSL = Regional Screening Level
 SB = Subsurface soil
 SF = Surface soil
 ST = Street
 VBD = Villa Mobile Home Battery Dump



United States Environmental Protection Agency

VILLA MOBILE HOME PARK
 BATTERY DUMP
 KANNAPOLIS,
 CABARRUS COUNTY,
 NORTH CAROLINA
 TDD No. TTEMI-05-003-0100

FIGURE 2
SITE LAYOUT
WITH LABORATORY RESULTS

TETRATECH

APPENDIX B

TABLES

(One Page)

TABLE

1 LABORATORY ANALYTICAL RESULTS and X-RAY FLOURESCENCE
SCREENING RESULTS

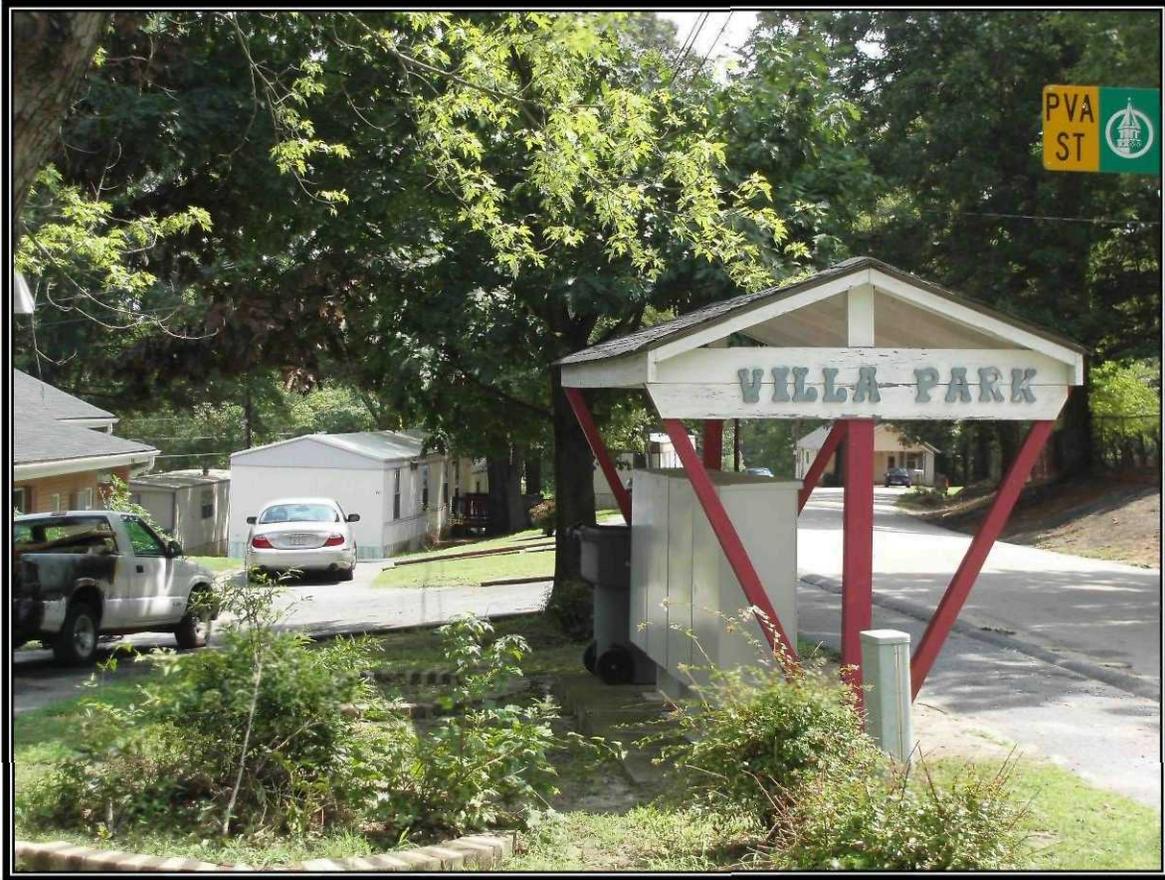
TABLE 1
LABORATORY ANALYTICAL RESULTS
and
X-RAY-FLUORESCENCE SCREENING RESULTS

Sample Designation	Date Sampled	EPA RSL (mg/kg)	Lead - Laboratory Result (mg/kg)	Lead - XRF Result (ppm)
VBD-BG-01-SF	5-Aug-10	400	32.8 J-	30.32
VBD-MESSINA_CT-SF	5-Aug-10	400	90.9 J-	149.55
VBD-705MESSINA-SB-FY	5-Aug-10	400	37.4 J-	51.81
VBD-VENICE_ST-SF	5-Aug-10	400	35.9 J-	41.39
VBD-VERONA_ST-02-SF	5-Aug-10	400	49.1 J-	65.44
VBD-612VERONA-SB-FY	5-Aug-10	400	67.8 J-	100.55
VBD-VERONA_ST-02-DITCH-SB	5-Aug-10	400	4,130 J-	4475.21
VBD-VERONA_ST-02-DITCH-SB DUP	6-Aug-10	400	5,400 J-	2,949.68
VBD-BG-01-SB	6-Aug-10	400	27.3 J-	56.71
VBD-VERONA_ST-03-SF	6-Aug-10	400	83.4 J-	135.32
VBD-816VERONA-SB-FY	6-Aug-10	400	154 J-	217.49
VBD-McLAIN-04-SD	6-Aug-10	400	35.9 J-	292.78
VBD-BG-05-SD	6-Aug-10	400	7.8 J-	21.35

Notes:

- BG Background
- CT Court
- DUP Field Duplicate
- EPA U.S. Environmental Protection Agency
- FY Front Yard
- J- The analyte was positively identified; the associated value is an estimated concentration of the analyte in the sample and is possibly biased low.
- mg/kg Milligrams per kilogram
- ppm Parts per million
- RSL Regional Screening Level
- SB Subsurface soil
- SD Sediment
- SF Surface soil
- ST Street
- VBD Villa Mobile Home Battery Dump
- XRF X-ray fluorescence
- Result exceeds the EPA Region 4 RSL.

APPENDIX C
PHOTOGRAPHIC LOG
(13 Pages)



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

TDD Number: TTEMI-05-003-0100 **Location:** Villa Park Mobile Home Park Battery Dump
Kannapolis, Cabarrus County, North Carolina

Orientation: East **Date:** August 6, 2010

Photographer: Didi Fung, Tetra Tech **Witness:** John Steinauer, Tetra Tech

Subject: Tetra Tech met with North Carolina Department of Environment and Natural Resources (NCDENR) personnel on August 5, 20120, to conduct a soil removal assessment for total lead contamination at the Villa Mobile Home Park residential area.



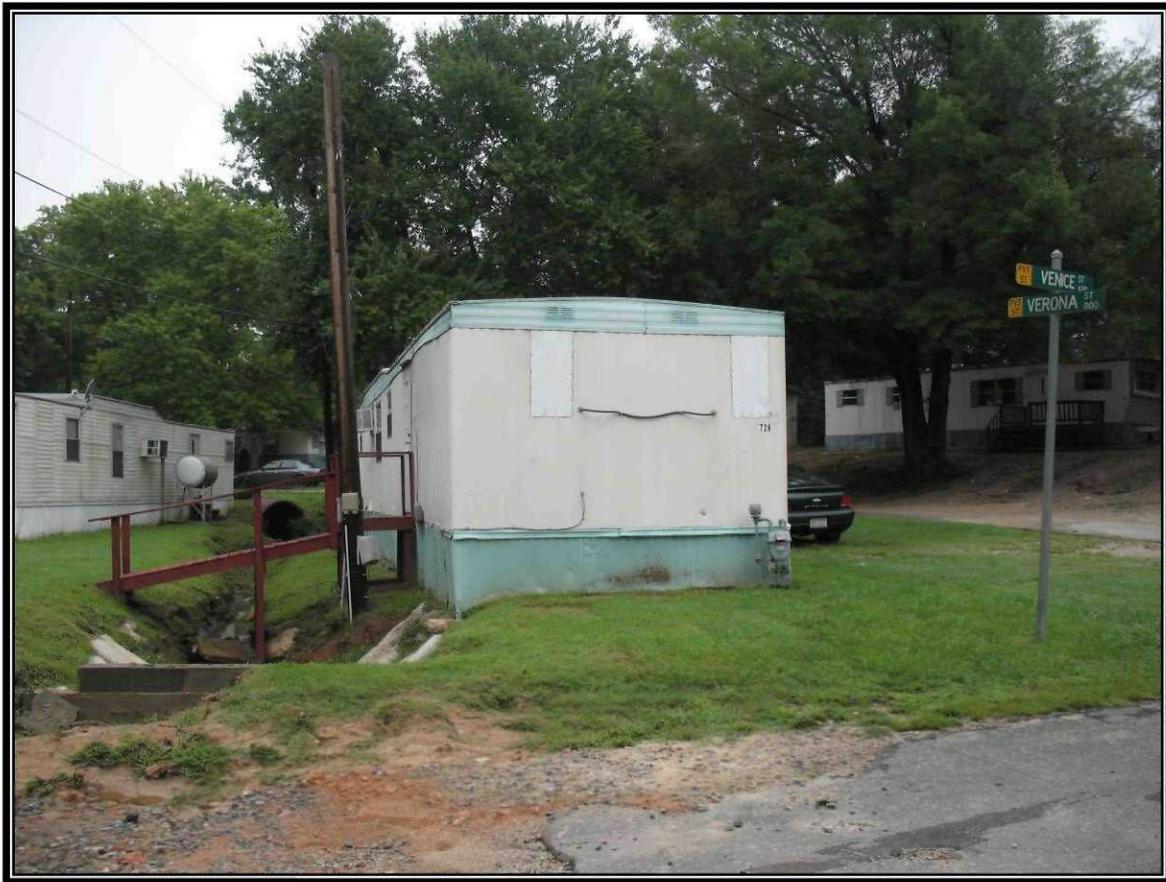
OFFICIAL PHOTOGRAPH NO. 2
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number: TTEMI-05-003-0100 **Location:** Villa Park Mobile Home Park Battery Dump
Kannapolis, Cabarrus County, North Carolina

Orientation: West **Date:** August 6, 2010

Photographer: Didi Fung, Tetra Tech **Witness:** John Steinauer, Tetra Tech

Subject: Sampling began at Messina Court on the western side of the site. A background soil samples was collected in the wooded area behind the last home. A composite surface soil and grab subsurface soil samples were collected in this area as well.



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

TDD Number: TTEMI-05-003-0100 **Location:** Villa Park Mobile Home Park Battery Dump
Kannapolis, Cabarrus County, North Carolina

Orientation: Northwest **Date:** August 6, 2010

Photographer: Didi Fung, Tetra Tech **Witness:** John Steinauer, Tetra Tech

Subject: Surface water drainage ditch was located at the intersection of Venice Street and Verona Street at the center of the site. No battery chips were observed at this location.



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

TDD Number: TTEMI-05-003-0100 **Location:** Villa Park Mobile Home Park Battery Dump
Kannapolis, Cabarrus County, North Carolina

Orientation: Ground **Date:** August 5, 2010

Photographer: John Steinauer, Tetra Tech **Witness:** Didi Fung, Tetra Tech

Subject: Aliquot #3 from the 5-point composite collected from surface soils on the western side of Venice Street at the center of the site. No battery chips were observed at this location.



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

TDD Number: TTEMI-05-003-0100 **Location:** Villa Park Mobile Home Park Battery Dump
Kannapolis, Cabarrus County, North Carolina

Orientation: East **Date:** August 6, 2010

Photographer: Didi Fung, Tetra Tech **Witness:** John Steinauer, Tetra Tech

Subject: Ditch area between mobile home #612 and #800 on the eastern side of Venice Street at the center of the site. Debris and battery chips were observed in this area. Culverts appear to be storage tanks with both ends cut open. NCDENR collected in situ x-ray fluorescence (XRF) reading at the wash out area to determine the total lead concentrations.



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

TDD Number: TTEMI-05-003-0100 **Location:** Villa Park Mobile Home Park Battery Dump
Kannapolis, Cabarrus County, North Carolina

Orientation: Northwest **Date:** August 6, 2010

Photographer: Didi Fung, Tetra Tech **Witness:** John Steinauer, Tetra Tech

Subject: Ditch area between mobile home #612 and #800 on the eastern side of Venice Street.
Battery chips were observed at this location.



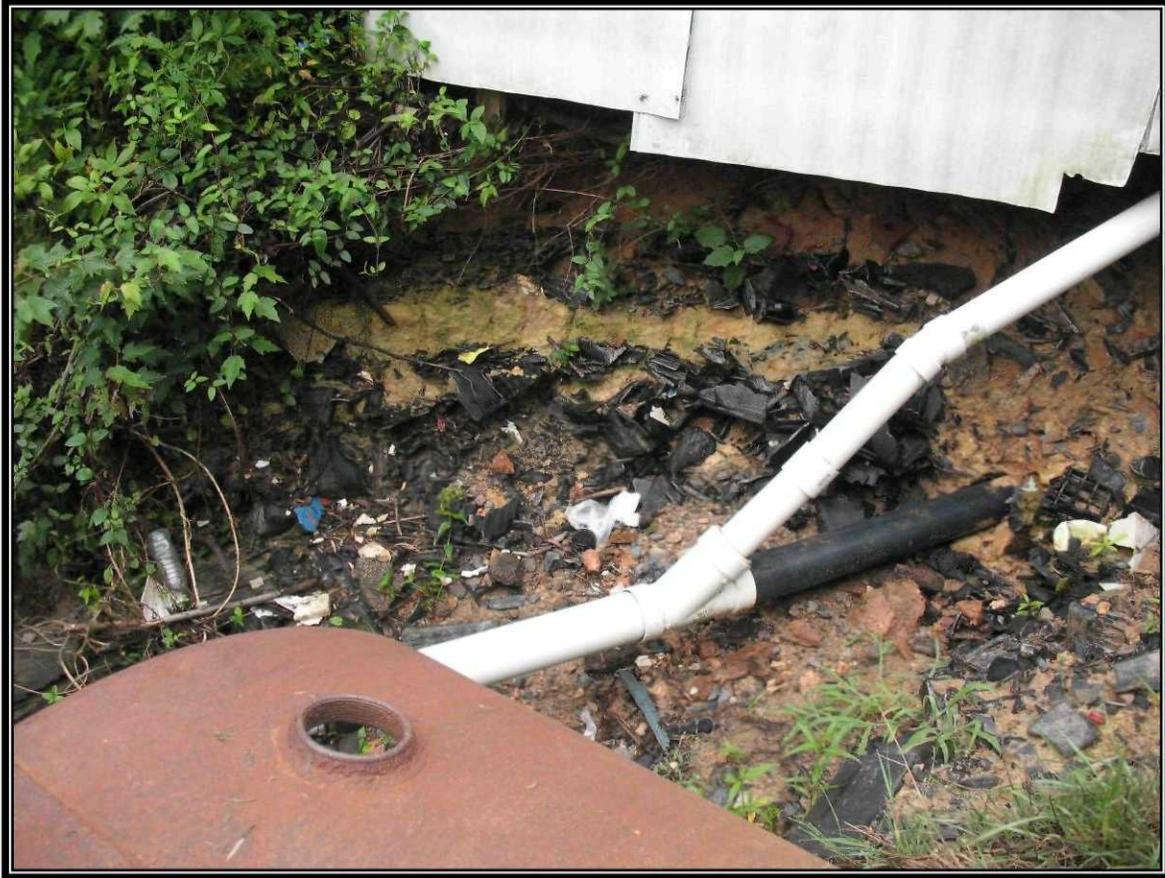
OFFICIAL PHOTOGRAPH NO. 7
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number: TTEMI-05-003-0100 **Location:** Villa Park Mobile Home Park Battery Dump
Kannapolis, Cabarrus County, North Carolina

Orientation: Northwest **Date:** August 6, 2010

Photographer: Didi Fung, Tetra Tech **Witness:** John Steinauer, Tetra Tech

Subject: Ditch area between mobile home #612 and #800 on the eastern side of Venice Street. Battery chips and utility lines were observed in the exposed bank. Tetra Tech collected grab subsurface soil samples 0 to 6 inches into the ditch sidewall (3.5 to 4 feet below ground surface). Laboratory results of the subsurface soil samples showed lead concentrations from 4130 to 5400 milligrams per kilogram (mg/kg).



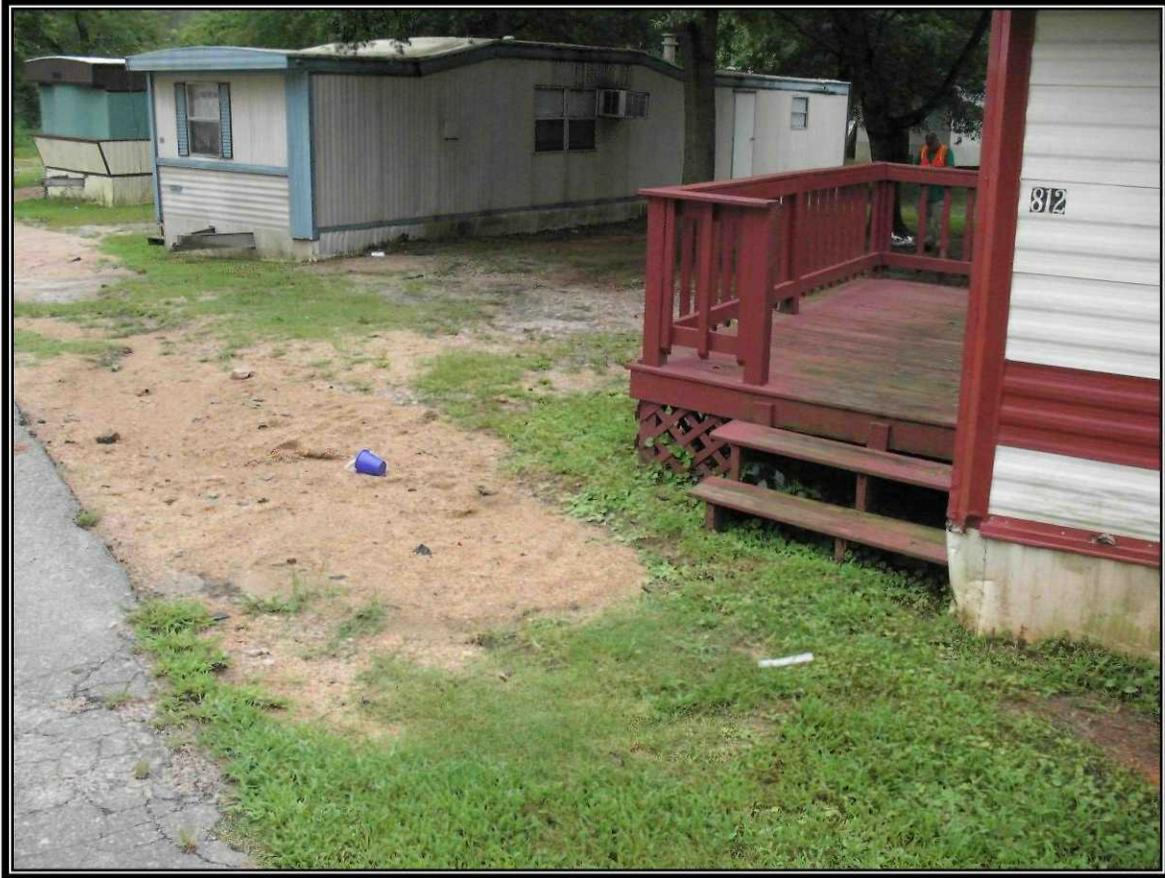
OFFICIAL PHOTOGRAPH NO. 8
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number: TTEMI-05-003-0100 **Location:** Villa Park Mobile Home Park Battery Dump
Kannapolis, Cabarrus County, North Carolina

Orientation: Southwest **Date:** August 6, 2010

Photographer: Didi Fung, Tetra Tech **Witness:** John Steinauer, Tetra Tech

Subject: Ditch area between mobile home #612 and #800 on the eastern side of Venice Street.
Layers of battery chips were observed the exposed bank.



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

TDD Number: TTEMI-05-003-0100 **Location:** Villa Park Mobile Home Park Battery Dump
Kannapolis, Cabarrus County, North Carolina

Orientation: East **Date:** August 6, 2010

Photographer: Didi Fung, Tetra Tech **Witness:** John Steinauer, Tetra Tech

Subject: Battery chips were observed in a gravel area by mobile home #812 on Verona Street at the eastern side of the site. NCDENR personnel collected in situ XRF readings. Concentrations of lead were not detected above the EPA regional screening level of 400 mg/kg for lead in residential soil.



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

TDD Number: TTEMI-05-003-0100 **Location:** Villa Park Mobile Home Park Battery Dump
Kannapolis, Cabarrus County, North Carolina

Orientation: West **Date:** August 6, 2010

Photographer: Didi Fung, Tetra Tech **Witness:** John Steinauer, Tetra Tech

Subject: The final composite surface soil sample was collected in the area left of Verona Street on the eastern side of the site.



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

TDD Number: TTEMI-05-003-0100 **Location:** Villa Park Mobile Home Park Battery Dump
Kannapolis, Cabarrus County, North Carolina

Orientation: Southwest **Date:** August 5, 2010

Photographer: Didi Fung, Tetra Tech **Witness:** John Steinauer, Tetra Tech

Subject: At the eastern side of the site at the McLain Road culvert; battery casings were observed in the surrounding gravel.



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

TDD Number: TTEMI-05-003-0100 **Location:** Villa Park Mobile Home Park Battery Dump
Kannapolis, Cabarrus County, North Carolina

Orientation: Southwest **Date:** August 6, 2010

Photographer: John Steinauer, Tetra Tech **Witness:** Didi Fung, Tetra Tech

Subject: Tetra Tech collected a sediment sample just downstream of the McLain Road culvert area where batter chips were observed. NCDENR collected global positioning system (GPS) locations for each sample collected.



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

TDD Number: TTEMI-05-003-0100 **Location:** Villa Park Mobile Home Park Battery Dump
Kannapolis, Cabarrus County, North Carolina

Orientation: Southwest **Date:** August 6, 2010

Photographer: Didi Fung, Tetra Tech **Witness:** Harry Zinn, NCDENR

Subject: NCDENR collected the background sediment sample at the Fairview Street overpass near the intersection of McLain Road.

APPENDIX D

FIELD LOGBOOK NOTES

(9 Pages)

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Tetra Tech



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VILLA MOBILE HOME PARK

TTEMI-05-003-0100

START RA

AUGUST 2010

8/5/10

Thursday

080510

0500 Deploy to Kannapolis, NC
to Villa Battery Dump.

0800 Meet Didi Fong, TTEMI,
Harry Zinn, Env Eng, Superfund
Section, Division of waste mgmt
NCDENR (Harry.Zinn@ncmail.net
919 508 8488, 919 733 4811 Fax)

Miguel A. Alvalle, Jr., Hydrogeologist
Div of waste mgmt,

610 E Center Ave #301,

Mooreville, NC 28115 (miguel.
alvalle@ncdenr.gov, 704 663-1699,
Ext 2191, Fax 704 663-6080.

0815 Conduct safety talk w/ site mgt
w/ Didi doing briefing. Main
concerns are heat, lead exposure,
vehicular hazards, move to
Site entrance.

0835 Set up, don protective equip.
Radiation meter w/ pancake wand, and
conduct site recon.

Ludlum Model 3 instrument was taken on recon of
mobile home park. Reading ranged from 100-200
counts per minute (cpm).

Didi Fong

8/5/10

Thursday

Ms. Sharon Scoggin is allowing NCDENR,
USEPA & TC to come on her property and
collect environmental samples for addresses
618 scene on 610 scene

Sign Sharon Scoggin
Date 8-5-10 704 933 9904

Access was granted for parcel #
& #

NCDENR set up at Messina Ct. first to begin
soil sampling.

1122 Sample VBD-MESSINA~~CF~~-SF was collected
It was a 0-6" depth 5-pt composite.
Most soils were dry, light brown in color &
no battery chips were observed. NCDENR
collected XRF screening for each aliquot of
the composite. GPS locations were logged at
each aliquot location.

1152 Sample VBD-BQ-SF~~FOI~~ was collected as
a surface soil background sample in a high
undisturbed ~~are~~ wooded area west of Messina Ct.
It was a 3-pt composite 0-6" depth. Dark
brown in color & ~~not~~ no chips were found.
NCDENR performed the same XRF screening on

Didi Fong

8/5/10

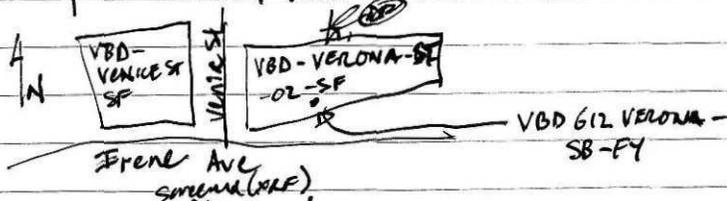
THURSDAY

each aliquot & the composite sample. (see NCDENR logbook for readings)

1225 Collected subsurface soil sample ^(grab) at Messina ct at location with highest XRF lead result. VBD-705 MESSINA-SB-FY. Depth collected was 0-2 feet.

1230-1330 Lunch break

1430 Collected sample VBD-VENICE ST-SF. This was a 5-point composite 0-6" depth at parcel touching Irene Ave & Venice St. No chips observed



Highest aliquot ^{was} 2nd one, where a subsurface sample was collected from 6"-24". Soil was brown, no chips. Sample was ~~VBD-VENICE ST-SF~~ ^{VBD-VERONA ST-02-SF}

Discussing sample VBD-VERONA ST-02-SF

VBD-612 VERONA-SB-FY collected at 1600

1536 Sample VBD-VERONA ST-02-SF was collected. This was a 4-pt composite at 0-6" depth.

Sample VBD-612 VERONA-SB-FY was collected on the parcel on the east side of Venice St. w/ Irene Ave on the south border.

D. J. P.

8/5/10

THURSDAY

1636 collected VBD-VERONA ST-02-DITCH-SB

Depth was 3.5 to 4 foot. In situ screening was 4400 ppm for lead.

Aggr dam 3" at south of ditch and found VAB chips. XRF 4475 ppm lead

166 ppm Arsenic

1700 Weather station ~~station~~ move in to mobile park. Sampling team left site due to weather & safety (thunderstorms & lightning).

NOTE: Tt was collecting and sending samples to a contract lab for analysis of total lead (Zn to TAT). NCDENR is collecting XRF readings & GPS coordinates.

FRIDAY

8/6/10

0800 THURSDAY'S weather was hot and humid in the morning. The crew had to take frequent breaks and drank lots of water. FRIDAY is overcast and slightly cooler.

The morning H&S briefing was conducted. Reminders of heat exhaustion & underground utilities was a focus.

0840 The team split up to collect QC samples.

A subsurface soil grab was collected at 0849 VBD-B4-01-SB at 6"-24" depth. The other team collected a duplicate sample in the washout area next to trailer # 612 on east side of Venice St. VBD-VERONA ST-02-DITCH-SB-DUP. This was a grab

D. J. P.

8/6/10

Friday

at 3.5 to 4 feet deep in the side wall of the bank.

After this, the team collected in situ surface soil XRF readings around the top of the washout area. Levels of lead were seen in the 4500 ppm range in a small area. (see NCDENR notes for details).

~~0930 A gravel plug area~~

1010 Collected VBD-VERONA-ST-~~03~~^{5-PT}-ST composite surface soil 0-6" depth at the east end of Verona St. XRF screening of each aliquot showed the 5th aliquot was elevated for lead though not about 400 ppm more in the range of 299 ppm.

AT 1040 sample VBD-816 VERONA-SB-FY was collected at the 5th ~~aliquot~~^{PT} aliquot location. The sample was collected from ~~6"~~^{6"} to 24" No battery chips were seen.

1019 QC sample VBD-FL-~~01~~^{FIELD BOTTLE} was collected using a pre-preserved bottle and organic free water.

1027 QC sample VBD-EB-01 equipment rinsewater was collected. One SS bowl, spoon, & sugar water rinsed and poured into a pre-preserved bottle. (250mL plastic).

1052 A gravel plug area at trailer # 812 in the same area of composite sample, battery chips were observed. Approximately 8-10 in situ XRF readings were collected. No elevated

Didi T

8/6/10

Friday

lead concentrations were seen.

1104 Sediment grab sample 0-4" was collected VBD-McLain-04-SD east of McLain Rd east of trailer # 818. No battery chips were observed. Again all samples were screened using NCDENR's XRF (see these notes for results).

1117 Background sediment sample was collected, VBD-BQ-05-SD at Fairview bridge and McLain Rd intersection. 0"-4" depth by NCDENR. No chips were seen in the grab sample.

This completed the sampling views planned activities. Samples were packed for delivery to ENCO labs in Cary, NC (919) 467-3090.

1230 Team completed packing up equipment and left site.

1730 Ferry arrived back in Duluth, GA and restocked all fuel & equipment.

Didi T



NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

Harry Zinn
Environmental Engineer
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Photo Log

PHOTO #	DATE TIME	DESCRIPTION	DIRECTION
img_3058	8/5/10 0906	Washout area beneath trailer 612 off of Venice St. Layers of batter chips were seen as well as UST cut cut open at either end used as culverts for drainage.	S.
img_3059	8/5/10 0907	Washout area next to trailer 612 off of Venice St. Battery casings observed as well as exposed utility lines.	SE
img_3060	8/5/10 0909	Washout area next to trailer 612 on Venice St. Outflow end of UST culvert.	SE.
img_3062	8/5/10 0911	Washout area next to trailer 612 on Venice St. Inflow UST culvert shown.	W.
img_3064	8/5/10 0920	Upstream culvert, in the wooded area south of 701 trailer on Messina Ct. No flowing water.	E.
img_3065	8/5/10 0920	Same as above.	
img_3066	8/5/10 0947	Triple plastic corrugated pipe outlet at McLain Rd between trailer 818 & 1201. Battery casings observed in sediment deposits.	W.
img_3067	8/5/10 0947	Whole battery casing seen ⁱⁿ flowing at drainage area at McLain Rd outlet area.	SE.
Dub of		Could not tell if casing was empty.	

Photo Log (cont.)

Photo#	Date	Time	Description	Direction
img_3068	8/5/10	0948	Battery casing observed in sediment deposits on McClain Rd at road barriers.	SW.
			Close up.	
img_3069	8/5/10	0948	Same as above, full view	SW.
img_3070	8/5/10	0948	Road closure barriers at McClain Rd., west side with view of culvert outlet.	SW.
img_3071	8/5/10	0949	Same as above; close up	SE.
img_3072	8/5/10	0949	McClain Rd closure barriers with sediment & battery chips.	N.
img_3073	8/5/10	0956	Road closure barriers at McClain Rd and Genoa St.	SE.
img_3074	8/5/10	1409	5 pt surface soil samples (0-6") between Venice St. & Verona St. bordered by Irene Ave on the south. Brown to light brown soil. No chips were observed.	NA
			#3 aliquots	
img_3075	8/5/10	1409	Same as above, close up.	NA.
img_3083	8/6/10	1012	Surface water drainage ditch between trailer 609 & 728 from Venice St.	NW
			No chips were observed in the ditch.	
img_3084	8/6/10	1012	Same as above w/ street signs in frame	NW
img_3085	8/6/10	1012	NC DENR personnel using XRF to screen surface	
			Didi Ford	

Photo log (cont.)

Photo#	Date	Time	Description	Direction
			(cont.) soils for lead concentration. In situ	
			at wash out area between trailer 612 & 800	
			on the east side of Venice St.	E.
img_3086	8/6/10	1013	Same as above, now with TE personnel as well	
			and view of washout area with debris.	E.
img_3087	8/6/10	1013	Same as above	NW
img_3088	8/6/10	1014	Exposed utilities in washout area between 612 & 800 on east side of Venice St.	NW
			Battery chips are seen in the bank.	
img_3089	8/6/10	1014	VST with ends cut out are used for culverts.	NW.
			(same washout area)	
img_3090	8/6/10	1015	Another VST w/ ends cut out with layers of battery chips under trailer # 612 on east side of Venice st.	W.
img_3091	8/6/10	1017	Battery case (empty) seen inside abandoned trailer home # 804 near washout area.	NE.
img_3092	8/6/10	1017	Same as above, close up.	NE.
img_3093	8/6/10	1017	Same trailer as above, window seal with battery chip.	NE.
img_3094	8/6/10	1052	Gravel piling area in front of trailer # 812 on south side of Verona St. Battery chips were seen in this area. XRF screenings were not seen showing elevated lead levels.	E.
img_3095	8/6/10	1052	Same as above; close up.	E.
			Didi Ford	

Photo Log (cont.)

Photo #	Date	Time	Description	Direction
img-3096	8/6/10	1052	Same as previous page (39); closeup	E
img-3097	8/6/10	1052	Gravel play area at trailer #12 south side of Verona St.; closeup w/ battery chips.	SW
img-3098	8/6/10	1148	View of Verona St standing at trailer #818 on south side of st.	W
img-3099	8/6/10	1201	TB & NCDENR collecting sediment sample on east side of McLain Rd. GPS location was also marked. Battery chips were observed in the area. No chips were noticed in the sample collected.	W
img-3100	8/6/10	1214	Background sediment sample collected by NCDENR at Fairview St bridge of McLain Rd. in glass pan. No chips were observed.	SW
img-3101	8/6/10	1215	Same as above; closeup.	SW
img-				
P8060078	8/6/10	¹²¹⁶ 1206	Villa Home Mobile Park management office	NW
P8060079	8/6/10	1216	Villa Park sign & mailboxes.	NE
P8060080	8/6/10	1217	Same as above	E
P8060081	8/6/10	1217	Messina Ct. view from Verona St	NW
P8060082	8/6/10	1218	Messina Ct. trailers.	W

[Signature]

ATTACHMENT 1
ANALYTICAL DATA PACKAGE
(25 Pages)

Environmental Conservation Laboratories, Inc.

102-A Woodwinds Industrial Court

Cary NC, 27511

Phone: 919.467.3090 FAX: 919.467.3515



www.encolabs.com

Monday, August 9, 2010

Tetra Tech EM, Inc. (TE014)

Attn: Jessica Vickers

1955 Evergreen Blvd., Building 200, Suite 300

Duluth, GA 30096

RE: Laboratory Results for

Project Number: TTEMI-05-003-0100, Project Name/Desc: Villa Mobile Home Park - Battery Dump

ENCO Workorder: C009364

Dear Jessica Vickers,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Friday, August 6, 2010.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Cary. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink that reads 'Bill Scott'.

Bill Scott

Project Manager

Enclosure(s)



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SAMPLE SUMMARY / LABORATORY CHRONICLE

Client ID: VBD-MESSINA_CT-SF **Lab ID:** C009364-01 **Sampled:** 08/05/10 11:22 **Received:** 08/06/10 15:20

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	02/01/11	08/09/10 09:20	8/9/2010 13:29

Client ID: VBD-BG-01-SF **Lab ID:** C009364-02 **Sampled:** 08/05/10 11:52 **Received:** 08/06/10 15:20

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	02/01/11	08/09/10 09:20	8/9/2010 13:52

Client ID: VBD-705MESSINA-SB-FY **Lab ID:** C009364-03 **Sampled:** 08/05/10 12:25 **Received:** 08/06/10 15:20

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	02/01/11	08/09/10 09:20	8/9/2010 13:55

Client ID: VBD-VENICE_ST-SF **Lab ID:** C009364-04 **Sampled:** 08/05/10 14:30 **Received:** 08/06/10 15:20

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	02/01/11	08/09/10 09:20	8/9/2010 13:57

Client ID: VBD-VERONA_ST-02-SF **Lab ID:** C009364-05 **Sampled:** 08/05/10 15:36 **Received:** 08/06/10 15:20

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	02/01/11	08/09/10 09:20	8/9/2010 13:59

Client ID: VBD-612VERONA-SB-FY **Lab ID:** C009364-06 **Sampled:** 08/05/10 16:00 **Received:** 08/06/10 15:20

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	02/01/11	08/09/10 09:20	8/9/2010 14:02

Client ID: VBD-VERONA_ST-02-DITCH-SB **Lab ID:** C009364-07RE1 **Sampled:** 08/05/10 16:36 **Received:** 08/06/10 15:20

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	02/01/11	08/09/10 09:20	8/9/2010 15:16

Client ID: VBD-VERONA_ST-02-DITCH-SB
DUP **Lab ID:** C009364-08RE1 **Sampled:** 08/06/10 08:40 **Received:** 08/06/10 15:20

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	02/02/11	08/09/10 09:20	8/9/2010 15:18

Client ID: VBD-BG-01-SB **Lab ID:** C009364-09 **Sampled:** 08/06/10 08:49 **Received:** 08/06/10 15:20

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	02/02/11	08/09/10 09:20	8/9/2010 14:24



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Client ID:	VBD-VERONA_ST-03-SF	Lab ID:	C009364-10	Sampled:	08/06/10 10:10	Received:	08/06/10 15:20
Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)				
EPA 6010C	02/02/11	08/09/10 09:20	8/9/2010 14:26				

Client ID:	VBD-FL-01	Lab ID:	C009364-11	Sampled:	08/06/10 10:19	Received:	08/06/10 15:20
Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)				
EPA 6010C	02/02/11	08/09/10 09:25	8/9/2010 14:50				

Client ID:	VBD-EB-01	Lab ID:	C009364-12	Sampled:	08/06/10 10:27	Received:	08/06/10 15:20
Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)				
EPA 6010C	02/02/11	08/09/10 09:25	8/9/2010 15:13				

Client ID:	VBD-816VERONA-SB-FY	Lab ID:	C009364-13	Sampled:	08/06/10 10:40	Received:	08/06/10 15:20
Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)				
EPA 6010C	02/02/11	08/09/10 09:20	8/9/2010 14:29				

Client ID:	VBD-McLAIN-04-SD	Lab ID:	C009364-14	Sampled:	08/06/10 11:04	Received:	08/06/10 15:20
Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)				
EPA 6010C	02/02/11	08/09/10 09:20	8/9/2010 14:31				

Client ID:	VBD-BG-05-SD	Lab ID:	C009364-15	Sampled:	08/06/10 11:17	Received:	08/06/10 15:20
Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)				
EPA 6010C	02/02/11	08/09/10 09:20	8/9/2010 14:33				



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SAMPLE DETECTION SUMMARY

Client ID: VBD-MESSINA_CT-SF Lab ID: C009364-01

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Lead - Total	90.9		0.129	0.538	mg/kg dry	EPA 6010C	

Client ID: VBD-BG-01-SF Lab ID: C009364-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Lead - Total	32.8		0.135	0.563	mg/kg dry	EPA 6010C	

Client ID: VBD-705MESSINA-SB-FY Lab ID: C009364-03

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Lead - Total	37.4		0.129	0.537	mg/kg dry	EPA 6010C	

Client ID: VBD-VENICE_ST-SF Lab ID: C009364-04

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Lead - Total	35.9		0.152	0.633	mg/kg dry	EPA 6010C	

Client ID: VBD-VERONA_ST-02-SF Lab ID: C009364-05

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Lead - Total	49.1		0.140	0.584	mg/kg dry	EPA 6010C	

Client ID: VBD-612VERONA-SB-FY Lab ID: C009364-06

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Lead - Total	67.8		0.138	0.573	mg/kg dry	EPA 6010C	

Client ID: VBD-VERONA_ST-02-DITCH-SB Lab ID: C009364-07RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Lead - Total	4130	D	1.35	5.61	mg/kg dry	EPA 6010C	

Client ID: VBD-VERONA_ST-02-DITCH-SB DUP Lab ID: C009364-08RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Lead - Total	5400	D	1.60	6.66	mg/kg dry	EPA 6010C	

Client ID: VBD-BG-01-SB Lab ID: C009364-09

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Lead - Total	27.3		0.141	0.588	mg/kg dry	EPA 6010C	

Client ID: VBD-VERONA_ST-03-SF Lab ID: C009364-10

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Lead - Total	83.4		0.137	0.569	mg/kg dry	EPA 6010C	

Client ID: VBD-816VERONA-SB-FY Lab ID: C009364-13

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Lead - Total	154		0.132	0.550	mg/kg dry	EPA 6010C	

Client ID: VBD-McLAIN-04-SD Lab ID: C009364-14

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Lead - Total	35.9		0.149	0.620	mg/kg dry	EPA 6010C	



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Client ID: VBD-BG-05-SD Lab ID: C009364-15

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Lead - Total	7.80		0.155	0.644	mg/kg dry	EPA 6010C	



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ANALYTICAL RESULTS

Description: VBD-MESSINA_CT-SF

Lab Sample ID: C009364-01

Received: 08/06/10 15:20

Matrix: Soil

Sampled: 08/05/10 11:22

Work Order: C009364

Project: Villa Mobile Home Park - Battery Dump

Sampled By: CLIENT

% Solids: 92.87

Metals by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>MDL</u>	<u>MRL</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Lead [7439-92-1] ^	90.9		mg/kg dry	1	0.129	0.538	0H06030	EPA 6010C	08/09/10 13:29	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.



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Description: VBD-BG-01-SF

Lab Sample ID: C009364-02

Received: 08/06/10 15:20

Matrix: Soil

Sampled: 08/05/10 11:52

Work Order: C009364

Project: Villa Mobile Home Park - Battery Dump

Sampled By: CLIENT

% Solids: 88.88

Metals by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

<u>Analyte</u> [<u>CAS Number</u>]	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>MDL</u>	<u>MRL</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Lead [7439-92-1] ^	32.8		mg/kg dry	1	0.135	0.563	0H06030	EPA 6010C	08/09/10 13:52	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.



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Description: VBD-705MESSINA-SB-FY

Lab Sample ID: C009364-03

Received: 08/06/10 15:20

Matrix: Soil

Sampled: 08/05/10 12:25

Work Order: C009364

Project: Villa Mobile Home Park - Battery Dump

Sampled By: CLIENT

% Solids: 93.04

Metals by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>MDL</u>	<u>MRL</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Lead [7439-92-1] ^	37.4		mg/kg dry	1	0.129	0.537	0H06030	EPA 6010C	08/09/10 13:55	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.



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Description: VBD-VENICE_ST-SF

Lab Sample ID: C009364-04

Received: 08/06/10 15:20

Matrix: Soil

Sampled: 08/05/10 14:30

Work Order: C009364

Project: Villa Mobile Home Park - Battery Dump

Sampled By: CLIENT

% Solids: 79.03

Metals by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>MDL</u>	<u>MRL</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Lead [7439-92-1] ^	35.9		mg/kg dry	1	0.152	0.633	0H06030	EPA 6010C	08/09/10 13:57	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.



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Description: VBD-VERONA_ST-02-SF

Lab Sample ID: C009364-05

Received: 08/06/10 15:20

Matrix: Soil

Sampled: 08/05/10 15:36

Work Order: C009364

Project: Villa Mobile Home Park - Battery Dump

Sampled By: CLIENT

% Solids: 85.57

Metals by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>MDL</u>	<u>MRL</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Lead [7439-92-1] ^	49.1		mg/kg dry	1	0.140	0.584	0H06030	EPA 6010C	08/09/10 13:59	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.



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Description: VBD-612VERONA-SB-FY

Lab Sample ID: C009364-06

Received: 08/06/10 15:20

Matrix: Soil

Sampled: 08/05/10 16:00

Work Order: C009364

Project: Villa Mobile Home Park - Battery Dump

Sampled By: CLIENT

% Solids: 87.22

Metals by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>MDL</u>	<u>MRL</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Lead [7439-92-1] ^	67.8		mg/kg dry	1	0.138	0.573	0H06030	EPA 6010C	08/09/10 14:02	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.



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Description: VBD-VERONA_ST-02-DITCH-SB

Lab Sample ID: C009364-07

Received: 08/06/10 15:20

Matrix: Soil

Sampled: 08/05/10 16:36

Work Order: C009364

Project: Villa Mobile Home Park - Battery Dump

Sampled By: CLIENT

% Solids: 89.12

Metals by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>MDL</u>	<u>MRL</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Lead [7439-92-1] ^	4130	D	mg/kg dry	10	1.35	5.61	0H06030	EPA 6010C	08/09/10 15:16	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.



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Description: VBD-VERONA_ST-02-DITCH-SB DUP

Lab Sample ID: C009364-08

Received: 08/06/10 15:20

Matrix: Soil

Sampled: 08/06/10 08:40

Work Order: C009364

Project: Villa Mobile Home Park - Battery Dump

Sampled By: CLIENT

% Solids: 75.05

Metals by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>MDL</u>	<u>MRL</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Lead [7439-92-1] ^	5400	D	mg/kg dry	10	1.60	6.66	0H06030	EPA 6010C	08/09/10 15:18	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.



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Description: VBD-BG-01-SB

Lab Sample ID: C009364-09

Received: 08/06/10 15:20

Matrix: Soil

Sampled: 08/06/10 08:49

Work Order: C009364

Project: Villa Mobile Home Park - Battery Dump

Sampled By: CLIENT

% Solids: 85.10

Metals by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

<u>Analyte</u> [<u>CAS Number</u>]	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>MDL</u>	<u>MRL</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Lead [7439-92-1] ^	27.3		mg/kg dry	1	0.141	0.588	0H06030	EPA 6010C	08/09/10 14:24	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.



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Description: VBD-VERONA_ST-03-SF

Lab Sample ID: C009364-10

Received: 08/06/10 15:20

Matrix: Soil

Sampled: 08/06/10 10:10

Work Order: C009364

Project: Villa Mobile Home Park - Battery Dump

Sampled By: CLIENT

% Solids: 87.91

Metals by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>MDL</u>	<u>MRL</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Lead [7439-92-1] ^	83.4		mg/kg dry	1	0.137	0.569	0H06030	EPA 6010C	08/09/10 14:26	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.



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Description: VBD-FL-01

Lab Sample ID: C009364-11

Received: 08/06/10 15:20

Matrix: Water

Sampled: 08/06/10 10:19

Work Order: C009364

Project: Villa Mobile Home Park - Battery Dump

Sampled By: CLIENT

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>MDL</u>	<u>MRL</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Lead [7439-92-1] ^	ND		ug/L	1	1.90	10.0	0H06031	EPA 6010C	08/09/10 14:50	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.



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Description: VBD-EB-01

Lab Sample ID: C009364-12

Received: 08/06/10 15:20

Matrix: Water

Sampled: 08/06/10 10:27

Work Order: C009364

Project: Villa Mobile Home Park - Battery Dump

Sampled By: CLIENT

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>MDL</u>	<u>MRL</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Lead [7439-92-1] ^	ND		ug/L	1	1.90	10.0	0H06031	EPA 6010C	08/09/10 15:13	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.



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Description: VBD-816VERONA-SB-FY

Lab Sample ID: C009364-13

Received: 08/06/10 15:20

Matrix: Soil

Sampled: 08/06/10 10:40

Work Order: C009364

Project: Villa Mobile Home Park - Battery Dump

Sampled By: CLIENT

% Solids: 90.94

Metals by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

<u>Analyte</u> [<u>CAS Number</u>]	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>MDL</u>	<u>MRL</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Lead [7439-92-1] ^	154		mg/kg dry	1	0.132	0.550	0H06030	EPA 6010C	08/09/10 14:29	JDH	

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Description: VBD-McLAIN-04-SD

Lab Sample ID: C009364-14

Received: 08/06/10 15:20

Matrix: Sediment

Sampled: 08/06/10 11:04

Work Order: C009364

Project: Villa Mobile Home Park - Battery Dump

Sampled By: CLIENT

% Solids: 80.64

Metals by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>MDL</u>	<u>MRL</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Lead [7439-92-1] ^	35.9		mg/kg dry	1	0.149	0.620	0H06030	EPA 6010C	08/09/10 14:31	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.



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Description: VBD-BG-05-SD

Lab Sample ID: C009364-15

Received: 08/06/10 15:20

Matrix: Sediment

Sampled: 08/06/10 11:17

Work Order: C009364

Project: Villa Mobile Home Park - Battery Dump

Sampled By: CLIENT

% Solids: 77.64

Metals by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

<u>Analyte</u> [<u>CAS Number</u>]	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>MDL</u>	<u>MRL</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Lead [7439-92-1] ^	7.80		mg/kg dry	1	0.155	0.644	0H06030	EPA 6010C	08/09/10 14:33	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.



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QUALITY CONTROL

Metals by EPA 6000/7000 Series Methods - Quality Control

Batch 0H06030 - EPA 3050B

Blank (0H06030-BLK1)

Prepared: 08/09/2010 09:20 Analyzed: 08/09/2010 13:23

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Lead	0.120	U	0.500	mg/kg wet							

LCS (0H06030-BS1)

Prepared: 08/09/2010 09:20 Analyzed: 08/09/2010 13:26

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Lead	26.1		0.500	mg/kg wet	25.3		103	80-120			

Matrix Spike (0H06030-MS1)

Prepared: 08/09/2010 09:20 Analyzed: 08/09/2010 13:42

Source: C009364-01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Lead	106		0.538	mg/kg dry	26.9	90.9	57	75-125			QM-07

Matrix Spike Dup (0H06030-MSD1)

Prepared: 08/09/2010 09:20 Analyzed: 08/09/2010 13:44

Source: C009364-01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Lead	121		0.538	mg/kg dry	27.2	90.9	111	75-125	13	20	

Post Spike (0H06030-PS1)

Prepared: 08/09/2010 09:20 Analyzed: 08/09/2010 13:47

Source: C009364-01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Lead	2.51		0.0100	mg/L	1.00	1.69	82	80-120			

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 0H06031 - EPA 3005A

Blank (0H06031-BLK1)

Prepared: 08/09/2010 09:25 Analyzed: 08/09/2010 14:41

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Lead	1.90	U	10.0	ug/L							

LCS (0H06031-BS1)

Prepared: 08/09/2010 09:25 Analyzed: 08/09/2010 14:45

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Lead	543		10.0	ug/L	500		109	80-120			

Matrix Spike (0H06031-MS1)

Prepared: 08/09/2010 09:25 Analyzed: 08/09/2010 14:53

Source: C009364-11

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Lead	542		10.0	ug/L	500	1.90 U	108	75-125			

Matrix Spike Dup (0H06031-MSD1)

Prepared: 08/09/2010 09:25 Analyzed: 08/09/2010 15:05



QUALITY CONTROL

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch OH06031 - EPA 3005A

Matrix Spike Dup (OH06031-MSD1) Continued

Prepared: 08/09/2010 09:25 Analyzed: 08/09/2010 15:05

Source: C009364-11

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Lead	545		10.0	ug/L	500	1.90 U	109	75-125	0.7	20	

Post Spike (OH06031-PS1)

Prepared: 08/09/2010 09:25 Analyzed: 08/09/2010 15:07

Source: C009364-11

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Lead	1.12		0.0100	mg/L	1.00	-0.00150	112	80-120			

Classical Chemistry Parameters - Quality Control

Batch OH07002 - % Solids

Duplicate (OH07002-DUP1)

Prepared & Analyzed: 08/07/2010 20:40

Source: C009288-21

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
% Solids	76		0.1	% by Weight		78			3	10	

FLAGS/NOTES AND DEFINITIONS

B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported value is between the laboratory method detection limit (MDL) and the laboratory method reporting limit (MRL), adjusted for actual sample preparation data and moisture content, where applicable.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
MRL	Method Reporting Limit. The MRL is roughly equivalent to the practical quantitation limit (PQL) and is based on the low point of the calibration curve, when applicable, sample preparation factor, dilution factor, and, in the case of soil samples, moisture content.
ND	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.



ENVIRONMENTAL CONSERVATION LABORATORIES CHAIN-OF-CUSTODY RECORD

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

4810 Executive Park Court, Suite 211
Jacksonville, FL 32216-6669
(904) 296-3007 Fax (904) 296-6210

102-A Woodwind Industrial Ct.
Cary, NC 27511
(919) 487-3090 Fax (919) 487-3515

Page 1 of 1

Client Name Tetra Tech		Project Number TTEm1-05-003-0100		Requested Analyzes				Requested Turnaround Times		
Address 155 Evergreen Blvd		Project Name/Desc VILLA MOBILE HOME PARK - EASTWAY PUMP		TOTAL LEAD	% MOISTURE	TOTAL LEAD	Note: Rush requests subject to acceptance by the facility			
City/ST/Zip DULWICH, GA 30096		PO# / Billing Info					Standard		Expedited <input checked="" type="checkbox"/>	
Tel 678 775-3104		Reporting Contact					Due 1-24 HR		Lab Workorder	
Samplers Name, Affiliation (Print) Didi T...		Billing Contact					Preservation (See Codes) (Combine as necessary)		C009364	
Samplers Signature <i>[Signature]</i>		Site Location / Time Zone KANNAPOLIS, NC EST					Sample Comments			

Item #	Sample ID (Field Identification)	Collection Date	Collection Time	Comp / Grab	Matrix (see codes)	Total # of Containers	I	I	N	Sample Comments
	VBD-MESSINA_CT-SF	8/5/10	1122	Comp	SO	1	1	1		
	VBD-BG-01-SF	8/5/10	1152	Comp	SO	1	1	1		
	VBD-705MESSINA-SB-FY	8/5/10	1225	GRAB	SO	1	1	1		
	VBD-VENICE_ST-SF	8/5/10	1430	Comp	SO	1	1	1		
	VBD-VERONA_ST-02-SF	8/5/10	1536	Comp	SO	1	1	1		
	VBD-612VERONA-SB-FY	8/5/10	1600	GRAB	SO	1	1	1		
	VBD-VERONA_ST-02-DITCH-SB	8/5/10	1636	GRAB	SO	1	1	1		
	VBD-VERONA_SF-02-DITCH-SB DUP	8/6/10	0840	GRAB	SO	1	1	1		
	VBD-BG-01-SB	8/6/10	0849	GRAB	SO	1	1	1		
	VBD-VERONA_ST-03-SF	8/6/10	1010	Comp	SO	1	1	1		
	VBD-FL-01	8/6/10	1019	GRAB	SL00	1			1	QC
	VBD-FB-01	8/6/10	1027	GRAB	0	1			1	QC

Sample Kit Prepared By	Date/Time	Relinquished By	Date/Time	Received By	Date/Time
		<i>John Steiner</i>	8/6/10 1520	<i>[Signature]</i>	8/6/10 1520
Comments/Special Reporting Requirements		Relinquished By	Date/Time	Received By	Date/Time
report in day weight results					
24-HR TAT		Relinquished By	Date/Time	Received By	Date/Time
Cooler #s & Temps on Receipt				Condition Upon Receipt	
3.9°C				<input checked="" type="checkbox"/> Acceptable <input type="checkbox"/> Unacceptable	

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

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ENVIRONMENTAL CONSERVATION LABORATORIES CHAIN-OF-CUSTODY RECORD

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10775 Central Port Dr. Orlando, FL 32824 (407) 826-5314 Fax (407) 850-8945
 4810 Executive Park Court, Suite 211 Jacksonville, FL 32216-6069 (904) 296-3007 Fax (904) 296-6210
 102 A Woodwinds Industrial Ct. Cary, NC 27511 (919) 467-3090 Fax (919) 467-3515

Page ___ of ___

Client Name Tetra Tech	Project Number TTEMI-05-003-0100	Requested Analyses TOTAL LEAD % MOISTURE	Requested Turnaround Times Note - Rush requests subject to acceptance by the facility <input type="checkbox"/> Standard <input checked="" type="checkbox"/> Expedited Due ___/___/___ Lab Workorder 24-HR CC09304
Address 1955 Evergreen Blvd	Project Name/Desc VILLA MOBILE HOME PARK BATTERY DUMP		
City/ST/Zip DULUTH, GA 30096	PO # / Billing Info		
Tel 678 775-3104	Fax		
Reporting Contact	Billing Contact		
Sampler(s) Name, Affiliation (Print) Dirk Fung	Site Location / Time Zone KANNAPOLIS, NC EST	Preservation (See Codes) (Combine as necessary)	
Sampler(s) Signature <i>[Signature]</i>			

Item #	Sample ID (Field Identification)	Collection Date	Collection Time	Comp / Grab	Matrix (see codes)	Total # of Containers	I	I	Sample Comments
	VBD-816VERONA-SB-FY	8/6/10	1040	GRAB	SO	1	1	1	
	VBD-MCLAIN-04-SD	8/6/10	1104	GRAB	SE	1	1	1	
	VBD-FAIRVIEW-05-SD	8/6/10	1117	GRAB	SE	1	1	1	JVS
	VBD-BG-05-SD	8/6/10	1117	GRAB	SE	1	1	1	

<-- Total # of Containers

Sample Kit Prepared By	Date/Time	Relinquished By <i>[Signature]</i>	Date/Time 8/6/10 1520	Received By <i>[Signature]</i>	Date/Time 8/6/10 1520
Comments/Special Reporting Requirements Report in dry weight results 24 hr TAT SAMPLES DUMPED OFF AT LAB NO CUSTODY SENT NEEDED		Relinquished By	Date/Time	Received By	Date/Time
		Relinquished By	Date/Time	Received By	Date/Time
Cooler #'s & Temps on Receipt 3.9°C				Condition Upon Receipt <input checked="" type="checkbox"/> Acceptable <input type="checkbox"/> Unacceptable	

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

2092

