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SITE ASSESSMENT REPORT
ST. FRANCIS AUTO WRECKER'S SITE
ST. FRANCIS, MILWAUKEE COUNTY, WISCONSIN
TDD No.: S05-0710-002

June 05, 2008

Prepared for:

U.S. Environmental Protection Agency
Emergency Response Branch, Region 5
77 West Jackson Boulevard
Chicago, IL 60604

Prepared by: (Warren Barbin) for Ronald Bugg Date: 6/5/08
Ronald Bugg, START Project Manager

Reviewed by: Raghu Nagam for Rich Baldino Date: 6/5/08
Richard Baldino, START QA Manager

Approved by: Raghu Nagam. Date: 6/5/2008
Raghu Nagam, START Program Manager

STN Environmental, JV
125 South Wacker Drive, Suite 1180 ● Chicago, IL 60606 ● (312) 443-0550

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1. INTRODUCTION

T N & Associates, Inc. (TN&A), a member of the STN Environmental Joint Venture (STN) with Sullivan International Group, Inc. (Sullivan), has prepared this site assessment report under the Superfund Technical Assessment and Response Team (START) contract No. EP-S5-06-03 and Technical Direction Document (TDD) No. S05-0710-002. The scope of this TDD was to perform a site assessment at the St. Francis Auto Wrecker's site in St. Francis, Wisconsin. START was tasked by the U.S. Environmental Protection Agency (U.S. EPA) to review Wisconsin Department of Natural Resources (WDNR) documents related to the site, prepare a site-specific health and safety plan, a field sampling and analysis plan, procure the services of an analytical laboratory, collect soil samples, evaluate current and historical analytical data, document on-site conditions with written logbook notes and still photographs, and prepare a site assessment report

This site assessment report summarizes the site background; discusses site assessment activities; provides a summary of the analytical data; discusses potential site-related threats and includes a summary of the site assessment. Appendix A contains a photographic log of site activities. Appendix B contains the validated analytical data package for samples collected by START.

2. SITE BACKGROUND

The St. Francis Auto Wrecker's site (site) is an active auto recycling and salvage yard. Historical investigations and sampling by WDNR and Wisconsin Department of Transportation (WDOT) revealed soil contamination with metals, polychlorinated biphenyls (PCBs) and volatile organic compounds (VOCs). WDNR had requested the assistance of U.S. EPA in characterizing the site contamination and abating site threats. This section provides site background information as well as the history of the site.

2.1 Site Description

The site is an active auto salvage yard located in a populated, mixed residential and commercial area within the City of St. Francis, Wisconsin. The site is located at 4043 South Pennsylvania Avenue. The geographical coordinates of the site are 42° 58′ 17.72" north latitude and 87° 52′ 48.09" west longitude (Figure 1). The site covers an approximate area of 115,000 square feet.

The site is surrounded by commercial areas to the east and residential areas to the south and north. To the west of the site is the newly developed Lake Parkway freeway, which runs parallel to the site. There is a trench/drainage area that runs east to west directly north of the St. Francis Auto Wrecker's office (main building). Lake Michigan is approximately 7,800 feet east of the site.

2.2 Site History

The auto salvage and recycling operations were being conducted at the site for the past 40 years. The auto salvage and recycling operations were primarily confined to the southern half of the site area. Previous records and inspections of the site indicate that the northern portion of the site was once part of a landfill for the Town of Lake, Wisconsin, and was purchased by the site owner for expanding the auto salvage yard. The area of concern is to the north of the main building and is presently not being used by the salvage yard. The area of concern north of the main building is approximately 230 feet by 200 feet.

WDOT purchased the western portion of the property from the site owners to develop the Lake Parkway freeway. In 1991, WDOT conducted soil sampling in the proposed Lake Parkway freeway area. The sampling activities conducted by WDOT had revealed PCB contamination in soils ranging from 4.83 to 474 milligrams per kilogram (mg/Kg).

Some of the areas previously sampled by WDOT had since become part of the newly developed Lake Parkway freeway. In 1997, WDOT removed buried drums containing solid and semi-solid material identified as paint, resin or adhesive solids, foundry sand and slag, asphaltic tar solids, metal parts, plated debris and firebricks. During excavation and removal of the drums and soil from the proposed freeway, WDOT observed drums and fill material in the excavation walls bordering the site. Due to the location of these drums on the east side of the temporary easement (western boundary of the site), the drums were left in place by WDOT.

In July 2001, WDNR installed five monitoring wells (MW01 through MW05) throughout the site, including in areas that were once used as a landfill. One background monitoring well MW02 was installed outside the site area. The monitoring wells ranged in depth from 19 to 27 feet. The monitoring well sampling results indicated detected concentrations of VOCs above the WDNR groundwater enforcement standards. WDNR also collected soil samples throughout the site. The soil sample data indicated PCB contamination ranging from 4.83 mg/Kg to 52.67 mg/Kg. The highest soil sample result for total metals included 1,710 mg/Kg lead, 168 mg/Kg chromium, 58 mg/Kg arsenic and 72.4 mg/Kg cadmium.

In October 2003, WDNR collected additional groundwater samples from the monitoring wells and soil samples from the previous locations sampled in July 2001. The results from the groundwater analysis had indicated 27 micrograms per liter (µg/l) vinyl chloride in monitoring well MW03. This concentration of vinyl chloride was above the WDNR's enforcement standard of 0.2 µg/l.

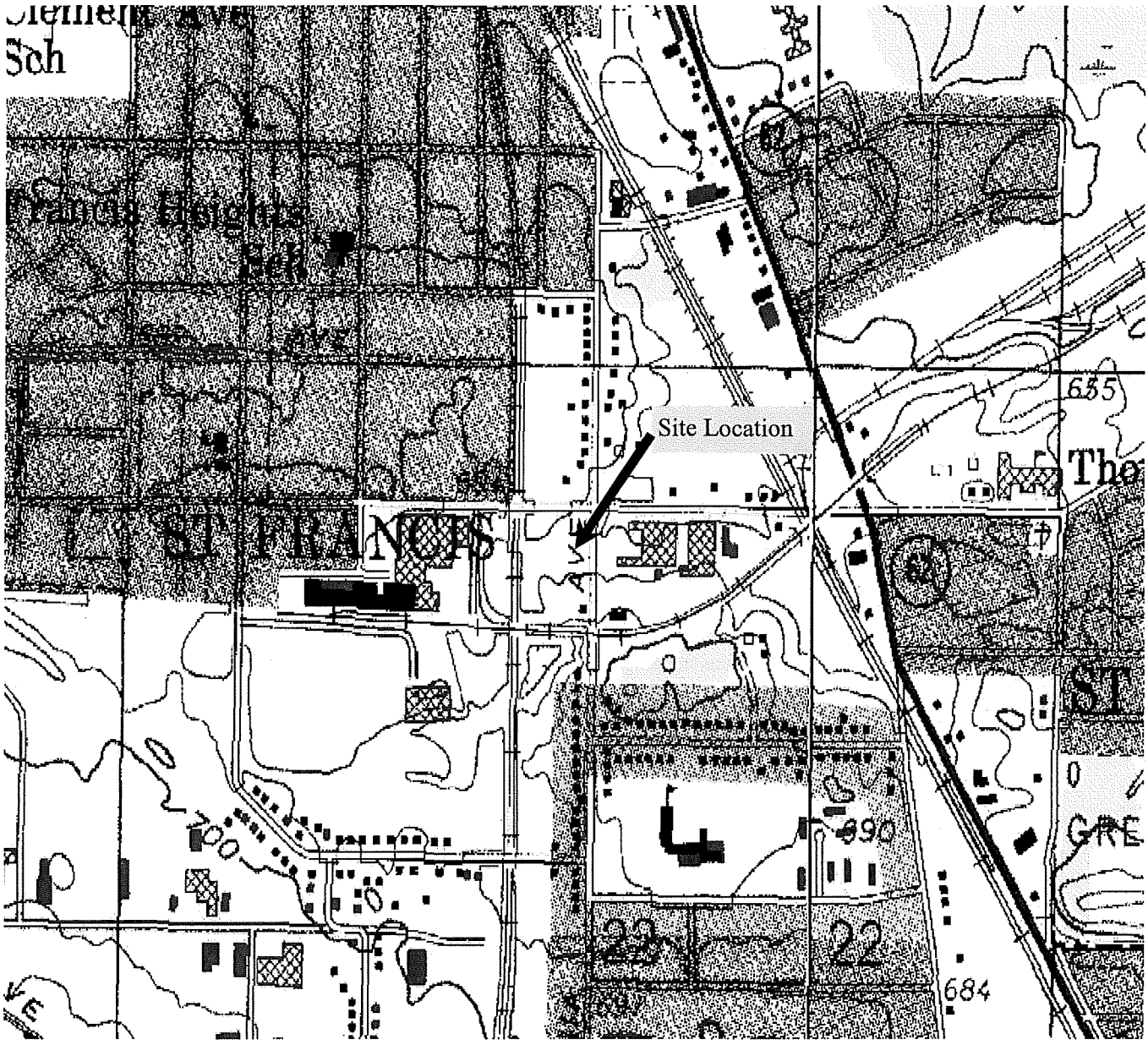
WDNR collected 10 surface soil samples, SF06 through SF15 from the site and five off-site surface soil samples, SF01 through SF05, as background samples. The off-site background samples were collected from 35 feet to 650 feet outside the perimeter of the site. All surface soil samples were collected from a depth of 0 to 6 inches from the surface. The soil samples were analyzed by the state for VOCs, inorganic compounds, pesticides, PCBs, and semi-volatile organic compounds (SVOCs). Nine out of ten on-site soil sample results were three times or greater than the average background sample result for lead. Five out of ten site samples had PCB levels five times or greater than the average background sample results. The highest PCB (aroclor-1260) was detected in sample SF11 at 1,300 mg/Kg.

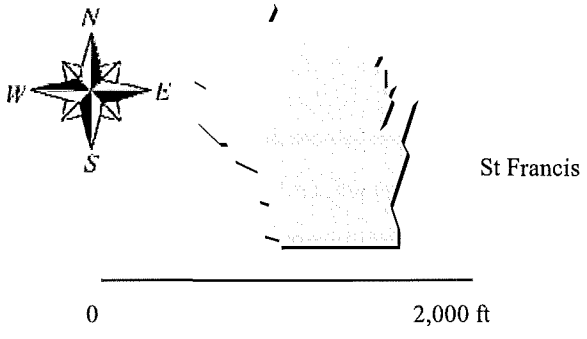
In August and September 2006, additional soil samples were collected from the western portion of the site, based on WDOT observations during the construction of the Lake Parkway freeway. WDOT contracted North Shore Environmental and Construction Services (North Shore) to dispose of any

remaining drums of material staged during the freeway construction. North Shore was also tasked to clear the north section of the property and mulch the cleared material.

Test pits were excavated in the cleared area in the north section of the site. Subsurface samples were collected from 12 test pits on-site near the area where the drums were initially observed in 1996, east of the WDOT easement. These test pits were initially excavated up to a depth of approximately 4 feet below ground surface (bgs). Several pits were advanced an additional 2 to 6 feet due to potential contamination. Soil samples were collected from each test pit and analyzed for total and Toxicity Characteristic Leaching Procedure (TCLP) metals, PCBs, VOCs, SVOCs, pesticides, total and reactive cyanide, and flashpoint.

The results from two test pits located on the west side of the site bordering the Lake Parkway freeway construction area were above the regulatory limits for PCBs, TCLP lead, and TCLP VOCs.





Source: Modified from Terra Server, USGS Topographic Map for Greendale, Wisconsin, 1991

Figure 1
Site Location Map
St Francis Auto Wrecker's Site
St Francis, Milwaukee County, Wisconsin
TDD #:S05-0710-002

STN Environmental JV

3. SITE ASSESSMENT ACTIVITIES

Site assessment activities were designed to address areas needing additional investigations as recommended in the North Shore Environmental report prepared for WDOT. Site assessment activities for the investigation at the St. Francis Auto Wrecker's site, including a site reconnaissance and sampling event, are discussed below.

3.1 Site Reconnaissance

On October 23, 2007, On-Scene Coordinator (OSC) Stavros Emmanouil and START member Ron Bugg mobilized to the WDNR office in Milwaukee, Wisconsin, and met with WDNR representative Andrew Boettcher. START collected background information from the state documents and conducted an initial reconnaissance of the site.

During the reconnaissance, those areas needing additional investigation based on the North Shore Environmental report were targeted for choosing sampling locations. Three sample locations were scoped to coincide with previous test pit locations. OSC Emmanouil and WDNR representative Boettcher along with START selected two areas based on the proximity to Test Pits (TP)-8 and TP-9. These areas were along the west side of the site in the north section. A third area was selected in the trench/drainage area that runs in the east to west direction directly north of the St. Francis Auto Wrecker's office.

On October 24, 2007, START members along with the OSC and U.S. EPA Enforcement personnel, conducted a site safety meeting and discussed the chemical and physical hazards on the site. Personnel from U.S. EPA Enforcement were on site to assist the OSC in conducting interviews with property owners and the local authorities and gather additional site information. After the site safety meeting, U.S. EPA Enforcement Representatives William Ryezek and Joe Maleic, OSC Emmanouil, and START conducted a second reconnaissance of the site area.

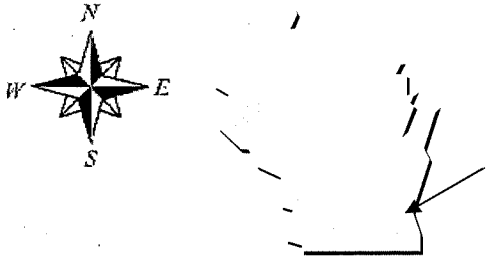
3.2 Sampling Activities

START members Bugg and Buchholz set up the decontamination area for equipment and personnel then began collecting samples. START and the OSC discussed specific sampling locations prior to sample activities. During the sampling activities, START conducted continuous air monitoring for VOCs using a MultiRAE Plus instrument.

START collected two soil samples, SS-1 and SS-2, in close proximity to previous TP-8 and TP-9 test pit locations. The third sample location, SS-3, was near the trench – drainage area that runs in the east to west direction, north of the St. Francis Auto Wrecker's main building. All soil samples were collected from a depth of 3 to 4 feet bgs (See Figure 2 for Sample Locations).

START collected the samples using a hand auger and decontaminated the equipment after each sample collection activity. START monitored the headspace of each sample for VOCs using the MultiRAE air monitoring equipment. The VOC readings from SS-1, SS-2 and SS-3 were 100 parts per million (ppm), 25 ppm, and less than 2 ppm, respectively.

START prepared and delivered soil samples to Test America laboratory in University Park, IL, for total and TCLP metals, VOCs, PCBs and flashpoint analysis on October 24, 2007.



St Francis

SS1 – SS3 = Sample Locations from October 24, 2007

Figure 2
Site Features and Sample Location Map
St. Francis Auto Wrecker's Site
St. Francis, Milwaukee County, WI
TDD # S05-0710-002

STN Environmental JV

4. ANALYTICAL RESULTS

4.1 Site Assessment Results

All samples were analyzed for total and TCLP metals, TCLP VOCs, PCBs and flashpoint. START reviewed sample analytical data and supporting quality assurance/quality control (QA/QC) data provided by Test America Laboratory. Based on START QA/QC data validation, the data are acceptable for use as qualified. The validated data package is included in Appendix B.

Lead and PCBs were the most prevalent contaminants detected in the samples collected by START. Analytical results of soil sample SS-1 showed a total lead concentration of 3,400 mg/Kg and a TCLP lead concentration of 5.6 mg/L. Chromium was found is soil sample SS-1 at 340 mg/Kg concentration. Table 1 lists total metal concentrations in site samples and Table 2 lists TCLP metal concentrations in site samples. Soil sample SS-1 showed total PCB contamination at 181 mg/Kg while samples SS-2 and SS-3 showed PCB contamination less than 1 mg/Kg. Table 3 lists PCB concentration found in site soils. Sample analytical results for TCLP VOCs and flashpoint are listed in Table 4.

4.2 Historical Sampling Results

WDOT collected two composite samples, one from test pits 1 through 6 (TP1-6) and one from test pits 8 and 9 (TP8-9), and analyzed them for PCBs, TCLP VOCs, TCLP metals, and flashpoint. Historical sample location map is included in Appendix C.

TCLP analytical result of WDOT collected sample from test pits TP 8 and TP 9 revealed a trichloroethene (TCE) concentration of 1.204 mg/L and exceeded the TCE regulatory TCLP limit of 0.5 mg/L. This sample result also exceeded the lead TCLP regulatory limit of 5.0 mg/L. Total PCBs in sample TP1-6 was 9 mg/Kg and in sample TP8-9 was 580 mg/Kg.

The flashpoints of both these samples were considered ignitable based on the regulatory flashpoint criteria of 140°F. Sample TP1-6 had a flashpoint of 133°F and sample TP8-9 had a flashpoint of 122°F. Historical TCLP VOC and flashpoint results for site samples are listed in Table 4.

Table 1 Total Metals Analytical Results St. Francis Auto Wrecker's Site St. Francis, WI					
Analyte	**Sample ID**				
Total Metals	**SS-1**	**SS-2**	**SS-3**	**Test pit 1-6**	**Test Pit 8 - 9**
Arsenic	17.0	13	8.5	3.99	0.094
Barium	650.0	14	21	42.1	0.5
Cadmium	15.0	ND	ND	ND	0.022
Chromium	340.0	33	33	8.47	0.074
Lead	3,600	18	22	7.59	15.0
Mercury	7.1 B	0.02 B	0.017 JB	0.0477	0.0002
Selenium	0.74	ND	ND	ND	ND
Silver	0.93	0.11J	ND	ND	ND

Notes:

Sample units are in milligrams per kilogram (mg/kg)

B - Analyte was also detected in the blank sample

JB - The concentration detected is estimated and was also detected in the blank sample

ND - Non-detect. Analyte was not detected above the laboratory's detection limit

Samples SS-1 through SS-3 were collected by START on October 24, 2007 for the site assessment and analyzed by Test America, University Park, IL

Samples TP1-6 and TP8-9 were collected by WDOT on August 31, 2006 and analyzed by APL, Milwaukee, WI

Table 2 Toxicity Characteristic Leaching Procedure (TCLP) Metal Analytical Results St. Francis Auto Wrecker's Site St. Francis, WI			
Analyte	**Sample ID**		
Metals	**SS-1**	**SS-2**	**SS-3**
Arsenic	0.050U	0.050U	0.050U
Barium	1.8	0.24J	0.20J
Cadmium	0.092	0.048J	0.0024J
Chromium	0.039	0.025U	0.025U
Lead	5.6	0.050U	0.0054J
Mercury	0.0020U	0.0002U	0.0002U
Selenium	0.050U	0.050U	0.050U
Silver	0.025U	0.025U	0.025U

Notes:
Sample units are in milligrams per liter (mg/L)
U - Analyte was not detected above the method detection limit
J - The concentration detected is estimated

Samples SS-1 through SS-3 were collected by START on October 24, 2007 for the site assessment and analyzed by Test America, University Park, IL

Table 3
Polychlorinated Biphenyls Analytical Results
St. Francis Auto Wrecker's Site
St. Francis, WI

Compound	Sample ID				
PCB Arochlor	**SS-1**	**SS-2**	**SS-3**	**TP 1-6**	**TP 8-9**
PCB-1016	ND	ND	ND	ND	ND
PCB-1221	ND	ND	ND	ND	ND
PCB-1232	ND	ND	ND	ND	ND
PCB-1242	**63**	0.26	ND	ND	ND
PCB-1248	ND	ND	ND	ND	ND
PCB-1254	**71**	0.27	0.079	9	**580**
PCB-1260	47	0.064	0.058	ND	ND

Notes:

Sample units are in milligrams per kilogram (mg/kg)
ND - Non-detect. Analyte was not detected above the laboratory's detection limit

Samples SS-1 through SS-3 were collected by START on October 24, 2007 for the site assessment and analyzed by Test America, University Park, IL

Samples TP1-6 and TP8-9 were collected by WDOT on August 31, 2006 and analyzed by APL, Milwaukee, WI

Table 4
TCLP Volatile Organic Compounds/Flashpoint
St. Francis Auto Wrecker's Site
St. Francis, WI

Compound	Sample ID				
VOC	**SS-1**	**SS-2**	**SS-3**	**TP1-6**	**TP8-9**
Benzene	0.02	0.02	0.02	<0.0002	0.174
Carbon tetrachloride	0.02	0.02	0.02	<0.0002	<0.0002
Chloroform	0.02	0.02	0.02	<0.0003	<0.0003
1,2-Dichloroethane	0.02	0.02	0.02	<0.004	**1.481**
1,1-Dichloroethene	0.02	0.02	0.02	<0.002	<0.003
2-Butanone/MEK	0.10	0.10	0.10	<0.001	0.064
Tetrachloroethene	0.02	0.02	0.02	<0.0003	0.055
Trichloroethene	0.02	0.02	0.02	<0.0002	**1.204**
Vinyl Chloride	0.02	0.02	0.02	<0.0002	0.013
IGNITABILITY					
Flashpoint	>176°F	>176°F	>176°F	**122°F**	**133°F**

Notes:

Sample units are in milligrams per liter (mg/l)
133°F - Temperature in degrees Fahrenheit

Samples SS-1 through SS-3 were collected by START on October 24, 2007 for the site assessment and analyzed by Test America, University Park, IL

Samples TP1-6 and TP8-9 were collected by WDOT on August 31, 2006 and analyzed by APL, Milwaukee, WI

5. POTENTIAL SITE-RELATED THREATS

Potential site-related threats were evaluated in relation to the contaminants' corrosivity, ignitability, and reactivity against criteria listed in Title 40 *Code of Federal Regulations* (CFR), Parts 261.21, 261.22, and 261.23, respectively. Toxicity characteristics of site contaminants were evaluated against concentrations summarized in 40 CFR, Part 261.24, Table 1, "Maximum Concentration of Contaminants for the Toxicity Characteristics."

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP), as listed under Title 40 CFR, Section 300.415, Paragraph (b) (2) lists factors to be considered when determining the appropriateness of a potential removal action to abate threats to human health and the environment. These factors, as applicable to the site are discussed below.

Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants

START sampling results indicate the presence of hazardous substances in subsurface soils and WDOT sampling results indicate hazardous substances in surface soils. The surface and subsurface soil samples collected during the North Shore Environmental investigation conducted on behalf of WDOT revealed VOCs, PCBs, and lead contamination and ignitable material with flashpoints lower than 140°F .

The subsurface sample collected by START near TP 8 and 9, had indicated TCLP lead level greater than 5 mg/L. TCE contamination in site soils exceeds the TCLP regulatory criteria of 0.5 mg/L and was detected at 1.2 mg/l. During the last two investigations, high levels of PCBs up to 580 mg/Kg were detected in subsurface samples. Personnel conducting various operations on the site could potentially be exposed to the hazardous substances present in site soils. The northern portion of the site is not being currently used and is secured. However, the property owner intends to expand into the unused property to the north (area of concern) for his auto recycling business. Customers and employees could potentially be exposed to site contamination, should the owner expand his business in to the northern area of the site.

During the site assessment, START observed birds, rodents and other small animals inhabiting the site. These animals can potentially serve as carriers for contaminants and result in potential exposure to the nearby human population.

Drinking or breathing high levels of TCE, which was also detected on-site, may cause nervous system effects, liver and lung damage, abnormal heartbeat, coma, and possibly death. Breathing small amounts may cause headaches, lung irritation, dizziness, poor coordination, and difficulty concentrating. Dermal contact with TCE for short periods may cause skin rashes, headaches, lung irritation, dizziness, poor coordination, and difficulty concentrating. Exposure to PCBs can cause irritated eyes, chloracne, liver damage and reproductive effects. The PCBs are potent liver toxins that can be absorbed through the skin in hazardous amounts without immediately discernible pain or discomfort. Where liver damage is extensive, the patient may become comatose and die. The PCBs are considered a potential occupational carcinogen.

Actual or potential contamination of drinking water supplies or sensitive ecosystems

Historical groundwater sampling results indicate VOC contamination at the site. Vinyl chloride was found in monitoring well MW03 at 27 µg/l. This concentration of vinyl chloride is above the WDNR's enforcement standard of 0.2 µg/l. The site is approximately 1.5 miles from Lake Michigan, which is the drinking water source for the metropolitan Milwaukee area.

START observed dead plants and discolored plants at several areas along the trench - drainage area. The plants could have been possibly affected by the hazardous substances present on the site.

Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release

In 1997, WDOT removed buried drums containing solid and semi-solid material identified as paint, resin or adhesive solids, foundry sand and slag, asphaltic tar solids, metal parts, plated debris and firebricks. During excavation and removal of the drums and soil from the proposed expressway, WDOT observed additional drums and fill material in the excavation walls bordering the site, predominantly in the northern section of the site along the western border. Due to the location of these drums on the east side of the temporary easement (western boundary of the site), the drums were left in place by WDOT. These buried drums are still present on the site and may be the cause for soil and groundwater contamination and pose a continued threat of release to the environment.

High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate

Surface and subsurface soil results show leachable levels of TCE and lead and elevated levels of PCBs. Two soil sample results showed PCB contamination greater than 100 mg/Kg, with one soil sample at 580 mg/Kg PCBs. Analytical results of four soil samples exceeded the TCLP concentrations of one or more constituents listed in 40 CFR Part 261.24 Table 1, indicating hazardous waste characteristics. Results of samples TP1-6 and TP8- 9 exceeded TCLP regulatory limits for TCE and lead. Analytical results for SS-1 exceeded TCLP regulatory limits for lead. These results indicate high potential for migration of hazardous substances present at surface or subsurface soil at the site.

Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released

Rain or severe weather conditions may facilitate release, run-off and transport hazardous substances off-site and potentially on to nearby properties via the trench – drainage area. Surface soils contaminated with lead could potentially be transported via runoff to nearby areas. Based on the analytical results, lead and TCE in site soils indicate leaching and pose potential migration or release to the surroundings.

Threat of fire or explosion

The flashpoint of the WDOT soil sample collected near test pits TP 8 and TP 9 was 122°F and composite sample collected from test pit TP 1-6 was 133°F. Material with flashpoints less than or equal to 140°F are classified as ignitable under 40 CFR Section 261.22. During hot and dry conditions and during on-site operations such as welding, etc, that occur at an auto salvage facility, there is a potential threat of fire or explosion at the site.

The availability of other appropriate federal or state response mechanisms to respond to the release

The state of Wisconsin, through the offices of the WDNR had requested the assistance of U.S. EPA in abating threats to human health and the environment, posed by the site contaminants. WDNR had indicated its inability to respond to the actual or potential releases from the site and is seeking U.S. EPA's assistance to conduct a removal action.

6. SUMMARY

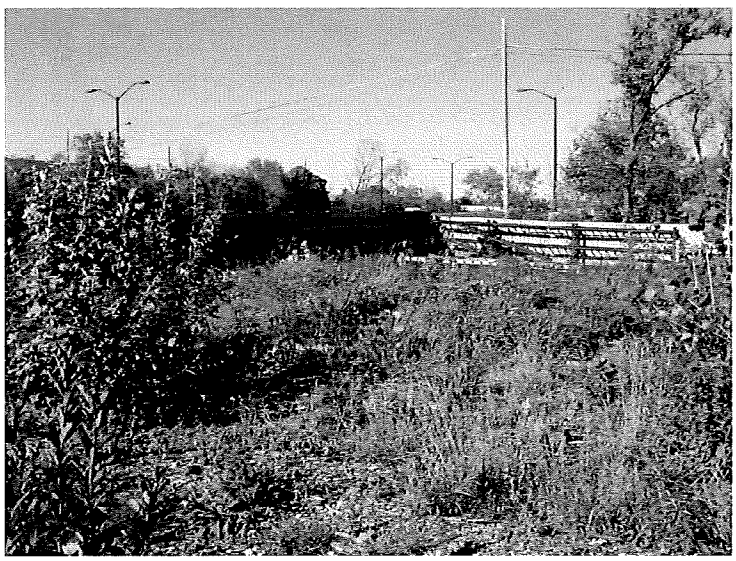
The U.S. EPA and START, along with WDNR conducted a site assessment on October 24, 2007 at the St. Francis Auto Wrecker's site in St. Francis, Milwaukee County, Wisconsin. Site assessment activities included a site reconnaissance and collection of three subsurface soil samples. Samples were analyzed for total and TCLP metals and VOCs, PCBs, and flashpoint. Previous sampling was also conducted by WDNR and WDOT. The sample analytical results were compared to 40 CFR, Parts 261.21, 261.22, 261.23, and Maximum Concentration of Contaminants for the Toxicity Characteristic pursuant to 40 CFR Part 261.24, Table 1. Analytical results of four soil samples exceeded the TCLP concentrations of one or more constituents listed in 40 CFR Part 261.24 Table 1, indicating hazardous waste characteristics. These substances are present in surface and subsurface soil and pose a threat of release. Groundwater contamination with vinyl chloride was documented and may pose a threat of off-site migration and potentially reach Lake Michigan. Ignitable material, based on flashpoint results may lead to fire or explosion at the site. Considering above cited actual or potential threats, a removal action is warranted pursuant to NCP section 300.415 (b) (2) to abate threats to human health and the environment. A cost estimate for a potential removal action was prepared by START and is included in Appendix D.

APPENDIX A

PHOTOGRAPHIC LOG

(1 Page)

Site:	St. Francis Auto Wrecker's Site Assessment
Date:	October 24, 2007
Photographer:	Ron Bugg
Direction	South
Photo Number:	1
Comment	Northern section the St. Francis Auto Wrecker site with the main office view (white building) on the left.



Site:	St. Francis Auto Wrecker's Site Assessment
Date:	October 24, 2007
Photographer:	Ron Bugg
Direction	NW
Photo Number:	2
Comment	Northwest corner of the St. Francis Auto Wrecker's site.

APPENDIX B

VALIDATED LABORATORY ANALYTICAL RESULTS

(28 Pages)

STN Environmental, JV
125 South Wacker Drive, Suite 1180 ● Chicago, IL 60606 ● (312) 443-0550 ● (312) 443-0557

MEMORANDUM

Date: December 22, 2007

To: Ron Bugg, Project Manager, STN Environmental JV (STN)
Superfund Technical Assessment and Response Team (START) for region 5

Prepared by: Richard Baldino, Senior Chemist, STN START for Region 5

Subject: Data Validation for
St. Francis Auto Wreckers Site
St. Francis, Milwaukee County, Wisconsin
Analytical Technical Direction Document (TDD) No. S05-0710-004
Project TDD No. S05-0710-006

Laboratory: Test America
Work Order No. 500-7370-1
Analyses of 3 Solid Samples for TCLP Volatile Organic Compounds (VOCs), Organochlorine Pesticides, Polychlorinated Biphenyls (PCBs), Total and TCLP RCRA Metals, and Flashpoint

1.0 INTRODUCTION

The STN START for region 5 validated TCLP VOCs, Pesticides, PCBs, total RCRA metals, TCLP RCRA metals, and flashpoint analytical data for 3 solid waste samples. Samples were collected at the St. Francis Auto Wreckers Site located in St. Francis, Milwaukee County, Wisconsin on October 24th, 2007. The samples were analyzed under Work Order number 500-7370-1 by Test America of Chicago, IL using U.S. Environmental Protection Agency (U.S. EPA) SW-846 methods 1311, 8260B, 8081B, 8082, 6010B/7471A, and 1010 (Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846).

Laboratory data were validated using guidelines set forth in the U.S. EPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (EPA540/R-99/008, October 1999), U.S. EPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (540/R-94/013, February 1994), and applicable methodologies. The purpose of the chemical data quality evaluation process is to assess the usability of data for the project decision-making process.

Organic data validation consisted of a review of the following QC audits:

- Chain of custody and sample receipt forms review
- Sample preservation and holding time
- GC/MS Instrument performance check, Initial Calibration, and Continuing Calibration
- Blank results
- Surrogate recoveries
- Matrix spike and Matrix Spike Duplicate (MS/MSD) recovery results
- Laboratory Control Sample (LCS) recovery results
- Internal Standard area counts and retention times
- Target compound identification and quantitation

Inorganic data validation consisted of a review of the following QC audits:

- Chain of custody and sample receipt forms review
- Sample preservation and holding time
- Initial Calibration, and Continuing Calibration
- Blank results
- Laboratory Control Sample (LCS) recovery results
- Duplicate sample results
- Matrix spike and Matrix Spike Duplicate (MS/MSD) recovery results

Section 2.0 of this memorandum discusses the results of organic data validation. Section 3.0 of this memorandum discusses the results of inorganic data validation. Section 4.0 presents an overall assessment of the data. The attachment to this memorandum contains the laboratory reporting forms as well as START's handwritten data qualifications where warranted.

2.0 ORGANIC DATA VALIDATION RESULTS

The Results of START's organic data validation are summarized below by QC audit reviewed. The data qualifiers listed below were applied to sample analytical results where warranted (see attachment):

- J – The analyte was detected. The reported concentration was considered estimated.
- U – The analyte was not detected.
- UJ – The analyte was not detected. The reporting limit was considered estimated.

After the START project staff received the data packages, they were inventoried for completeness and then reviewed according to matrix-specific protocols and data quality objectives established for the project.

2.1 SOLID SAMPLES BY METHOD 1311/8260B FOR TCLP VOCs

2.1.1 SAMPLE HANDLING

Chain of custody documentation and sample receipt forms were reviewed to ensure requested analyses were performed and that samples arrived at the laboratory intact. Solid samples were collected on December

24th, 2007 and were received cool and intact by the laboratory on December 24th, 2007. No discrepancies were noted.

2.1.2 SAMPLE PRESERVATION AND HOLDING TIME

Solid samples were shipped on ice and properly preserved. TCLP VOC samples were analyzed five days after collection. No discrepancies were noted.

2.1.3 GC/MS TUNING, INITIAL CALIBRATION, AND CONTINUING CALIBRATION

Gas chromatograph/mass spectrometer (GC/MS) instrument performance checks are performed to ensure mass resolution, identification, and to some degree, sensitivity. Initial calibration demonstrates that the instrument is capable of acceptable performance in the beginning of the analytical run and of producing a linear calibration curve. Continuing calibration establishes the 12-hour relative response factors on which the quantitations are based and checks satisfactory performance of the instrument on a day-to-day basis. No discrepancies were noted.

2.1.4 BLANK RESULTS

The purpose of laboratory (or field) blank analysis is to determine the existence and magnitude of contamination resulting from laboratory (or field) activities. Laboratory method blank and leachate blank samples MB 500-25380/4 and LB 500-25179/1-A were run with this SDG. No laboratory blank detects were noted.

2.1.5 SURROGATE RECOVERIES

Laboratory performance on individual samples is established by means of fortifying each sample with surrogate compounds (System Monitoring Compounds). Surrogate spike compounds included 4-bromofluorobenzene, toluene-d8, dibromofluoromethane, and 1,2-dichloroethane-d4. Surrogate recoveries ranged from 93% to 104%. No discrepancies were noted.

2.1.6 MS/MSD RECOVERY RESULTS

Data for matrix spike/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) analyses were not performed for VOC analyses. No action was taken to qualify analytical data due to missing MS/MSD audit results.

2.1.7 LCS RECOVERY RESULTS

Data for laboratory control samples (LCS) are generated to provide information on the accuracy of the analytical method and on the laboratory performance. Laboratory Control Samples (LCS) were fortified with the full list of VOCs and analyzed with each batch of samples. The LCS accuracy performance is

measured by Percent Recovery (%R). LCS recoveries ranged from 61% to 101%. No discrepancies were noted.

2.1.8 INTERNAL STANDARD AREA COUNTS AND RETENTION TIMES

Internal Standards (IS) performance criteria ensure that GC/MS sensitivity and response are stable during each analysis. Internal standard area counts must not vary by more than thirty percent (-30 percent to +30 percent) from the associated 12 hour calibration standard. The IS compounds used were pentafluorobenzene, 1,4-difluorobenzene, chlorobenzene-d5, and 1,4-dichlorobenzene-d4.

Internal standard area counts and retention times were acceptable. No discrepancies were noted.

2.1.9 TARGET COMPOUND IDENTIFICATION AND QUANTITATION

The objective of the criteria for GC/MS qualitative analysis is to minimize the number of erroneous identifications of compounds. An erroneous identification can either be a false positive (reporting a compound present when it is not) or a false negative (not reporting a compound that is present). The objective of the criteria for GC/MS quantitative analysis is to ensure that the reported quantitation results and Contract Required Quantitation Limits (CRQLs) are accurate. No discrepancies were noted.

2.2 SOLID SAMPLES BY METHOD 8081B FOR PESTICIDES

2.2.1 SAMPLE HANDLING

Chain of custody documentation and sample receipt forms were reviewed to ensure requested analyses were performed and that samples arrived at the laboratory intact. Solid samples were collected on December 24th, 2007 and were received cool and intact by the laboratory on December 24th, 2007. No discrepancies were noted.

2.2.2 SAMPLE PRESERVATION AND HOLDING TIME

Solid samples were shipped on ice and properly preserved. TCLP VOC samples were analyzed five days after collection. No discrepancies were noted.

2.2.3 GC PERFORMANCE, INITIAL AND CONTINUING CALIBRATION

Performance checks on the gas chromatograph with electron capture detector (GC/ECD) system are performed to ensure adequate resolution and instrument sensitivity. Initial calibration demonstrates that the instrument is capable of acceptable performance in the beginning of the analytical run and of producing a linear calibration curve. Calibration verification checks documents satisfactory performance of the instrument over specific time periods during sample analysis. No discrepancies were noted.

2.2.4 BLANK RESULTS

The purpose of laboratory (or field) blank analysis is to determine the existence and magnitude of contamination resulting from laboratory (or field) activities. Laboratory method blank sample MB 500-25121/1-A was run with this SDG. No method blank detects were noted.

2.2.5 SURROGATE RECOVERIES

Laboratory performance on individual samples is established by means of fortifying each sample with surrogate compounds. Surrogate spike compounds included tetrachloro-m-xylene and decachlorobiphenyl.

Surrogate recoveries in sample SS1 were 0% due to dilutions. No action was taken to qualify analytical data.

The surrogate recovery for tetrachloro-m-xylene in sample SS2 was high at 138%. The upper control limit was 111%. No pesticide detects were noted in sample SS2. No action was taken to qualify analytical data.

2.2.6 MS/MSD RECOVERY RESULTS

Data for matrix spike/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. Matrix Spike/Matrix Spike Duplicate (MS/MSD) samples were not run with this SDG. No action was taken to qualify analytical data due to missing MS/MSD audit samples.

2.2.7 LCS RECOVERY RESULTS

Data for laboratory control samples (LCS) are generated to provide information on the accuracy of the analytical method and on the laboratory performance. Laboratory Control Samples (LCS) were fortified with the full list of VOCs and analyzed with each batch of samples. The LCS accuracy performance is measured by Percent Recovery (%R). LCS recoveries ranged from 42% to 91%. No discrepancies were noted.

2.2.8 TARGET COMPOUND IDENTIFICATION AND QUANTITATION

Qualitative criteria for compound identification have been established to minimize the number of false positives (reporting a compound present when it is not) and false negatives (not reporting a compound that is present). No discrepancies were noted.

2.3 SOLID SAMPLES BY METHOD 8082 FOR PCBs

2.3.1 SAMPLE HANDLING

Chain of custody documentation and sample receipt forms were reviewed to ensure requested analyses were performed and that samples arrived at the laboratory intact. Solid samples were collected on December

24th, 2007 and were received cool and intact by the laboratory on December 24th, 2007. No discrepancies were noted.

2.3.2 SAMPLE PRESERVATION AND HOLDING TIME

Solid samples were shipped on ice and properly preserved. TCLP VOC samples were analyzed five days after collection. No discrepancies were noted.

2.3.3 GC PERFORMANCE, INITIAL AND CONTINUING CALIBRATION

Performance checks on the gas chromatograph with electron capture detector (GC/ECD) system are performed to ensure adequate resolution and instrument sensitivity. Initial calibration demonstrates that the instrument is capable of acceptable performance in the beginning of the analytical run and of producing a linear calibration curve. Calibration verification checks documents satisfactory performance of the instrument over specific time periods during sample analysis. No discrepancies were noted.

2.3.4 BLANK RESULTS

The purpose of laboratory (or field) blank analysis is to determine the existence and magnitude of contamination resulting from laboratory (or field) activities. Laboratory method blank sample MB 500-25121/1-A was run with this SDG. No method blank detects were noted.

2.3.5 SURROGATE RECOVERIES

Laboratory performance on individual samples is established by means of fortifying each sample with surrogate compounds. Surrogate spike compounds included tetrachloro-m-xylene and decachlorobiphenyl.

Surrogate recoveries in sample SS1 were 0% due to dilutions. No action was taken to qualify analytical data.

2.3.6 MS/MSD RECOVERY RESULTS

Data for matrix spike/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries ranged from 0% to 2470%. MS/MSD spikes were run on diluted sample SS1 and were masked by high target compounds in the native sample. No action was taken to qualify analytical data.

2.3.7 LCS RECOVERY RESULTS

Data for laboratory control samples (LCS) are generated to provide information on the accuracy of the analytical method and on the laboratory performance. Laboratory Control Samples (LCS) were fortified with the full list of VOCs and analyzed with each batch of samples. The LCS accuracy performance is

measured by Percent Recovery (%R). LCS recoveries ranged from 67% to 92%. No discrepancies were noted.

2.3.8 TARGET COMPOUND IDENTIFICATION AND QUANTITATION

Qualitative criteria for compound identification have been established to minimize the number of false positives (reporting a compound present when it is not) and false negatives (not reporting a compound that is present). No discrepancies were noted.

3.0 INORGANIC DATA VALIDATION RESULTS

The Results of START's inorganic data validation are summarized below by QC audit reviewed. The data qualifiers listed below were applied to sample analytical results where warranted (see attachment):

- J – The analyte was detected. The reported concentration was considered estimated.
- U – The analyte was not detected.
- UJ – The analyte was not detected. The reporting limit was considered estimated.

After the START project staff received the data packages, they were inventoried for completeness and then reviewed according to matrix-specific protocols and data quality objectives established for the project.

3.1 SOLID SAMPLES BY METHOD 6010B/7000 FOR TOTAL AND TCLP METALS

3.1.1 SAMPLE HANDLING

Chain of custody documentation and sample receipt forms were reviewed to ensure requested analyses were performed and that samples arrived at the laboratory intact. Solid samples were collected on December 24th, 2007 and were received cool and intact by the laboratory on December 24th, 2007. No discrepancies were noted.

3.1.2 SAMPLE PRESERVATION AND HOLDING TIME

Solid samples were shipped on ice and properly preserved. TCLP VOC samples were analyzed five days after collection. No discrepancies were noted.

3.1.3 INITIAL CALIBRATION, AND CONTINUING CALIBRATION

Method requirements for satisfactory instrument calibration are established to ensure that the instrument is capable of producing acceptable quantitative results. Initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of the analytical run. Continuing calibration verification establishes that the initial calibration is still valid by checking the performance of the instrument on a continual basis. No deficiencies were noted.

3.1.4 BLANK RESULTS

The assessment of blank analysis results is to determine the existence and magnitude of contamination resulting from laboratory and/or field activities. Laboratory method blank samples MB 500-25269/1-A, LB 500-25330/1-C, MB 500-25370/1-A, LB 500-25330/1-F, and MB 500-25598/1-A were run with this SDG. No method blank detects were noted.

3.1.5 LCS RECOVERY RESULTS

The Laboratory Control Sample (LCS) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Laboratory Control Samples (LCS) were fortified with each analyte of interest and analyzed with each batch of samples. The LCS accuracy performance is measured by Percent Recovery (%R). LCS recoveries ranged from 90% to 112%. No discrepancies were noted.

3.1.6 MS/MSD RECOVERY RESULTS

Data for matrix spike/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. Matrix Spike/Matrix Spike Duplicate (MS/MSD) samples were not run with this SDG. No action was taken to qualify analytical data due to missing MS/MSD audit samples.

3.1.7 LABORAOTRY DUPLICATES

The objective of duplicate sample analysis is to demonstrate acceptable precision by the laboratory. Non-homogenous samples can impact the apparent analytical precision. Lab duplicate precision is measured by Relative Percent Difference (RPD). Lab duplicate RPDs were 5.96% or less. No discrepancies were noted.

3.2 SOLID SAMPLES BY METHOD 1010 FOR FLASHPOINT

3.2.1 SAMPLE HANDLING

Chain of custody documentation and sample receipt forms were reviewed to ensure requested analyses were performed and that samples arrived at the laboratory intact. Solid samples were collected on December 24th, 2007 and were received cool and intact by the laboratory on December 24th, 2007. No discrepancies were noted.

3.2.2 SAMPLE PRESERVATION AND HOLDING TIME

Solid samples were shipped on ice and properly preserved. TCLP VOC samples were analyzed five days after collection. No discrepancies were noted.

4.0 OVERALL ASSESSMENT OF DATA

The analytical performance of this data set is very strong. The analytical results meet the data quality objectives defined by the applicable method and validation guidance documentation. The analytical data is usable and acceptable with the qualifications noted above. Rejection of analytical data was not required.

ATTACHMENT

SUMMARY OF ANALYTICAL RESULTS

AND

CHAIN-OF-CUSTODY

(18 Sheets)

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Chicago | Job No.: 500-7370-1

SDG No.:

Client Sample ID: SS1(coc 161923) | Lab Sample ID: 500-7370-1

Matrix: Solid (TCLP) | Lab File ID: 7370-01.D

Analysis Method: 8260B | Date Received: 10/24/2007 15:40

Sample wt/vol: 10 (mL) | Date Analyzed: 10/29/2007 12:36

Level: (low/med) Low | Dilution Factor: 20

GC Column/ID: DB624 0.2 (mm) | Soil Aliquot Vol:

Soil Extract Vol.: | % Moisture:

Analy. Batch No.: 25380 | Units: ug/L

CAS No.	Compound Name	Result	Q	RL	MDL
71-43-2	Benzene	20	U	20	20
56-23-5	Carbon tetrachloride	20	U	20	20
108-90-7	Chlorobenzene	20	U	20	20
67-66-3	Chloroform	20	U	20	20
107-06-2	1,2-Dichloroethane	20	U	20	20
75-35-4	1,1-Dichloroethene	20	U	20	20
78-93-3	Methyl Ethyl Ketone	100	U	100	100
127-18-4	Tetrachloroethene	20	U	20	20
79-01-6	Trichloroethene	20	U	20	20
75-01-4	Vinyl chloride	20	U	20	20

MS 12/22/07

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Chicago | Job No.: 500-7370-1

SDG No.:

Client Sample ID: SS2(coc 161921) | Lab Sample ID: 500-7370-2

Matrix: Solid (TCLP) | Lab File ID: 7370-02.D

Analysis Method: 8260B | Date Received: 10/24/2007 15:40

Sample wt/vol: 10 (mL) | Date Analyzed: 10/29/2007 12:59

Level: (low/med) Low | Dilution Factor: 20

GC Column/ID: DB624 0.2 (mm) | Soil Aliquot Vol:

Soil Extract Vol.: | % Moisture:

Analy. Batch No.: 25380 | Units: ug/L

CAS No.	Compound Name	Result	Q	RL	MDL
71-43-2	Benzene	20	U	20	20
56-23-5	Carbon tetrachloride	20	U	20	20
108-90-7	Chlorobenzene	20	U	20	20
67-66-3	Chloroform	20	U	20	20
107-06-2	1,2-Dichloroethane	20	U	20	20
75-35-4	1,1-Dichloroethene	20	U	20	20
78-93-3	Methyl Ethyl Ketone	100	U	100	100
127-18-4	Tetrachloroethene	20	U	20	20
79-01-6	Trichloroethene	20	U	20	20
75-01-4	Vinyl chloride	20	U	20	20

AHS 12/22/07

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Chicago | Job No.: 500-7370-1

SDG No.:

Client Sample ID: SS3(coc 161919) | Lab Sample ID: 500-7370-3

Matrix: Solid (TCLP) | Lab File ID: 7370-03.D

Analysis Method: 8260B | Date Received: 10/24/2007 15:40

Sample wt/vol: 10 (mL) | Date Analyzed: 10/29/2007 13:21

Level: (low/med) Low | Dilution Factor: 20

GC Column/ID: DB624 0.2 (mm) | Soil Aliquot Vol:

Soil Extract Vol.: | % Moisture:

Analy. Batch No.: 25380 | Units: ug/L

CAS No.	Compound Name	Result	Q	RL	MDL
71-43-2	Benzene	20	U	20	20
56-23-5	Carbon tetrachloride	20	U	20	20
108-90-7	Chlorobenzene	20	U	20	20
67-66-3	Chloroform	20	U	20	20
107-06-2	1,2-Dichloroethane	20	U	20	20
75-35-4	1,1-Dichloroethene	20	U	20	20
78-93-3	Methyl Ethyl Ketone	100	U	100	100
127-18-4	Tetrachloroethene	20	U	20	20
79-01-6	Trichloroethene	20	U	20	20
75-01-4	Vinyl chloride	20	U	20	20

MAS 12/20/07

Client: TN & Associates

Job Number: 500-7370-1

Client Sample ID: **SS1(coc 161923)**

Lab Sample ID: 500-7370-1
Client Matrix: Solid
% Moisture: 25.8
Date Sampled: 10/24/2007 0950
Date Received: 10/24/2007 1540

8081A Organochlorine Pesticides by Gas Chromatography

Method: 8081A
Preparation: 3541
Dilution: 50
Date Analyzed: 11/03/2007 0713
Date Prepared: 10/25/2007 0818
Analysis Batch: 500-26447
Prep Batch: 500-25121
Instrument ID: HP 6890 GC
Lab File ID: 11010716_096.d
Initial Weight/Volume: 15.1321 g
Final Weight/Volume: 5.0 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
alpha-BHC		110	U	38	110
beta-BHC		110	U	61	110
delta-BHC		110	U	49	110
gamma-BHC (Lindane)		110	U	20	110
Heptachlor		110	U	15	110
Aldrin		110	U	38	110
Heptachlor epoxide		110	U	24	110
Endosulfan I		110	U	47	110
Dieldrin		110	U	22	110
4,4'-DDE		110	U	22	110
Endrin		110	U	41	110
Endosulfan II		110	U	23	110
4,4'-DDD		110	U	35	110
Endosulfan sulfate		110	U	11	110
4,4'-DDT		110	U	20	110
Methoxychlor		550	U	33	550
alpha-Chlordane		110	U	31	110
gamma-Chlordane		110	U	36	110
Toxaphene		1100	U	200	1100
Endrin aldehyde		110	U	42	110
Endrin ketone		110	U	20	110

Surrogate	%Rec		Acceptance Limits
DCB Decachlorobiphenyl	0	D	40 - 110
Tetrachloro-m-xylene	0	D	37 - 111

MH 12/7/07

Client: TN & Associates

Job Number: 500-7370-1

Client Sample ID: **SS2(coc 161921)**

Lab Sample ID: 500-7370-2
Client Matrix: Solid
% Moisture: 5.0
Date Sampled: 10/24/2007 1030
Date Received: 10/24/2007 1540

8081A Organochlorine Pesticides by Gas Chromatography

Method: 8081A
Preparation: 3541
Dilution: 1.0
Date Analyzed: 11/03/2007 0738
Date Prepared: 10/25/2007 0818
Analysis Batch: 500-26447
Prep Batch: 500-25121
Instrument ID: HP 6890 GC
Lab File ID: 11010716_097.d
Initial Weight/Volume: 15.2569 g
Final Weight/Volume: 5.0 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
alpha-BHC		1.8	U	0.59	1.8
beta-BHC		1.8	U	0.95	1.8
delta-BHC		1.8	U	0.77	1.8
gamma-BHC (Lindane)		1.8	U	0.31	1.8
Heptachlor		1.8	U	0.24	1.8
Aldrin		1.8	U	0.59	1.8
Heptachlor epoxide		1.8	U	0.37	1.8
Endosulfan I		1.8	U	0.73	1.8
Dieldrin		1.8	U	0.34	1.8
4,4'-DDE		1.8	U	0.34	1.8
Endrin		1.8	U	0.64	1.8
Endosulfan II		1.8	U	0.36	1.8
4,4'-DDD		1.8	U	0.55	1.8
Endosulfan sulfate		1.8	U	0.17	1.8
4,4'-DDT		1.8	U	0.31	1.8
Methoxychlor		8.6	U	0.51	8.6
alpha-Chlordane		1.8	U	0.48	1.8
gamma-Chlordane		1.8	U	0.56	1.8
Toxaphene		17	U	3.1	17
Endrin aldehyde		1.8	U	0.65	1.8
Endrin ketone		1.8	U	0.31	1.8

Surrogate	%Rec		Acceptance Limits
DCB Decachlorobiphenyl	55		40 - 110
Tetrachloro-m-xylene	138	X	37 - 111

12/2/07

Client: TN & Associates

Job Number: 500-7370-1

Client Sample ID: **SS3(coc 161919)**

Lab Sample ID: 500-7370-3
Client Matrix: Solid
% Moisture: 14.1
Date Sampled: 10/24/2007 1110
Date Received: 10/24/2007 1540

8081A Organochlorine Pesticides by Gas Chromatography

Method: 8081A
Preparation: 3541
Dilution: 1.0
Date Analyzed: 11/03/2007 0802
Date Prepared: 10/25/2007 0818
Analysis Batch: 500-26447
Prep Batch: 500-25121
Instrument ID: HP 6890 GC
Lab File ID: 11010716_098.d
Initial Weight/Volume: 15.9650 g
Final Weight/Volume: 5.0 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
alpha-BHC		1.9	U	0.62	1.9
beta-BHC		1.9	U	1.0	1.9
delta-BHC		1.9	U	0.81	1.9
gamma-BHC (Lindane)		1.9	U	0.33	1.9
Heptachlor		1.9	U	0.25	1.9
Aldrin		1.9	U	0.62	1.9
Heptachlor epoxide		1.9	U	0.39	1.9
Endosulfan I		1.9	U	0.78	1.9
Dieldrin		1.9	U	0.36	1.9
4,4'-DDE		1.9	U	0.36	1.9
Endrin		1.9	U	0.68	1.9
Endosulfan II		1.9	U	0.38	1.9
4,4'-DDD		1.9	U	0.58	1.9
Endosulfan sulfate		1.9	U	0.17	1.9
4,4'-DDT		1.9	U	0.33	1.9
Methoxychlor		9.1	U	0.54	9.1
alpha-Chlordane		1.9	U	0.50	1.9
gamma-Chlordane		1.9	U	0.59	1.9
Toxaphene		18	U	3.3	18
Endrin aldehyde		1.9	U	0.69	1.9
Endrin ketone		1.9	U	0.33	1.9

Surrogate	%Rec	Acceptance Limits
DCB Decachlorobiphenyl	70	40 - 110
Tetrachloro-m-xylene	63	37 - 111

MH 11/2/07

Client: TN & Associates

Job Number: 500-7370-1

Client Sample ID: **SS1(coc 161923)**

Lab Sample ID: 500-7370-1
Client Matrix: Solid
% Moisture: 25.8
Date Sampled: 10/24/2007 0950
Date Received: 10/24/2007 1540

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3541
Dilution: 500
Date Analyzed: 11/08/2007 1436
Date Prepared: 10/25/2007 0818
Analysis Batch: 500-26359
Prep Batch: 500-25121
Instrument ID: HP 6890N GC
Lab File ID: 11040731_195.d
Initial Weight/Volume: 15.1321 g
Final Weight/Volume: 5.0 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y Result (ug/Kg)	Qualifier	MDL	RL
PCB-1016	11000	U	4800	11000
PCB-1221	11000	U	6100	11000
PCB-1232	11000	U	4100	11000
PCB-1242	63000		6700	11000
PCB-1248	11000	U	5800	11000
PCB-1254	71000		4000	11000
PCB-1260	47000		4100	11000

Surrogate	%Rec		Acceptance Limits
Tetrachloro-m-xylene	0	D	39 - 115
DCB Decachlorobiphenyl	0	D	47 - 116

12/12/07

Client: TN & Associates

Job Number: 500-7370-1

Client Sample ID: **SS2(coc 161921)**

Lab Sample ID: 500-7370-2
Client Matrix: Solid
% Moisture: 5.0

Date Sampled: 10/24/2007 1030
Date Received: 10/24/2007 1540

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3541
Dilution: 1.0
Date Analyzed: 10/30/2007 0021
Date Prepared: 10/25/2007 0818

Analysis Batch: 500-26359
Prep Batch: 500-25121

Instrument ID: HP 6890N GC
Lab File ID: 10260731_096.d
Initial Weight/Volume: 15.2569 g
Final Weight/Volume: 5.0 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
PCB-1016		17	U	7.4	17
PCB-1221		17	U	9.4	17
PCB-1232		17	U	6.4	17
PCB-1242		260		10	17
PCB-1248		17	U	9.0	17
PCB-1254		270		6.2	17
PCB-1260		64		6.4	17

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	71	39 - 115
DCB Decachlorobiphenyl	71	47 - 116

12/12/07

Client: TN & Associates

Job Number: 500-7370-1

Client Sample ID: SS3(coc 161919)

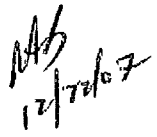
Lab Sample ID: 500-7370-3
Client Matrix: Solid
% Moisture: 14.1
Date Sampled: 10/24/2007 1110
Date Received: 10/24/2007 1540

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3541
Dilution: 1.0
Date Analyzed: 10/30/2007 0036
Date Prepared: 10/25/2007 0818
Analysis Batch: 500-26359
Prep Batch: 500-25121
Instrument ID: HP 6890N GC
Lab File ID: 10260731_097.d
Initial Weight/Volume: 15.9650 g
Final Weight/Volume: 5.0 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: Y Result (ug/Kg)	Qualifier	MDL	RL
PCB-1016	18	U	7.9	18
PCB-1221	18	U	10	18
PCB-1232	18	U	6.8	18
PCB-1242	18	U	11	18
PCB-1248	18	U	9.5	18
PCB-1254	79		6.6	18
PCB-1260	58		6.8	18

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	90	39 - 115
DCB Decachlorobiphenyl	81	47 - 116



Client: TN & Associates

Job Number: 500-7370-1

Client Sample ID: SS1(coc 161923)

Lab Sample ID: 500-7370-1
Client Matrix: Solid
% Moisture: 25.8
Date Sampled: 10/24/2007 0950
Date Received: 10/24/2007 1540

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/29/2007 2015
Date Prepared: 10/26/2007 1840
Analysis Batch: 500-25384
Prep Batch: 500-25269
Instrument ID: TJA ICAP 61E Trace
Lab File ID: P51029A
Initial Weight/Volume: 1.0604 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Arsenic		17		0.34	1.3
Barium		650		0.56	1.3
Cadmium		15		0.076	0.25
Chromium		340		0.14	1.3
Lead		3600		0.31	0.64
Selenium		0.74	J	0.48	1.3
Silver		0.93		0.13	0.64

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry-TCLP

Method: 6010B
Preparation: 3010A
Dilution: 1.0
Date Analyzed: 10/31/2007 1244
Date Prepared: 10/30/2007 1615
Date Leached: 10/29/2007 1115
Analysis Batch: 500-25538
Prep Batch: 500-25449
Leachate Batch: 500-25330
Instrument ID: TJA ICAP 61E Trace
Lab File ID: P51031A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: N	Result (mg/L)	Qualifier	MDL	RL
Arsenic		0.050	U	0.010	0.050
Barium		1.8		0.010	0.50
Cadmium		0.092		0.0020	0.0050
Chromium		0.039		0.010	0.025
Lead		5.6		0.0050	0.050
Selenium		0.050	U	0.010	0.050
Silver		0.025	U	0.0050	0.025

7470A Mercury In Liquid Waste (Manual Cold Vapor Technique)-TCLP

Method: 7470A
Preparation: 7470A
Dilution: 1.0
Date Analyzed: 10/31/2007 1402
Date Prepared: 10/31/2007 1000
Date Leached: 10/29/2007 1115
Analysis Batch: 500-25508
Prep Batch: 500-25598
Leachate Batch: 500-25330
Instrument ID: Leeman Labs PS200
Lab File ID: N/A
Initial Weight/Volume: 2.5 mL
Final Weight/Volume: 25 mL

Analyte	DryWt Corrected: N	Result (mg/L)	Qualifier	MDL	RL
Mercury		0.0020	U	0.00020	0.0020

12/12/07

Client: TN & Associates

Job Number: 500-7370-1

Client Sample ID: SS1(coc 161923)

Lab Sample ID:	500-7370-1		Date Sampled: 10/24/2007 0950
Client Matrix:	Solid	% Moisture: 25.8	Date Received: 10/24/2007 1540

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 500-25433		Instrument ID:	Leeman Labs PS200
Preparation:	7471A	Prep Batch: 500-25370		Lab File ID:	N/A
Dilution:	50			Initial Weight/Volume:	0.60 g
Date Analyzed:	10/30/2007 1359			Final Weight/Volume:	50 mL
Date Prepared:	10/29/2007 1200				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		7.1	B	0.36	1.1

AH 12/2/07

Client: TN & Associates

Job Number: 500-7370-1

Client Sample ID: SS2(coc 161921)

Lab Sample ID: 500-7370-2
Client Matrix: Solid
% Moisture: 5.0

Date Sampled: 10/24/2007 1030
Date Received: 10/24/2007 1540

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/29/2007 2047
Date Prepared: 10/26/2007 1840

Analysis Batch: 500-25384
Prep Batch: 500-25269

Instrument ID: TJA ICAP 61E Trace
Lab File ID: P51029A
Initial Weight/Volume: 1.1043 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Arsenic		13		0.26	0.95
Barium		14		0.42	0.95
Cadmium		0.19	U	0.057	0.19
Chromium		33		0.10	0.95
Lead		18		0.23	0.48
Selenium		0.95	U	0.36	0.95
Silver		0.11	J	0.095	0.48

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry-TCLP

Method: 6010B
Preparation: 3010A
Dilution: 1.0
Date Analyzed: 10/31/2007 1251
Date Prepared: 10/30/2007 1615
Date Leached: 10/29/2007 1115

Analysis Batch: 500-25538
Prep Batch: 500-25449
Leachate Batch: 500-25330

Instrument ID: TJA ICAP 61E Trace
Lab File ID: P51031A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: N	Result (mg/L)	Qualifier	MDL	RL
Arsenic		0.050	U	0.010	0.050
Barium		0.24	J	0.010	0.50
Cadmium		0.0048	J	0.0020	0.0050
Chromium		0.025	U	0.010	0.025
Selenium		0.050	U	0.010	0.050
Silver		0.025	U	0.0050	0.025

Method: 6010B
Preparation: 3010A
Dilution: 1.0
Date Analyzed: 10/31/2007 1431
Date Prepared: 10/30/2007 1615
Date Leached: 10/29/2007 1115

Analysis Batch: 500-25538
Prep Batch: 500-25449
Leachate Batch: 500-25330

Instrument ID: TJA ICAP 61E Trace
Lab File ID: P51031A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: N	Result (mg/L)	Qualifier	MDL	RL
Lead		0.050	U	0.0050	0.050

12/2/07

Client: TN & Associates

Job Number: 500-7370-1

Client Sample ID: SS2(coc 161921)

Lab Sample ID: 500-7370-2
Client Matrix: Solid

Date Sampled: 10/24/2007 1030
Date Received: 10/24/2007 1540

7470A Mercury in Liquid Waste (Manual Cold Vapor Technique)-TCLP

Method:	7470A	Analysis Batch: 500-25508		Instrument ID:	Leeman Labs PS200
Preparation:	7470A	Prep Batch: 500-25598		Lab File ID:	N/A
Dilution:	1.0	Leachate Batch: 500-25330		Initial Weight/Volume:	2.5 mL
Date Analyzed:	10/31/2007 1404			Final Weight/Volume:	25 mL
Date Prepared:	10/31/2007 1000				
Date Leached:	10/29/2007 1115				

Analyte	DryWt Corrected: N	Result (mg/L)	Qualifier	MDL	RL
Mercury		0.0020	U	0.00020	0.0020

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 500-25367		Instrument ID:	Leeman Labs PS200
Preparation:	7471A	Prep Batch: 500-25370		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	0.60 g
Date Analyzed:	10/29/2007 1541			Final Weight/Volume:	50 mL
Date Prepared:	10/29/2007 1200				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.020	B	0.0056	0.018

12/22/07

Client: TN & Associates

Job Number: 500-7370-1

Client Sample ID: SS3(coc 161919)

Lab Sample ID: 500-7370-3
Client Matrix: Solid
% Moisture: 14.1
Date Sampled: 10/24/2007 1110
Date Received: 10/24/2007 1540

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 10/29/2007 2053
Date Prepared: 10/26/2007 1840
Analysis Batch: 500-25384
Prep Batch: 500-25269
Instrument ID: TJA ICAP 61E Trace
Lab File ID: P51029A
Initial Weight/Volume: 1.1348 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Arsenic		8.5		0.28	1.0
Barium		21		0.45	1.0
Cadmium		0.21	U	0.062	0.21
Chromium		33		0.11	1.0
Lead		22		0.25	0.51
Selenium		1.0	U	0.39	1.0
Silver		0.51	U	0.10	0.51

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry-TCLP

Method: 6010B
Preparation: 3010A
Dilution: 1.0
Date Analyzed: 10/31/2007 1323
Date Prepared: 10/30/2007 1615
Date Leached: 10/29/2007 1115
Analysis Batch: 500-25538
Prep Batch: 500-25449
Leachate Batch: 500-25330
Instrument ID: TJA ICAP 61E Trace
Lab File ID: P51031A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: N	Result (mg/L)	Qualifier	MDL	RL
Arsenic		0.050	U	0.010	0.050
Barium		0.20	J	0.010	0.50
Cadmium		0.0024	J	0.0020	0.0050
Chromium		0.025	U	0.010	0.025
Lead		0.0054	J	0.0050	0.050
Selenium		0.050	U	0.010	0.050
Silver		0.025	U	0.0050	0.025

7470A Mercury in Liquid Waste (Manual Cold Vapor Technique)-TCLP

Method: 7470A
Preparation: 7470A
Dilution: 1.0
Date Analyzed: 10/31/2007 1411
Date Prepared: 10/31/2007 1000
Date Leached: 10/29/2007 1115
Analysis Batch: 500-25508
Prep Batch: 500-25598
Leachate Batch: 500-25330
Instrument ID: Leeman Labs PS200
Lab File ID: N/A
Initial Weight/Volume: 2.5 mL
Final Weight/Volume: 25 mL

Analyte	DryWt Corrected: N	Result (mg/L)	Qualifier	MDL	RL
Mercury		0.0020	U	0.00020	0.0020

12/20/07

Client: TN & Associates

Job Number: 500-7370-1

Client Sample ID: SS3(coc 161919)

Lab Sample ID:	500-7370-3		Date Sampled: 10/24/2007 1110
Client Matrix:	Solid	% Moisture: 14.1	Date Received: 10/24/2007 1540

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method:	7471A	Analysis Batch: 500-25367		Instrument ID:	Leeman Labs PS200
Preparation:	7471A	Prep Batch: 500-25370		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	0.60 g
Date Analyzed:	10/29/2007 1543			Final Weight/Volume:	50 mL
Date Prepared:	10/29/2007 1200				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.017	J B	0.0062	0.019

12/20/07

General Chemistry

Client Sample ID: **SS1(coc 161923)**

Lab Sample ID: 500-7370-1
Client Matrix: Solid

Date Sampled: 10/24/2007 0950
Date Received: 10/24/2007 1540

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Moisture	26		%	0.10	0.10	1.0	PercentMoisture
	Anly Batch: 500-25101	Date Analyzed	10/24/2007 1940				
Percent Solids	74		%	0.10	0.10	1.0	PercentMoisture
	Anly Batch: 500-25101	Date Analyzed	10/24/2007 1940				

Analyte	Result	Qual	Units		Dil	Method
Flashpoint	>176		Degrees F		1.0	1010
	Anly Batch: 500-25586	Date Analyzed (Start) 11/01/2007 0733		(End) 11/01/2007 0828	DryWt Corrected: N	

Client Sample ID: **SS2(coc 161921)**

Lab Sample ID: 500-7370-2
Client Matrix: Solid

Date Sampled: 10/24/2007 1030
Date Received: 10/24/2007 1540

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Moisture	5.0		%	0.10	0.10	1.0	PercentMoisture
	Anly Batch: 500-25101	Date Analyzed	10/24/2007 1940				
Percent Solids	95		%	0.10	0.10	1.0	PercentMoisture
	Anly Batch: 500-25101	Date Analyzed	10/24/2007 1940				

Analyte	Result	Qual	Units		Dil	Method
Flashpoint	>176		Degrees F		1.0	1010
	Anly Batch: 500-25586	Date Analyzed (Start) 11/01/2007 0828		(End) 11/01/2007 0922	DryWt Corrected: N	

MH 11/2/07

General Chemistry

Client Sample ID: **SS3(coc 161919)**

Lab Sample ID: 500-7370-3
Client Matrix: Solid

Date Sampled: 10/24/2007 1110
Date Received: 10/24/2007 1540

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Moisture	14		%	0.10	0.10	1.0	PercentMoisture
	Anly Batch: 500-25101	Date Analyzed	10/24/2007 1940				
Percent Solids	86		%	0.10	0.10	1.0	PercentMoisture
	Anly Batch: 500-25101	Date Analyzed	10/24/2007 1940				

Analyte	Result	Qual	Units			Dil	Method
Flashpoint	>176		Degrees F			1.0	1010
	Anly Batch: 500-25586	Date Analyzed (Start) 11/01/2007 0922		(End) 11/01/2007 1016		DryWt Corrected: N	

12/22/07

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TAL-4142 (0907)

500-7370

Client: TN & Associates	Project Manager: Ron Bugg	Date: 10/24/07	Chain of Custody Number: 383595
Address: 100 W. Monroe	Telephone Number (Area Code)/Fax Number: 312 220-7000 / 312 220-7009	Lab Number:	Page 1 of 1
City: Sch Chicago	State: IL	Zip Code: 60603	Site Contact:	Lab Contact:
Project Name and Location (State): St. Francis Auto Wreckers	Carrier/Waybill Number: —		
Contract/Purchase Order/Quote No.: 505-0710-006			

Analysis (Attach list if more space is needed)

Special Instructions/ Conditions of Receipt

	Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed	Soil	Containers & Preservatives: Unpres	H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH	VOA TCLP	METAL TCLP	Metal Total	Flash pt	PCB/Pest	Special Instructions/ Conditions of Receipt
1	SS1 (coc 161923)	10/24/07	9:50				X	X						X	X	X	X	X	100 ppm headspace
2	SS2 (coc 161921)	10/24/07	10:30				X	X						X	X	X	X	X	50 ppm headspace
3	SS3 (coc 161919)	10/24/07	11:10				X	X						X	X	X	X	X	1-2 ppm headspace

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Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required
☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☒ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify)

1. Relinquished By	Date: 10/24/07	Time: 1540	1. Received By: TAL	Date: 10/24/07	Time: 1540
2. Relinquished By	Date:	Time:	2. Received By:	Date:	Time:
3. Relinquished By	Date:	Time:	3. Received By:	Date:	Time:

Comments: 4.6 °C

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy