

NC DENR
Division of Waste Management - Solid Waste

**Environmental Monitoring
Reporting Form**

Notice: This form and any information attached to it are "Public Records" as defined in NC General Statute 132-1. As such, these documents are available for inspection and examination by any person upon request (NC General Statute 132-6).

Instructions:

- Prepare one form for each individually monitored unit.
- Please type or print legibly.
- Attach a notification table with values that attain or exceed NC 2L groundwater standards or NC 2B surface water standards. The notification must include a preliminary analysis of the cause and significance of each value. (e.g. naturally occurring, off-site source, pre-existing condition, etc.).
- Attach a notification table of any groundwater or surface water values that equal or exceed the reporting limits.
- Attach a notification table of any methane gas values that attain or exceed explosive gas levels. This includes any structures on or nearby the facility (NCAC 13B .1629 (4)(a)(i)).
- Send the original signed and sealed form, any tables, and Electronic Data Deliverable to: Compliance Unit, NCDENR-DWM, Solid Waste Section, 1646 Mail Service Center, Raleigh, NC 27699-1646.

Solid Waste Monitoring Data Submittal Information

Name of entity submitting data (laboratory, consultant, facility owner):

Golder Associates NC, Inc. on behalf of Material Recovery, LLC

Contact for questions about data formatting. Include data preparer's name, telephone number and E-mail address:

Name: Rachel P. Kirkman, P.G.

Phone: 336-852-4903

E-mail: rkirkman@golder.com

Facility name:	Facility Address:	Facility Permit #	NC Landfill Rule: (.0500 or .1600)	Actual sampling dates (e.g., October 20-24, 2006)
Material Recovery, LLC C&D Landfill	2600 Brown-Field Road, Raleigh, NC 27610	92-31	.0500	June 28-29, 2007

Environmental Status: (Check all that apply)

- Initial/Background Monitoring Detection Monitoring Assessment Monitoring Corrective Action

Type of data submitted: (Check all that apply)

- Groundwater monitoring data from monitoring wells Methane gas monitoring data
 Groundwater monitoring data from private water supply wells Corrective action data (specify) _____
 Leachate monitoring data Other(specify) _____
 Surface water monitoring data

Notification attached?

- No. No groundwater or surface water standards or explosive methane gas limits were exceeded.
 Yes, a notification of values exceeding a groundwater or surface water standard is attached. It includes a list of groundwater and surface water monitoring points, dates, analytical values, NC 2L groundwater standard, NC 2B surface water standard or NC Solid Waste GWPS and preliminary analysis of the cause and significance of any concentration.
 Yes, a notification of values exceeding an explosive methane gas limit is attached. It includes the methane monitoring points, dates, sample values and explosive methane gas limits.

Certification

To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis of the cause and significance of concentrations exceeding groundwater standards. I am aware that there are significant penalties for making any false statement, representation, or certification including the possibility of a fine and imprisonment.

Rachel P. Kirkman, P.G.

Senior Project Geologist

(336) 852-4903

Facility Representative Name (Print)

Title

(Area Code) Telephone Number

Rachel P. Kirkman

11-2-07

Affix NC Licensed/Professional Geologist Seal

Signature

Date



Golder Associates NC, Inc.

4900 Koger Boulevard, Suite 140
Greensboro, NC 27407
Telephone (336) 852-4903
Fax (336) 852-4904



November 5, 2007

Project No. 073-9602407.100

Waste Corporation of America
625 Spencer Drive
Ft. Walton Beach, FL 32547

Attention: Mr. Nick Marotta, P.E.
Regional Engineer

**Re: Material Recovery, LLC Construction and Demolition Landfill, Permit No. 92-31
Wake County, North Carolina
Water Quality Monitoring Report, First Semiannual 2007 Sampling Event**

Dear Nick:

On behalf of Material Recovery, LLC, a subsidiary of Waste Corporation of America (WCA), Golder Associates NC, Inc. (Golder) is submitting this *Water Quality Monitoring Report*, which documents the results of the June 28-29, 2007, compliance monitoring event at the above-referenced facility.

Currently WCA has chosen to voluntarily monitor groundwater for parameters listed in Title 15A NCAC 13B.0544 of the North Carolina Solid Waste Management Rules (NCSWMR). Six metals (barium, beryllium, mercury, zinc, iron, and manganese) were detected above the Solid Waste Section Limits (SWSLs) in one or more downgradient monitoring wells during the June 2007 monitoring event. The concentrations of barium and mercury were statistically evaluated; the concentration of mercury in MW-3 was determined to be statistically significant. Insufficient background data were available to perform statistical analysis of beryllium, iron, manganese, and zinc.

The concentrations of barium and mercury in MW-3; iron in MW-5; and manganese in MW-1, MW-2, MW-3, MW-4, and MW-5 were above their respective North Carolina 2L Standards during the June 2007 monitoring event. This was the first time that mercury had been detected in groundwater at this site; future data will help determine the significance of this detection. The concentration of barium in MW-3 is consistent with previous data and is considered to be representative of background conditions. Since iron and manganese were detected at similar concentrations in the background well, it is presumed that these concentrations are representative of background for the facility. Insufficient data are available to evaluate the iron concentration in MW-5 at this time.

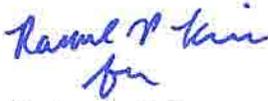
Barium was detected in downstream point SW-3 as it was during the previous sampling event; no surface water standard exists for barium. The recent detections are attributed to the recently revised

lower reporting limits. There were no other quantifiable detections of NC Appendix I constituents in the three surface water monitoring points during this event.

Trichlorofluoromethane was detected in MW-3 at a concentration above the SWSL during the June 2007 event, and was confirmed during the August 2007 re-sampling event. The detected concentrations are well below the NC 2L Standard. Methane was measured in the headspace of MW-3 prior to sampling at a concentration of one percent by volume; thus, landfill gas is a suspected source of trichlorofluoromethane in this well. Therefore, a voluntary Alternate Source Demonstration will be submitted under a separate cover to address this detection prior to the next scheduled sampling event.

Since the facility is voluntarily monitoring for parameters outlined in Rule .0544, and is currently subject to Rules .601 and .602, the facility will continue to monitor in accordance with the requirements of the Detection Monitoring Program for Construction & Demolition Landfills. The next event is scheduled for December 2007. If you have any questions, please contact the undersigned at 336-852-4903.

Sincerely,
GOLDER ASSOCIATES NC, INC.



Benjamin S. Draper
Geologist



Rachel P. Kirkman, P.G.
Senior Project Geologist

Enclosure

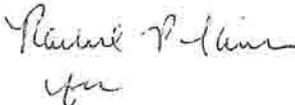
cc: Dennis Gehle, General Manager, Material Recovery, LLC, 2600 Brown-Field Road, Raleigh, North Carolina, 27610, 919-838-6973. (letter only)
Vernon Smith, Regional Vice President, WCA of North Carolina, 40 Estes Plant Road, Piedmont, South Carolina, 29673, 864-845-8355. (letter only)

lower reporting limits. There were no other quantifiable detections of NC Appendix I constituents in the three surface water monitoring points during this event.

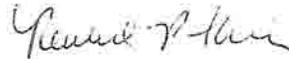
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Since the facility is voluntarily monitoring for parameters outlined in Rule .0544, and is currently subject to Rules .601 and .602, the facility will continue to monitor in accordance with the requirements of the Detection Monitoring Program for Construction & Demolition Landfills. The next event is scheduled for December 2007. If you have any questions, please contact the undersigned at 336-852-4903.

Sincerely,
GOLDER ASSOCIATES NC, INC.



Benjamin S. Draper
Geologist



Rachel P. Kirkman, P.G.
Senior Project Geologist

Enclosure

cc: Dennis Gehle, General Manager, Material Recovery, LLC, 421 Raleighview Road, Raleigh, NC 27610, 919-838-6973. (letter only)
Vernon Smith, Regional Vice President, WCA of North Carolina, 40 Estes Plant Road, Piedmont, SC 29673, 864-845-8355. (letter only)

**WATER QUALITY MONITORING REPORT
FIRST SEMIANNUAL 2007 SAMPLING EVENT**

**MATERIAL RECOVERY, LLC CONSTRUCTION AND DEMOLITION
LANDFILL, PERMIT NO. 92-31
WAKE COUNTY, NORTH CAROLINA**

NOVEMBER 2007

PREPARED FOR:



**WASTE CORPORATION OF AMERICA
MATERIAL RECOVERY, LLC
2600 BROWN-FIELD ROAD
RALEIGH, NC 27610**

PREPARED BY:



**GOLDER ASSOCIATES NC, INC.
4900 KOGER BOULEVARD, SUITE 140
GREENSBORO, NC 27407
PROJECT No. 0739602407.100**

TABLE OF CONTENTS

1.0	INTRODUCTION.....	1
1.1	Site Description and Background	1
1.2	Compliance Monitoring History	1
1.3	Hydrogeologic Setting	2
2.0	FIELD PROGRAM, MONITORING RESULTS, AND DISCUSSION	3
2.1	Visual Inspection Program.....	3
2.2	Well Network and Groundwater Elevation Measurements	3
2.3	June 2007 Groundwater Monitoring Event.....	4
2.4	August 2007 Re-sampling Event	4
2.5	Laboratory Analysis Program	4
2.6	June & August 2007 Sampling Results	5
3.0	LABORATORY AND FIELD QA/QC.....	5
4.0	DATA EVALUATION	6
4.1	Statistical Evaluations.....	6
4.2	North Carolina Groundwater and Surface Water Quality Standard Comparisons	6
5.0	CONCLUSIONS	6
6.0	REFERENCES.....	7

TABLES

Table 1	Summary of Historical Groundwater Elevation Data in Monitoring Wells
Table 2	Summary of Historical Groundwater Elevation Data in Piezometers
Table 3	Summary of Estimated Horizontal Flow Velocities
Table 4	Summary of Well Construction Information
Table 5	Summary of Detected Constituents in Groundwater
Table 6	Summary of Detected Constituents in Surface Water

DRAWING

Drawing 1	Groundwater Contour Map, June 28, 2007
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APPENDICES

Appendix I	Groundwater and Surface Water Sampling Logs
Appendix II	June and August 2007 Groundwater and Surface Water Certificates-of-Analysis, Chain-of-Custody Forms, and Laboratory Data Reviews
Appendix III	Statistical Evaluation Worksheets
Appendix IV	Groundwater Monitoring Well Maintenance Records

1.0 INTRODUCTION

This report summarizes the monitoring results from June 28-29, 2007, groundwater, surface water sampling and analysis event at Waste Corporation of America (WCA)'s Material Recovery, LLC (Material Recovery) Construction & Demolition (C&D) Landfill in Wake County, North Carolina in accordance with Title 15A of the North Carolina Administrative Code (NCAC) Subchapter 13B.0544. The Material Recovery Landfill, an active C&D landfill, is owned and operated by Material Recovery, a subsidiary of WCA under Permit No. 92-31 issued by the North Carolina (NC) Department of Environment and Natural Resources (DENR).

1.1 Site Description and Background

The location of the facility is shown on the inlay on Drawing 1. As presented, the Material Recovery C&D Landfill is located along Brown-Field Road near the town of Garner in Wake County, North Carolina. The site consists of approximately 210 acres, of which, approximately 19 acres are currently permitted as the Phase 1 waste unit.

There are three small northwest-trending unnamed streams that traverse the site to intersect a north-trending unnamed stream that parallels the western facility property line. Two of the smaller drainages originate at 2- to 4-acre man-made ponds. The larger stream along the property line coincides with the location of a regional-scale diabase dike. A small storm water basin was constructed along the western boundary of Phase 1.

Topographic surface elevations at the facility range from elevations of approximately 180 to 290 feet above mean sea level. The northern portion of the site was previously used by the City of Raleigh for land application of wastewater sludge for approximately eleven years. Some of the parcels surrounding the site are still used for this purpose. The remainder of the facility consists of wooded areas, and grass and heavy brush.

1.2 Compliance Monitoring History

Groundwater monitoring at the facility was initiated in May 2002 after approval of the Groundwater Monitoring Plan by the NC DENR. Waste was first accepted at the site in October 2003. Currently the facility's monitoring network is comprised of five monitoring wells (MW-1, MW-2, MW-3, MW-4, and MW-5) which monitor the uppermost aquifer beneath the facility. In addition to the groundwater monitoring points, the facility's monitoring network includes three surface water sampling points, SW-1, which is upstream from the waste area along the major tributary, and SW-2 and SW-3, which are downstream monitoring points relative to the waste area. These points are sampled in conjunction with the groundwater monitoring wells in accordance with the facility's permit.

1.3 Hydrogeologic Setting

Geologically, the facility is located within the southern portion of the Raleigh Belt, which is near the eastern boundary of the Piedmont Physiographic Province. The bedrock at the facility consists of the granite of the Rolesville Batholith. The granite observed at the site is predominantly a medium-grained biotite granite, and biotite-muscovite granite with garnets. Northwest trending Mesozoic diabase dikes are also common in this region (Stoddard et al., 1991). A magnetometer survey was performed during the initial site investigation and revealed a regional-scale diabase dike, which is shown on the NC State Geologic Map (NCGS, 1985) and coincides with stream along the western property boundary. Smaller anomalies were also identified across the site and were interpreted to represent smaller dikes (JEI 2001).

The uppermost groundwater beneath the facility is present in a shallow, unconfined aquifer comprised of saprolite, partially weathered rock, and granitic bedrock (JEI 2001). Groundwater occurs at depths of approximately 25 feet below grade along the upgradient side of the waste disposal area, and at a depth of approximately 10 feet below grade along the perimeter downgradient boundary. Depth-to-water measurements obtained during the June 2007 monitoring event and summarized in Tables 1 and 2, were used to prepare a groundwater surface contour map presented on Drawing 1.

Surface water and groundwater at the site generally flows west and northwest and discharge to the surrounding tributaries that flow into the Neuse River. Groundwater beneath the site flows in three distinguishable and vertically interconnected hydrogeologic units: saprolite, partially weathered rock and bedrock.

Based on the June 28, 2007, groundwater contour map, the hydraulic gradient in the shallow aquifer underlying the site as measured along the conceptual flow path shown on the contour map was calculated to be approximately 0.0284. Groundwater velocities were calculated using a hydraulic conductivity of 1.2 E-04 centimeters per second, which is the geometric mean of the hydraulic conductivities for each of the hydrogeologic units present at the facility (JEI 2001). The estimated effective porosity of the shallow aquifer is 0.20 (Heath 1982).

Using the above values, the estimated rate of groundwater flow for the uppermost aquifer beneath the facility was calculated using the following modified Darcy equation:

$$V_{gw} = Ki/n_e$$

where V_{gw} = average linear velocity (feet/year), K = hydraulic conductivity (feet/year), i = horizontal hydraulic gradient, and n_e = effective porosity.

The average estimated linear groundwater flow velocity under the waste management unit is approximately 17.63 feet/year, which is consistent with previous estimates (Table 3). The range of groundwater flow is expected to vary depending on the hydrogeologic unit in which it occurs. The linear velocity equation above makes the simplified assumptions of a homogeneous and isotropic aquifer. Therefore, this equation can grossly overestimate groundwater velocity when applied to heterogeneous and/or anisotropic conditions, such as in the saprolite wells used for gradient estimates

at this site. The saprolite may have areas that exhibit relict foliation and these structures can result in locally anisotropic groundwater flow directions.

2.0 FIELD PROGRAM, MONITORING RESULTS, AND DISCUSSION

Field activities conducted as part of the June 2007 sampling event are discussed in the following sections.

2.1 Visual Inspection Program

In order to ensure that a potential release is detected at the earliest possible time, the visual inspection program is used by the sampling crews at the Material Recovery C&D Landfill. This program includes physical indicators such as potential water table mounding beneath the waste management unit, physical examination of any stresses in biological communities, visible signs of leachate migration (i.e., leachate seeps), unexplained changes in soil characteristics, and any other change to the environment due to the waste management unit. During the June 2007 compliance monitoring event, no physical indicators of a potential release were observed in the vicinity of the waste management area.

2.2 Well Network and Groundwater Elevation Measurements

The approved network of groundwater monitoring wells at the facility consists of wells MW-1, MW-2, MW-3, MW-4, and MW-5. Monitoring well construction information is summarized on Table 4 and the well locations are shown on Drawing 1. The well locations were selected to yield groundwater samples representative of the conditions in the uppermost aquifer underlying the facility, and to monitor for potential releases from the landfill unit. One upstream (SW-1) and two downstream (SW-2 and SW-3) surface water monitoring points are also monitored.

Monitoring well MW-1 is the facility's background well and is located hydraulically upgradient of the waste disposal area. Monitoring wells MW-2, MW-3, MW-4, and MW-5 are located downgradient of the waste disposal area and represent the facility's downgradient compliance wells. The well locations yield groundwater samples representative of the conditions in the uppermost aquifer underlying the facility and monitor for potential releases from the landfill unit.

Depth-to-water measurements were recorded to the nearest 0.01 foot prior to initiating groundwater purging and sampling activities. The respective groundwater level elevations for this event are presented in Tables 1 and 2. The historical water level data are also shown on this table.

As presented, the data indicate that the hydraulic head level in the uppermost aquifer beneath the facility is fairly consistent, with temporal variation from the long-term average limited to approximately 5 feet (plus or minus). As expected, the range in fluctuation appears to be greater in the upgradient well MW-1, as this well is located in a groundwater recharge area. Well MW-4 also shows a large fluctuation in water levels, which may be due to the fact that the well coincides with a magnetic anomaly that may represent diabase. The range in fluctuation in compliance wells MW-2, MW-3, and MW-5, which are located near groundwater discharge areas, is much less, presumably due to the stabilizing affect of the hydraulic discharge boundary.

2.3 June 2007 Groundwater Monitoring Event

Personnel from Golder visited the facility on June 28-29, 2007, to purge and sample monitoring wells MW-1, MW-2, MW-3, MW-4, and MW-5, and to sample surface water monitoring points SW-1, SW-2, and SW-3. Depth-to-water measurements were obtained from the network monitoring wells to the nearest 0.01 foot using an electronic water level indicator prior to purging the wells.

Monitoring wells were purged and sampled using disposable bailers. Measurements of temperature, pH, specific conductivity, temperature, and turbidity were recorded prior to the purge, after each purge volume, and at the time of sampling.

During the purge, the laboratory-supplied sample containers were prepared. Each sample container was labeled with the sample identification number, sampling personnel, date and time of sample collection, project name and number, and requested chemical analyses.

The required groundwater samples were collected directly from the disposable bailers in the labeled, laboratory-supplied, pre-preserved sample containers after purging was completed. After collection, the samples were placed in a cooler on ice, under chain-of-custody control. Copies of the sampling logs are presented in Appendix I. Included in each log is a description of the sampling equipment, sampling method, field observations, and water-quality measurements.

The surface water samples were collected directly from the stream flow, by lowering the sample containers into the stream flow with the opening facing into the current flow, taking care to prevent the over flow of the sample containers and to minimize sample-induced turbidity. Measurements of temperature, pH, specific conductivity, temperature, and turbidity were recorded during the collection of the surface water samples.

After collection, the samples were placed in a cooler on ice, under chain-of-custody control. Copies of the sampling logs are presented in Appendix I. Included in each log is a description of the sampling equipment, sampling method, field observations, and water-quality measurements.

2.4 August 2007 Re-sampling Event

Personnel from Golder visited the facility on August 9, 2007, to micropurge and re-sample monitoring well MW-3 due to a detection of trichlorofluoromethane above the SWSL and a statistically significant increase (SSI) of mercury during the June 2007 compliance monitoring event. The detections of trichlorofluoromethane and mercury were confirmed above their respective SWSLs during the August 2007 re-sampling event.

2.5 Laboratory Analysis Program

The June 2007 groundwater and surface water samples were shipped to Environmental Conservation Laboratories, Inc. (ENCO) of Cary, North Carolina under chain-of-custody control for analysis. As presented, groundwater samples at the facility were analyzed NC Appendix I plus several indicator parameters specific to the new C&D rules effective January 1, 2007. The surface water samples at

the facility were analyzed for the NC Appendix I list of constituents. The samples were delivered to the laboratory on June 29, 2007, in good condition and properly preserved.

Historically, dissolved barium in MW-3 and dissolved lead in MW-5 have been analyzed. Per approval by Larry Rose in an email dated July 27, 2004, these analyses will be discontinued for future events. The concentration of barium in MW-3 appears to be consistent with background (i.e., pre-waste) conditions for this well; lead was not detected in MW-5 during the June 2007 sampling event.

2.6 June & August 2007 Sampling Results

Analytical results for the June and August 2007 groundwater and surface water samples are summarized in Tables 5 and 6 with available historical data. The laboratory certificates-of-analysis, chain-of-custody form and laboratory data reviews for the sampling events are included in Appendix II.

As presented, barium, beryllium, mercury, zinc, iron, and manganese were detected above their respective Solid Waste Section Limits (SWSLs) in one or more downgradient monitoring wells at the facility. All other detections of inorganic constituents were below their respective SWSLs. Several geochemical parameters including chloride, total dissolved solids, and alkalinity were detected in one or more wells during this event. No inorganic or organic constituents detected above the SWSLs in surface water samples collected at the facility during the June 2007 monitoring event, with the exception of barium in downstream point SW-3.

Trichlorofluoromethane was detected in MW-3 at a concentration above the SWSL. This is the second detection of this constituent in well MW-3 and the first above the SWSL. Trichlorofluoromethane and mercury were also detected in MW-3 above their respective SWSLs during the August 2007 re-sampling event.

3.0 LABORATORY AND FIELD QA/QC

A field blank was collected by Golder personnel as part of the June 2007 groundwater sampling event. In addition to the field blank, a laboratory-prepared trip blank accompanied the volatile sample containers for the June 2007 sampling event to and from the laboratory. ENCO analyzed the field blank for the same constituents as the groundwater samples, and the trip blank for Appendix I volatile organic compounds.

Reviews of the laboratory data were performed by Golder personnel (included in Appendix II). After review, it was determined that acetone, toluene, and barium were detected at estimated concentrations in the field blank. Toluene was also detected at an estimated concentration in the trip blank. Sulfate and chloride were detected in the lab blank at estimated concentrations. Due to the detection of sulfate in the lab blank the low concentration detections of sulfate in MW-1, MW-2, MW-3, MW-4, and MW-5 should be considered blank-qualified. The concentrations of barium in MW-5, SW-1 and SW-2 should also be considered blank-qualified.

4.0 DATA EVALUATION

The results of the data evaluations are presented in the following sections.

4.1 Statistical Evaluations

As presented, barium, beryllium, mercury, zinc, iron, and manganese were detected above their respective SWSLs in downgradient monitoring wells during this sampling event. Voluntarily in accordance with 15A NCAC 13B.0544, the concentrations of barium and mercury detected in downgradient monitoring wells were statistically evaluated in accordance with the procedures outlined in 15A NCAC 13B.0544 (g) and (h) to determine if the reported concentration exceeded the facility background concentration. Insufficient data are available for statistical evaluation of beryllium, iron, and manganese concentrations. The statistical worksheets are presented as Appendix III.

As presented, the reported barium concentrations in downgradient wells MW-2 and MW-3 were determined to be above the inter-well statistical limit but below their respective intra-well limits. The concentration of mercury in MW-3 was determined to be a statistically significant increase. Future data will help determine the statistical significance of this detection.

Trichlorofluoromethane was detected in MW-3 during the June 2007 sampling event. This concentration is likely related to landfill gas impacts, as supported by the presence of methane in the well headspace during sampling (at 1% by volume). Trichlorofluoromethane is a common landfill gas constituent. No other organic constituents were detected in groundwater at the facility above the SWSLs during the June 2007 monitoring event.

4.2 North Carolina Groundwater and Surface Water Quality Standard Comparisons

As presented in Tables 5 and 6, concentrations of barium and mercury in MW-3; iron in MW-5; and manganese in MW-1, MW-2, MW-3, MW-4, and MW-5 were quantifiable and above their respective NC 2L Standards during the June 2007 monitoring event. The concentration of barium in MW-3 is consistent with pre-waste background data for this well. The detection of mercury in MW-3 was a first time detection. Insufficient data for iron and manganese exist to evaluate the potential for naturally occurring levels of these constituents at this time. Thallium was detected at estimated concentrations above the NC 2L Standard in MW-3 and MW-4; these concentrations are below the SWSL and should be considered estimated.

Barium was detected in downstream point SW-3 as it was during the last sampling event; no surface water standard exists for barium. There were no other quantifiable detections of NC Appendix I constituents in any of the three surface water monitoring points during this event.

5.0 CONCLUSIONS

Methane was detected in the headspace of MW-3 prior to sampling due to a previous detection below the SWSL detected during the December 2006 sampling event. Methane was measured in the headspace of this well at a concentration of one percent by volume prior to sampling the groundwater

and is the suspected source of trichlorofluoromethane in this well. Therefore, an Alternate Source Demonstration (ASD) will be submitted under a separate cover to address this detection prior to the next scheduled sampling event. The ASD will be performed voluntarily, as the facility is not currently subject to the new C&D Rules in accordance with the approved Water Quality Monitoring Plan.

Based on the results summarized herein, WCA will continue monitoring this facility in accordance with the requirements of the Detection Monitoring Program for Construction & Demolition Landfills as outlined in Title 15A NCAC 13B.0544. The next groundwater monitoring event is scheduled for December 2007.

6.0 REFERENCES

Stoddard, Edward F., Farrar, Stewart S., Horton, Jr. J. Wright, Butler, J. Robert and Durhan, Robert M., 1991, *The eastern piedmont in North Carolina*, in Horton, J. W., Jr., and Zullo, V.A., eds., *The Geology of the Carolinas*: The University of Tennessee Press, p. 59 - 78.

Heath, Ralph C., 1982, *Basic Ground-Water Hydrology*, USGS Water Supply Paper 2220.

JEI (Joyce Engineering, Inc.), 2001, *Hydrogeologic Report & Groundwater Monitoring Plan; Volume One; Site Application, Section II; Material Recovery, LLC Construction and Demolition Debris Landfill, Wake County, North Carolina*.

NCGS (North Carolina Geologic Survey), 1985. *Geologic Map of North Carolina*

TABLES

TABLE 1

Summary of Historical Groundwater Elevation Data in Monitoring Wells
 Material Recovery, LLC Construction and Demolition Landfill, Permit No. 92-31
 Wake County, North Carolina

Monitoring Wells					
	MW-1	MW-2	MW-3	MW-4	MW-5
TOC Elevation (ft AMSL)	280.95	213.37	218.54	201.52	203.38
Date	Static Groundwater Elevation (ft AMSL)				
8/7/02	252.98	195.37	191.13	186.43	191.82
6/16/03	258.29	197.10	195.09	191.72	193.45
12/1/03	258.17	197.55	195.62	191.88	194.13
6/10/04	257.17	196.89	194.54	191.12	193.43
12/16/04	256.71	196.85	193.93	190.70	193.38
6/5/05	256.73	196.40	193.41	190.13	193.01
12/27/05	254.10	196.16	191.64	189.84	193.38
6/21/06	253.98	196.27	192.07	189.57	193.18
12/1/06	253.11	196.43	191.83	189.44	193.67
6/28/07	254.11	196.29	192.21	189.32	192.83
MEAN	255.54	196.53	193.15	190.02	193.23
MAXIMUM	258.29	197.55	195.62	191.88	194.13
MINIMUM	252.98	195.37	191.13	186.43	191.82

Notes:

1. TOC = top of casing
2. ft AMSL = feet above mean sea level
3. Monitoring well MW-1 is the facility background well.
4. --- = no data available

TABLE 2

**Summary of Historical Groundwater Elevation Data in Piezometers
WCA of High Point, LLC Construction and Demolition Landfill, Permit No. 92-31
Wake County, North Carolina**

Piezometers						
	P-6	P-13	P-18	P-23	P-24	
TOC Elevation (ft AMSL)	292.66	246.10	255.90	278.30	277.17	
Date	Static Groundwater Elevation (ft AMSL)					
6/28/2007	255.26	213.20	239.17	256.99	256.65	256.65
MEAN	255.26	213.20	239.17	256.99	256.65	256.65
MAXIMUM	255.26	213.20	239.17	256.99	256.65	256.65
MINIMUM	255.26	213.20	239.17	256.99	256.65	256.65

Notes:

1. TOC = top of casing
2. ft AMSL = feet above mean sea level

TABLE 3

Summary of Estimated Horizontal Flow Velocities
 Material Recovery, LLC Construction and Demolition Landfill, Permit No. 92-31
 Wake County, North Carolina

<i>June 2007</i>							
Gradient Calculation Segment	Flow Direction	Gradient Segment Length (feet)	Gradient Segment Elevations (feet)	Horizontal Gradient (i, feet)	Effective Porosity (n_e)	Hydraulic Conductivity (K, cm/sec)	Velocity (V_{gw} feet/year)
i_1	NW	1674	250 ----- 200	0.0299	0.2	1.20E-04	18.54
i_2	NW	2050	240 ----- 190	0.0244	0.2	1.20E-04	15.14
i_3	NW	1615	250 ----- 200	0.0310	0.2	1.20E-04	19.22

Notes:

1. Horizontal velocities based on the modified Darcy equation $V_{gw} = Ki/n_e$.
2. The geometric mean of K from individual well aquifer tests was used to calculate the hydraulic conductivity (tests conducted by JEL as part of the Site Application, 2001).
3. An effective porosity of 20% was used in velocity calculations.
4. cm/sec = centimeters per second

TABLE 4

Summary of Well Construction Information
 Material Recovery, LLC Construction and Demolition Landfill, Permit No. 92-31
 Wake County, North Carolina

WELL & PIEZOMETER NUMBER	DATE INSTALLED	CASING DIAMETER (inches)	WELL ELEVATIONS		TOTAL DEPTH DRILLED		SCREENED INTERVAL			LITHOLOGY OF SCREENED INTERVAL	STATUS	
			GROUND SURFACE feet above M.S.L.	T.O.C.	DEPTH (feet B.G.S.)	ELEV. (feet M.S.L.)	ELEVATION (feet M.S.L.)					
							from	to	from			to
MW-1	08/22/01	2	278.17	280.95	49.0	229.17	24.0	49.0	254.17	229.17	Saprolite	Compliance Well
MW-2	08/02/02	2	210.55	213.37	35.0	175.55	19.5	34.5	191.05	176.05	PWR (Saprolite)	Compliance Well
MW-3	07/31/02	2	216.3	218.54	34.5	181.80	19.0	34.0	197.30	182.30	Silty Sand/PWR (Saprolite)	Compliance Well
MW-4	08/01/02	2	199.03	201.52	27.0	172.03	11.5	26.5	187.53	172.53	Silty Sand/PWR (Saprolite)	Compliance Well
MW-5	08/01/02	2	200.79	203.38	24.0	176.79	8.5	23.5	192.29	177.29	Silty Sand/PWR (Saprolite)	Compliance Well

Notes:

1. All elevations are referenced to mean sea level (M.S.L.); depths are referenced to ground surface (G.S.).
2. B.G.S. = below ground surface
3. T.O.C. = top of casing
4. PWR = partially weathered rock
5. MW-1 was installed by JEI as P-4 on August 22, 2001.
6. MW-2, MW-3, MW-4 and MW-5 were installed by JEI on August 2, 2002, July 31, 2002, and August 1, 2002, respectively.

Table 5

Summary of Detected Constituents in Groundwater
 Material Recovery, LLC Construction and Demolition Landfill, Permit 92-31
 Wake County, North Carolina

Parameter	Reporting Units	Date	Detection Limit	Quantitation Limit	SWS Reporting Limit	MW-1	MW-2	MW-3	MW-4	MW-5	Blanks					
Arsenic (NC 2L = 50 ug/L)	ug/L	05/07/02	---	---	10	---	---	---	---	---	ND					
	ug/L	08/07/02	---	---	10	ND	ND	ND	ND	ND	ND					
	ug/L	06/16/03	---	---	10	ND	ND	ND	ND	ND	ND					
	ug/L	12/16/03	---	---	10	ND	ND	ND	ND	ND	ND					
	ug/L	06/16/04	---	---	10	ND	ND	ND	ND	ND	ND					
	ug/L	12/16/04	---	---	10	ND	ND	ND	ND	ND	ND					
	ug/L	06/14/05	---	---	10	ND	ND	ND	ND	ND	ND					
	ug/L	12/27/05	---	---	10	ND	ND	ND	ND	ND	ND					
	ug/L	06/21/06	---	---	10	ND	ND	ND	ND	ND	ND					
	ug/L	12/13/06	2	10	10	3.2	B	3.8	B	9.2	B	3.0	B	4.0	B	3.5
ug/L	06/29/07	3.6	10.0	10	ND	ND	4.7	J	ND	ND	ND					
Barium (total) (NC 2L = 2000 ug/L)	ug/L	05/07/02	---	---	500	---	---	---	---	---	ND					
	ug/L	08/07/02	---	---	500	ND	ND	4000	ND	ND	ND					
	ug/L	06/16/03	---	---	500	ND	ND	3100	ND	ND	ND					
	ug/L	12/16/03	---	---	500	160	420	1200	120	120	ND					
	ug/L	06/16/04	---	---	500	ND	540	1500	ND	ND	ND					
	ug/L	12/16/04	---	---	500	ND	570	3100	ND	ND	ND					
	ug/L	06/14/05	---	---	500	ND	520	2600	ND	ND	ND					
	ug/L	12/27/05	---	---	500	ND	640	5700	ND	ND	ND					
	ug/L	06/21/06	---	---	500	ND	708	4690	ND	ND	ND					
	ug/L	12/13/06	0.2	10	100	217	681	6510	121	136	0.4	J				
ug/L	06/29/07	1.0	10.0	100	269	628	3140	99.5	J	42.1	B	10.4	J			
Barium (dissolved) (NC 2L = 2000 ug/L)	ug/L	12/03/03	---	---	500	---	---	1000	---	---	---					
	ug/L	06/16/04	---	---	500	---	---	1400	---	---	---					
	ug/L	06/14/05	---	---	500	---	---	2700	---	---	---					
	ug/L	12/27/05	---	---	500	---	---	5900	---	---	---					
	ug/L	06/21/06	---	---	500	---	---	4990	---	---	---					
	ug/L	12/13/06	0.2	10	100	---	---	6860	---	---	---					
ug/L	06/29/07	1.0	10.0	100	---	---	4160	---	---	---						
Beryllium (SWS GPS = 4 ug/L)	ug/L	05/07/02	---	---	2	---	---	---	---	---	ND					
	ug/L	06/29/07	0.19	1.00	1	ND	3.50	5.90	1.00	0.80	J	ND				
Cadmium (NC 2L = 1.75 ug/L)	ug/L	05/07/02	---	---	1	---	---	---	---	---	ND					
	ug/L	08/07/02	---	---	1	1.4	1.1	1.8	1.2	1.0	ND					
	ug/L	06/16/03	---	---	1	1.2	1.1	1.7	1.8	3.4	ND					
	ug/L	12/16/03	---	---	1	ND	1.3	ND	ND	ND	ND					
	ug/L	06/16/04	---	---	1	ND	ND	ND	ND	ND	ND					
	ug/L	12/16/04	---	---	1	ND	ND	ND	ND	1.1	ND					
	ug/L	06/14/05	---	---	1	ND	ND	ND	ND	ND	ND					
	ug/L	12/27/05	---	---	1	ND	ND	ND	ND	ND	ND					
	ug/L	06/21/06	---	---	1	ND	ND	ND	ND	ND	ND					
	ug/L	12/13/06	0.5	1	1	ND	ND	0.5	J	ND	ND					
ug/L	06/29/07	0.38	1.00	1	ND	ND	0.50	J	ND	ND						
Chromium (NC 2L = 50 ug/L)	ug/L	05/07/02	---	---	10	---	---	---	---	---	ND					
	ug/L	08/07/02	---	---	10	ND	ND	ND	ND	ND	ND					
	ug/L	06/16/03	---	---	10	ND	ND	ND	ND	ND	ND					
	ug/L	12/16/03	---	---	10	ND	ND	ND	ND	ND	ND					
	ug/L	06/16/04	---	---	10	ND	ND	ND	ND	ND	ND					
	ug/L	12/16/04	---	---	10	ND	ND	ND	ND	ND	ND					
	ug/L	06/14/05	---	---	10	ND	ND	ND	ND	ND	ND					
	ug/L	12/27/05	---	---	10	ND	ND	ND	ND	15	ND					
	ug/L	06/21/06	---	---	10	ND	ND	ND	ND	ND	ND					
	ug/L	12/13/06	2	10	10	ND	ND	ND	ND	ND	ND					
ug/L	06/29/07	1.7	10.0	10	ND	ND	ND	ND	ND	ND						
Cobalt (SWS GPS = 2 ug/L)	ug/L	05/07/02	---	---	10	---	---	---	---	---	ND					
	ug/L	06/29/07	2.5	10.0	10	5.8	J	ND	6.3	J	ND	ND				
Copper (NC 2L = 1000 ug/L)	ug/L	05/07/02	---	---	0.05	---	---	---	---	---	ND					
	ug/L	08/07/02	---	---	0.05	ND	ND	ND	ND	ND	ND					
	ug/L	06/29/07	1.8	10.0	10	ND	ND	2.0	J	ND	ND					
Lead (total) (NC 2L = 15 ug/L)	ug/L	05/07/02	---	---	10	---	---	---	---	---	ND					
	ug/L	08/07/02	---	---	10	ND	ND	ND	ND	19	ND					
	ug/L	06/16/03	---	---	10	ND	ND	ND	ND	21	ND					
	ug/L	12/16/03	---	---	10	ND	ND	ND	ND	34	ND					
	ug/L	06/16/04	---	---	10	ND	ND	ND	ND	15	ND					
	ug/L	12/16/04	---	---	10	ND	ND	ND	ND	62	ND					
	ug/L	06/14/05	---	---	10	ND	ND	ND	ND	92	ND					
	ug/L	12/27/05	---	---	10	ND	ND	ND	ND	81	ND					
	ug/L	06/21/06	---	---	10	ND	ND	ND	ND	33.4	ND					
	ug/L	12/13/06	2	10	10	2.7	J	ND	4.6	J	2.5	J	44.0	ND		
ug/L	06/29/07	3.1	10.0	10	ND	ND	ND	ND	ND	ND	ND					
Lead (dissolved) (NC 2L = 15 ug/L)	ug/L	12/01/03	---	---	10	---	---	---	---	---	ND					
	ug/L	06/16/04	---	---	10	---	---	---	---	---	ND					
	ug/L	06/14/05	---	---	10	---	---	---	---	---	ND					
	ug/L	12/27/05	---	---	10	---	---	---	---	---	ND					
	ug/L	06/21/06	---	---	10	---	---	---	---	---	ND					
	ug/L	06/21/06	---	---	10	---	---	---	---	---	ND					
	ug/L	12/13/06	2	10	10	---	---	---	---	---	3.5	J				
ug/L	06/29/07	3.1	10.0	10	---	---	---	---	---	ND	---					

Table 5

Summary of Detected Constituents in Groundwater
 Material Recovery, LLC Construction and Demolition Landfill, Permit 92-31
 Wake County, North Carolina

Parameter	Reporting Units	Date	Detection Limit	Quantitation Limit	SWS Reporting Limit	MW-1	MW-2	MW-3	MW-4	MW-5	Blanks
Mercury (NC 2L = 1.05 ug/L)	ug/L	05/07/02	---	---	---	---	---	---	---	---	---
	ug/L	08/07/02	---	---	0.5	ND	ND	ND	ND	ND	ND
	ug/L	06/16/03	---	---	0.5	ND	ND	ND	ND	ND	ND
	ug/L	12/16/03	---	---	0.5	ND	ND	ND	ND	ND	ND
	ug/L	06/16/04	---	---	0.5	ND	ND	ND	ND	ND	ND
	ug/L	12/16/04	---	---	0.5	ND	ND	ND	ND	ND	ND
	ug/L	06/14/05	---	---	0.5	ND	ND	ND	ND	ND	ND
	ug/L	12/27/05	---	---	0.5	ND	ND	ND	ND	ND	ND
	ug/L	06/21/06	---	---	2	ND	ND	ND	ND	ND	ND
	ug/L	12/13/06	0.11	0.2	0.2	ND	ND	ND	ND	ND	ND
Selenium (NC 2L = 50 ug/L)	ug/L	05/07/02	---	---	20	---	---	---	---	---	ND
	ug/L	08/07/02	---	---	20	ND	ND	ND	ND	ND	ND
	ug/L	06/16/03	---	---	20	ND	ND	ND	ND	ND	ND
	ug/L	12/16/03	---	---	20	ND	ND	ND	ND	ND	ND
	ug/L	06/16/04	---	---	20	ND	ND	ND	ND	ND	ND
	ug/L	12/16/04	---	---	20	ND	ND	ND	ND	ND	ND
	ug/L	06/14/05	---	---	20	ND	ND	ND	ND	ND	ND
	ug/L	12/27/05	---	---	20	ND	ND	ND	ND	ND	ND
	ug/L	06/21/06	---	---	20	ND	ND	ND	ND	ND	ND
	ug/L	12/13/06	2	10	10	4.3	B	2.1	B	ND	B
Silver (SWS GPS = 17.5 ug/L)	ug/L	05/07/02	---	---	10	---	---	---	---	---	ND
	ug/L	08/07/02	---	---	10	ND	ND	ND	ND	ND	ND
	ug/L	06/16/03	---	---	10	ND	ND	ND	ND	ND	ND
	ug/L	12/16/03	---	---	10	ND	ND	ND	ND	ND	ND
	ug/L	06/16/04	---	---	10	ND	ND	ND	ND	ND	ND
	ug/L	12/16/04	---	---	10	ND	ND	ND	ND	ND	ND
	ug/L	06/14/05	---	---	10	ND	ND	ND	ND	ND	ND
	ug/L	12/27/05	---	---	10	ND	ND	ND	ND	ND	ND
	ug/L	06/21/06	---	---	10	ND	ND	ND	ND	ND	ND
	ug/L	12/13/06	2	10	10	ND	3.1	J	ND	ND	ND
Thallium (SWS GPS = 0.28 ug/L)	ug/L	05/07/02	---	---	10	---	---	---	---	---	ND
	ug/L	06/29/07	0.036	0.050	5.5	0.246	J	0.137	J	0.390	J
Vanadium (SWS GPS = 25 ug/L)	ug/L	05/07/02	---	---	40	---	---	---	---	---	ND
	ug/L	06/29/07	1.7	10.0	25	ND	ND	ND	ND	2.9	J
Zinc (NC 2L = 1050 ug/L)	ug/L	05/07/02	---	---	50	---	---	---	---	---	ND
	ug/L	08/07/02	---	---	50	ND	ND	ND	ND	ND	ND
	ug/L	06/29/07	3.4	10.0	10	9.1	J	ND	26.1	ND	ND
Iron (NC 2L = 300 ug/L)	ug/L	06/29/07	15	50	300	ND	ND	239	J	ND	4180
Manganese (NC 2L = 50 ug/L)	ug/L	06/29/07	1.4	10.0	50	71.2	174	256	52.6	151	ND
Acetone (NC 2L = 700 ug/L)	ug/L	05/07/02	---	---	100	---	---	---	---	---	ND
	ug/L	06/16/03	---	---	100	ND	ND	ND	ND	ND	ND
	ug/L	12/16/03	---	---	100	ND	ND	ND	ND	ND	ND
	ug/L	06/16/04	---	---	100	ND	ND	ND	ND	ND	ND
	ug/L	12/16/04	---	---	100	ND	ND	ND	ND	ND	ND
	ug/L	06/14/05	---	---	100	ND	ND	ND	ND	ND	ND
	ug/L	12/27/05	---	---	100	ND	ND	ND	ND	ND	ND
	ug/L	06/21/06	---	---	100	ND	ND	ND	ND	ND	ND
	ug/L	12/13/06	1.2	5	100	ND	ND	ND	ND	ND	ND
	ug/L	06/29/07	0.90	5.0	100	ND	ND	ND	ND	ND	1.5
Toluene (NC 2L = 1000 ug/L)	ug/L	05/07/02	---	---	5	---	---	---	---	---	ND
	ug/L	06/16/03	---	---	5	ND	ND	ND	ND	ND	ND
	ug/L	12/16/03	---	---	5	ND	ND	ND	ND	ND	ND
	ug/L	06/16/04	---	---	5	ND	ND	ND	ND	ND	ND
	ug/L	12/16/04	---	---	5	ND	ND	ND	ND	ND	ND
	ug/L	06/14/05	---	---	5	ND	ND	ND	ND	ND	ND
	ug/L	12/27/05	---	---	5	ND	ND	ND	ND	ND	ND
	ug/L	06/21/06	---	---	5	ND	ND	ND	ND	ND	ND
	ug/L	12/13/06	---	---	5	ND	ND	ND	ND	ND	ND
ug/L	06/29/07	0.15	1.0	1	ND	ND	ND	ND	ND	0.63	

Table 5

Summary of Detected Constituents in Groundwater
 Material Recovery, LLC Construction and Demolition Landfill, Permit 92-31
 Wake County, North Carolina

Parameter	Reporting Units	Date	Detection Limit	Quantitation Limit	SWS Reporting Limit	MW-1	MW-2	MW-3	MW-4	MW-5	Blanks
Trichlorofluoromethane (NC 2L = 2100 ug/L)	ug/L	05/07/02	---	---	5	---	---	---	---	---	ND
	ug/L	06/16/03	---	---	5	ND	ND	ND	ND	ND	ND
	ug/L	12/16/03	---	---	5	ND	ND	ND	ND	ND	ND
	ug/L	06/16/04	---	---	5	ND	ND	ND	ND	ND	ND
	ug/L	12/16/04	---	---	5	ND	ND	ND	ND	ND	ND
	ug/L	06/14/05	---	---	5	ND	ND	ND	ND	ND	ND
	ug/L	12/27/05	---	---	5	ND	ND	ND	ND	ND	ND
	ug/L	06/21/06	---	---	5	ND	ND	ND	ND	ND	ND
	ug/L	12/13/06	0.2	1	5	ND	ND	3.3	J	ND	ND
	ug/L	06/29/07	0.16	1.0	1	ND	0.53	J	34	ND	ND
ug/L	08/09/07	0.16	1.0	1	---	---	11	---	---	ND	
Chloride (NC 2L = 250,000 ug/L)	mg/L	06/29/07	0.05	1.0	NE	16	15	27	3.6	3.1	0.54 J
Total Dissolved Solids (NC 2L = 500,000 ug/L)	mg/L	06/29/07	10	10	NE	88	310	490	92	76	---
Sulfate (NC 2L = 250 ug/L)	mg/L	06/29/07	0.60	5.0	250	4.0 B	3.9 B	3.8 B	8.8 B	5.6 B	3.9 J
Total Alkalinity (No NC 2L or GPS)	mg/L	08/07/02	---	---	2.0	3.0 J	5.0 J	ND	26	20	ND
pH (field)	mg/L	06/29/07	5.2	15	NE	ND	ND	ND	17	67	---
	S.U.	08/07/02	---	---	---	4.74	6.11	5.57	6.35	6.15	---
	S.U.	12/13/06	---	---	---	5.19	4.82	4.14	5.15	5.71	---
	S.U.	06/29/07	---	---	---	5.67	4.82	4.30	4.97	5.37	---
Specific Conductance (Field)	S.U.	08/09/07	---	---	---	4.03	---	3.70	---	---	---
	uS/cm	12/13/06	---	---	---	98	485	1208	144	89	---
	uS/cm	06/29/07	---	---	---	105	457	696	102	68	---
Temperature (Field)	uS/cm	08/09/07	---	---	---	114	---	785	---	---	---
	°C	12/13/06	---	---	---	17.5	16.1	16.2	17.4	15.1	---
	°C	06/29/07	---	---	---	20.25	21.30	20.53	20.88	20.64	---
Turbidity (Field)	°C	08/09/07	---	---	---	19.13	---	17.51	---	---	---
	NTU	12/13/06	---	---	---	21.6	10.5	16.8	28.7	992	---
	NTU	06/29/07	---	---	---	28.4	7.6	0.0	0.0	152	---
NTU	08/09/07	---	---	---	33.5	---	96.2	---	---	---	

Notes:

- MW = groundwater monitoring well
- ug/L = micrograms per liter
- mg/L = milligrams per liter
- J = Estimated Value
- B = Blank-qualified data
- S.U. = Standard Units
- NTU = Nephelometric Turbidity Units
- uS = microsiemens
- ND = Not detected at or above the stated reporting limit
- NC 2L = North Carolina groundwater quality standard established under 15A NCAC 2L .0202
- SWS GPS = North Carolina Solid Waste Section Groundwater Protection Standard
- = no data available
- Shaded values are above their respective NC 2L Standard or GPS.
- Blanks = Field, trip and laboratory blanks
- SWS Reporting Limit = NCPQL or lab-specific reporting limit prior to 2007 and NCSWSL starting on 01/18/07

Table 6

Summary of Detected Constituents in Surface Water
Material Recovery, LLC Construction and Demolition Landfill, Permit 92-31
Wake County, North Carolina

Parameter	Reporting Units	Date	Detection Limit	Quantitation Limit	SWS Reporting Limit	SW-1	SW-2	SW-3	Blanks	
Arsenic (SW Standard = 50 ug/L)	ug/L	05/07/02	---	---	10	---	ND	---	ND	
	ug/L	08/07/02	---	---	10	---	---	ND	ND	
	ug/L	06/16/03	---	---	10	ND	ND	ND	ND	
	ug/L	12/16/03	---	---	10	ND	ND	ND	ND	
	ug/L	06/16/04	---	---	10	ND	ND	ND	ND	
	ug/L	12/16/04	---	---	10	ND	ND	ND	ND	
	ug/L	06/14/05	---	---	10	ND	ND	ND	ND	
	ug/L	12/27/05	---	---	10	ND	ND	ND	ND	
	ug/L	06/21/06	---	---	10	ND	ND	ND	ND	
	ug/L	12/13/06	2	10	10	2.8	B 3.0	B 2.0	B 3.5	J
	ug/L	06/29/07	3.6	10.0	10	3.7	J ND	ND	ND	ND
Barium (No SW Standard)	ug/L	05/07/02	---	---	500	---	ND	---	ND	
	ug/L	08/07/02	---	---	500	---	---	ND	ND	
	ug/L	06/16/03	---	---	500	ND	ND	ND	ND	
	ug/L	12/16/03	---	---	500	ND	ND	230	ND	
	ug/L	06/16/04	---	---	500	ND	ND	ND	ND	
	ug/L	12/16/04	---	---	500	ND	ND	ND	ND	
	ug/L	06/14/05	---	---	500	ND	ND	ND	ND	
	ug/L	12/27/05	---	---	500	ND	ND	ND	ND	
	ug/L	06/21/06	---	---	500	ND	ND	ND	ND	
	ug/L	12/13/06	0.2	10	100	98.4	J 37.8	J 265	0.4	J
	ug/L	06/29/07	1.0	10.0	100	28.2	B 28.8	B 232	10.4	J
Cadmium (SW Standard = 2 ug/L)	ug/L	05/07/02	---	---	1	---	ND	---	ND	
	ug/L	08/07/02	---	---	1	---	---	1.6	ND	
	ug/L	06/16/03	---	---	1	1.0	ND	1.1	ND	
	ug/L	12/16/03	---	---	1	ND	ND	ND	ND	
	ug/L	06/16/04	---	---	1	ND	ND	ND	ND	
	ug/L	12/16/04	---	---	1	ND	ND	ND	ND	
	ug/L	06/14/05	---	---	1	ND	ND	ND	ND	
	ug/L	12/27/05	---	---	1	ND	ND	ND	ND	
	ug/L	06/21/06	---	---	1	ND	ND	ND	ND	
	ug/L	12/13/06	0.5	1	1	ND	ND	ND	ND	
	ug/L	06/29/07	0.38	1.00	1	ND	ND	ND	ND	
Lead (SW Standard = 25 ug/L)	ug/L	05/07/02	---	---	10	---	ND	---	ND	
	ug/L	08/07/02	---	---	10	---	---	ND	ND	
	ug/L	06/16/03	---	---	10	ND	ND	ND	ND	
	ug/L	12/16/03	---	---	10	ND	ND	ND	ND	
	ug/L	06/16/04	---	---	10	ND	ND	ND	ND	
	ug/L	12/16/04	---	---	10	ND	ND	ND	ND	
	ug/L	06/14/05	---	---	10	ND	ND	ND	ND	
	ug/L	12/27/05	---	---	10	ND	ND	ND	ND	
	ug/L	06/21/06	---	---	10	ND	ND	ND	ND	
	ug/L	12/13/06	2	10	10	2.1	J ND	3.8	J	
	ug/L	06/29/07	3.1	10.0	10	ND	ND	ND	ND	
Selenium (SW Standard = 5 ug/L)	ug/L	05/07/02	---	---	20	---	ND	---	ND	
	ug/L	08/07/02	---	---	20	---	---	ND	ND	
	ug/L	06/16/03	---	---	20	ND	ND	ND	ND	
	ug/L	12/16/03	---	---	20	ND	ND	ND	ND	
	ug/L	06/16/04	---	---	20	ND	ND	ND	ND	
	ug/L	12/16/04	---	---	20	ND	ND	ND	ND	
	ug/L	06/14/05	---	---	20	ND	ND	ND	ND	
	ug/L	12/27/05	---	---	20	ND	ND	ND	ND	
	ug/L	06/21/06	---	---	20	ND	ND	ND	ND	
	ug/L	12/13/06	2	10	10	2.8	B 4.1	B 3.1	B 4.5	J
	ug/L	06/29/07	2.8	10.0	10	ND	ND	ND	ND	
Thallium (No SW Standard)	ug/L	05/07/02	---	---	10	---	ND	---	ND	
	ug/L	06/29/07	0.036	0.050	5.5	ND	ND	0.042	J ND	
Vanadium (No SW Standard)	ug/L	05/07/02	---	---	40	---	ND	---	ND	
	ug/L	06/29/07	1.7	10.0	25	1.9	J ND	ND	ND	
Zinc (SW Standard = 50 ug/L)	ug/L	05/07/02	---	---	50	---	ND	---	ND	
	ug/L	08/07/02	---	---	50	---	---	ND	ND	
	ug/L	06/29/07	3.4	10.0	10	ND	ND	ND	ND	
Acetone (No SW Standard)	ug/L	05/07/02	---	---	100	---	ND	---	ND	
	ug/L	06/16/03	---	---	100	ND	ND	ND	ND	
	ug/L	12/16/03	---	---	100	ND	ND	ND	ND	
	ug/L	06/16/04	---	---	100	ND	ND	ND	ND	
	ug/L	12/16/04	---	---	100	ND	ND	ND	ND	
	ug/L	06/14/05	---	---	100	ND	ND	ND	ND	
	ug/L	12/27/05	---	---	100	ND	ND	ND	ND	
	ug/L	06/21/06	---	---	100	ND	ND	ND	ND	
	ug/L	12/13/06	1.2	5	100	1.6	J ND	ND	ND	
	ug/L	06/29/07	0.90	5.0	100	ND	ND	ND	1.5	J

Table 6

Summary of Detected Constituents in Surface Water
Material Recovery, LLC Construction and Demolition Landfill, Permit 92-31
Wake County, North Carolina

Parameter	Reporting Units	Date	Detection Limit	Quantitation Limit	SWS Reporting Limit	SW-1	SW-2	SW-3	Blanks
pH (field)	S.U.	08/07/02	---	---	---	---	---	5.76	---
	S.U.	12/13/06	---	---	---	6.10	6.09	5.90	---
	S.U.	06/29/07	---	---	---	6.62	5.86	6.31	---
Specific Conductance (Field)	uS/cm	12/13/06	---	---	---	183	113	476	---
	uS/cm	06/29/07	---	---	---	71	81	454	---
Temperature (Field)	°C	12/13/07	---	---	---	12.8	10.6	11.2	---
	°C	06/29/07	---	---	---	27.92	23.41	22.96	---
Turbidity (Field)	NTU	12/13/07	---	---	---	4.2	11.4	16.3	---
	NTU	06/29/07	---	---	---	8.7	0.0	80.5	---

Notes:

1. SW = surface water monitoring point
2. ug/L = micrograms per liter
3. J = Estimated Value
4. B = Blank-qualified data
5. S.U. = Standard Units
6. NTU = Nephelometric Turbidity Units
7. uS/cm = microsiemens per cubic centimeter
8. ND = Not detected at or above the stated reporting limit
9. --- = no data available
10. Shaded values are above their respective NC Surface Water Standards under 15A NCAC 2B.
11. Blanks = Field, trip and laboratory blanks
12. SWS Reporting Limit = NCPQL or lab-specific reporting limit prior to 2007 and NCSWSL starting on 01/18/07

DRAWING

APPENDIX I

GROUNDWATER AND SURFACE WATER SAMPLING LOGS



DATE: 06/28/07-06/29/07

GROUNDWATER SAMPLING LOG

Project Name: Material Recovery, LLC Project No./Phase No.: 073-9602407.100
 Well ID: MW-2 Sampler(s): B. Draper / W. Jappe
 Well Diameter: 2 inches Initial Depth to Water: 17.08 feet
 Depth to Bottom: 38.93 feet H₂O Column Thickness: 21.85 feet
 Purge Volume: 3.50 gal. 3x Purge Volume: 10.50 gal.
 Well Location: 100 ft. N of north side of Northern Disposal Area perimeter road
 Equipment: Horiba U-22 Water Quality Meter, Slope 150' Water Level Indicator, Disposable Bailer

Time	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	Temp. (oC)	Volume (Gallons)
11:03	4.63	0.457	42.8	19.17	0.0
11:08	4.65	0.460	169	17.82	3.5
11:14	4.75	0.467	102	17.74	7.0
11:21	4.69	0.468	54.0	17.34	10.5
<i>Sampled for NC C7D Parameters @ 10:10 on 6/29/07</i>					
10:10	4.82	0.457	7.6	21.30	--

Comments (weather conditions, color, type of sample, purge-water management, etc.):
Parameters taken after sample
 Weather conditions 6/28/07: Sunny, temp avg. 84 °F, pressure 30.08 in Hg, avg wind 9 mph, no precip,
 Weather conditions 6/29/07: Partly Sunny, hot, pressure 30.04 in Hg, avg wind 8 mph, wind gusts 25 mph
 Headspace Readings:
 CH₄: 0.0 CO₂: 0.7 O₂: 20.3 Bal: 79.0

Signature: *[Signature]* Date: 6-29-2007
 QA/QC Sign Off: *[Signature]* Date: 10-23-07



DATE: 06/28/07-06/29/07

GROUNDWATER SAMPLING LOG

Project Name: Material Recovery, LLC
 Well ID: MW-4
 Well Diameter: 2 inches
 Depth to Bottom: 29.00 feet
 Purge Volume: 2.75 gal.
 Well Location: < 100 ft. W of the W side of the north end of the Northern Disp. Area
 Equipment: Horiba U-22 Water Quality Meter, Slope 150' Water Level Indicator, Disposable Bailer

Project No./Phase No.: 073-9602407.100
 Sampler(s): B. Draper / W. Jappe
 Initial Depth to Water: 12.20 feet
 H₂O Column Thickness: 16.80 feet
 3x Purge Volume: 8.26 gal.

Time	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	Temp. (oC)	Volume (Gallons)
12:14	5.12	0.085	13.9	20.43	0.0
12:18	5.11	0.111	320	18.98	2.8
12:22	5.04	0.119	708	18.34	5.5
12:26	5.03	0.131	>1000	18.38	8.3
<i>Sampled for NC C&D Parameters @ 10:45 on 6/29/07</i>					
10:45	4.97	0.102	0.0	20.88	--

Comments (weather conditions, color, type of sample, purge-water management, etc.):

Parameters taken after sample

Weather conditions 6/28/07: Sunny, temp avg. 84 °F, pressure 30.08 in Hg, avg wind 9 mph, no precip,

Weather conditions 6/29/07: Partly Sunny, hot, pressure 30.04 in Hg, avg wind 8 mph, wind gusts 25 mph

Headspace Readings:

CH₄: 0.0 CO₂: 0.0 O₂: 20.7 Bal: 79.1

Signature:
 QA/QC Sign Off: Robert P. Lane

Date: 6-29-2007
 Date: 10-23-07



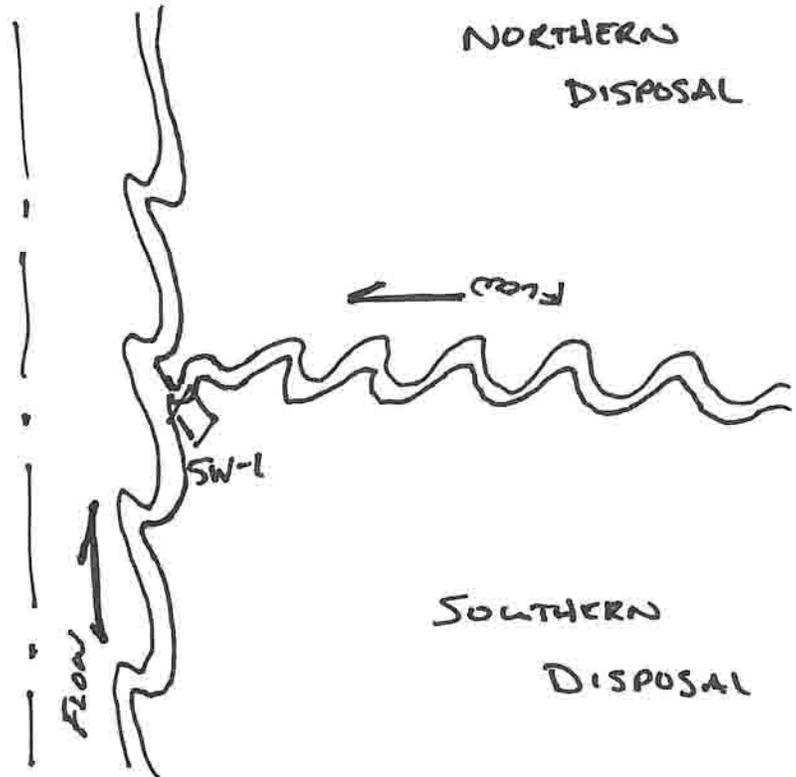
DATE: 6/29/2007

SURFACE WATER SAMPLING LOG

Project Name: Material Recovery, LLC Project No./Phase No.: 073-9602407.100
 Sample ID: SW-1 Sampler(s): B. Draper / W. Jappe
 Sampling Location: W of Southern Disposal Area where streams converge
 Equipment: Horiba U-22 Water Quality Meter

Surface Water Sampling Location Sketch

Time	12:30
pH s.u.	6.62
Cond. mS/cm	0.071
Turb. ntu	8.7
Dis. O2 mg/L	6.8
Temp. oC	27.92
TDS Sal	---
ORP mv	11



Comments (sample methodology, weather conditions, color, silt, etc.):

Weather conditions 6/29/07: Partly Sunny, hot, pressure 30.04 in Hg, avg wind 8 mph, wind gusts 25 mph

Signature: [Handwritten Signature]
 QA/QC Sign Off: Alvise Pelini

Date: 6-29-2007
 Date: 10-23-07



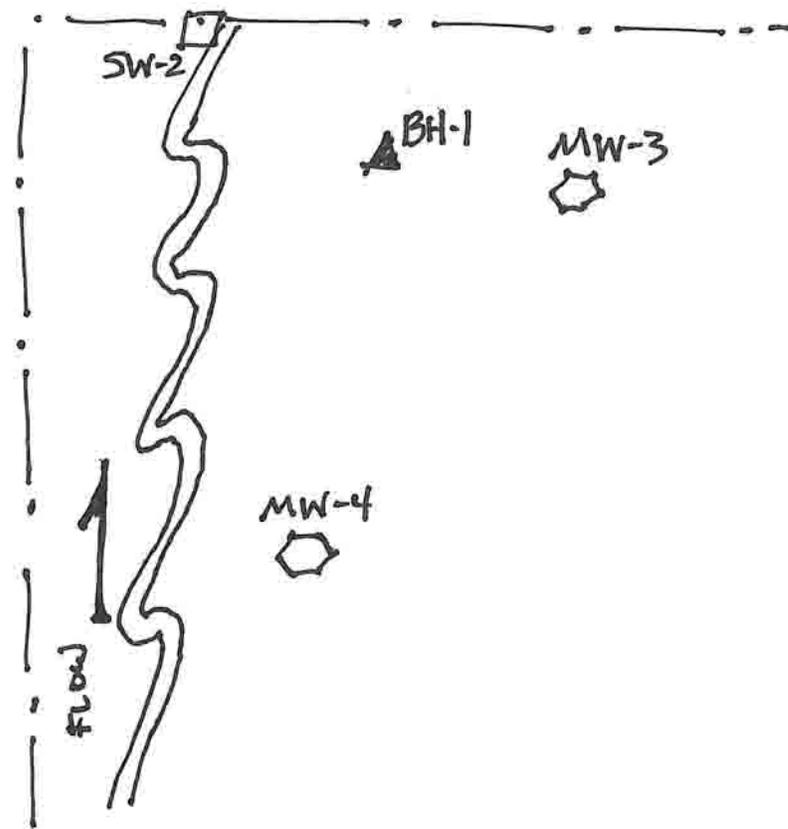
DATE: 6/29/2007

SURFACE WATER SAMPLING LOG

Project Name: Material Recovery, LLC Project No./Phase No.: 073-9602407.100
 Sample ID: SW-2 Sampler(s): B. Draper / W. Jappe
 Sampling Location: Farthest point of stream in the NW part of the property
 Equipment: Horiba U-22 Water Quality Meter

Surface Water Sampling Location Sketch

Time	11:35
pH s.u.	5.86
Cond. mS/cm	0.081
Turb. ntu	0.0
Dis. O2 mg/L	7.6
Temp. oC	23.41
TDS Sal	---
ORP mv	136



Comments (sample methodology, weather conditions, color, silt, etc.):

Weather conditions 6/29/07: Partly Sunny, hot, pressure 30.04 in Hg, avg wind 8 mph, wind gusts 25 mph

Signature: *B. Draper*
 QA/QC Sign Off: *W. Jappe*

Date: 6-29-2007
 Date: 10-23-07



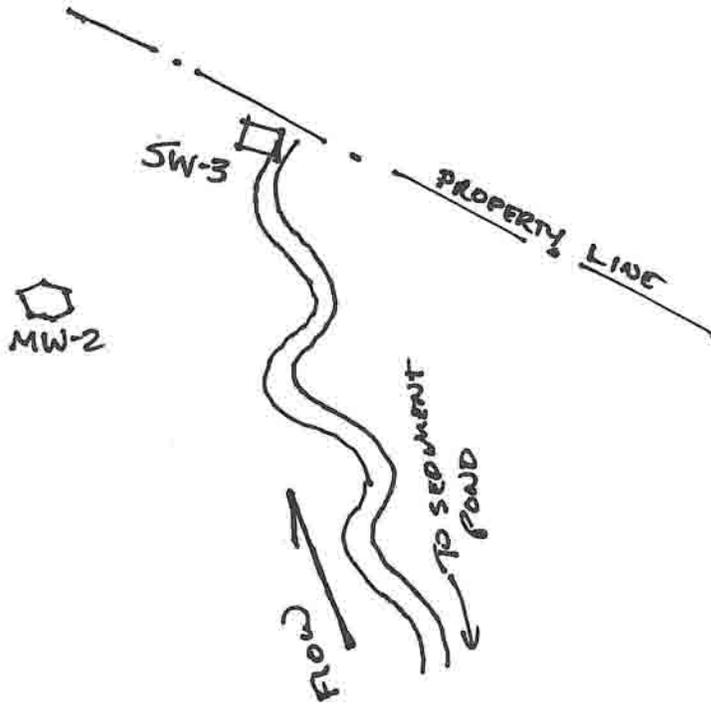
DATE: 6/29/2007

SURFACE WATER SAMPLING LOG

Project Name: Material Recovery, LLC Project No./Phase No.: 073-9602407.100
 Sample ID: SW-3 Sampler(s): B. Draper / W. Jappe
 Sampling Location: Along the N property line
 Equipment: Horiba U-22 Water Quality Meter

Surface Water Sampling Location Sketch

Time	12:00
pH s.u.	6.31
Cond. mS/cm	0.454
Turb. ntu	80.5
Dis. O2 mg/L	7.6
Temp. oC	22.96
TDS Sal	---
ORP mv	161



Comments (sample methodology, weather conditions, color, silt, etc.):

Weather conditions 6/29/07: Partly Sunny, hot, pressure 30.04 in Hg, avg wind 8 mph,
wind gusts 25 mph

Signature: [Handwritten Signature]
 QA/QC Sign Off: [Handwritten Signature]

Date: 6-29-2007
 Date: 10-23-07



DATE: 8/9/2007

GROUNDWATER SAMPLING LOG

Project Name: Material Recovery, LLC Project No./Phase No.: 073-9602407.100
 Well ID: MW-3 Sampler(s): B. Draper
 Well Diameter: 2 inches Initial Depth to Water: 26.95 feet
 Depth to Bottom: 34.50 feet Water Column Thickness: 7.55 feet
 Pumping Rate: 150 mL/min. System Volume: 1190 mL
 Well Location: 100 ft. E-NE of MW-2 and 100ft. N of perimeter road
 Equipment: Horiba water quality meter, WL indicator, air compressor
air tank, portable bladder pump, and controller box

Time	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	Dis O2 (mg/L)	Temp. (oC)	ORP (millivolts)	DTW (feet)
11:36	3.65	0.745	304	2.7	17.66	433	27.22
11:40	3.70	0.732	194	2.6	17.62	442	27.39
11:44	3.70	0.747	150	2.5	17.56	448	27.41
11:48	3.70	0.785	96.2	2.5	17.51	451	27.51
<i>Sampled for Trichlorofluoromethane & Mercury @ 11:48</i>							
12:07	3.73	0.889	87.7	3.1	17.56	449	27.51

Comments (weather conditions, color, type of sample, purge-water management, etc.):

Re-sample of MW-3 from the June 2007 event

Weather Conditions 8/9/07: Sunny, hot; High 104°F, Low 78°F; Pressure: 29.86" Hg; Wind: 4 to 7 mph;

Gusts: 26 mph

Signature:  Date: 8/9/2007
 QA/QC Sign Off: Michael P. Allen Date: 10-23-07

Environmental Conservation Laboratories, Inc.

102-A Woodwinds Industrial Court

Cary NC, 27511

Phone: 919.467.3090 FAX: 919.467.3515



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Wednesday, July 18, 2007

Golder Associates, Inc. (GO007)

Attn: Rachel Kirkman

The Wingate Building 4900 Koger Blvd., Suite 140

Greensboro, NC 27407

**RE: Project Number: 0739602407.100, Project Name/Desc: Material Recovery, LLC
ENCO Workorder: C707627**

Dear Rachel Kirkman,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Friday, June 29, 2007.

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.

This data has been produced in accordance with NELAC standards (June, 2003). 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. 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, appearing to read 'Stephanie Franz', written over a light blue grid background.

Stephanie Franz

Project Manager

Enclosure(s)



CASE NARRATIVE

Date: 18 July 2007
Client: Golder Associates, Inc.
Project #: Material Recovery, LLC
Lab ID: C707627

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling by Environmental Conservation Laboratories, Inc. will be discussed in the QC Remarks section below.

Quality Control Samples

The recoveries for the MS/MSD for the Alkalinity analysis are considered estimated due to the high concentration in the source sample.

Quality Control Remarks

Other Comments

Sample Receipt Conditions: The samples were received in appropriate condition. The samples were not checked for residual chlorine, as it is not required for ground water samples.

A small amount of Toluene was found in the Trip Blank. This problem has been traced to a vendor issue, and a new supplier has been identified.

The analytical data presented in this report are consistent with the methods as referenced in the analytical report. Any exceptions or deviations are noted in the QC remarks section of this narrative.

Released By:
Environmental Conservation Laboratories, Inc.

Stephanie Franz
Project Manager



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SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: 9231-MW-1

Lab ID: C707627-01

Sampled: 06/29/07 09:50

Received: 06/29/07 14:37

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 160.1	07/06/07	07/03/07 08:12	7/5/2007 13:35
EPA 300.0	07/27/07	07/10/07 14:31	7/10/2007 22:58
EPA 310.2	07/13/07	07/05/07 10:15	7/5/2007 14:23
EPA 375.4	07/27/07	07/10/07 18:49	7/12/2007 21:59
EPA 6010B	12/26/07	07/02/07 11:28	7/16/2007 11:30
EPA 6020	12/26/07	07/12/07 13:31	7/13/2007 11:35
EPA 7470A	07/27/07	07/03/07 09:49	7/3/2007 16:59
EPA 8260B	07/13/07	07/11/07 13:54	7/12/2007 01:21

Client ID: 9231-MW-2

Lab ID: C707627-02

Sampled: 06/29/07 10:10

Received: 06/29/07 14:37

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 160.1	07/06/07	07/03/07 08:12	7/5/2007 13:35
EPA 300.0	07/27/07	07/10/07 14:31	7/10/2007 23:15
EPA 310.2	07/13/07	07/05/07 10:15	7/5/2007 14:24
EPA 375.4	07/27/07	07/10/07 18:49	7/12/2007 22:13
EPA 6010B	12/26/07	07/02/07 11:28	7/16/2007 10:55
EPA 6020	12/26/07	07/12/07 13:31	7/13/2007 11:37
EPA 7470A	07/27/07	07/03/07 09:49	7/3/2007 16:44
EPA 8260B	07/13/07	07/11/07 13:54	7/12/2007 01:47



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Client ID: 9231-MW-3

Lab ID: C707627-03

Sampled: 06/29/07 10:30

Received: 06/29/07 14:37

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 160.1	07/06/07	07/03/07 08:12	7/5/2007 13:35
EPA 300.0	07/27/07	07/10/07 14:31	7/10/2007 23:32
EPA 310.2	07/13/07	07/05/07 10:15	7/5/2007 14:26
EPA 375.4	07/27/07	07/10/07 18:49	7/12/2007 22:18
EPA 6010B	12/26/07	07/02/07 11:28	7/16/2007 11:37
EPA 6010B	12/26/07	07/02/07 11:28	7/16/2007 11:45
EPA 6020	12/26/07	07/12/07 13:31	7/13/2007 11:40
EPA 7470A	07/27/07	07/03/07 09:49	7/3/2007 17:02
EPA 8260B	07/13/07	07/11/07 13:54	7/12/2007 02:13

Client ID: 9231-MW-4

Lab ID: C707627-04

Sampled: 06/29/07 10:45

Received: 06/29/07 14:37

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 160.1	07/06/07	07/03/07 08:12	7/5/2007 13:35
EPA 300.0	07/27/07	07/10/07 14:31	7/10/2007 23:48
EPA 310.2	07/13/07	07/05/07 10:15	7/5/2007 14:27
EPA 375.4	07/27/07	07/10/07 18:49	7/12/2007 22:22
EPA 6010B	12/26/07	07/02/07 11:28	7/16/2007 11:52
EPA 6020	12/26/07	07/12/07 13:31	7/13/2007 11:42
EPA 7470A	07/27/07	07/03/07 09:49	7/3/2007 17:10
EPA 8260B	07/13/07	07/11/07 13:54	7/12/2007 02:39



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Client ID: 9231-MW-5

Lab ID: C707627-05

Sampled: 06/29/07 11:00

Received: 06/29/07 14:37

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 160.1	07/06/07	07/03/07 08:12	7/5/2007 13:35
EPA 300.0	07/27/07	07/10/07 14:31	7/11/2007 00:05
EPA 310.2	07/13/07	07/05/07 10:15	7/5/2007 14:28
EPA 375.4	07/27/07	07/10/07 18:49	7/12/2007 22:27
EPA 6010B	12/26/07	07/02/07 11:28	7/16/2007 11:59
EPA 6010B	12/26/07	07/02/07 11:28	7/16/2007 12:24
EPA 6020	12/26/07	07/12/07 13:31	7/13/2007 11:45
EPA 7470A	07/27/07	07/03/07 09:49	7/3/2007 17:12
EPA 8260B	07/13/07	07/11/07 13:54	7/12/2007 03:05

Client ID: 9231-SW-1

Lab ID: C707627-06

Sampled: 06/29/07 12:30

Received: 06/29/07 14:37

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010B	12/26/07	07/02/07 11:28	7/16/2007 12:32
EPA 6020	12/26/07	07/12/07 13:31	7/13/2007 11:47
EPA 8260B	07/13/07	07/11/07 13:54	7/12/2007 03:31

Client ID: 9231-SW-2

Lab ID: C707627-07

Sampled: 06/29/07 11:35

Received: 06/29/07 14:37

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010B	12/26/07	07/02/07 11:28	7/16/2007 12:39
EPA 6020	12/26/07	07/12/07 13:31	7/13/2007 11:50
EPA 8260B	07/13/07	07/11/07 13:54	7/12/2007 03:58

Client ID: 9231-SW-3

Lab ID: C707627-08

Sampled: 06/29/07 12:00

Received: 06/29/07 14:37

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010B	12/26/07	07/02/07 11:28	7/16/2007 12:49
EPA 6020	12/26/07	07/12/07 13:31	7/13/2007 11:52
EPA 8260B	07/13/07	07/11/07 13:54	7/12/2007 04:24



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Client ID: Field Blank

Lab ID: C707627-09

Sampled: 06/29/07 12:45

Received: 06/29/07 14:37

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010B	12/26/07	07/02/07 11:28	7/16/2007 12:56
EPA 6020	12/26/07	07/12/07 13:31	7/13/2007 11:55
EPA 7470A	07/27/07	07/03/07 09:49	7/3/2007 17:15
EPA 8260B	07/13/07	07/11/07 13:54	7/12/2007 04:50

Client ID: Trip Blank

Lab ID: C707627-10

Sampled: 06/29/07 00:00

Received: 06/29/07 14:37

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260B	07/13/07	07/11/07 13:54	7/12/2007 05:16



NORTH CAROLINA SWS SAMPLE DETECTION SUMMARY

Client ID: 9231-MW-1

Lab ID: C707627-01

Analyte	Results/Qual	DF	MDL	MRL	NC	Units	Method
					SWSL		
Barium	269	1	1.0	10.0	100	ug/L	EPA 6010B
Chloride	16	1	0.05	1.0	NE	mg/L	EPA 300.0
Cobalt	5.8 J	1	2.5	10.0	10	ug/L	EPA 6010B
Manganese	71.2	1	1.4	10.0	50	ug/L	EPA 6010B
Sulfate as SO4	4.0 J	1	0.60	5.0	NE	mg/L	EPA 375.4
Thallium	0.246 J	1	0.036	0.050	5.5	ug/L	EPA 6020
Total Dissolved Solids	88	1	10	10	NE	mg/L	EPA 160.1
Zinc	9.1 J	1	3.4	10.0	10	ug/L	EPA 6010B

Client ID: 9231-MW-2

Lab ID: C707627-02

Analyte	Results/Qual	DF	MDL	MRL	NC	Units	Method
					SWSL		
Barium	628	1	1.0	10.0	100	ug/L	EPA 6010B
Beryllium	3.50	1	0.19	1.00	1	ug/L	EPA 6010B
Chloride	15	1	0.05	1.0	NE	mg/L	EPA 300.0
Manganese	174	1	1.4	10.0	50	ug/L	EPA 6010B
Sulfate as SO4	3.9 J	1	0.60	5.0	NE	mg/L	EPA 375.4
Thallium	0.137 J	1	0.036	0.050	5.5	ug/L	EPA 6020
Total Dissolved Solids	310	1	10	10	NE	mg/L	EPA 160.1
Trichlorofluoromethane	0.53 J	1	0.16	1.0	1	ug/L	EPA 8260B

Client ID: 9231-MW-3

Lab ID: C707627-03

Analyte	Results/Qual	DF	MDL	MRL	NC	Units	Method
					SWSL		
Arsenic	4.7 J	1	3.6	10.0	10	ug/L	EPA 6010B
Barium	4160	1	1.0	10.0	100	ug/L	EPA 6010B
Barium	3140	1	1.0	10.0	100	ug/L	EPA 6010B
Beryllium	5.90	1	0.19	1.00	1	ug/L	EPA 6010B
Cadmium	0.50 J	1	0.38	1.00	1	ug/L	EPA 6010B
Chloride	27	1	0.05	1.0	NE	mg/L	EPA 300.0
Cobalt	6.3 J	1	2.5	10.0	10	ug/L	EPA 6010B
Copper	2.0 J	1	1.8	10.0	10	ug/L	EPA 6010B
Iron	239 J	1	15	50	300	ug/L	EPA 6010B
Manganese	256	1	1.4	10.0	50	ug/L	EPA 6010B
Mercury	2.24	1	0.11	0.20	0.2	ug/L	EPA 7470A
Selenium	2.8 J	1	2.8	10.0	10	ug/L	EPA 6010B
Sulfate as SO4	3.8 J	1	0.60	5.0	NE	mg/L	EPA 375.4
Thallium	0.390 J	1	0.036	0.050	5.5	ug/L	EPA 6020
Total Dissolved Solids	490	1	10	10	NE	mg/L	EPA 160.1
Trichlorofluoromethane	34	1	0.16	1.0	1	ug/L	EPA 8260B
Zinc	26.1	1	3.4	10.0	10	ug/L	EPA 6010B

Client ID: 9231-MW-4

Lab ID: C707627-04

Analyte	Results/Qual	DF	MDL	MRL	NC	Units	Method
					SWSL		
Barium	99.5 J	1	1.0	10.0	100	ug/L	EPA 6010B
Beryllium	1.00	1	0.19	1.00	1	ug/L	EPA 6010B
Chloride	3.6	1	0.05	1.0	NE	mg/L	EPA 300.0
Manganese	52.6	1	1.4	10.0	50	ug/L	EPA 6010B
Sulfate as SO4	8.8	1	0.60	5.0	NE	mg/L	EPA 375.4
Thallium	0.039 J	1	0.036	0.050	5.5	ug/L	EPA 6020



Client ID: 9231-MW-4

Lab ID: C707627-04

Analyte	Results/Qual	DF	MDL	MRL	NC SWSL	Units	Method
Total Alkalinity	17	1	5.2	15	NE	mg/L	EPA 310.2
Total Dissolved Solids	92	1	10	10	NE	mg/L	EPA 160.1

Client ID: 9231-MW-5

Lab ID: C707627-05

Analyte	Results/Qual	DF	MDL	MRL	NC SWSL	Units	Method
Barium	42.1 J	1	1.0	10.0	100	ug/L	EPA 6010B
Beryllium	0.80 J	1	0.19	1.00	1	ug/L	EPA 6010B
Chloride	3.1	1	0.05	1.0	NE	mg/L	EPA 300.0
Iron	4180	1	15	50	300	ug/L	EPA 6010B
Manganese	151	1	1.4	10.0	50	ug/L	EPA 6010B
Sulfate as SO4	5.6	1	0.60	5.0	NE	mg/L	EPA 375.4
Total Alkalinity	67	1	5.2	15	NE	mg/L	EPA 310.2
Total Dissolved Solids	76	1	10	10	NE	mg/L	EPA 160.1
Vanadium	2.9 J	1	1.7	10.0	25	ug/L	EPA 6010B

Client ID: 9231-SW-1

Lab ID: C707627-06

Analyte	Results/Qual	DF	MDL	MRL	NC SWSL	Units	Method
Arsenic	3.7 J	1	3.6	10.0	10	ug/L	EPA 6010B
Barium	28.2 J	1	1.0	10.0	100	ug/L	EPA 6010B
Vanadium	1.9 J	1	1.7	10.0	25	ug/L	EPA 6010B

Client ID: 9231-SW-2

Lab ID: C707627-07

Analyte	Results/Qual	DF	MDL	MRL	NC SWSL	Units	Method
Barium	28.8 J	1	1.0	10.0	100	ug/L	EPA 6010B

Client ID: 9231-SW-3

Lab ID: C707627-08

Analyte	Results/Qual	DF	MDL	MRL	NC SWSL	Units	Method
Barium	232	1	1.0	10.0	100	ug/L	EPA 6010B
Thallium	0.042 J	1	0.036	0.050	5.5	ug/L	EPA 6020

Client ID: Field Blank

Lab ID: C707627-09

Analyte	Results/Qual	DF	MDL	MRL	NC SWSL	Units	Method
Acetone	1.5 J	1	0.90	5.0	100	ug/L	EPA 8260B
Barium	10.4 J	1	1.0	10.0	100	ug/L	EPA 6010B
Toluene	0.32 J	1	0.15	1.0	1	ug/L	EPA 8260B

Client ID: Trip Blank

Lab ID: C707627-10

Analyte	Results/Qual	DF	MDL	MRL	NC SWSL	Units	Method
Toluene	0.63 J	1	0.15	1.0	1	ug/L	EPA 8260B



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ANALYTICAL REPORT

Sample ID: 9231-MW-1
Lab #: C707627-01
Prep. Method: EPA 5030B_MS
Analyzed: 07/12/07 By: jkg
Anal. Method: EPA 8260B
Anal. Batch:
QC Batch: 7G11024

Project: Material Recovery, LLC
Work Order #: C707627
Matrix: Water
Unit: ug/L
Dilution Factor: 1

Volatile Organic Compounds by GCMS

Parameter	CAS Number	Analytical Results	MDL	MRL	NC SWSL	Units
1,1,1,2-Tetrachloroethane	630-20-6	0.16 U	0.16	1.0	5	ug/L
1,1,1-Trichloroethane	71-55-6	0.24 U	0.24	1.0	1	ug/L
1,1,2,2-Tetrachloroethane	79-34-5	0.27 U	0.27	1.0	1	ug/L
1,1,2-Trichloroethane	79-00-5	0.24 U	0.24	1.0	5	ug/L
1,1-Dichloroethane	75-34-3	0.090 U	0.090	1.0	5	ug/L
1,1-Dichloroethene	75-35-4	0.14 U	0.14	1.0	5	ug/L
1,2,3-Trichloropropane	96-18-4	0.32 U	0.32	1.0	1	ug/L
1,2-Dibromo-3-chloropropane	96-12-8	0.19 U	0.19	1.0	1	ug/L
1,2-Dibromoethane	106-93-4	0.19 U	0.19	1.0	1	ug/L
1,2-Dichlorobenzene	95-50-1	0.17 U	0.17	1.0	5	ug/L
1,2-Dichloroethane	107-06-2	0.36 U	0.36	1.0	1	ug/L
1,2-Dichloropropane	78-87-5	0.18 U	0.18	1.0	1	ug/L
1,4-Dichlorobenzene	106-46-7	0.15 U	0.15	1.0	1	ug/L
2-Butanone	78-93-3	0.56 U	0.56	5.0	100	ug/L
2-Hexanone	591-78-6	0.24 U	0.24	5.0	50	ug/L
4-Methyl-2-pentanone	108-10-1	0.36 U	0.36	5.0	100	ug/L
Acetone	67-64-1	0.90 U	0.90	5.0	100	ug/L
Acrylonitrile	107-13-1	2.0 U	2.0	5.0	200	ug/L
Benzene	71-43-2	0.12 U	0.12	1.0	1	ug/L
Bromochloromethane	74-97-5	0.19 U	0.19	1.0	3	ug/L
Bromodichloromethane	75-27-4	0.19 U	0.19	0.40	1	ug/L
Bromoform	75-25-2	0.36 U	0.36	1.0	3	ug/L
Bromomethane	74-83-9	0.21 U	0.21	1.0	10	ug/L
Carbon disulfide	75-15-0	0.12 U	0.12	5.0	100	ug/L
Carbon tetrachloride	56-23-5	0.38 U	0.38	1.0	1	ug/L
Chlorobenzene	108-90-7	0.16 U	0.16	1.0	3	ug/L
Chloroethane	75-00-3	0.40 U	0.40	1.0	10	ug/L
Chloroform	67-66-3	0.16 U	0.16	1.0	5	ug/L
Chloromethane	74-87-3	0.18 U	0.18	1.0	1	ug/L
cis-1,2-Dichloroethene	156-59-2	0.14 U	0.14	1.0	5	ug/L
cis-1,3-Dichloropropene	10061-01-5	0.16 U	0.16	0.20	1	ug/L
Dibromochloromethane	124-48-1	0.18 U	0.18	1.0	1	ug/L
Dibromomethane	74-95-3	0.14 U	0.14	1.0	10	ug/L
Ethylbenzene	100-41-4	0.17 U	0.17	1.0	1	ug/L
Iodomethane	74-88-4	0.23 U	0.23	2.0	10	ug/L
Methylene chloride	75-09-2	0.088 U	0.088	2.0	1	ug/L
Styrene	100-42-5	0.12 U	0.12	1.0	1	ug/L



ANALYTICAL REPORT

Sample ID: 9231-MW-1
 Lab #: C707627-01
 Prep. Method: EPA 5030B_MS
 Analyzed: 07/12/07 By: jkg
 Anal. Method: EPA 8260B
 Anal. Batch:
 QC Batch: 7G11024

Project: Material Recovery, LLC
 Work Order #: C707627
 Matrix: Water
 Unit: ug/L
 Dilution Factor: 1

Volatile Organic Compounds by GCMS

Parameter	CAS Number	Analytical Results	MDL	MRL	NC SWSL	Units
Tetrachloroethene	127-18-4	0.25 U	0.25	1.0	1	ug/L
Toluene	108-88-3	0.15 U	0.15	1.0	1	ug/L
trans-1,2-Dichloroethene	156-60-5	0.10 U	0.10	1.0	5	ug/L
trans-1,3-Dichloropropene	10061-02-6	0.18 U	0.18	0.20	1	ug/L
trans-1,4-Dichloro-2-butene	110-57-6	0.60 U	0.60	1.0	100	ug/L
Trichloroethene	79-01-6	0.23 U	0.23	1.0	1	ug/L
Trichlorofluoromethane	75-69-4	0.16 U	0.16	1.0	1	ug/L
Vinyl acetate	108-05-4	0.19 U	0.19	2.0	50	ug/L
Vinyl chloride	75-01-4	0.15 U	0.15	1.0	1	ug/L
Xylenes (Total)	1330-20-7	0.21 U	0.21	1.0	4	ug/L

Surrogate Recovery		Result	Spike Level	% Recovery	% Recovery Limits
4-Bromofluorobenzene	460-00-4	44	50.0	88 %	67-125
Dibromofluoromethane	1868-53-7	44	50.0	88 %	69-111
Toluene-d8	2037-26-5	47	50.0	93 %	85-120



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ANALYTICAL REPORT

Sample ID: 9231-MW-1
Lab #: C707627-01

Project: Material Recovery, LLC
Work Order #: C707627
Matrix: Water

Metals by EPA 6000/7000 Series Methods

Parameter	CAS Number	Analytical Results	DF	MDL	MRL	NC SWSL	Units	Analysis Method	Prep Method	Analytical Batch
Antimony	7440-36-0	0.68 U	1	0.68	2.00	6	ug/L	EPA 6020	EPA 200.8	7G12031
Arsenic	7440-38-2	3.6 U	1	3.6	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Barium	7440-39-3	269	1	1.0	10.0	100	ug/L	EPA 6010B	EPA 3005A	7G02012
Beryllium	7440-41-7	0.19 U	1	0.19	1.00	1	ug/L	EPA 6010B	EPA 3005A	7G02012
Cadmium	7440-43-9	0.38 U	1	0.38	1.00	1	ug/L	EPA 6010B	EPA 3005A	7G02012
Chromium	7440-47-3	1.7 U	1	1.7	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Cobalt	7440-48-4	5.8 J	1	2.5	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Copper	7440-50-8	1.8 U	1	1.8	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Iron	7439-89-6	15 U	1	15	50	300	ug/L	EPA 6010B	EPA 3005A	7G02012
Lead	7439-92-1	3.1 U	1	3.1	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Manganese	7439-96-5	71.2	1	1.4	10.0	50	ug/L	EPA 6010B	EPA 3005A	7G02012
Mercury	7439-97-6	0.11 U	1	0.11	0.20	0.2	ug/L	EPA 7470A	EPA 7470A	7G03007
Nickel	7440-02-0	1.3 U	1	1.3	10.0	50	ug/L	EPA 6010B	EPA 3005A	7G02012
Selenium	7782-49-2	2.8 U	1	2.8	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Silver	7440-22-4	2.0 U	1	2.0	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Thallium	7440-28-0	0.246 J	1	0.036	0.050	5.5	ug/L	EPA 6020	EPA 200.8	7G12031
Vanadium	7440-62-2	1.7 U	1	1.7	10.0	25	ug/L	EPA 6010B	EPA 3005A	7G02012
Zinc	7440-66-6	9.1 J	1	3.4	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012



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ANALYTICAL REPORT

Sample ID: 9231-MW-1
Lab #: C707627-01

Project: Material Recovery, LLC
Work Order #: C707627
Matrix: Water

Classical Chemistry Parameters

<u>Parameter</u>	<u>CAS Number</u>	<u>Analytical Results</u>	<u>DF</u>	<u>MDL</u>	<u>MRL</u>	<u>NC SWSL</u>	<u>Units</u>	<u>Analysis Method</u>	<u>Prep Method</u>	<u>Analytical Batch</u>
Sulfate as SO4	14808-79-8	4.0 J	1	0.60	5.0	NE	mg/L	EPA 375.4	NO PREP	7G10022
Total Alkalinity	NA	5.2 U	1	5.2	15	NE	mg/L	EPA 310.2	NO PREP	7G05013
Total Dissolved Solids	NA	88	1	10	10	NE	mg/L	EPA 160.1	NO PREP	7G03002



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ANALYTICAL REPORT

Sample ID: 9231-MW-1
Lab #: C707627-01

Project: Material Recovery, LLC
Work Order #: C707627
Matrix: Water

Classical Chemistry Parameters

<u>Parameter</u>	<u>CAS Number</u>	<u>Analytical Results</u>	<u>DF</u>	<u>MDL</u>	<u>MRL</u>	<u>NC SWSL</u>	<u>Units</u>	<u>Analysis Method</u>	<u>Prep Method</u>	<u>Analytical Batch</u>
Chloride	16887-00-6	16	1	0.05	1.0	NE	mg/L	EPA 300.0	NA	7G10013



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ANALYTICAL REPORT

Sample ID: 9231-MW-2
Lab #: C707627-02
Prep. Method: EPA 5030B_MS
Analyzed: 07/12/07 By: jkg
Anal. Method: EPA 8260B
Anal. Batch:
QC Batch: 7G11024

Project: Material Recovery, LLC
Work Order #: C707627
Matrix: Water
Unit: ug/L
Dilution Factor: 1

Volatile Organic Compounds by GCMS

Parameter	CAS Number	Analytical Results	MDL	MRL	NC SWSL	Units
1,1,1,2-Tetrachloroethane	630-20-6	0.16 U	0.16	1.0	5	ug/L
1,1,1-Trichloroethane	71-55-6	0.24 U	0.24	1.0	1	ug/L
1,1,2,2-Tetrachloroethane	79-34-5	0.27 U	0.27	1.0	1	ug/L
1,1,2-Trichloroethane	79-00-5	0.24 U	0.24	1.0	5	ug/L
1,1-Dichloroethane	75-34-3	0.090 U	0.090	1.0	5	ug/L
1,1-Dichloroethene	75-35-4	0.14 U	0.14	1.0	5	ug/L
1,2,3-Trichloropropane	96-18-4	0.32 U	0.32	1.0	1	ug/L
1,2-Dibromo-3-chloropropane	96-12-8	0.19 U	0.19	1.0	1	ug/L
1,2-Dibromoethane	106-93-4	0.19 U	0.19	1.0	1	ug/L
1,2-Dichlorobenzene	95-50-1	0.17 U	0.17	1.0	5	ug/L
1,2-Dichloroethane	107-06-2	0.36 U	0.36	1.0	1	ug/L
1,2-Dichloropropane	78-87-5	0.18 U	0.18	1.0	1	ug/L
1,4-Dichlorobenzene	106-46-7	0.15 U	0.15	1.0	1	ug/L
2-Butanone	78-93-3	0.56 U	0.56	5.0	100	ug/L
2-Hexanone	591-78-6	0.24 U	0.24	5.0	50	ug/L
4-Methyl-2-pentanone	108-10-1	0.36 U	0.36	5.0	100	ug/L
Acetone	67-64-1	0.90 U	0.90	5.0	100	ug/L
Acrylonitrile	107-13-1	2.0 U	2.0	5.0	200	ug/L
Benzene	71-43-2	0.12 U	0.12	1.0	1	ug/L
Bromochloromethane	74-97-5	0.19 U	0.19	1.0	3	ug/L
Bromodichloromethane	75-27-4	0.19 U	0.19	0.40	1	ug/L
Bromoform	75-25-2	0.36 U	0.36	1.0	3	ug/L
Bromomethane	74-83-9	0.21 U	0.21	1.0	10	ug/L
Carbon disulfide	75-15-0	0.12 U	0.12	5.0	100	ug/L
Carbon tetrachloride	56-23-5	0.38 U	0.38	1.0	1	ug/L
Chlorobenzene	108-90-7	0.16 U	0.16	1.0	3	ug/L
Chloroethane	75-00-3	0.40 U	0.40	1.0	10	ug/L
Chloroform	67-66-3	0.16 U	0.16	1.0	5	ug/L
Chloromethane	74-87-3	0.18 U	0.18	1.0	1	ug/L
cis-1,2-Dichloroethene	156-59-2	0.14 U	0.14	1.0	5	ug/L
cis-1,3-Dichloropropene	10061-01-5	0.16 U	0.16	0.20	1	ug/L
Dibromochloromethane	124-48-1	0.18 U	0.18	1.0	1	ug/L
Dibromomethane	74-95-3	0.14 U	0.14	1.0	10	ug/L
Ethylbenzene	100-41-4	0.17 U	0.17	1.0	1	ug/L
Iodomethane	74-88-4	0.23 U	0.23	2.0	10	ug/L
Methylene chloride	75-09-2	0.088 U	0.088	2.0	1	ug/L
Styrene	100-42-5	0.12 U	0.12	1.0	1	ug/L

**ANALYTICAL REPORT**

Sample ID: 9231-MW-2
 Lab #: C707627-02
 Prep. Method: EPA 5030B_MS
 Analyzed: 07/12/07 By: jkg
 Anal. Method: EPA 8260B
 Anal. Batch:
 QC Batch: 7G11024

Project: Material Recovery, LLC
 Work Order #: C707627
 Matrix: Water
 Unit: ug/L
 Dilution Factor: 1

Volatile Organic Compounds by GCMS

Parameter	CAS Number	Analytical Results	MDL	MRL	NC SWSL	Units
Tetrachloroethene	127-18-4	0.25 U	0.25	1.0	1	ug/L
Toluene	108-88-3	0.15 U	0.15	1.0	1	ug/L
trans-1,2-Dichloroethene	156-60-5	0.10 U	0.10	1.0	5	ug/L
trans-1,3-Dichloropropene	10061-02-6	0.18 U	0.18	0.20	1	ug/L
trans-1,4-Dichloro-2-butene	110-57-6	0.60 U	0.60	1.0	100	ug/L
Trichloroethene	79-01-6	0.23 U	0.23	1.0	1	ug/L
Trichlorofluoromethane	75-69-4	0.53 J	0.16	1.0	1	ug/L
Vinyl acetate	108-05-4	0.19 U	0.19	2.0	50	ug/L
Vinyl chloride	75-01-4	0.15 U	0.15	1.0	1	ug/L
Xylenes (Total)	1330-20-7	0.21 U	0.21	1.0	4	ug/L
Surrogate Recovery		Result	Spike Level	% Recovery	% Recovery Limits	
4-Bromofluorobenzene	460-00-4	45	50.0	90 %	67-125	
Dibromofluoromethane	1868-53-7	44	50.0	87 %	69-111	
Toluene-d8	2037-26-5	48	50.0	95 %	85-120	



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ANALYTICAL REPORT

Sample ID: 9231-MW-2
Lab #: C707627-02

Project: Material Recovery, LLC
Work Order #: C707627
Matrix: Water

Metals by EPA 6000/7000 Series Methods

Parameter	CAS Number	Analytical Results	DF	MDL	MRL	NC SWSL	Units	Analysis Method	Prep Method	Analytical Batch
Antimony	7440-36-0	0.68 U	1	0.68	2.00	6	ug/L	EPA 6020	EPA 200.8	7G12031
Arsenic	7440-38-2	3.6 U	1	3.6	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Barium	7440-39-3	628	1	1.0	10.0	100	ug/L	EPA 6010B	EPA 3005A	7G02012
Beryllium	7440-41-7	3.50	1	0.19	1.00	1	ug/L	EPA 6010B	EPA 3005A	7G02012
Cadmium	7440-43-9	0.38 U	1	0.38	1.00	1	ug/L	EPA 6010B	EPA 3005A	7G02012
Chromium	7440-47-3	1.7 U	1	1.7	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Cobalt	7440-48-4	2.5 U	1	2.5	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Copper	7440-50-8	1.8 U	1	1.8	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Iron	7439-89-6	15 U	1	15	50	300	ug/L	EPA 6010B	EPA 3005A	7G02012
Lead	7439-92-1	3.1 U	1	3.1	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Manganese	7439-96-5	174	1	1.4	10.0	50	ug/L	EPA 6010B	EPA 3005A	7G02012
Mercury	7439-97-6	0.11 U	1	0.11	0.20	0.2	ug/L	EPA 7470A	EPA 7470A	7G03007
Nickel	7440-02-0	1.3 U	1	1.3	10.0	50	ug/L	EPA 6010B	EPA 3005A	7G02012
Selenium	7782-49-2	2.8 U	1	2.8	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Silver	7440-22-4	2.0 U	1	2.0	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Thallium	7440-28-0	0.137 J	1	0.036	0.050	5.5	ug/L	EPA 6020	EPA 200.8	7G12031
Vanadium	7440-62-2	1.7 U	1	1.7	10.0	25	ug/L	EPA 6010B	EPA 3005A	7G02012
Zinc	7440-66-6	3.4 U	1	3.4	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012



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ANALYTICAL REPORT

Sample ID: 9231-MW-2
Lab #: C707627-02

Project: Material Recovery, LLC
Work Order #: C707627
Matrix: Water

Classical Chemistry Parameters

<u>Parameter</u>	<u>CAS Number</u>	<u>Analytical Results</u>	<u>DF</u>	<u>MDL</u>	<u>MRL</u>	<u>NC SWSL</u>	<u>Units</u>	<u>Analysis Method</u>	<u>Prep Method</u>	<u>Analytical Batch</u>
Sulfate as SO4	14808-79-8	3.9 J	1	0.60	5.0	NE	mg/L	EPA 375.4	NO PREP	7G10022
Total Alkalinity	NA	5.2 U	1	5.2	15	NE	mg/L	EPA 310.2	NO PREP	7G05013
Total Dissolved Solids	NA	310	1	10	10	NE	mg/L	EPA 160.1	NO PREP	7G03002



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ANALYTICAL REPORT

Sample ID: 9231-MW-2
Lab #: C707627-02

Project: Material Recovery, LLC
Work Order #: C707627
Matrix: Water

Classical Chemistry Parameters

<u>Parameter</u>	<u>CAS Number</u>	<u>Analytical Results</u>	<u>DF</u>	<u>MDL</u>	<u>MRL</u>	<u>NC SWSL</u>	<u>Units</u>	<u>Analysis Method</u>	<u>Prep Method</u>	<u>Analytical Batch</u>
Chloride	16887-00-6	15	1	0.05	1.0	NE	mg/L	EPA 300.0	NA	7G10013



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ANALYTICAL REPORT

Sample ID: 9231-MW-3
Lab #: C707627-03
Prep. Method: EPA 5030B_MS
Analyzed: 07/12/07 By: jkg
Anal. Method: EPA 8260B
Anal. Batch:
QC Batch: 7G11024

Project: Material Recovery, LLC
Work Order #: C707627
Matrix: Water
Unit: ug/L
Dilution Factor: 1

Volatile Organic Compounds by GCMS

Parameter	CAS Number	Analytical Results	MDL	MRL	NC SWSL	Units
1,1,1,2-Tetrachloroethane	630-20-6	0.16 U	0.16	1.0	5	ug/L
1,1,1-Trichloroethane	71-55-6	0.24 U	0.24	1.0	1	ug/L
1,1,2,2-Tetrachloroethane	79-34-5	0.27 U	0.27	1.0	1	ug/L
1,1,2-Trichloroethane	79-00-5	0.24 U	0.24	1.0	5	ug/L
1,1-Dichloroethane	75-34-3	0.090 U	0.090	1.0	5	ug/L
1,1-Dichloroethene	75-35-4	0.14 U	0.14	1.0	5	ug/L
1,2,3-Trichloropropane	96-18-4	0.32 U	0.32	1.0	1	ug/L
1,2-Dibromo-3-chloropropane	96-12-8	0.19 U	0.19	1.0	1	ug/L
1,2-Dibromoethane	106-93-4	0.19 U	0.19	1.0	1	ug/L
1,2-Dichlorobenzene	95-50-1	0.17 U	0.17	1.0	5	ug/L
1,2-Dichloroethane	107-06-2	0.36 U	0.36	1.0	1	ug/L
1,2-Dichloropropane	78-87-5	0.18 U	0.18	1.0	1	ug/L
1,4-Dichlorobenzene	106-46-7	0.15 U	0.15	1.0	1	ug/L
2-Butanone	78-93-3	0.56 U	0.56	5.0	100	ug/L
2-Hexanone	591-78-6	0.24 U	0.24	5.0	50	ug/L
4-Methyl-2-pentanone	108-10-1	0.36 U	0.36	5.0	100	ug/L
Acetone	67-64-1	0.90 U	0.90	5.0	100	ug/L
Acrylonitrile	107-13-1	2.0 U	2.0	5.0	200	ug/L
Benzene	71-43-2	0.12 U	0.12	1.0	1	ug/L
Bromochloromethane	74-97-5	0.19 U	0.19	1.0	3	ug/L
Bromodichloromethane	75-27-4	0.19 U	0.19	0.40	1	ug/L
Bromoform	75-25-2	0.36 U	0.36	1.0	3	ug/L
Bromomethane	74-83-9	0.21 U	0.21	1.0	10	ug/L
Carbon disulfide	75-15-0	0.12 U	0.12	5.0	100	ug/L
Carbon tetrachloride	56-23-5	0.38 U	0.38	1.0	1	ug/L
Chlorobenzene	108-90-7	0.16 U	0.16	1.0	3	ug/L
Chloroethane	75-00-3	0.40 U	0.40	1.0	10	ug/L
Chloroform	67-66-3	0.16 U	0.16	1.0	5	ug/L
Chloromethane	74-87-3	0.18 U	0.18	1.0	1	ug/L
cis-1,2-Dichloroethene	156-59-2	0.14 U	0.14	1.0	5	ug/L
cis-1,3-Dichloropropene	10061-01-5	0.16 U	0.16	0.20	1	ug/L
Dibromochloromethane	124-48-1	0.18 U	0.18	1.0	1	ug/L
Dibromomethane	74-95-3	0.14 U	0.14	1.0	10	ug/L
Ethylbenzene	100-41-4	0.17 U	0.17	1.0	1	ug/L
Iodomethane	74-88-4	0.23 U	0.23	2.0	10	ug/L
Methylene chloride	75-09-2	0.088 U	0.088	2.0	1	ug/L
Styrene	100-42-5	0.12 U	0.12	1.0	1	ug/L



ANALYTICAL REPORT

Sample ID: 9231-MW-3
 Lab #: C707627-03
 Prep. Method: EPA 5030B_MS
 Analyzed: 07/12/07 By: jkg
 Anal. Method: EPA 8260B
 Anal. Batch:
 QC Batch: 7G11024

Project: Material Recovery, LLC
 Work Order #: C707627
 Matrix: Water
 Unit: ug/L
 Dilution Factor: 1

Volatile Organic Compounds by GCMS

Parameter	CAS Number	Analytical Results	MDL	MRL	NC SWSL	Units
Tetrachloroethene	127-18-4	0.25 U	0.25	1.0	1	ug/L
Toluene	108-88-3	0.15 U	0.15	1.0	1	ug/L
trans-1,2-Dichloroethene	156-60-5	0.10 U	0.10	1.0	5	ug/L
trans-1,3-Dichloropropene	10061-02-6	0.18 U	0.18	0.20	1	ug/L
trans-1,4-Dichloro-2-butene	110-57-6	0.60 U	0.60	1.0	100	ug/L
Trichloroethene	79-01-6	0.23 U	0.23	1.0	1	ug/L
Trichlorofluoromethane	75-69-4	34	0.16	1.0	1	ug/L
Vinyl acetate	108-05-4	0.19 U	0.19	2.0	50	ug/L
Vinyl chloride	75-01-4	0.15 U	0.15	1.0	1	ug/L
Xylenes (Total)	1330-20-7	0.21 U	0.21	1.0	4	ug/L

Surrogate Recovery		Result	Spike Level	% Recovery	% Recovery Limits
4-Bromofluorobenzene	460-00-4	45	50.0	89 %	67-125
Dibromofluoromethane	1868-53-7	44	50.0	88 %	69-111
Toluene-d8	2037-26-5	47	50.0	94 %	85-120



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ANALYTICAL REPORT

Sample ID: 9231-MW-3
Lab #: C707627-03

Project: Material Recovery, LLC
Work Order #: C707627
Matrix: Water

Metals by EPA 6000/7000 Series Methods

Parameter	CAS Number	Analytical Results	DF	MDL	MRL	NC SWSL	Units	Analysis Method	Prep Method	Analytical Batch
Antimony	7440-36-0	0.68 U	1	0.68	2.00	6	ug/L	EPA 6020	EPA 200.8	7G12031
Arsenic	7440-38-2	4.7 J	1	3.6	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Barium	7440-39-3	3140	1	1.0	10.0	100	ug/L	EPA 6010B	EPA 3005A	7G02012
Beryllium	7440-41-7	5.90	1	0.19	1.00	1	ug/L	EPA 6010B	EPA 3005A	7G02012
Cadmium	7440-43-9	0.50 J	1	0.38	1.00	1	ug/L	EPA 6010B	EPA 3005A	7G02012
Chromium	7440-47-3	1.7 U	1	1.7	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Cobalt	7440-48-4	6.3 J	1	2.5	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Copper	7440-50-8	2.0 J	1	1.8	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Iron	7439-89-6	239 J	1	15	50	300	ug/L	EPA 6010B	EPA 3005A	7G02012
Lead	7439-92-1	3.1 U	1	3.1	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Manganese	7439-96-5	256	1	1.4	10.0	50	ug/L	EPA 6010B	EPA 3005A	7G02012
Mercury	7439-97-6	2.24	1	0.11	0.20	0.2	ug/L	EPA 7470A	EPA 7470A	7G03007
Nickel	7440-02-0	1.3 U	1	1.3	10.0	50	ug/L	EPA 6010B	EPA 3005A	7G02012
Selenium	7782-49-2	2.8 J	1	2.8	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Silver	7440-22-4	2.0 U	1	2.0	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Thallium	7440-28-0	0.390 J	1	0.036	0.050	5.5	ug/L	EPA 6020	EPA 200.8	7G12031
Vanadium	7440-62-2	1.7 U	1	1.7	10.0	25	ug/L	EPA 6010B	EPA 3005A	7G02012
Zinc	7440-66-6	26.1	1	3.4	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012



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ANALYTICAL REPORT

Sample ID: 9231-MW-3
Lab #: C707627-03

Project: Material Recovery, LLC
Work Order #: C707627
Matrix: Water

Metals (Dissolved) by EPA 6000/7000 Series Methods

<u>Parameter</u>	<u>CAS Number</u>	<u>Analytical Results</u>	<u>DF</u>	<u>MDL</u>	<u>MRL</u>	<u>NC SWSL</u>	<u>Units</u>	<u>Analysis Method</u>	<u>Prep Method</u>	<u>Analytical Batch</u>
Barium	7440-39-3	4160	1	1.0	10.0	100	ug/L	EPA 6010B	EPA 3005A	7G02012



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ANALYTICAL REPORT

Sample ID: 9231-MW-3
Lab #: C707627-03

Project: Material Recovery, LLC
Work Order #: C707627
Matrix: Water

Classical Chemistry Parameters

<u>Parameter</u>	<u>CAS Number</u>	<u>Analytical Results</u>	<u>DF</u>	<u>MDL</u>	<u>MRL</u>	<u>NC SWSL</u>	<u>Units</u>	<u>Analysis Method</u>	<u>Prep Method</u>	<u>Analytical Batch</u>
Sulfate as SO4	14808-79-8	3.8 J	1	0.60	5.0	NE	mg/L	EPA 375.4	NO PREP	7G10022
Total Alkalinity	NA	5.2 U	1	5.2	15	NE	mg/L	EPA 310.2	NO PREP	7G05013
Total Dissolved Solids	NA	490	1	10	10	NE	mg/L	EPA 160.1	NO PREP	7G03002



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ANALYTICAL REPORT

Sample ID: 9231-MW-3
Lab #: C707627-03

Project: Material Recovery, LLC
Work Order #: C707627
Matrix: Water

Classical Chemistry Parameters

<u>Parameter</u>	<u>CAS Number</u>	<u>Analytical Results</u>	<u>DF</u>	<u>MDL</u>	<u>MRL</u>	<u>NC SWSL</u>	<u>Units</u>	<u>Analysis Method</u>	<u>Prep Method</u>	<u>Analytical Batch</u>
Chloride	16887-00-6	27	1	0.05	1.0	NE	mg/L	EPA 300.0	NA	7G10013



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ANALYTICAL REPORT

Sample ID: 9231-MW-4
Lab #: C707627-04
Prep. Method: EPA 5030B_MS
Analyzed: 07/12/07 By: jkg
Anal. Method: EPA 8260B
Anal. Batch:
QC Batch: 7G11024

Project: Material Recovery, LLC
Work Order #: C707627
Matrix: Water
Unit: ug/L
Dilution Factor: 1

Volatile Organic Compounds by GCMS

Parameter	CAS Number	Analytical Results	MDL	MRL	NC SWSL	Units
1,1,1,2-Tetrachloroethane	630-20-6	0.16 U	0.16	1.0	5	ug/L
1,1,1-Trichloroethane	71-55-6	0.24 U	0.24	1.0	1	ug/L
1,1,2,2-Tetrachloroethane	79-34-5	0.27 U	0.27	1.0	1	ug/L
1,1,2-Trichloroethane	79-00-5	0.24 U	0.24	1.0	5	ug/L
1,1-Dichloroethane	75-34-3	0.090 U	0.090	1.0	5	ug/L
1,1-Dichloroethene	75-35-4	0.14 U	0.14	1.0	5	ug/L
1,2,3-Trichloropropane	96-18-4	0.32 U	0.32	1.0	1	ug/L
1,2-Dibromo-3-chloropropane	96-12-8	0.19 U	0.19	1.0	1	ug/L
1,2-Dibromoethane	106-93-4	0.19 U	0.19	1.0	1	ug/L
1,2-Dichlorobenzene	95-50-1	0.17 U	0.17	1.0	5	ug/L
1,2-Dichloroethane	107-06-2	0.36 U	0.36	1.0	1	ug/L
1,2-Dichloropropane	78-87-5	0.18 U	0.18	1.0	1	ug/L
1,4-Dichlorobenzene	106-46-7	0.15 U	0.15	1.0	1	ug/L
2-Butanone	78-93-3	0.56 U	0.56	5.0	100	ug/L
2-Hexanone	591-78-6	0.24 U	0.24	5.0	50	ug/L
4-Methyl-2-pentanone	108-10-1	0.36 U	0.36	5.0	100	ug/L
Acetone	67-64-1	0.90 U	0.90	5.0	100	ug/L
Acrylonitrile	107-13-1	2.0 U	2.0	5.0	200	ug/L
Benzene	71-43-2	0.12 U	0.12	1.0	1	ug/L
Bromochloromethane	74-97-5	0.19 U	0.19	1.0	3	ug/L
Bromodichloromethane	75-27-4	0.19 U	0.19	0.40	1	ug/L
Bromoform	75-25-2	0.36 U	0.36	1.0	3	ug/L
Bromomethane	74-83-9	0.21 U	0.21	1.0	10	ug/L
Carbon disulfide	75-15-0	0.12 U	0.12	5.0	100	ug/L
Carbon tetrachloride	56-23-5	0.38 U	0.38	1.0	1	ug/L
Chlorobenzene	108-90-7	0.16 U	0.16	1.0	3	ug/L
Chloroethane	75-00-3	0.40 U	0.40	1.0	10	ug/L
Chloroform	67-66-3	0.16 U	0.16	1.0	5	ug/L
Chloromethane	74-87-3	0.18 U	0.18	1.0	1	ug/L
cis-1,2-Dichloroethene	156-59-2	0.14 U	0.14	1.0	5	ug/L
cis-1,3-Dichloropropene	10061-01-5	0.16 U	0.16	0.20	1	ug/L
Dibromochloromethane	124-48-1	0.18 U	0.18	1.0	1	ug/L
Dibromomethane	74-95-3	0.14 U	0.14	1.0	10	ug/L
Ethylbenzene	100-41-4	0.17 U	0.17	1.0	1	ug/L
Iodomethane	74-88-4	0.23 U	0.23	2.0	10	ug/L
Methylene chloride	75-09-2	0.088 U	0.088	2.0	1	ug/L
Styrene	100-42-5	0.12 U	0.12	1.0	1	ug/L



ANALYTICAL REPORT

Sample ID: 9231-MW-4
Lab #: C707627-04
Prep. Method: EPA 5030B_MS
Analyzed: 07/12/07 By: jkg
Anal. Method: EPA 8260B
Anal. Batch:
QC Batch: 7G11024

Project: Material Recovery, LLC
Work Order #: C707627
Matrix: Water
Unit: ug/L
Dilution Factor: 1

Volatile Organic Compounds by GCMS

Parameter	CAS Number	Analytical Results	MDL	MRL	NC SWSL	Units
Tetrachloroethene	127-18-4	0.25 U	0.25	1.0	1	ug/L
Toluene	108-88-3	0.15 U	0.15	1.0	1	ug/L
trans-1,2-Dichloroethene	156-60-5	0.10 U	0.10	1.0	5	ug/L
trans-1,3-Dichloropropene	10061-02-6	0.18 U	0.18	0.20	1	ug/L
trans-1,4-Dichloro-2-butene	110-57-6	0.60 U	0.60	1.0	100	ug/L
Trichloroethene	79-01-6	0.23 U	0.23	1.0	1	ug/L
Trichlorofluoromethane	75-69-4	0.16 U	0.16	1.0	1	ug/L
Vinyl acetate	108-05-4	0.19 U	0.19	2.0	50	ug/L
Vinyl chloride	75-01-4	0.15 U	0.15	1.0	1	ug/L
Xylenes (Total)	1330-20-7	0.21 U	0.21	1.0	4	ug/L
Surrogate Recovery		Result	Spike Level	% Recovery	% Recovery Limits	
4-Bromofluorobenzene	460-00-4	43	50.0	86 %	67-125	
Dibromofluoromethane	1868-53-7	44	50.0	89 %	69-111	
Toluene-d8	2037-26-5	46	50.0	92 %	85-120	



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ANALYTICAL REPORT

Sample ID: 9231-MW-4
Lab #: C707627-04

Project: Material Recovery, LLC
Work Order #: C707627
Matrix: Water

Metals by EPA 6000/7000 Series Methods

Parameter	CAS Number	Analytical Results	DF	MDL	MRL	NC SWSL	Units	Analysis Method	Prep Method	Analytical Batch
Antimony	7440-36-0	0.68 U	1	0.68	2.00	6	ug/L	EPA 6020	EPA 200.8	7G12031
Arsenic	7440-38-2	3.6 U	1	3.6	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Barium	7440-39-3	99.5 J	1	1.0	10.0	100	ug/L	EPA 6010B	EPA 3005A	7G02012
Beryllium	7440-41-7	1.00	1	0.19	1.00	1	ug/L	EPA 6010B	EPA 3005A	7G02012
Cadmium	7440-43-9	0.38 U	1	0.38	1.00	1	ug/L	EPA 6010B	EPA 3005A	7G02012
Chromium	7440-47-3	1.7 U	1	1.7	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Cobalt	7440-48-4	2.5 U	1	2.5	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Copper	7440-50-8	1.8 U	1	1.8	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Iron	7439-89-6	15 U	1	15	50	300	ug/L	EPA 6010B	EPA 3005A	7G02012
Lead	7439-92-1	3.1 U	1	3.1	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Manganese	7439-96-5	52.6	1	1.4	10.0	50	ug/L	EPA 6010B	EPA 3005A	7G02012
Mercury	7439-97-6	0.11 U	1	0.11	0.20	0.2	ug/L	EPA 7470A	EPA 7470A	7G03007
Nickel	7440-02-0	1.3 U	1	1.3	10.0	50	ug/L	EPA 6010B	EPA 3005A	7G02012
Selenium	7782-49-2	2.8 U	1	2.8	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Silver	7440-22-4	2.0 U	1	2.0	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Thallium	7440-28-0	0.039 J	1	0.036	0.050	5.5	ug/L	EPA 6020	EPA 200.8	7G12031
Vanadium	7440-62-2	1.7 U	1	1.7	10.0	25	ug/L	EPA 6010B	EPA 3005A	7G02012
Zinc	7440-66-6	3.4 U	1	3.4	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012



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ANALYTICAL REPORT

Sample ID: 9231-MW-4
Lab #: C707627-04

Project: Material Recovery, LLC
Work Order #: C707627
Matrix: Water

Classical Chemistry Parameters

<u>Parameter</u>	<u>CAS Number</u>	<u>Analytical Results</u>	<u>DF</u>	<u>MDL</u>	<u>MRL</u>	<u>NC SWSL</u>	<u>Units</u>	<u>Analysis Method</u>	<u>Prep Method</u>	<u>Analytical Batch</u>
Sulfate as SO4	14808-79-8	8.8	1	0.60	5.0	NE	mg/L	EPA 375.4	NO PREP	7G10022
Total Alkalinity	NA	17	1	5.2	15	NE	mg/L	EPA 310.2	NO PREP	7G05013
Total Dissolved Solids	NA	92	1	10	10	NE	mg/L	EPA 160.1	NO PREP	7G03002



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ANALYTICAL REPORT

Sample ID: 9231-MW-4
Lab #: C707627-04

Project: Material Recovery, LLC
Work Order #: C707627
Matrix: Water

Classical Chemistry Parameters

<u>Parameter</u>	<u>CAS Number</u>	<u>Analytical Results</u>	<u>DF</u>	<u>MDL</u>	<u>MRL</u>	<u>NC SWSL</u>	<u>Units</u>	<u>Analysis Method</u>	<u>Prep Method</u>	<u>Analytical Batch</u>
Chloride	16887-00-6	3.6	1	0.05	1.0	NE	mg/L	EPA 300.0	NA	7G10013



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ANALYTICAL REPORT

Sample ID: 9231-MW-5
Lab #: C707627-05
Prep. Method: EPA 5030B_MS
Analyzed: 07/12/07 By: jkg
Anal. Method: EPA 8260B
Anal. Batch:
QC Batch: 7G11024

Project: Material Recovery, LLC
Work Order #: C707627
Matrix: Water
Unit: ug/L
Dilution Factor: 1

Volatile Organic Compounds by GCMS

Parameter	CAS Number	Analytical Results	MDL	MRL	NC SWSL	Units
1,1,1,2-Tetrachloroethane	630-20-6	0.16 U	0.16	1.0	5	ug/L
1,1,1-Trichloroethane	71-55-6	0.24 U	0.24	1.0	1	ug/L
1,1,2,2-Tetrachloroethane	79-34-5	0.27 U	0.27	1.0	1	ug/L
1,1,2-Trichloroethane	79-00-5	0.24 U	0.24	1.0	5	ug/L
1,1-Dichloroethane	75-34-3	0.090 U	0.090	1.0	5	ug/L
1,1-Dichloroethene	75-35-4	0.14 U	0.14	1.0	5	ug/L
1,2,3-Trichloropropane	96-18-4	0.32 U	0.32	1.0	1	ug/L
1,2-Dibromo-3-chloropropane	96-12-8	0.19 U	0.19	1.0	1	ug/L
1,2-Dibromoethane	106-93-4	0.19 U	0.19	1.0	1	ug/L
1,2-Dichlorobenzene	95-50-1	0.17 U	0.17	1.0	5	ug/L
1,2-Dichloroethane	107-06-2	0.36 U	0.36	1.0	1	ug/L
1,2-Dichloropropane	78-87-5	0.18 U	0.18	1.0	1	ug/L
1,4-Dichlorobenzene	106-46-7	0.15 U	0.15	1.0	1	ug/L
2-Butanone	78-93-3	0.56 U	0.56	5.0	100	ug/L
2-Hexanone	591-78-6	0.24 U	0.24	5.0	50	ug/L
4-Methyl-2-pentanone	108-10-1	0.36 U	0.36	5.0	100	ug/L
Acetone	67-64-1	0.90 U	0.90	5.0	100	ug/L
Acrylonitrile	107-13-1	2.0 U	2.0	5.0	200	ug/L
Benzene	71-43-2	0.12 U	0.12	1.0	1	ug/L
Bromochloromethane	74-97-5	0.19 U	0.19	1.0	3	ug/L
Bromodichloromethane	75-27-4	0.19 U	0.19	0.40	1	ug/L
Bromoform	75-25-2	0.36 U	0.36	1.0	3	ug/L
Bromomethane	74-83-9	0.21 U	0.21	1.0	10	ug/L
Carbon disulfide	75-15-0	0.12 U	0.12	5.0	100	ug/L
Carbon tetrachloride	56-23-5	0.38 U	0.38	1.0	1	ug/L
Chlorobenzene	108-90-7	0.16 U	0.16	1.0	3	ug/L
Chloroethane	75-00-3	0.40 U	0.40	1.0	10	ug/L
Chloroform	67-66-3	0.16 U	0.16	1.0	5	ug/L
Chloromethane	74-87-3	0.18 U	0.18	1.0	1	ug/L
cis-1,2-Dichloroethene	156-59-2	0.14 U	0.14	1.0	5	ug/L
cis-1,3-Dichloropropene	10061-01-5	0.16 U	0.16	0.20	1	ug/L
Dibromochloromethane	124-48-1	0.18 U	0.18	1.0	1	ug/L
Dibromomethane	74-95-3	0.14 U	0.14	1.0	10	ug/L
Ethylbenzene	100-41-4	0.17 U	0.17	1.0	1	ug/L
Iodomethane	74-88-4	0.23 U	0.23	2.0	10	ug/L
Methylene chloride	75-09-2	0.088 U	0.088	2.0	1	ug/L
Styrene	100-42-5	0.12 U	0.12	1.0	1	ug/L



ANALYTICAL REPORT

Sample ID: 9231-MW-5
 Lab #: C707627-05
 Prep. Method: EPA 5030B_MS
 Analyzed: 07/12/07 By: jkg
 Anal. Method: EPA 8260B
 Anal. Batch:
 QC Batch: 7G11024

Project: Material Recovery, LLC
 Work Order #: C707627
 Matrix: Water
 Unit: ug/L
 Dilution Factor: 1

Volatile Organic Compounds by GCMS

Parameter	CAS Number	Analytical Results	MDL	MRL	NC SWSL	Units
Tetrachloroethene	127-18-4	0.25 U	0.25	1.0	1	ug/L
Toluene	108-88-3	0.15 U	0.15	1.0	1	ug/L
trans-1,2-Dichloroethene	156-60-5	0.10 U	0.10	1.0	5	ug/L
trans-1,3-Dichloropropene	10061-02-6	0.18 U	0.18	0.20	1	ug/L
trans-1,4-Dichloro-2-butene	110-57-6	0.60 U	0.60	1.0	100	ug/L
Trichloroethene	79-01-6	0.23 U	0.23	1.0	1	ug/L
Trichlorofluoromethane	75-69-4	0.16 U	0.16	1.0	1	ug/L
Vinyl acetate	108-05-4	0.19 U	0.19	2.0	50	ug/L
Vinyl chloride	75-01-4	0.15 U	0.15	1.0	1	ug/L
Xylenes (Total)	1330-20-7	0.21 U	0.21	1.0	4	ug/L
Surrogate Recovery		Result	Spike Level	% Recovery	% Recovery Limits	
4-Bromofluorobenzene	460-00-4	45	50.0	90 %	67-125	
Dibromofluoromethane	1868-53-7	45	50.0	90 %	69-111	
Toluene-d8	2037-26-5	46	50.0	93 %	85-120	



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ANALYTICAL REPORT

Sample ID: 9231-MW-5
Lab #: C707627-05

Project: Material Recovery, LLC
Work Order #: C707627
Matrix: Water

Metals by EPA 6000/7000 Series Methods

Parameter	CAS Number	Analytical Results	DF	MDL	MRL	NC SWSL	Units	Analysis Method	Prep Method	Analytical Batch
Antimony	7440-36-0	0.68 U	1	0.68	2.00	6	ug/L	EPA 6020	EPA 200.8	7G12031
Arsenic	7440-38-2	3.6 U	1	3.6	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Barium	7440-39-3	42.1 J	1	1.0	10.0	100	ug/L	EPA 6010B	EPA 3005A	7G02012
Beryllium	7440-41-7	0.80 J	1	0.19	1.00	1	ug/L	EPA 6010B	EPA 3005A	7G02012
Cadmium	7440-43-9	0.38 U	1	0.38	1.00	1	ug/L	EPA 6010B	EPA 3005A	7G02012
Chromium	7440-47-3	1.7 U	1	1.7	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Cobalt	7440-48-4	2.5 U	1	2.5	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Copper	7440-50-8	1.8 U	1	1.8	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Iron	7439-89-6	4180	1	15	50	300	ug/L	EPA 6010B	EPA 3005A	7G02012
Lead	7439-92-1	3.1 U	1	3.1	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Manganese	7439-96-5	151	1	1.4	10.0	50	ug/L	EPA 6010B	EPA 3005A	7G02012
Mercury	7439-97-6	0.11 U	1	0.11	0.20	0.2	ug/L	EPA 7470A	EPA 7470A	7G03007
Nickel	7440-02-0	1.3 U	1	1.3	10.0	50	ug/L	EPA 6010B	EPA 3005A	7G02012
Selenium	7782-49-2	2.8 U	1	2.8	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Silver	7440-22-4	2.0 U	1	2.0	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Thallium	7440-28-0	0.036 U	1	0.036	0.050	5.5	ug/L	EPA 6020	EPA 200.8	7G12031
Vanadium	7440-62-2	2.9 J	1	1.7	10.0	25	ug/L	EPA 6010B	EPA 3005A	7G02012
Zinc	7440-66-6	3.4 U	1	3.4	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012



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ANALYTICAL REPORT

Sample ID: 9231-MW-5
Lab #: C707627-05

Project: Material Recovery, LLC
Work Order #: C707627
Matrix: Water

Metals (Dissolved) by EPA 6000/7000 Series Methods

<u>Parameter</u>	<u>CAS Number</u>	<u>Analytical Results</u>	<u>DF</u>	<u>MDL</u>	<u>MRL</u>	<u>NC SWSL</u>	<u>Units</u>	<u>Analysis Method</u>	<u>Prep Method</u>	<u>Analytical Batch</u>
Lead	7439-92-1	3.1 U	1	3.1	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012



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ANALYTICAL REPORT

Sample ID: 9231-MW-5
Lab #: C707627-05

Project: Material Recovery, LLC
Work Order #: C707627
Matrix: Water

Classical Chemistry Parameters

<u>Parameter</u>	<u>CAS Number</u>	<u>Analytical Results</u>	<u>DF</u>	<u>MDL</u>	<u>MRL</u>	<u>NC SWSL</u>	<u>Units</u>	<u>Analysis Method</u>	<u>Prep Method</u>	<u>Analytical Batch</u>
Sulfate as SO4	14808-79-8	5.6	1	0.60	5.0	NE	mg/L	EPA 375.4	NO PREP	7G10022
Total Alkalinity	NA	67	1	5.2	15	NE	mg/L	EPA 310.2	NO PREP	7G05013
Total Dissolved Solids	NA	76	1	10	10	NE	mg/L	EPA 160.1	NO PREP	7G03002



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ANALYTICAL REPORT

Sample ID: 9231-MW-5
Lab #: C707627-05

Project: Material Recovery, LLC
Work Order #: C707627
Matrix: Water

Classical Chemistry Parameters

<u>Parameter</u>	<u>CAS Number</u>	<u>Analytical Results</u>	<u>DF</u>	<u>MDL</u>	<u>MRL</u>	<u>NC SWSL</u>	<u>Units</u>	<u>Analysis Method</u>	<u>Prep Method</u>	<u>Analytical Batch</u>
Chloride	16887-00-6	3.1	1	0.05	1.0	NE	mg/L	EPA 300.0	NA	7G10013



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ANALYTICAL REPORT

Sample ID: 9231-SW-1
Lab #: C707627-06
Prep. Method: EPA 5030B_MS
Analyzed: 07/12/07 By: jkg
Anal. Method: EPA 8260B
Anal. Batch:
QC Batch: 7G11024

Project: Material Recovery, LLC
Work Order #: C707627
Matrix: Water
Unit: ug/L
Dilution Factor: 1

Volatile Organic Compounds by GCMS

Parameter	CAS Number	Analytical Results	MDL	MRL	NC SWSL	Units
1,1,1,2-Tetrachloroethane	630-20-6	0.16 U	0.16	1.0	5	ug/L
1,1,1-Trichloroethane	71-55-6	0.24 U	0.24	1.0	1	ug/L
1,1,2,2-Tetrachloroethane	79-34-5	0.27 U	0.27	1.0	1	ug/L
1,1,2-Trichloroethane	79-00-5	0.24 U	0.24	1.0	5	ug/L
1,1-Dichloroethane	75-34-3	0.090 U	0.090	1.0	5	ug/L
1,1-Dichloroethene	75-35-4	0.14 U	0.14	1.0	5	ug/L
1,2,3-Trichloropropane	96-18-4	0.32 U	0.32	1.0	1	ug/L
1,2-Dibromo-3-chloropropane	96-12-8	0.19 U	0.19	1.0	1	ug/L
1,2-Dibromoethane	106-93-4	0.19 U	0.19	1.0	1	ug/L
1,2-Dichlorobenzene	95-50-1	0.17 U	0.17	1.0	5	ug/L
1,2-Dichloroethane	107-06-2	0.36 U	0.36	1.0	1	ug/L
1,2-Dichloropropane	78-87-5	0.18 U	0.18	1.0	1	ug/L
1,4-Dichlorobenzene	106-46-7	0.15 U	0.15	1.0	1	ug/L
2-Butanone	78-93-3	0.56 U	0.56	5.0	100	ug/L
2-Hexanone	591-78-6	0.24 U	0.24	5.0	50	ug/L
4-Methyl-2-pentanone	108-10-1	0.36 U	0.36	5.0	100	ug/L
Acetone	67-64-1	0.90 U	0.90	5.0	100	ug/L
Acrylonitrile	107-13-1	2.0 U	2.0	5.0	200	ug/L
Benzene	71-43-2	0.12 U	0.12	1.0	1	ug/L
Bromochloromethane	74-97-5	0.19 U	0.19	1.0	3	ug/L
Bromodichloromethane	75-27-4	0.19 U	0.19	0.40	1	ug/L
Bromoform	75-25-2	0.36 U	0.36	1.0	3	ug/L
Bromomethane	74-83-9	0.21 U	0.21	1.0	10	ug/L
Carbon disulfide	75-15-0	0.12 U	0.12	5.0	100	ug/L
Carbon tetrachloride	56-23-5	0.38 U	0.38	1.0	1	ug/L
Chlorobenzene	108-90-7	0.16 U	0.16	1.0	3	ug/L
Chloroethane	75-00-3	0.40 U	0.40	1.0	10	ug/L
Chloroform	67-66-3	0.16 U	0.16	1.0	5	ug/L
Chloromethane	74-87-3	0.18 U	0.18	1.0	1	ug/L
cis-1,2-Dichloroethene	156-59-2	0.14 U	0.14	1.0	5	ug/L
cis-1,3-Dichloropropene	10061-01-5	0.16 U	0.16	0.20	1	ug/L
Dibromochloromethane	124-48-1	0.18 U	0.18	1.0	1	ug/L
Dibromomethane	74-95-3	0.14 U	0.14	1.0	10	ug/L
Ethylbenzene	100-41-4	0.17 U	0.17	1.0	1	ug/L
Iodomethane	74-88-4	0.23 U	0.23	2.0	10	ug/L
Methylene chloride	75-09-2	0.088 U	0.088	2.0	1	ug/L
Styrene	100-42-5	0.12 U	0.12	1.0	1	ug/L



ANALYTICAL REPORT

Sample ID: 9231-SW-1
 Lab #: C707627-06
 Prep. Method: EPA 5030B_MS
 Analyzed: 07/12/07 By: jkg
 Anal. Method: EPA 8260B
 Anal. Batch:
 QC Batch: 7G11024

Project: Material Recovery, LLC
 Work Order #: C707627
 Matrix: Water
 Unit: ug/L
 Dilution Factor: 1

Volatile Organic Compounds by GCMS

Parameter	CAS Number	Analytical Results	MDL	MRL	NC SWSL	Units
Tetrachloroethene	127-18-4	0.25 U	0.25	1.0	1	ug/L
Toluene	108-88-3	0.15 U	0.15	1.0	1	ug/L
trans-1,2-Dichloroethene	156-60-5	0.10 U	0.10	1.0	5	ug/L
trans-1,3-Dichloropropene	10061-02-6	0.18 U	0.18	0.20	1	ug/L
trans-1,4-Dichloro-2-butene	110-57-6	0.60 U	0.60	1.0	100	ug/L
Trichloroethene	79-01-6	0.23 U	0.23	1.0	1	ug/L
Trichlorofluoromethane	75-69-4	0.16 U	0.16	1.0	1	ug/L
Vinyl acetate	108-05-4	0.19 U	0.19	2.0	50	ug/L
Vinyl chloride	75-01-4	0.15 U	0.15	1.0	1	ug/L
Xylenes (Total)	1330-20-7	0.21 U	0.21	1.0	4	ug/L

Surrogate Recovery		Result	Spike Level	% Recovery	% Recovery Limits
4-Bromofluorobenzene	460-00-4	44	50.0	89 %	67-125
Dibromofluoromethane	1868-53-7	45	50.0	90 %	69-111
Toluene-d8	2037-26-5	47	50.0	94 %	85-120



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ANALYTICAL REPORT

Sample ID: 9231-SW-1
Lab #: C707627-06

Project: Material Recovery, LLC
Work Order #: C707627
Matrix: Water

Metals by EPA 6000/7000 Series Methods

Parameter	CAS Number	Analytical Results	DF	MDL	MRL	NC SWSL	Units	Analysis Method	Prep Method	Analytical Batch
Antimony	7440-36-0	0.68 U	1	0.68	2.00	6	ug/L	EPA 6020	EPA 200.8	7G12031
Arsenic	7440-38-2	3.7 J	1	3.6	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Barium	7440-39-3	28.2 J	1	1.0	10.0	100	ug/L	EPA 6010B	EPA 3005A	7G02012
Beryllium	7440-41-7	0.19 U	1	0.19	1.00	1	ug/L	EPA 6010B	EPA 3005A	7G02012
Cadmium	7440-43-9	0.38 U	1	0.38	1.00	1	ug/L	EPA 6010B	EPA 3005A	7G02012
Chromium	7440-47-3	1.7 U	1	1.7	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Cobalt	7440-48-4	2.5 U	1	2.5	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Copper	7440-50-8	1.8 U	1	1.8	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Lead	7439-92-1	3.1 U	1	3.1	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Nickel	7440-02-0	1.3 U	1	1.3	10.0	50	ug/L	EPA 6010B	EPA 3005A	7G02012
Selenium	7782-49-2	2.8 U	1	2.8	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Silver	7440-22-4	2.0 U	1	2.0	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Thallium	7440-28-0	0.036 U	1	0.036	0.050	5.5	ug/L	EPA 6020	EPA 200.8	7G12031
Vanadium	7440-62-2	1.9 J	1	1.7	10.0	25	ug/L	EPA 6010B	EPA 3005A	7G02012
Zinc	7440-66-6	3.4 U	1	3.4	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012



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ANALYTICAL REPORT

Sample ID: 9231-SW-2
Lab #: C707627-07
Prep. Method: EPA 5030B_MS
Analyzed: 07/12/07 By: jkg
Anal. Method: EPA 8260B
Anal. Batch:
QC Batch: 7G11024

Project: Material Recovery, LLC
Work Order #: C707627
Matrix: Water
Unit: ug/L
Dilution Factor: 1

Volatile Organic Compounds by GCMS

Parameter	CAS Number	Analytical Results	MDL	MRL	NC SWSL	Units
1,1,1,2-Tetrachloroethane	630-20-6	0.16 U	0.16	1.0	5	ug/L
1,1,1-Trichloroethane	71-55-6	0.24 U	0.24	1.0	1	ug/L
1,1,2,2-Tetrachloroethane	79-34-5	0.27 U	0.27	1.0	1	ug/L
1,1,2-Trichloroethane	79-00-5	0.24 U	0.24	1.0	5	ug/L
1,1-Dichloroethane	75-34-3	0.090 U	0.090	1.0	5	ug/L
1,1-Dichloroethene	75-35-4	0.14 U	0.14	1.0	5	ug/L
1,2,3-Trichloropropane	96-18-4	0.32 U	0.32	1.0	1	ug/L
1,2-Dibromo-3-chloropropane	96-12-8	0.19 U	0.19	1.0	1	ug/L
1,2-Dibromoethane	106-93-4	0.19 U	0.19	1.0	1	ug/L
1,2-Dichlorobenzene	95-50-1	0.17 U	0.17	1.0	5	ug/L
1,2-Dichloroethane	107-06-2	0.36 U	0.36	1.0	1	ug/L
1,2-Dichloropropane	78-87-5	0.18 U	0.18	1.0	1	ug/L
1,4-Dichlorobenzene	106-46-7	0.15 U	0.15	1.0	1	ug/L
2-Butanone	78-93-3	0.56 U	0.56	5.0	100	ug/L
2-Hexanone	591-78-6	0.24 U	0.24	5.0	50	ug/L
4-Methyl-2-pentanone	108-10-1	0.36 U	0.36	5.0	100	ug/L
Acetone	67-64-1	0.90 U	0.90	5.0	100	ug/L
Acrylonitrile	107-13-1	2.0 U	2.0	5.0	200	ug/L
Benzene	71-43-2	0.12 U	0.12	1.0	1	ug/L
Bromochloromethane	74-97-5	0.19 U	0.19	1.0	3	ug/L
Bromodichloromethane	75-27-4	0.19 U	0.19	0.40	1	ug/L
Bromoform	75-25-2	0.36 U	0.36	1.0	3	ug/L
Bromomethane	74-83-9	0.21 U	0.21	1.0	10	ug/L
Carbon disulfide	75-15-0	0.12 U	0.12	5.0	100	ug/L
Carbon tetrachloride	56-23-5	0.38 U	0.38	1.0	1	ug/L
Chlorobenzene	108-90-7	0.16 U	0.16	1.0	3	ug/L
Chloroethane	75-00-3	0.40 U	0.40	1.0	10	ug/L
Chloroform	67-66-3	0.16 U	0.16	1.0	5	ug/L
Chloromethane	74-87-3	0.18 U	0.18	1.0	1	ug/L
cis-1,2-Dichloroethene	156-59-2	0.14 U	0.14	1.0	5	ug/L
cis-1,3-Dichloropropene	10061-01-5	0.16 U	0.16	0.20	1	ug/L
Dibromochloromethane	124-48-1	0.18 U	0.18	1.0	1	ug/L
Dibromomethane	74-95-3	0.14 U	0.14	1.0	10	ug/L
Ethylbenzene	100-41-4	0.17 U	0.17	1.0	1	ug/L
Iodomethane	74-88-4	0.23 U	0.23	2.0	10	ug/L
Methylene chloride	75-09-2	0.088 U	0.088	2.0	1	ug/L
Styrene	100-42-5	0.12 U	0.12	1.0	1	ug/L



ANALYTICAL REPORT

Sample ID: 9231-SW-2
 Lab #: C707627-07
 Prep. Method: EPA 5030B_MS
 Analyzed: 07/12/07 By: jkg
 Anal. Method: EPA 8260B
 Anal. Batch:
 QC Batch: 7G11024

Project: Material Recovery, LLC
 Work Order #: C707627
 Matrix: Water
 Unit: ug/L
 Dilution Factor: 1

Volatile Organic Compounds by GCMS

Parameter	CAS Number	Analytical Results	MDL	MRL	NC SWSL	Units
Tetrachloroethene	127-18-4	0.25 U	0.25	1.0	1	ug/L
Toluene	108-88-3	0.15 U	0.15	1.0	1	ug/L
trans-1,2-Dichloroethene	156-60-5	0.10 U	0.10	1.0	5	ug/L
trans-1,3-Dichloropropene	10061-02-6	0.18 U	0.18	0.20	1	ug/L
trans-1,4-Dichloro-2-butene	110-57-6	0.60 U	0.60	1.0	100	ug/L
Trichloroethene	79-01-6	0.23 U	0.23	1.0	1	ug/L
Trichlorofluoromethane	75-69-4	0.16 U	0.16	1.0	1	ug/L
Vinyl acetate	108-05-4	0.19 U	0.19	2.0	50	ug/L
Vinyl chloride	75-01-4	0.15 U	0.15	1.0	1	ug/L
Xylenes (Total)	1330-20-7	0.21 U	0.21	1.0	4	ug/L
Surrogate Recovery		Result	Spike Level	% Recovery	% Recovery Limits	
4-Bromofluorobenzene	460-00-4	42	50.0	85 %	67-125	
Dibromofluoromethane	1868-53-7	47	50.0	93 %	69-111	
Toluene-d8	2037-26-5	46	50.0	92 %	85-120	



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ANALYTICAL REPORT

Sample ID: 9231-SW-2
Lab #: C707627-07

Project: Material Recovery, LLC
Work Order #: C707627
Matrix: Water

Metals by EPA 6000/7000 Series Methods

Parameter	CAS Number	Analytical Results	DF	MDL	MRL	NC SWSL	Units	Analysis Method	Prep Method	Analytical Batch
Antimony	7440-36-0	0.68 U	1	0.68	2.00	6	ug/L	EPA 6020	EPA 200.8	7G12031
Arsenic	7440-38-2	3.6 U	1	3.6	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Barium	7440-39-3	28.8 J	1	1.0	10.0	100	ug/L	EPA 6010B	EPA 3005A	7G02012
Beryllium	7440-41-7	0.19 U	1	0.19	1.00	1	ug/L	EPA 6010B	EPA 3005A	7G02012
Cadmium	7440-43-9	0.38 U	1	0.38	1.00	1	ug/L	EPA 6010B	EPA 3005A	7G02012
Chromium	7440-47-3	1.7 U	1	1.7	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Cobalt	7440-48-4	2.5 U	1	2.5	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Copper	7440-50-8	1.8 U	1	1.8	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Lead	7439-92-1	3.1 U	1	3.1	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Nickel	7440-02-0	1.3 U	1	1.3	10.0	50	ug/L	EPA 6010B	EPA 3005A	7G02012
Selenium	7782-49-2	2.8 U	1	2.8	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Silver	7440-22-4	2.0 U	1	2.0	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Thallium	7440-28-0	0.036 U	1	0.036	0.050	5.5	ug/L	EPA 6020	EPA 200.8	7G12031
Vanadium	7440-62-2	1.7 U	1	1.7	10.0	25	ug/L	EPA 6010B	EPA 3005A	7G02012
Zinc	7440-66-6	3.4 U	1	3.4	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012



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ANALYTICAL REPORT

Sample ID: 9231-SW-3
Lab #: C707627-08
Prep. Method: EPA 5030B_MS
Analyzed: 07/12/07 By: jkg
Anal. Method: EPA 8260B
Anal. Batch:
QC Batch: 7G11024

Project: Material Recovery, LLC
Work Order #: C707627
Matrix: Water
Unit: ug/L
Dilution Factor: 1

Volatile Organic Compounds by GCMS

Parameter	CAS Number	Analytical Results	MDL	MRL	NC SWSL	Units
1,1,1,2-Tetrachloroethane	630-20-6	0.16 U	0.16	1.0	5	ug/L
1,1,1-Trichloroethane	71-55-6	0.24 U	0.24	1.0	1	ug/L
1,1,2,2-Tetrachloroethane	79-34-5	0.27 U	0.27	1.0	1	ug/L
1,1,2-Trichloroethane	79-00-5	0.24 U	0.24	1.0	5	ug/L
1,1-Dichloroethane	75-34-3	0.090 U	0.090	1.0	5	ug/L
1,1-Dichloroethene	75-35-4	0.14 U	0.14	1.0	5	ug/L
1,2,3-Trichloropropane	96-18-4	0.32 U	0.32	1.0	1	ug/L
1,2-Dibromo-3-chloropropane	96-12-8	0.19 U	0.19	1.0	1	ug/L
1,2-Dibromoethane	106-93-4	0.19 U	0.19	1.0	1	ug/L
1,2-Dichlorobenzene	95-50-1	0.17 U	0.17	1.0	5	ug/L
1,2-Dichloroethane	107-06-2	0.36 U	0.36	1.0	1	ug/L
1,2-Dichloropropane	78-87-5	0.18 U	0.18	1.0	1	ug/L
1,4-Dichlorobenzene	106-46-7	0.15 U	0.15	1.0	1	ug/L
2-Butanone	78-93-3	0.56 U	0.56	5.0	100	ug/L
2-Hexanone	591-78-6	0.24 U	0.24	5.0	50	ug/L
4-Methyl-2-pentanone	108-10-1	0.36 U	0.36	5.0	100	ug/L
Acetone	67-64-1	0.90 U	0.90	5.0	100	ug/L
Acrylonitrile	107-13-1	2.0 U	2.0	5.0	200	ug/L
Benzene	71-43-2	0.12 U	0.12	1.0	1	ug/L
Bromochloromethane	74-97-5	0.19 U	0.19	1.0	3	ug/L
Bromodichloromethane	75-27-4	0.19 U	0.19	0.40	1	ug/L
Bromoform	75-25-2	0.36 U	0.36	1.0	3	ug/L
Bromomethane	74-83-9	0.21 U	0.21	1.0	10	ug/L
Carbon disulfide	75-15-0	0.12 U	0.12	5.0	100	ug/L
Carbon tetrachloride	56-23-5	0.38 U	0.38	1.0	1	ug/L
Chlorobenzene	108-90-7	0.16 U	0.16	1.0	3	ug/L
Chloroethane	75-00-3	0.40 U	0.40	1.0	10	ug/L
Chloroform	67-66-3	0.16 U	0.16	1.0	5	ug/L
Chloromethane	74-87-3	0.18 U	0.18	1.0	1	ug/L
cis-1,2-Dichloroethene	156-59-2	0.14 U	0.14	1.0	5	ug/L
cis-1,3-Dichloropropene	10061-01-5	0.16 U	0.16	0.20	1	ug/L
Dibromochloromethane	124-48-1	0.18 U	0.18	1.0	1	ug/L
Dibromomethane	74-95-3	0.14 U	0.14	1.0	10	ug/L
Ethylbenzene	100-41-4	0.17 U	0.17	1.0	1	ug/L
Iodomethane	74-88-4	0.23 U	0.23	2.0	10	ug/L
Methylene chloride	75-09-2	0.088 U	0.088	2.0	1	ug/L
Styrene	100-42-5	0.12 U	0.12	1.0	1	ug/L



ANALYTICAL REPORT

Sample ID: 9231-SW-3
Lab #: C707627-08
Prep. Method: EPA 5030B_MS
Analyzed: 07/12/07 By: jkg
Anal. Method: EPA 8260B
Anal. Batch:
QC Batch: 7G11024

Project: Material Recovery, LLC
Work Order #: C707627
Matrix: Water
Unit: ug/L
Dilution Factor: 1

Volatile Organic Compounds by GCMS

Parameter	CAS Number	Analytical Results	MDL	MRL	NC SWSL	Units
Tetrachloroethene	127-18-4	0.25 U	0.25	1.0	1	ug/L
Toluene	108-88-3	0.15 U	0.15	1.0	1	ug/L
trans-1,2-Dichloroethene	156-60-5	0.10 U	0.10	1.0	5	ug/L
trans-1,3-Dichloropropene	10061-02-6	0.18 U	0.18	0.20	1	ug/L
trans-1,4-Dichloro-2-butene	110-57-6	0.60 U	0.60	1.0	100	ug/L
Trichloroethene	79-01-6	0.23 U	0.23	1.0	1	ug/L
Trichlorofluoromethane	75-69-4	0.16 U	0.16	1.0	1	ug/L
Vinyl acetate	108-05-4	0.19 U	0.19	2.0	50	ug/L
Vinyl chloride	75-01-4	0.15 U	0.15	1.0	1	ug/L
Xylenes (Total)	1330-20-7	0.21 U	0.21	1.0	4	ug/L
Surrogate Recovery		Result	Spike Level	% Recovery	% Recovery Limits	
4-Bromofluorobenzene	460-00-4	45	50.0	90 %	67-125	
Dibromofluoromethane	1868-53-7	46	50.0	92 %	69-111	
Toluene-d8	2037-26-5	48	50.0	95 %	85-120	



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ANALYTICAL REPORT

Sample ID: 9231-SW-3
Lab #: C707627-08

Project: Material Recovery, LLC
Work Order #: C707627
Matrix: Water

Metals by EPA 6000/7000 Series Methods

Parameter	CAS Number	Analytical Results	DF	MDL	MRL	NC SWSL	Units	Analysis Method	Prep Method	Analytical Batch
Antimony	7440-36-0	0.68 U	1	0.68	2.00	6	ug/L	EPA 6020	EPA 200.8	7G12031
Arsenic	7440-38-2	3.6 U	1	3.6	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Barium	7440-39-3	232	1	1.0	10.0	100	ug/L	EPA 6010B	EPA 3005A	7G02012
Beryllium	7440-41-7	0.19 U	1	0.19	1.00	1	ug/L	EPA 6010B	EPA 3005A	7G02012
Cadmium	7440-43-9	0.38 U	1	0.38	1.00	1	ug/L	EPA 6010B	EPA 3005A	7G02012
Chromium	7440-47-3	1.7 U	1	1.7	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Cobalt	7440-48-4	2.5 U	1	2.5	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Copper	7440-50-8	1.8 U	1	1.8	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Lead	7439-92-1	3.1 U	1	3.1	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Nickel	7440-02-0	1.3 U	1	1.3	10.0	50	ug/L	EPA 6010B	EPA 3005A	7G02012
Selenium	7782-49-2	2.8 U	1	2.8	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Silver	7440-22-4	2.0 U	1	2.0	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Thallium	7440-28-0	0.042 J	1	0.036	0.050	5.5	ug/L	EPA 6020	EPA 200.8	7G12031
Vanadium	7440-62-2	1.7 U	1	1.7	10.0	25	ug/L	EPA 6010B	EPA 3005A	7G02012
Zinc	7440-66-6	3.4 U	1	3.4	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012



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ANALYTICAL REPORT

Sample ID: Field Blank
Lab #: C707627-09
Prep. Method: EPA 5030B_MS
Analyzed: 07/12/07 By: jkg
Anal. Method: EPA 8260B
Anal. Batch:
QC Batch: 7G11024

Project: Material Recovery, LLC
Work Order #: C707627
Matrix: Water
Unit: ug/L
Dilution Factor: 1

Volatile Organic Compounds by GCMS

Parameter	CAS Number	Analytical Results	MDL	MRL	NC SWSL	Units
1,1,1,2-Tetrachloroethane	630-20-6	0.16 U	0.16	1.0	5	ug/L
1,1,1-Trichloroethane	71-55-6	0.24 U	0.24	1.0	1	ug/L
1,1,2,2-Tetrachloroethane	79-34-5	0.27 U	0.27	1.0	1	ug/L
1,1,2-Trichloroethane	79-00-5	0.24 U	0.24	1.0	5	ug/L
1,1-Dichloroethane	75-34-3	0.090 U	0.090	1.0	5	ug/L
1,1-Dichloroethene	75-35-4	0.14 U	0.14	1.0	5	ug/L
1,2,3-Trichloropropane	96-18-4	0.32 U	0.32	1.0	1	ug/L
1,2-Dibromo-3-chloropropane	96-12-8	0.19 U	0.19	1.0	1	ug/L
1,2-Dibromoethane	106-93-4	0.19 U	0.19	1.0	1	ug/L
1,2-Dichlorobenzene	95-50-1	0.17 U	0.17	1.0	5	ug/L
1,2-Dichloroethane	107-06-2	0.36 U	0.36	1.0	1	ug/L
1,2-Dichloropropane	78-87-5	0.18 U	0.18	1.0	1	ug/L
1,4-Dichlorobenzene	106-46-7	0.15 U	0.15	1.0	1	ug/L
2-Butanone	78-93-3	0.56 U	0.56	5.0	100	ug/L
2-Hexanone	591-78-6	0.24 U	0.24	5.0	50	ug/L
4-Methyl-2-pentanone	108-10-1	0.36 U	0.36	5.0	100	ug/L
Acetone	67-64-1	1.5 J	0.90	5.0	100	ug/L
Acrylonitrile	107-13-1	2.0 U	2.0	5.0	200	ug/L
Benzene	71-43-2	0.12 U	0.12	1.0	1	ug/L
Bromochloromethane	74-97-5	0.19 U	0.19	1.0	3	ug/L
Bromodichloromethane	75-27-4	0.19 U	0.19	0.40	1	ug/L
Bromoform	75-25-2	0.36 U	0.36	1.0	3	ug/L
Bromomethane	74-83-9	0.21 U	0.21	1.0	10	ug/L
Carbon disulfide	75-15-0	0.12 U	0.12	5.0	100	ug/L
Carbon tetrachloride	56-23-5	0.38 U	0.38	1.0	1	ug/L
Chlorobenzene	108-90-7	0.16 U	0.16	1.0	3	ug/L
Chloroethane	75-00-3	0.40 U	0.40	1.0	10	ug/L
Chloroform	67-66-3	0.16 U	0.16	1.0	5	ug/L
Chloromethane	74-87-3	0.18 U	0.18	1.0	1	ug/L
cis-1,2-Dichloroethene	156-59-2	0.14 U	0.14	1.0	5	ug/L
cis-1,3-Dichloropropene	10061-01-5	0.16 U	0.16	0.20	1	ug/L
Dibromochloromethane	124-48-1	0.18 U	0.18	1.0	1	ug/L
Dibromomethane	74-95-3	0.14 U	0.14	1.0	10	ug/L
Ethylbenzene	100-41-4	0.17 U	0.17	1.0	1	ug/L
Iodomethane	74-88-4	0.23 U	0.23	2.0	10	ug/L
Methylene chloride	75-09-2	0.088 U	0.088	2.0	1	ug/L
Styrene	100-42-5	0.12 U	0.12	1.0	1	ug/L



ANALYTICAL REPORT

Sample ID: Field Blank
 Lab #: C707627-09
 Prep. Method: EPA 5030B_MS
 Analyzed: 07/12/07 By: jkg
 Anal. Method: EPA 8260B
 Anal. Batch:
 QC Batch: 7G11024

Project: Material Recovery, LLC
 Work Order #: C707627
 Matrix: Water
 Unit: ug/L
 Dilution Factor: 1

Volatile Organic Compounds by GCMS

Parameter	CAS Number	Analytical Results	MDL	MRL	NC SWSL	Units
Tetrachloroethene	127-18-4	0.25 U	0.25	1.0	1	ug/L
Toluene	108-88-3	0.32 J	0.15	1.0	1	ug/L
trans-1,2-Dichloroethene	156-60-5	0.10 U	0.10	1.0	5	ug/L
trans-1,3-Dichloropropene	10061-02-6	0.18 U	0.18	0.20	1	ug/L
trans-1,4-Dichloro-2-butene	110-57-6	0.60 U	0.60	1.0	100	ug/L
Trichloroethene	79-01-6	0.23 U	0.23	1.0	1	ug/L
Trichlorofluoromethane	75-69-4	0.16 U	0.16	1.0	1	ug/L
Vinyl acetate	108-05-4	0.19 U	0.19	2.0	50	ug/L
Vinyl chloride	75-01-4	0.15 U	0.15	1.0	1	ug/L
Xylenes (Total)	1330-20-7	0.21 U	0.21	1.0	4	ug/L
Surrogate Recovery		Result	Spike Level	% Recovery	% Recovery Limits	
4-Bromofluorobenzene	460-00-4	45	50.0	89 %	67-125	
Dibromofluoromethane	1868-53-7	46	50.0	92 %	69-111	
Toluene-d8	2037-26-5	47	50.0	93 %	85-120	



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ANALYTICAL REPORT

Sample ID: Field Blank
Lab #: C707627-09

Project: Material Recovery, LLC
Work Order #: C707627
Matrix: Water

Metals by EPA 6000/7000 Series Methods

Parameter	CAS Number	Analytical Results	DF	MDL	MRL	NC SWSL	Units	Analysis Method	Prep Method	Analytical Batch
Antimony	7440-36-0	0.68 U	1	0.68	2.00	6	ug/L	EPA 6020	EPA 200.8	7G12031
Arsenic	7440-38-2	3.6 U	1	3.6	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Barium	7440-39-3	10.4 J	1	1.0	10.0	100	ug/L	EPA 6010B	EPA 3005A	7G02012
Beryllium	7440-41-7	0.19 U	1	0.19	1.00	1	ug/L	EPA 6010B	EPA 3005A	7G02012
Cadmium	7440-43-9	0.38 U	1	0.38	1.00	1	ug/L	EPA 6010B	EPA 3005A	7G02012
Chromium	7440-47-3	1.7 U	1	1.7	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Cobalt	7440-48-4	2.5 U	1	2.5	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Copper	7440-50-8	1.8 U	1	1.8	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Iron	7439-89-6	15 U	1	15	50	300	ug/L	EPA 6010B	EPA 3005A	7G02012
Lead	7439-92-1	3.1 U	1	3.1	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Manganese	7439-96-5	1.4 U	1	1.4	10.0	50	ug/L	EPA 6010B	EPA 3005A	7G02012
Mercury	7439-97-6	0.11 U	1	0.11	0.20	0.2	ug/L	EPA 7470A	EPA 7470A	7G03007
Nickel	7440-02-0	1.3 U	1	1.3	10.0	50	ug/L	EPA 6010B	EPA 3005A	7G02012
Selenium	7782-49-2	2.8 U	1	2.8	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Silver	7440-22-4	2.0 U	1	2.0	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012
Thallium	7440-28-0	0.036 U	1	0.036	0.050	5.5	ug/L	EPA 6020	EPA 200.8	7G12031
Vanadium	7440-62-2	1.7 U	1	1.7	10.0	25	ug/L	EPA 6010B	EPA 3005A	7G02012
Zinc	7440-66-6	3.4 U	1	3.4	10.0	10	ug/L	EPA 6010B	EPA 3005A	7G02012

**ANALYTICAL REPORT**

Sample ID: Trip Blank
 Lab #: C707627-10
 Prep. Method: EPA 5030B_MS
 Analyzed: 07/12/07 By: jkg
 Anal. Method: EPA 8260B
 Anal. Batch:
 QC Batch: 7G11024

Project: Material Recovery, LLC
 Work Order #: C707627
 Matrix: Water
 Unit: ug/L
 Dilution Factor: 1

Volatile Organic Compounds by GCMS

Parameter	CAS Number	Analytical Results	MDL	MRL	NC SWSL	Units
1,1,1,2-Tetrachloroethane	630-20-6	0.16 U	0.16	1.0	5	ug/L
1,1,1-Trichloroethane	71-55-6	0.24 U	0.24	1.0	1	ug/L
1,1,2,2-Tetrachloroethane	79-34-5	0.27 U	0.27	1.0	1	ug/L
1,1,2-Trichloroethane	79-00-5	0.24 U	0.24	1.0	5	ug/L
1,1-Dichloroethane	75-34-3	0.090 U	0.090	1.0	5	ug/L
1,1-Dichloroethene	75-35-4	0.14 U	0.14	1.0	5	ug/L
1,2,3-Trichloropropane	96-18-4	0.32 U	0.32	1.0	1	ug/L
1,2-Dibromo-3-chloropropane	96-12-8	0.19 U	0.19	1.0	1	ug/L
1,2-Dibromoethane	106-93-4	0.19 U	0.19	1.0	1	ug/L
1,2-Dichlorobenzene	95-50-1	0.17 U	0.17	1.0	5	ug/L
1,2-Dichloroethane	107-06-2	0.36 U	0.36	1.0	1	ug/L
1,2-Dichloropropane	78-87-5	0.18 U	0.18	1.0	1	ug/L
1,4-Dichlorobenzene	106-46-7	0.15 U	0.15	1.0	1	ug/L
2-Butanone	78-93-3	0.56 U	0.56	5.0	100	ug/L
2-Hexanone	591-78-6	0.24 U	0.24	5.0	50	ug/L
4-Methyl-2-pentanone	108-10-1	0.36 U	0.36	5.0	100	ug/L
Acetone	67-64-1	0.90 U	0.90	5.0	100	ug/L
Acrylonitrile	107-13-1	2.0 U	2.0	5.0	200	ug/L
Benzene	71-43-2	0.12 U	0.12	1.0	1	ug/L
Bromochloromethane	74-97-5	0.19 U	0.19	1.0	3	ug/L
Bromodichloromethane	75-27-4	0.19 U	0.19	0.40	1	ug/L
Bromoform	75-25-2	0.36 U	0.36	1.0	3	ug/L
Bromomethane	74-83-9	0.21 U	0.21	1.0	10	ug/L
Carbon disulfide	75-15-0	0.12 U	0.12	5.0	100	ug/L
Carbon tetrachloride	56-23-5	0.38 U	0.38	1.0	1	ug/L
Chlorobenzene	108-90-7	0.16 U	0.16	1.0	3	ug/L
Chloroethane	75-00-3	0.40 U	0.40	1.0	10	ug/L
Chloroform	67-66-3	0.16 U	0.16	1.0	5	ug/L
Chloromethane	74-87-3	0.18 U	0.18	1.0	1	ug/L
cis-1,2-Dichloroethene	156-59-2	0.14 U	0.14	1.0	5	ug/L
cis-1,3-Dichloropropene	10061-01-5	0.16 U	0.16	0.20	1	ug/L
Dibromochloromethane	124-48-1	0.18 U	0.18	1.0	1	ug/L
Dibromomethane	74-95-3	0.14 U	0.14	1.0	10	ug/L
Ethylbenzene	100-41-4	0.17 U	0.17	1.0	1	ug/L
Iodomethane	74-88-4	0.23 U	0.23	2.0	10	ug/L
Methylene chloride	75-09-2	0.088 U	0.088	2.0	1	ug/L
Styrene	100-42-5	0.12 U	0.12	1.0	1	ug/L



ANALYTICAL REPORT

Sample ID: Trip Blank
 Lab #: C707627-10
 Prep. Method: EPA 5030B_MS
 Analyzed: 07/12/07 By: jkg
 Anal. Method: EPA 8260B
 Anal. Batch:
 QC Batch: 7G11024

Project: Material Recovery, LLC
 Work Order #: C707627
 Matrix: Water
 Unit: ug/L
 Dilution Factor: 1

Volatile Organic Compounds by GCMS

Parameter	CAS Number	Analytical Results	MDL	MRL	NC SWSL	Units
Tetrachloroethene	127-18-4	0.25 U	0.25	1.0	1	ug/L
Toluene	108-88-3	0.63 J	0.15	1.0	1	ug/L
trans-1,2-Dichloroethene	156-60-5	0.10 U	0.10	1.0	5	ug/L
trans-1,3-Dichloropropene	10061-02-6	0.18 U	0.18	0.20	1	ug/L
trans-1,4-Dichloro-2-butene	110-57-6	0.60 U	0.60	1.0	100	ug/L
Trichloroethene	79-01-6	0.23 U	0.23	1.0	1	ug/L
Trichlorofluoromethane	75-69-4	0.16 U	0.16	1.0	1	ug/L
Vinyl acetate	108-05-4	0.19 U	0.19	2.0	50	ug/L
Vinyl chloride	75-01-4	0.15 U	0.15	1.0	1	ug/L
Xylenes (Total)	1330-20-7	0.21 U	0.21	1.0	4	ug/L

Surrogate Recovery		Result	Spike Level	% Recovery	% Recovery Limits
4-Bromofluorobenzene	460-00-4	44	50.0	88 %	67-125
Dibromofluoromethane	1868-53-7	45	50.0	91 %	69-111
Toluene-d8	2037-26-5	46	50.0	92 %	85-120



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QUALITY CONTROL

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Sample Notes
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Volatile Organic Compounds by GCMS - Quality Control

Batch 7G11024 - EPA 5030B_MS

Prepared: 07/11/2007 13:54 Analyzed: 07/11/2007 20:30

Blank (7G11024-BLK1)

Chloromethane	0.18 U	1.0	ug/L
Vinyl chloride	0.15 U	1.0	ug/L
Bromomethane	0.21 U	1.0	ug/L
Chloroethane	0.40 U	1.0	ug/L
Trichlorofluoromethane	0.16 U	1.0	ug/L
1,1-Dichloroethene	0.14 U	1.0	ug/L
Acetone	0.90 U	5.0	ug/L
Iodomethane	0.23 U	2.0	ug/L
Carbon disulfide	0.12 U	5.0	ug/L
Methylene chloride	0.088 U	2.0	ug/L
Acrylonitrile	2.0 U	5.0	ug/L
trans-1,2-Dichloroethene	0.10 U	1.0	ug/L
1,1-Dichloroethane	0.090 U	1.0	ug/L
Vinyl acetate	0.19 U	2.0	ug/L
2-Butanone	0.56 U	5.0	ug/L
cis-1,2-Dichloroethene	0.14 U	1.0	ug/L
Bromochloromethane	0.19 U	1.0	ug/L
Chloroform	0.16 U	1.0	ug/L
1,1,1-Trichloroethane	0.24 U	1.0	ug/L
Carbon tetrachloride	0.38 U	1.0	ug/L
1,2-Dichloroethane	0.36 U	1.0	ug/L
Benzene	0.12 U	1.0	ug/L
Trichloroethene	0.23 U	1.0	ug/L
1,2-Dichloropropane	0.18 U	1.0	ug/L
Dibromomethane	0.14 U	1.0	ug/L
Bromodichloromethane	0.19 U	0.40	ug/L
cis-1,3-Dichloropropene	0.16 U	0.20	ug/L
4-Methyl-2-pentanone	0.36 U	5.0	ug/L
Toluene	0.15 U	1.0	ug/L
trans-1,3-Dichloropropene	0.18 U	0.20	ug/L
1,1,2-Trichloroethane	0.24 U	1.0	ug/L
Tetrachloroethene	0.25 U	1.0	ug/L
2-Hexanone	0.24 U	5.0	ug/L
Dibromochloromethane	0.18 U	1.0	ug/L
1,2-Dibromoethane	0.19 U	1.0	ug/L
Chlorobenzene	0.16 U	1.0	ug/L
1,1,1,2-Tetrachloroethane	0.16 U	1.0	ug/L
Ethylbenzene	0.17 U	1.0	ug/L
Styrene	0.12 U	1.0	ug/L
Bromoform	0.36 U	1.0	ug/L
1,1,2,2-Tetrachloroethane	0.27 U	1.0	ug/L
1,2,3-Trichloropropane	0.32 U	1.0	ug/L
trans-1,4-Dichloro-2-butene	0.60 U	1.0	ug/L
1,4-Dichlorobenzene	0.15 U	1.0	ug/L
1,2-Dichlorobenzene	0.17 U	1.0	ug/L

**QUALITY CONTROL**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Sample Notes
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Volatile Organic Compounds by GCMS - Quality Control

Batch 7G11024 - EPA 5030B_MS

Blank (7G11024-BLK1) Continued

Prepared: 07/11/2007 13:54 Analyzed: 07/11/2007 20:30

1,2-Dibromo-3-chloropropane	0.19 U	1.0	ug/L							
Xylenes (Total)	0.21 U	1.0	ug/L							
<i>Surrogate: Dibromofluoromethane</i>	42		ug/L	50.0		83	69-111			
<i>Surrogate: Toluene-d8</i>	45		ug/L	50.0		90	85-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	45		ug/L	50.0		90	67-125			

LCS (7G11024-BS1)

Prepared: 07/11/2007 13:54 Analyzed: 07/11/2007 20:57

1,1-Dichloroethene	17	1.0	ug/L	20.0		85	57-141			
Benzene	20	1.0	ug/L	20.0		101	76-116			
Trichloroethene	19	1.0	ug/L	20.0		96	81-118			
Toluene	18	1.0	ug/L	20.0		92	77-120			
Chlorobenzene	19	1.0	ug/L	20.0		94	75-115			

Matrix Spike (7G11024-MS1)

Source: C707627-02

Prepared: 07/11/2007 13:54 Analyzed: 07/11/2007 21:23

1,1-Dichloroethene	18	1.0	ug/L	20.0	0.14 U	91	57-141			
Benzene	22	1.0	ug/L	20.0	0.12 U	108	76-116			
Trichloroethene	20	1.0	ug/L	20.0	0.23 U	101	81-118			
Toluene	20	1.0	ug/L	20.0	0.15 U	102	77-120			
Chlorobenzene	20	1.0	ug/L	20.0	0.16 U	98	75-115			

Matrix Spike Dup (7G11024-MSD1)

Source: C707627-02

Prepared: 07/11/2007 13:54 Analyzed: 07/11/2007 21:50

1,1-Dichloroethene	18	1.0	ug/L	20.0	0.14 U	92	57-141	0.1	12	
Benzene	21	1.0	ug/L	20.0	0.12 U	103	76-116	5	14	
Trichloroethene	20	1.0	ug/L	20.0	0.23 U	99	81-118	1	11	
Toluene	20	1.0	ug/L	20.0	0.15 U	100	77-120	2	17	
Chlorobenzene	20	1.0	ug/L	20.0	0.16 U	98	75-115	0.05	12	

Metals by EPA 6000/7000 Series Methods - Quality Control

Batch 7G02012 - EPA 3005A

Blank (7G02012-BLK1)

Prepared: 07/02/2007 11:28 Analyzed: 07/16/2007 10:37

Arsenic	3.6 U	10.0	ug/L							
Barium	1.0 U	10.0	ug/L							
Beryllium	0.19 U	1.00	ug/L							
Cadmium	0.38 U	1.00	ug/L							
Chromium	1.7 U	10.0	ug/L							
Cobalt	2.5 U	10.0	ug/L							
Copper	1.8 U	10.0	ug/L							
Iron	15 U	50	ug/L							
Lead	3.1 U	10.0	ug/L							
Manganese	1.4 U	10.0	ug/L							
Nickel	1.3 U	10.0	ug/L							
Selenium	2.8 U	10.0	ug/L							
Silver	2.0 U	10.0	ug/L							
Vanadium	1.7 U	10.0	ug/L							
Zinc	3.4 U	10.0	ug/L							

LCS (7G02012-BS1)

Prepared: 07/02/2007 11:28 Analyzed: 07/16/2007 10:44

Arsenic	1050	10.0	ug/L	1000		105	82-117			
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**QUALITY CONTROL**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Sample Notes
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Metals by EPA 6000/7000 Series Methods - Quality Control

Batch 7G02012 - EPA 3005A

LCS (7G02012-BS1) Continued

Prepared: 07/02/2007 11:28 Analyzed: 07/16/2007 10:44

Barium	1110	10.0	ug/L	1000		111	72-125			
Beryllium	540	1.00	ug/L	500		108	75-121			
Cadmium	538	1.00	ug/L	500		108	72-120			
Chromium	1040	10.0	ug/L	1000		104	78-119			
Cobalt	1040	10.0	ug/L	1000		104	76-117			
Copper	510	10.0	ug/L	500		102	80-117			
Iron	10500	50	ug/L	10000		105	84-133			
Lead	1050	10.0	ug/L	1000		105	72-121			
Manganese	514	10.0	ug/L	500		103	76-123			
Nickel	1080	10.0	ug/L	1000		108	78-116			
Selenium	1070	10.0	ug/L	1000		107	82-127			
Silver	102	10.0	ug/L	100		102	80-128			
Vanadium	509	10.0	ug/L	500		102	78-117			
Zinc	1060	10.0	ug/L	1000		106	80-120			

Matrix Spike (7G02012-MS1)

Source: C707627-02

Prepared: 07/02/2007 11:28 Analyzed: 07/16/2007 11:02

Arsenic	1050	10.0	ug/L	1000	3.6 U	105	64-126			
Barium	1760	10.0	ug/L	1000	628	114	74-119			
Beryllium	546	1.00	ug/L	500	3.50	109	70-131			
Cadmium	540	1.00	ug/L	500	0.38 U	108	68-121			
Chromium	1040	10.0	ug/L	1000	1.7 U	104	73-120			
Cobalt	1030	10.0	ug/L	1000	2.5 U	103	76-120			
Copper	512	10.0	ug/L	500	1.8 U	102	75-123			
Iron	10600	50	ug/L	10000	15 U	106	48-144			
Lead	1050	10.0	ug/L	1000	3.1 U	105	68-126			
Manganese	658	10.0	ug/L	500	174	97	55-146			
Nickel	1070	10.0	ug/L	1000	1.3 U	107	64-126			
Selenium	1060	10.0	ug/L	1000	2.8 U	106	65-129			
Silver	104	10.0	ug/L	100	2.0 U	104	69-121			
Vanadium	510	10.0	ug/L	500	1.7 U	102	71-130			
Zinc	1060	10.0	ug/L	1000	3.4 U	106	63-131			

Matrix Spike Dup (7G02012-MSD1)

Source: C707627-02

Prepared: 07/02/2007 11:28 Analyzed: 07/16/2007 11:09

Arsenic	1080	10.0	ug/L	1000	3.6 U	108	64-126	2	12	
Barium	1810	10.0	ug/L	1000	628	119	74-119	3	11	
Beryllium	556	1.00	ug/L	500	3.50	110	70-131	2	21	
Cadmium	548	1.00	ug/L	500	0.38 U	110	68-121	1	12	
Chromium	1060	10.0	ug/L	1000	1.7 U	106	73-120	2	10	
Cobalt	1050	10.0	ug/L	1000	2.5 U	105	76-120	2	17	
Copper	524	10.0	ug/L	500	1.8 U	105	75-123	3	16	
Iron	10700	50	ug/L	10000	15 U	107	48-144	2	23	
Lead	1050	10.0	ug/L	1000	3.1 U	105	68-126	0.8	19	
Manganese	673	10.0	ug/L	500	174	100	55-146	2	19	
Nickel	1080	10.0	ug/L	1000	1.3 U	108	64-126	1	12	
Selenium	1080	10.0	ug/L	1000	2.8 U	108	65-129	1	10	
Silver	106	10.0	ug/L	100	2.0 U	106	69-121	1	12	
Vanadium	520	10.0	ug/L	500	1.7 U	104	71-130	2	16	

**QUALITY CONTROL**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Sample Notes
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Metals by EPA 6000/7000 Series Methods - Quality Control*Batch 7G02012 - EPA 3005A***Matrix Spike Dup (7G02012-MSD1) Continued** Source: C707627-02 Prepared: 07/02/2007 11:28 Analyzed: 07/16/2007 11:09

Zinc 1080 10.0 ug/L 1000 3.4 U 108 63-131 2 24

*Batch 7G03007 - EPA 7470A***Blank (7G03007-BLK1)** Prepared: 07/03/2007 09:49 Analyzed: 07/03/2007 16:39

Mercury 0.11 U 0.20 ug/L

LCS (7G03007-BS1) Prepared: 07/03/2007 09:49 Analyzed: 07/03/2007 16:41

Mercury 4.88 0.20 ug/L 5.00 98 87-123

Matrix Spike (7G03007-MS1) Source: C707627-02 Prepared: 07/03/2007 09:49 Analyzed: 07/03/2007 16:46

Mercury 4.93 0.20 ug/L 5.00 0.11 U 99 63-132

Matrix Spike Dup (7G03007-MSD1) Source: C707627-02 Prepared: 07/03/2007 09:49 Analyzed: 07/03/2007 16:49

Mercury 4.84 0.20 ug/L 5.00 0.11 U 97 63-132 2 10

Post Spike (7G03007-PS1) Source: C707627-02 Prepared: 07/03/2007 09:49 Analyzed: 07/03/2007 16:57

Mercury 4.85 0.20 ug/L 5.00 0.0007 97 85-115

*Batch 7G12031 - EPA 200.8***Blank (7G12031-BLK1)** Prepared: 07/12/2007 13:31 Analyzed: 07/13/2007 11:13

Antimony 0.68 U 2.00 ug/L

Thallium 0.036 U 0.050 ug/L

LCS (7G12031-BS1) Prepared: 07/12/2007 13:31 Analyzed: 07/13/2007 11:15

Antimony 26.2 2.00 ug/L 25.0 105 85-115

Thallium 26.0 0.050 ug/L 25.0 104 85-115

Matrix Spike (7G12031-MS1) Source: C707153-01 Prepared: 07/12/2007 13:31 Analyzed: 07/13/2007 11:20

Antimony 23.3 2.00 ug/L 25.0 0.68 U 93 85-115

Thallium 26.0 0.050 ug/L 25.0 0.205 103 85-115

Matrix Spike Dup (7G12031-MSD1) Source: C707153-01 Prepared: 07/12/2007 13:31 Analyzed: 07/13/2007 11:23

Antimony 22.7 2.00 ug/L 25.0 0.68 U 91 85-115 2 20

Thallium 25.8 0.050 ug/L 25.0 0.205 103 85-115 0.5 20

Metals (Dissolved) by EPA 6000/7000 Series Methods - Quality Control*Batch 7G02012 - EPA 3005A***Blank (7G02012-BLK1)** Prepared: 07/02/2007 11:28 Analyzed: 07/16/2007 10:37

Barium 1.0 U 10.0 ug/L

Lead 3.1 U 10.0 ug/L

LCS (7G02012-BS1) Prepared: 07/02/2007 11:28 Analyzed: 07/16/2007 10:44

Barium 1110 10.0 ug/L 1000 111 72-125

Lead 1050 10.0 ug/L 1000 105 72-121

Matrix Spike (7G02012-MS1) Source: C707627-02 Prepared: 07/02/2007 11:28 Analyzed: 07/16/2007 11:02

Barium 1760 10.0 ug/L 1000 628 114 74-119

Lead 1050 10.0 ug/L 1000 3.1 U 105 68-126

Matrix Spike Dup (7G02012-MSD1) Source: C707627-02 Prepared: 07/02/2007 11:28 Analyzed: 07/16/2007 11:09

Barium 1810 10.0 ug/L 1000 628 119 74-119 3 11

Lead 1050 10.0 ug/L 1000 3.1 U 105 68-126 0.8 19

Classical Chemistry Parameters - Quality Control

**QUALITY CONTROL**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Sample Notes
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Classical Chemistry Parameters - Quality Control*Batch 7G03002 - NO PREP*

Blank (7G03002-BLK1)				Prepared: 07/03/2007 08:12 Analyzed: 07/05/2007 13:35						
Total Dissolved Solids	10 U	10	mg/L							
LCS (7G03002-BS1)				Prepared: 07/03/2007 08:12 Analyzed: 07/05/2007 13:35						
Total Dissolved Solids	300	10	mg/L	300		101	90-110			
Duplicate (7G03002-DUP1)				Source: C707153-01 Prepared: 07/03/2007 08:12 Analyzed: 07/05/2007 13:35						
Total Dissolved Solids	210	10	mg/L	200				1	10	

Batch 7G05013 - NO PREP

Blank (7G05013-BLK1)				Prepared: 07/05/2007 10:15 Analyzed: 07/05/2007 14:05						
Total Alkalinity	5.2 U	15	mg/L							
LCS (7G05013-BS1)				Prepared: 07/05/2007 10:15 Analyzed: 07/05/2007 14:06						
Total Alkalinity	110	15	mg/L	100		107	80-120			
Matrix Spike (7G05013-MS1)				Source: C707153-01 Prepared: 07/05/2007 10:15 Analyzed: 07/05/2007 14:08						
Total Alkalinity	210 QM-02	15	mg/L	43.2	170	86	80-120			QM-02
Matrix Spike Dup (7G05013-MSD1)				Source: C707153-01 Prepared: 07/05/2007 10:15 Analyzed: 07/05/2007 14:09						
Total Alkalinity	210 QM-02	15	mg/L	43.2	170	88	80-120	0.5	25	QM-02

Batch 7G10022 - NO PREP

Blank (7G10022-BLK1)				Prepared: 07/10/2007 18:49 Analyzed: 07/12/2007 21:50						
Sulfate as SO4	3.9 J	5.0	mg/L							
LCS (7G10022-BS1)				Prepared: 07/10/2007 18:49 Analyzed: 07/12/2007 21:54						
Sulfate as SO4	22	5.0	mg/L	20.0		111	80-120			
Matrix Spike (7G10022-MS1)				Source: C707627-01 Prepared: 07/10/2007 18:49 Analyzed: 07/12/2007 22:04						
Sulfate as SO4	20	5.0	mg/L	20.0	4.0	81	80-120			
Matrix Spike Dup (7G10022-MSD1)				Source: C707627-01 Prepared: 07/10/2007 18:49 Analyzed: 07/12/2007 22:08						
Sulfate as SO4	20	5.0	mg/L	20.0	4.0	82	80-120	1	25	

QUALITY CONTROL

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Sample Notes
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Classical Chemistry Parameters - Quality Control*Batch 7G10013 - NA*

Blank (7G10013-BLK1)				Prepared: 07/10/2007 14:31 Analyzed: 07/10/2007 21:34						
Chloride	0.54 J	1.0	mg/L							
LCS (7G10013-BS1)				Prepared: 07/10/2007 14:31 Analyzed: 07/10/2007 21:51						
Chloride	270	1.0	mg/L	250		108	85-118			
Matrix Spike (7G10013-MS1)				Source: A703731-07 Prepared: 07/10/2007 14:31 Analyzed: 07/10/2007 22:08						
Chloride	250	1.0	mg/L	255		97	85-118			
Matrix Spike Dup (7G10013-MSD1)				Source: A703731-07 Prepared: 07/10/2007 14:31 Analyzed: 07/10/2007 22:24						
Chloride	240	1.0	mg/L	255		95	85-118	2	10	

NOTES AND DEFINITIONS

- J Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
- QM-02 The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
- U Analyte included in the analysis, but not detected

LABORATORY CERTIFICATION SUMMARY

Analysis	Matrix	Cert ID	Cert Number
8260B Appendix 1	Water	NC	591
Alkalinity 310.2	Water	NC	591
Antimony Total EPA 6020	Water	NC	591
Arsenic Total EPA 6010B	Water	NC	591
Barium Dissolved EPA 6010B	Water	NC	591
Barium Total EPA 6010B	Water	NC	591
Beryllium Total EPA 6010B	Water	NC	591
Cadmium Total EPA 6010B	Water	NC	591
Chromium Total EPA 6010B	Water	NC	591
Cobalt Total EPA 6010B	Water	NC	591
Copper Total EPA 6010B	Water	NC	591
Iron Total EPA 6010B	Water	NC	591
Lead Dissolved EPA 6010B	Water	NC	591
Lead Total EPA 6010B	Water	NC	591
Manganese Total EPA 6010B	Water	NC	591
Mercury Total EPA 7470A	Water	NC	591
Nickel Total EPA 6010B	Water	NC	591
Selenium Total EPA 6010B	Water	NC	591
Silver Total EPA 6010B	Water	NC	591
TDS 160.1	Water	NC	591
Thallium Total EPA 6020	Water	NC	591
Vanadium Total EPA 6010B	Water	NC	591
Zinc Total EPA 6010B	Water	NC	591
Chloride 300	Water	NC	424



ENVIRONMENTAL CONSERVATION LABORATORIES CHAIN-OF-CUSTODY RECORD

10775 Central Port Dr. 1015 Passport Way Cary, NC 27513
 (407) 828-5314 Fax (407) 650-6945 (919) 677-1669 Fax (919) 677-9646

Page 1 of 1

Client Name: **Golden Associates, Inc. (G0007)**
 Address: **The Wingside Building 4900 Koger Blvd., Suite 140 Greensboro, NC 27407**
 Tel: **(336) 852-4903** Fax: **(336) 852-4904**
 Reporting Contact: **Ben Draper**
 Billing Contact: **Accounts Payable**
 Facility # (if required): **92-31**

Item #	Sample ID (Field Identification)	Collection Date	Collection Time	Comp / Grab	Matrix (see codes)	Took # of Containers	Preservation (See Codes) (Contains as necessary)							Requested Turnaround Times
							Ag, As, Ba, Be, Cd, Co, Cr, Cu, Fe, Hg, Mn, Ni, Pb, Sb, Se, Tl, V, Zn	Ag, As, Ba, Be, Cd, Co, Cr, Cu, Ni, Pb, Sb, Se, Tl, V, Zn	Alkalinity 310.2, Sulfate 375.4	Ba/F	Chloride 325.3	Pb/F	TDS 160.1	
9231-MW-1		6/29/07	9:50	G	Water	6	X	X	X	X	X	X	X	Note: Rush requests subject to acceptance by the facility <input checked="" type="checkbox"/> Standard <input type="checkbox"/> Expedited Due <u> </u> / <u> </u> / <u> </u> Lab Workorder: C707627
9231-MW-2		6/29/07	10:10	G	Water	11	X	X	X	X	X	X	X	
9231-MW-3		6/29/07	10:30	G	Water	7	X	X	X	X	X	X	X	
9231-MW-4		6/29/07	10:45	G	Water	6	X	X	X	X	X	X	X	
9231-MW-5		6/29/07	11:00	G	Water	7	X	X	X	X	X	X	X	
9231-SW-1		6/29/07	11:30	G	Water	4	X	X	X	X	X	X	X	
9231-SW-2		6/29/07	11:35	G	Water	4	X	X	X	X	X	X	X	
9231-SW-3		6/29/07	12:00	G	Water	4	X	X	X	X	X	X	X	
Field Blank		6/29/07	12:45	G	Water	4	X	X	X	X	X	X	X	
Trip Blank					Water	4	X	X	X	X	X	X	X	

Sample Kit Prepared By: **CARY** Date/TIME: **6/29/07 9:30**
 Comments: **unit rates per logging contract for laboratory services dated April 1, 2004 to 2006 ENO PMSA File 18. Estimated Fee \$18,600**
 LIA: **F. Free D. S. S. S. S.**
 Matrix: **GW-Groundwater SO-Soil SE-Sediment SW-Surface Water WW-Wastewater A-Air 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 specific agreements exist.
 Approved by: **Ben Draper**
 Condition Upon Receipt: **3.9C** Acceptable Unacceptable



www.encolabs.com

C707627

ENCO Cary

Sample Receipt Conditions

Client: Golder Associates, Inc. (GO007)	Lab Project Mgr: Stephanie Franz
Project: Material Recovery, LLC	Project Number: 0739602407.100
PO #:	

Report To:	Invoice To:
Golder Associates, Inc. (GO007)	Golder Associates, Inc. (GO007)
Ben Draper	Accounts Payable
The Wingate Building 4900 Koger Blvd., Suite 140	The Wingate Building 4900 Koger Blvd., Suite 140
Greensboro, NC 27407	Greensboro, NC 27407
Phone: (336) 852-4903	Phone : (804) 358-7900
Fax: (336) 852-4904	Fax: 804-358-2900

Received By: Jim Hays	Date Received: 29-Jun-07 14:37
Logged In By: Derek Williams	Date Logged In: 29-Jun-07 15:40

Work Order Comments:

Default Cooler received at 3.4°C

Containers Intact	Y	Containers Properly Preserved	Y	Proper Containers Received	Y	All Samples in PreLog Received	Y	COC/Labels Agree	Y
Custody Seals Intact	Y	Volatile Containers Preserved	Y	Volatile Containers Headspace Free	Y	Aqueous Samples Checked for Residual Cl	N	Received On Ice	Y

**GOLDER ASSOCIATES NC, INC.
QUALITY ASSURANCE & QUALITY CONTROL
LABORATORY DATA REVIEW**

Page 1 of 4



Project Name: Material Recovery, LLC Landfill

Project Reference Number: 0739602401.100

Sampling Event Date: 6/28-29/07

Review Date: 7-23-07

*Initials:*RK

Review Date: 10-9-07

*Initials:*JD

Report #: C707627

Person(s) performing the review are to initial each item on this form as acknowledgement of data acceptance, or as acknowledgement of a review issue. In the case of the latter, a brief explanation should follow the applicable item.

Golder Associates Inc. has reviewed the laboratory certificates of analysis, chain-of-custody form, and laboratory provided sample group quality assurance and quality control data for the above referenced sample group to identify potential bias or inaccuracy, in general accordance with the following United States Environmental Protection Agency documents:

- Region III Modifications to Functional Guidelines for Organic Data Review Multi-Media, Multi-Concentration, September 1994;
- Region III Modifications to the Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses, April 1993; and
- Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses, July 1998.

COMPLIANCE ANALYTE LIST(S) (check all that apply)

NC Closed Facility List (.500 Rules)

NC C & D List (New Rules)

NC Appendix I

NC Appendix I + Detects

NC Appendix II

NC Subtitle D Leachate List

Other: _____

1.0 CHAIN OF CUSTODY (COC) REVIEW

RK JD COC was properly signed by all parties.

RK JD Correct project name and number are on the form.

RK JD Sample receipt condition at laboratory was acceptable.

RK JD Each sample and blank submitted for analysis appears in the report.



Notes: _____

2.0 SAMPLE HOLDING TIMES

RK JD Holding times for extraction and/or analysis were met for each analytical Method (see below for reference).

Notes: _____

Review Criteria		
Method	Analytes	Holding Time
SW-846 Method 8260 and 8011	VOCs	14 days
SW-846 Methods 8270, 8080, 8081, 8082, and 8151	SVOCs, PCBs, pesticides and herbicides	7 days for extraction, 40 days from extraction for analysis
SW-846 Methods 6000 and 7000 Series	Metals except mercury	6 months (no temperature requirements)
SW-846 Method 7470	Mercury	28 days
SW-846 Method 376.1	Sulfide	7 days
SW-846 Method 9010	Cyanide	14 days
EPA Method 300	Nitrate/Sulfate	48 hours/28 days
EPA Method 405.1	BOD	48 hours
EPA Method 410.4	COD	28 days
EPA Method 365.4	Phosphorous	28 days

3.0 LABORATORY QUALITY CONTROL REVIEW

RK JD Laboratory analyzed at least one internal blank for each method, where applicable.

RK JD Laboratory blank is interference-free.

Detections of sulfate at 3.9 J mg/L and chloride at 0.54 J mg/L

RK JD Surrogate recoveries are provided for each analytical method, where applicable.

RK JD Surrogate recoveries for each method are within the acceptable limits (i.e., at least 50% of the surrogates were within range).

RK JD MS/MSD/LCS data results are provided for each analytical method.

RK JD MS/MSD/LCS recoveries for each method are within the acceptable limits (i.e., at least 1 of the 3 were within range).

Notes: RPD not calculated for total alkalinity MS/MSD due to high concentration of sample.



4.0 ANALYTE LISTS/METHODS

RK JD The proper number of constituents are present for each analyte list as identified above (including detects where applicable).

RK JD Proper EPA SW-846 analytical methods were used for analysis.

Notes: _____

5.0 DATA REPORTING

RK JD All analytical reporting associated with the event was performed by the contracted lab.

RK JD Trip, field and/or equipment, and laboratory blank results have all been reported. All detects for blanks are listed below by constituent. All laboratory method blanks, if any, have been 'flagged' with a 'B' where detected in other samples as appropriate and a laboratory narrative was provided. If the sample was flagged by the laboratory and is not within 5X of the concentration in the blank (or 10X for commonly detected laboratory contaminants-acetone, methylene chloride and phthalates), list below with explanation if flags should be removed. If flags need to be added for samples, also list below.

Field Blank: acetone at 1.5 J ug/L, toluene at 0.32 J ug/L, and barium at 10.4 J ug/L.

Trip Blank: toluene at 0.63 J ug/L

Lab Blank: sulfate at 3.9 J mg/L and chloride at 0.54 J mg/L

Add "B" flags to: sulfate detections in MW-1, MW-2, MW-3, MW-4, and MW-5

RK JD It is clear from the laboratory report that samples have or have not been diluted during analysis, and if the samples have been diluted, the result is reported as a multiple of the dilution (e.g., a sample diluted 10x resulting in an analytical detection of 1.0 should be reported as 10). Those that have been diluted are listed below with the dilution factor.

RK JD The report provides the reporting limit for each constituent.

RK JD The results were reported at or below their proper reporting limits (i.e., MDLs with SWSLs reported). Those that are not reported correctly are listed below (by constituent) with the proper reporting limit listed beside them. State if the reporting limit error is due to dilutions.

No SWSL listed for sulfate (250 mg/L).

RK JD No organic constituents were reported above their respective SWSLs, and no inorganic or organic constituents were reported above their respective NC 2L Drinking Water Standards/GWPS in wells, or field/equipment/trip blanks, or above applicable surface water standards in surface water points.

**GOLDER ASSOCIATES NC, INC.
QUALITY ASSURANCE & QUALITY CONTROL
LABORATORY DATA REVIEW**

Page 4 of 4



Barium in MW-3 >2L; beryllium in MW-3>2L; cobalt >GWPS in MW-1 and MW-3; iron > 2L in MW-5; manganese > 2L in MW-1, MW-2, MW-3, MW-4 and MW-5; mercury in MW-3 > 2L; thallium > GWPS in MW-3; trichlorofluoromethane in MW-3 > SWSL (<2L) [also at .53 J ug/L in MW-2]

RK JD No inorganic and organic constituents were detected in a well or surface water point at concentrations outside of their historical range (more than 5X previous concentrations or first-time detections).

Trichlorofluoromethane was detected at 3.3 ug/L in Dec. 2006. Barium at 3140 ug/L in MW-3 (consistent with historical). Lead has historically been above NC 2Ls in MW-5 and was non-detect during this event. Manganese and iron are new constituents. Mercury first time detect in MW-3 (above 2L).

RK JD Other report issues/Communications with laboratory/etc.:

Called lab to verify Mercury hit in MW-3 on 7-26-07. Also mentioned dissolved metals not showing up on excel file. Received additional qa/qc data for trichlorofluoromethane hit in MW-3.

Notes: Contacted lab re:SWSL for sulfate on 7-23-07.

Environmental Conservation Laboratories, Inc.

4810 Executive Park Court, Suite 211

Jacksonville FL, 32216-6069

Phone: 904.296.3007 FAX: 904.296.6210



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Wednesday, August 29, 2007

Golder Associates, Inc. (GO007)

Attn: Rachel Kirkman

The Wingate Building 4900 Koger Blvd., Suite 140

Greensboro, NC 27407

RE: Laboratory Results for

Project Number: 073-9602407.200, Project Name/Desc: Wake Material Recovery

ENCO Workorder: B707163

Dear Rachel Kirkman,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Friday, August 10, 2007.

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 Jacksonville. 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 'Christina M. Tompkins'.

Chris Tompkins

Project Manager

Enclosure(s)



www.encolabs.com

CASE NARRATIVE

Date: August 11, 2007
Client: Golder Associates, Inc.
Project: Wake Material Recovery
Lab ID: B707163

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling by Environmental Conservation Laboratories, Inc. will be discussed in the QC Remarks section below.

Quality Control Remarks

There were no quality control anomalies present.

Other Comments

Sample Receipt Conditions: The samples were received in appropriate condition. The samples were not checked for residual chlorine, as it is not required for ground water samples. Samples were not logged in from a prelog.

The analytical data presented in this report are consistent with the methods as referenced in the analytical report. Any exceptions or deviations are noted in the QC remarks section of this narrative. Should there be any questions regarding this package, please feel free to contact the undersigned for additional information.

Released By:
Environmental Conservation Laboratories, Inc.

Chris Tompkins
Project Manager



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SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: MW-3 (Dup)	Lab ID: B707163-01	Sampled: 08/08/07 11:48	Received: 08/10/07 09:30
Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 7470A	09/05/07	08/17/07 05:01	8/17/2007 12:01
EPA 8260B	08/22/07	08/16/07 09:00	8/17/2007 00:03



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NORTH CAROLINA SWS SAMPLE DETECTION SUMMARY

Client ID: MW-3 (Dup)		Lab ID: B707163-01							
Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
Mercury	1.30		1	0.11	0.20	0.2	ug/L	EPA 7470A	
Trichlorofluoromethane	11		1	0.30	1.0	5	ug/L	EPA 8260B	HDSP



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ANALYTICAL RESULTS

Description: MW-3 (Dup)

Lab Sample ID: B707163-01

Received: 08/10/07 09:30

Matrix: Water

Sampled: 08/08/07 11:48

Work Order: B707163

Project: Wake Material Recovery

Sampled By: Client

Volatile Organic Compounds by GCMS

* - ENCO Jacksonville certified analyte [NC 442]

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>MDL</u>	<u>MRL</u>	<u>NC SWSL</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Trichlorofluoromethane [75-69-4] *	11		ug/L	1	0.30	1.0	5	EPA 8260B	08/17/07 00:03	ds	HDSP
Surrogates											
<u>Surrogates</u>	<u>Results</u>	<u>DF</u>	<u>Spike Lvl</u>	<u>% Rec</u>	<u>% Rec Limits</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>	
4-Bromofluorobenzene	53	1	50.0	106 %	60-130	7H17007	EPA 8260B	08/17/07 00:03	ds	HDSP	
Dibromofluoromethane	53	1	50.0	107 %	66-131	7H17007	EPA 8260B	08/17/07 00:03	ds	HDSP	
Toluene-d8	46	1	50.0	93 %	67-139	7H17007	EPA 8260B	08/17/07 00:03	ds	HDSP	



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Description: MW-3 (Dup)

Lab Sample ID: B707163-01

Received: 08/10/07 09:30

Matrix: Water

Sampled: 08/08/07 11:48

Work Order: B707163

Project: Wake Material Recovery

Sampled By: Client

Metals by EPA 6000/7000 Series Methods

* - ENCO Jacksonville certified analyte [NC 442]

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>MDL</u>	<u>MRL</u>	<u>NC SWSL</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Mercury [7439-97-6] *	1.30		ug/L	1	0.11	0.20	0.2	EPA 7470A	08/17/07 12:01	SMA	



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QUALITY CONTROL**Volatile Organic Compounds by GCMS - Quality Control**

Batch 7H17007 - EPA 5030B_MS

Blank (7H17007-BLK1)

Prepared: 08/16/2007 09:00 Analyzed: 08/16/2007 16:35

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Trichlorofluoromethane	0.30	U	1.0	ug/L							
Surrogate: Dibromofluoromethane	48			ug/L	50.0		95	66-131			
Surrogate: Toluene-d8	44			ug/L	50.0		89	67-139			
Surrogate: 4-Bromofluorobenzene	50			ug/L	50.0		100	60-130			

Blank (7H17007-BLK2)

Prepared: 08/16/2007 09:00 Analyzed: 08/17/2007 05:21

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Trichlorofluoromethane	0.30	U	1.0	ug/L							
Surrogate: Dibromofluoromethane	46			ug/L	50.0		92	66-131			
Surrogate: Toluene-d8	45			ug/L	50.0		89	67-139			
Surrogate: 4-Bromofluorobenzene	49			ug/L	50.0		99	60-130			

LCS (7H17007-BS1)

Prepared: 08/16/2007 09:00 Analyzed: 08/16/2007 17:07

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	21		1.0	ug/L	20.0		105	70-130			
Benzene	19		1.0	ug/L	20.0		96	80-120			
Trichloroethene	18		1.0	ug/L	20.0		92	70-125			
Toluene	19		1.0	ug/L	20.0		97	75-120			
Chlorobenzene	21		1.0	ug/L	20.0		106	80-120			

Matrix Spike (7H17007-MS1)

Prepared: 08/16/2007 09:00 Analyzed: 08/16/2007 17:41

Source: B707130-06

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	22		1.0	ug/L	20.0	0.20 U	110	70-130			
Benzene	21		1.0	ug/L	20.0	0.20 U	103	80-120			
Trichloroethene	20		1.0	ug/L	20.0	0.30 U	99	70-125			
Toluene	21		1.0	ug/L	20.0	0.20 U	104	75-120			
Chlorobenzene	22		1.0	ug/L	20.0	0.20 U	111	80-120			

Matrix Spike Dup (7H17007-MSD1)

Prepared: 08/16/2007 09:00 Analyzed: 08/16/2007 18:12

Source: B707130-06

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	24		1.0	ug/L	20.0	0.20 U	118	70-130	7	26	
Benzene	21		1.0	ug/L	20.0	0.20 U	105	80-120	1	22	
Trichloroethene	20		1.0	ug/L	20.0	0.30 U	102	70-125	3	24	
Toluene	21		1.0	ug/L	20.0	0.20 U	106	75-120	1	24	
Chlorobenzene	24		1.0	ug/L	20.0	0.20 U	118	80-120	6	11	

Metals by EPA 6000/7000 Series Methods - Quality Control

Batch 7H17001 - EPA 7470A

Blank (7H17001-BLK1)

Prepared: 08/17/2007 05:01 Analyzed: 08/17/2007 11:17



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QUALITY CONTROL

Metals by EPA 6000/7000 Series Methods - Quality Control

Batch 7H17001 - EPA 7470A

Blank (7H17001-BLK1) Continued

Prepared: 08/17/2007 05:01 Analyzed: 08/17/2007 11:17

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Mercury	0.11	U	0.20	ug/L							

LCS (7H17001-BS1)

Prepared: 08/17/2007 05:01 Analyzed: 08/17/2007 11:19

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Mercury	5.37		0.20	ug/L	5.00		107	85-115			

Matrix Spike (7H17001-MS1)

Prepared: 08/17/2007 05:01 Analyzed: 08/17/2007 11:21

Source: B707196-01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Mercury	56.6		2.00	ug/L	50.0	1.10 U	113	75-125			

Matrix Spike Dup (7H17001-MSD1)

Prepared: 08/17/2007 05:01 Analyzed: 08/17/2007 11:24

Source: B707196-01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Mercury	56.4		2.00	ug/L	50.0	1.10 U	113	75-125	0.4	20	

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.
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.
HDSP	Sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).

B707163

ENCO Jacksonville

Sample Receipt Conditions

Client: Golder Associates, Inc. (GO007)	Lab Project Mgr: Chris Tompkins
Project: Wake Material Recovery	Project Number: 073-9602407.200
PO #:	

Report To:

Golder Associates, Inc. (GO007)
 Rachel Kirkman
 The Wingate Building 4900 Koger Blvd., Suite 140
 Greensboro, NC 27407
 Phone: (336) 852-4903
 Fax: (336) 852-4904

Invoice To:

Golder Associates, Inc. (GO007)
 Accounts Payable
 The Wingate Building 4900 Koger Blvd., Suite 140
 Greensboro, NC 27407
 Phone : (804) 358-7900
 Fax: () -

Received By:	Gretchen Bauer	Date Received:	10-Aug-07 09:30
Logged In By:	Gretchen Bauer	Date Logged In:	10-Aug-07 16:37

Work Order Comments:

C98 received at 3.0°C

Containers Intact	Y	Containers Properly Preserved	Y	Proper Containers Received	Y	All Samples in PreLog Received	N	COC/Labels Agree	Y
Custody Seals Intact	Y	Volatile Containers Preserved	Y	Volatile Containers Headspace Free	Y	Aqueous Samples Checked for Residual Cl	N	Received On Ice	Y

**GOLDER ASSOCIATES NC, INC.
QUALITY ASSURANCE & QUALITY CONTROL
LABORATORY DATA REVIEW**

Page 1 of 3



Project Name: Material Recovery, LLC Landfill

Project Reference Number: 0739602407.100

Sampling Event Date: 9/6/07

Review Date: 10/9/07

Initials: JD

Report #: B707163

Person(s) performing the review are to initial each item on this form as acknowledgement of data acceptance, or as acknowledgement of a review issue. In the case of the latter, a brief explanation should follow the applicable item.

Golder Associates Inc. has reviewed the laboratory certificates of analysis, chain-of-custody form, and laboratory provided sample group quality assurance and quality control data for the above referenced sample group to identify potential bias or inaccuracy, in general accordance with the following United States Environmental Protection Agency documents:

- Region III Modifications to Functional Guidelines for Organic Data Review Multi-Media, Multi-Concentration, September 1994;
- Region III Modifications to the Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses, April 1993; and
- Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses, July 1998.

COMPLIANCE ANALYTE LIST(S) (check all that apply)

NC Closed Facility List (.500 Rules)

NC C & D List (New Rules)

NC Appendix I

NC Appendix I + Detects

NC Appendix II

NC Subtitle D Leachate List

Other: EPA Method 8260B for trichlorofluoromethane and EPA method 7470A for mercury

1.0 CHAIN OF CUSTODY (COC) REVIEW

JD COC was properly signed by all parties.

JD Correct project name and number are on the form.

- ***The Project # on the COC is 0739602407.200 and it should be 0739602407.100***

JD Sample receipt condition at laboratory was acceptable.

JD Each sample and blank submitted for analysis appears in the report.



Notes: _____

2.0 SAMPLE HOLDING TIMES

JD Holding times for extraction and/or analysis were met for each analytical Method (see below for reference).

Notes: _____

Review Criteria		
Method	Analytes	Holding Time
SW-846 Method 8260 and 8011	VOCs	14 days
SW-846 Methods 8270, 8080, 8081, 8082, and 8151	SVOCs, PCBs, pesticides and herbicides	7 days for extraction, 40 days from extraction for analysis
SW-846 Methods 6000 and 7000 Series	Metals except mercury	6 months (no temperature requirements)
SW-846 Method 7470	Mercury	28 days
SW-846 Method 376.1	Sulfide	7 days
SW-846 Method 9010	Cyanide	14 days
EPA Method 300	Nitrate/Sulfate	48 hours/28 days
EPA Method 405.1	BOD	48 hours
EPA Method 410.4	COD	28 days
EPA Method 365.4	Phosphorous	28 days

3.0 LABORATORY QUALITY CONTROL REVIEW

JD Laboratory analyzed at least one internal blank for each method, where applicable.

JD Laboratory blank is interference-free.

JD Surrogate recoveries are provided for each analytical method, where applicable.

JD Surrogate recoveries for each method are within the acceptable limits (i.e., at least 50% of the surrogates were within range).

JD MS/MSD/LCS data results are provided for each analytical method.

JD MS/MSD/LCS recoveries for each method are within the acceptable limits (i.e., at least 1 of the 3 were within range).

Notes: _____

4.0 ANALYTE LISTS/METHODS



JD The proper number of constituents are present for each analyte list as identified above (including detects where applicable).

JD Proper EPA SW-846 analytical methods were used for analysis.

Notes: _____

5.0 DATA REPORTING

JD All analytical reporting associated with the event was performed by the contracted lab.

JD Trip, field and/or equipment, and laboratory blank results have all been reported. All detects for blanks are listed below by constituent. All laboratory method blanks, if any, have been 'flagged' with a 'B' where detected in other samples as appropriate and a laboratory narrative was provided. If the sample was flagged by the laboratory and is not within 5X of the concentration in the blank (or 10X for commonly detected laboratory contaminants-acetone, methylene chloride and phthalates), list below with explanation if flags should be removed. If flags need to be added for samples, also list below.

JD It is clear from the laboratory report that samples have or have not been diluted during analysis, and if the samples have been diluted, the result is reported as a multiple of the dilution (e.g., a sample diluted 10x resulting in an analytical detection of 1.0 should be reported as 10). Those that have been diluted are listed below with the dilution factor.

JD The report provides the reporting limit for each constituent.

JD The results were reported at or below their proper reporting limits (i.e., MDLs with SWSLs reported). Those that are not reported correctly are listed below (by constituent) with the proper reporting limit listed beside them. State if the reporting limit error is due to dilutions.

JD No organic constituents were reported above their respective SWSLs, and no inorganic or organic constituents were reported above their respective NC 2L Drinking Water Standards/GWPS in wells, or field/equipment/trip blanks, or above applicable surface water standards in surface water points.

JD No inorganic and organic constituents were detected in a well or surface water point at concentrations outside of their historical range (more than 5X previous concentrations or first-time detections).

JD Other report issues/Communications with laboratory/etc.:

Notes: _____

APPENDIX III
STATISTICAL EVALUATION WORKSHEETS

Project Name: Material Recovery, LLC C&D Landfill
 Project No: 073-9602407.100
 Date: 6/29/07



Analyte: Barium

Sample No.	Sample Date	Location	Concentration (ug/L)	Quantitation Limit (ug/L)
1	Aug-02	MW-1	ND	---
2	Jun-03	MW-1	ND	---
3	Dec-03	MW-1	160	---
4	Jun-04	MW-1	ND	---
5	Dec-04	MW-1	ND	---
6	Jun-05	MW-1	ND	---
7	Dec-05	MW-1	ND	---
8	Jun-06	MW-1	ND	---
9	Dec-06	MW-1	217	10.0
10	Jun-07	MW-1	269	10.0

Number of Data 10
 Number of Truncated Data 7
 Percentage of Truncated Data 70%
 Nonparametric Prediction Interval: 269

Project Name: Material Recovery, LLC C&D Landfill
 Project No: 739-6024007.100
 Date: 6/29/07



Sample No.	Sample Date	Location	Concentration (ug/L)	Quantitation Limit (ug/L)
1	Aug-02	MW-2	ND	500
2	Jun-03	MW-2	ND	500
3	Dec-03	MW-2	420	500
4	Jun-04	MW-2	540	500
5	Dec-04	MW-2	570	500
6	Jun-05	MW-2	520	500
7	Dec-05	MW-2	640	500
8	Jun-06	MW-2	708	500
9	Dec-06	MW-2	681	10.0

Number of Data 9
 Number of Truncated Data 2
 Percentage of Truncated Data 22%

UPL = 1270 ug/L

Project Name: Material Recovery, LLC C&D Landfill
 Project No: 739-6024007.100
 Date: 6/29/07



Determination of reported background value as an outlier

Analyte: Barium (MW-2 Intrawell)

Background Data

Sample No.	Sample Date	Location	Concentration (ug/l)	Quantitation Limit (ug/l)
1	12/16/03	MW-2	420	500
2	06/16/04	MW-2	540	500
3	12/16/04	MW-2	570	500
4	06/14/05	MW-2	520	500
5	12/27/05	MW-2	640	500
6	06/21/06	MW-2	708	500
7	12/13/06	MW-2	681	10

mean = 582.714
 STD = 100.858

Note: All concentrations are micrograms per liter

Using the data listed above, form the statisitic Tn:

$$T_n = (X_n - \text{mean}) / \text{STD}$$

where: X_n = largest observed sample value
 mean = mean of the background values
 STD = standard deviation of the background values

For $X_n = 708.000$
 mean = 582.714
 STD = 100.858

$$T_n = 1.242$$

From Table 8 included in the Staistical Analysis of Groundwater Monitoring Data at RCRA Facilities - Interim Final Guidance, the critical value for the given sample group is

Number of samples = 7
 $T_c = 1.938$

Since $T_c > T_n$, the sample result is not considered to be an outlier

Project Name: Material Recovery, LLC C&D Landfill
 Project No: 739-6024007.100
 Date: 6/29/07



Probability Plots to determine the distribution of Barium (MW-2 Intrawell)

Complete the following table where:

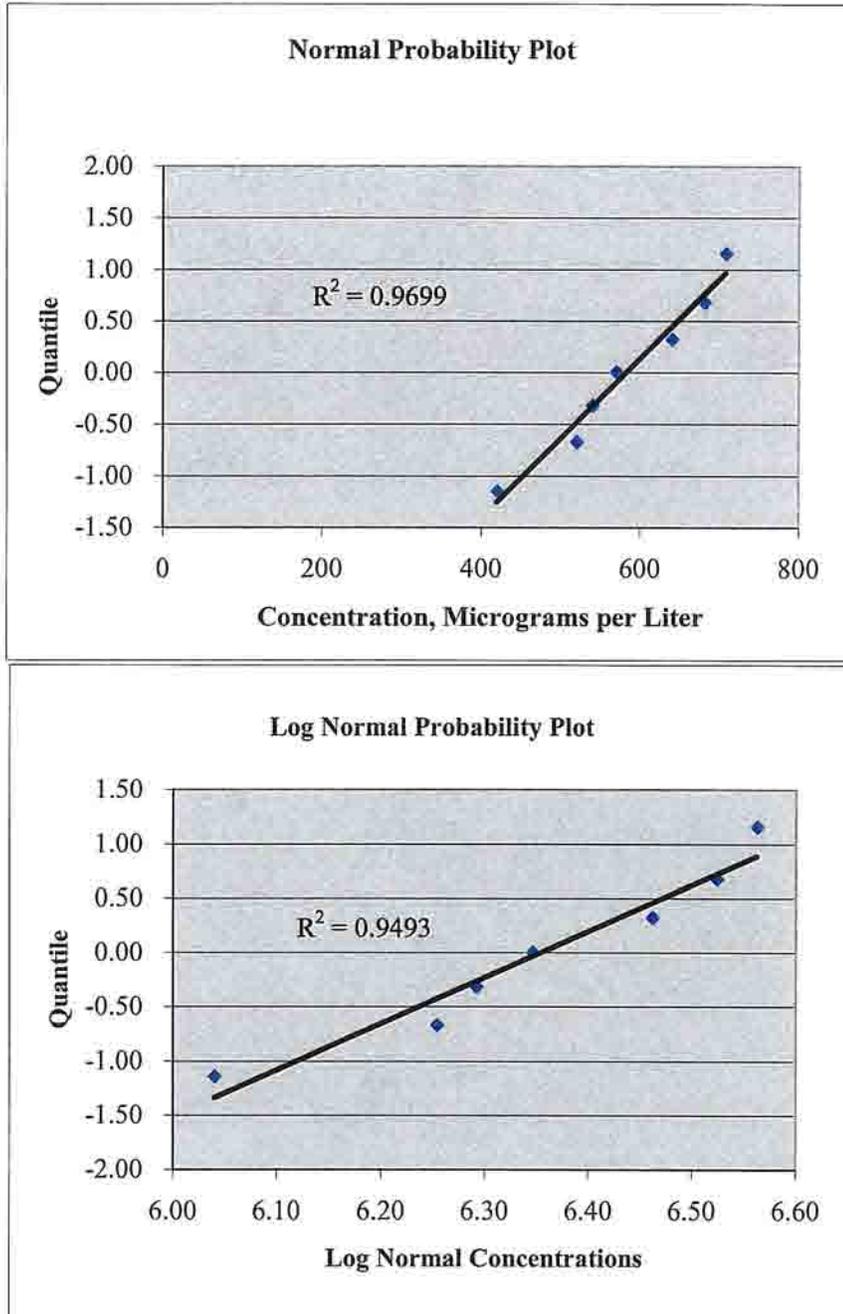
- i = ordered value of sample, arranged from smallest to largest
- $X(i)$ = sample values arranged from smallest to largest
- $\text{LN}[X(i)]$ = Natural Log Value of sample concentrations arranged from smallest to largest
- $[i/(n+1)]$ = Cumulative probability
- n = number of samples = 7

$X(i)$	$\text{LN}[X(i)]$	i	Rank	$[i/(n+1)]$	Quantiles
420	6.04	1	1	0.125	-1.15
520	6.25	2	2	0.250	-0.67
540	6.29	3	3	0.375	-0.32
570	6.35	4	4	0.500	0.00
640	6.46	5	5	0.625	0.32
681	6.52	6	6	0.750	0.67
708	6.56	7	7	0.875	1.15

Project Name: Material Recovery, LLC C&D Landfill
Project No: 739-6024007.100
Date: 06/29/07



Probability Plots to determine the distribution of Barium (MW-2 Intrawell)



The distribution of the data appears to be normal

Project Name: Material Recovery, LLC C&D Landfill
 Project No: 739-6024007.100
 Date: 6/29/07



Shapiro Wilk Test Statistic (W) for normality of total Barium (MW-2 Intrawell)

Complete the following table where

- i = ordered value of sample, arranged from smallest to largest
- X(i) = sample values arranged from smallest to largest
- X(n-i+1) = sample values arranged from largest to smallest
- A(n-i+1) = coefficient from table A-1, Statistical Analysis of Ground-Water Data at RCRA Facilities
- B(i) = summation of (X(n-i+1)-X(i))A(n-i+1)

i	X(i)	X(n-i+1)	X(n-i+1) - X(i)	A(n-i+1)	B(i)
1	420.00	708.00	288	0.5888	169.57
2	520.00	681.00	161	0.3244	52.23
3	540.00	640.00	100	0.1976	19.76
4	570.00	570.00	0	0.0947	0.00
5	640.00	540.00	-100	0.0000	0.00
6	681.00	520.00	-161		
7	708.00	420.00	-288		

The test statistic W can be found using:

$$W = \text{SQR}[B / (\text{SD} \times \text{SQRT}(n-1))]$$

where: B = summation of (X(n-i+1)-X(i))A(n-i+1) = 241.56
 SD = standard deviation of the data group = 100.86
 n = number of samples = 7

$$W = 0.956$$

Compare this value to the critical value in Table A-2 of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Addendum to Interim Final Guidance (Draft) July, 1992, to determine if the data is normally distributed.

From Table A-2 with (n) samples and a 95% confidence level, the critical value is

W(crit) = 0.803
 and the calculated W = 0.956

Therefore the data set is Normal

Project Name: Material Recovery, LLC C&D Landfill
 Project No: 739-6024007.100
 Date: 6/29/07



Aitchison's Adjustment for Barium (MW-2 Intrawell)

Background Values (positive detects only)

Sample No.	Sample Date	Location	Concentration (ug/l)
1	08/07/02	MW-2	ND
2	06/16/03	MW-2	ND
3	12/16/03	MW-2	420
4	06/16/04	MW-2	540
5	12/16/04	MW-2	570
6	06/14/05	MW-2	520
7	12/27/05	MW-2	640
8	06/21/06	MW-2	708
9	12/13/06	MW-2	681

Mean of detected values = 582.71
 Standard Deviation of detected values = 100.86

The adjusted mean can be found using

$$M(a) = (1-d/n) \times M$$

where: d = number non- detected values = 2
 n = total number samples = 9
 M = mean detected values = 582.71

$$M(a) = 453.22$$

The adjusted standard deviation squared may be found using

$$STD(a) = (n-(d+1)S)/n-1 + d(n-d)MM/n(n-1)$$

where: n = total number samples = 9
 d = number non-detected values = 2
 S = std deviation of detected values squared = 10172.24
 MM = mean of detected values squared = 339555.94

$$STD(a) = 73653.94$$

and the adjusted standard deviation is then

$$S(a) = \text{SQRT}(STD(a)) = 271.39$$

Project Name: Material Recovery, LLC C&D Landfill
 Project No: 739-6024007.100
 Date: 6/29/07



Parametric Prediction Interval for Aitchison's adjusted data

Analyte: Barium (MW-2 Intrawell)

Background Data			Quantitation	
Sample No.	Sample Date	Location	Concentration (ug/l)	Limit (ug/l)
1	Aug-02	MW-2	ND	500
2	Jun-03	MW-2	ND	500
3	Dec-03	MW-2	420	500
4	Jun-04	MW-2	540	500
5	Dec-04	MW-2	570	500
6	Jun-05	MW-2	520	500
7	Dec-05	MW-2	640	500
8	Jun-06	MW-2	708	500
9	Dec-06	MW-2	681	10.0

Note: All sample concentrations are micrograms per liter

The background mean and standard deviation were modified using Aitchison's Adjustment.
 The adjusted mean and standard deviation are as follows:

the adjusted mean and standard deviation are

adjusted mean = 453.22
 adjusted standard deviation = 271.39

Using the background data, the upper Prediction Limit can be determined using:

$$\text{Upper Prediction Limit} = (\text{Mean Conc}) + t(n-1,k,.95) \times (\text{Std Dev}) \times \text{SQRT}(1/m+1/n)$$

- where:
- Mean Conc = mean concentration background samples
 - t(n-1k,.95) = Bonferroni t-statistic from table 1, with
 - n-1 = degrees of freedom (number of samples - 1)
 - k = number of downgradient samples per event
 - .95 = confidence interval
 - Std Dev = standard deviation of background samples
 - m = number independent samples from each sampling point

n = number of background samples

For: Mean Conc = 453.222
Std Dev = 271.393
 $t(n-1,k,.95)*\sqrt{1/m+1/n}$ = 3.01
k = 4
m = 1
n = 9

UPL = 1270 ug/L

Project Name: Material Recovery, LLC C&D Landfill
 Project No: 739-6024007.100
 Date: 6/29/07



Parametric Tolerance Interval for Aitchison's adjusted data

Analyte: Barium (MW-2 Intrawell)

Background Data			Quantitation	
Sample No.	Sample Date	Location	Concentration (ug/l)	Limit (ug/l)
1	Aug-02	MW-2	ND	500
2	Jun-03	MW-2	ND	500
3	Dec-03	MW-2	420.00	500
4	Jun-04	MW-2	540.00	500
5	Dec-04	MW-2	570.00	500
6	Jun-05	MW-2	520.00	500
7	Dec-05	MW-2	640.00	500
8	Jun-06	MW-2	708.00	500
9	Dec-06	MW-2	681.00	10.0

Note: All sample concentrations are micrograms per liter

The background mean and standard deviation were modified using Aitchison's Adjustment. The adjusted mean and standard deviation are as follows:

The adjusted mean and standard deviation are

adjusted mean = 453.22
 adjusted standard deviation = 271.39

Using the background data, the upper Tolerance Limit can be determined using

$$\text{Upper Tolerance Limit} = (\text{Mean Concentration}) + K \times (\text{Standard Deviation Samples})$$

where: K = factor for constructing one sided normal tolerance limit
 taken from table 4-2, page 87, Statistical Methods for Groundwater Monitoring, Gibbons, 1994
 n = number of background samples

For: K = 3.032
 n = 9

$$\text{UTL} = 1276$$

Project Name: Material Recovery, LLC C&D Landfill
 Project No: 073-9602407.100
 Date: 6/29/07



Analyte: Barium (MW-3 Intrawell)			Concentration	Quantitation
Sample No.	Sample Date	Location	(ug/L)	Limit (ug/L)
1	Aug-02	MW-3	4000	500
2	Jun-03	MW-3	3100	500
3	Dec-03	MW-3	1200	500
4	Jun-04	MW-3	1500	500
5	Dec-04	MW-3	3100	500
6	Jun-05	MW-3	2600	500
7	Dec-05	MW-3	5700	500
8	Jun-06	MW-3	4690	500
9	Dec-06	MW-3	6510	10.0

Number of Data 9
 Number of Truncated Data 0
 Percentage of Truncated Data 0%

UPL = 9016 ug/L

Project Name: Material Recovery, LLC C&D Landfill
 Project No: 073-9602407.100
 Date: 6/29/07



Determination of reported background value as an outlier

Analyte: Barium (MW-3 Intrawell)

Background Data

Sample No.	Sample Date	Location	Concentration		Quantitation
			(ug/l)		Limit (ug/l)
1	08/07/02	MW-3	250		500
2	06/16/03	MW-3	250		500
3	12/16/03	MW-3	420		500
4	06/16/04	MW-3	540		500
5	12/16/04	MW-3	570		500
6	06/14/05	MW-3	520		500
7	12/27/05	MW-3	640		500
8	06/21/06	MW-3	708		500
9	12/13/06	MW-3	681		10.0

mean = 508.778

STD = 170.745

Note: All concentrations are micrograms per liter

Using the data listed above, form the statistic Tn:

$$T_n = (X_n - \text{mean}) / \text{STD}$$

where: Xn = largest observed sample value
 mean = mean of the background values
 STD = standard deviation of the background values

For Xn = 708.000
 mean = 508.778
 STD = 170.745

$$T_n = 1.167$$

From Table 8 included in the Staistical Analysis of Groundwater Monitoring Data at RCRA Facilities - Interim Final Guidance, the critical value for the given sample group is

Number of samples = 9
 Tc = 2.110

Since Tc > Tn, the sample result is not considered to be an outlier

Project Name: Material Recovery, LLC C&D Landfill
 Project No: 073-9602407.100
 Date: 6/29/07



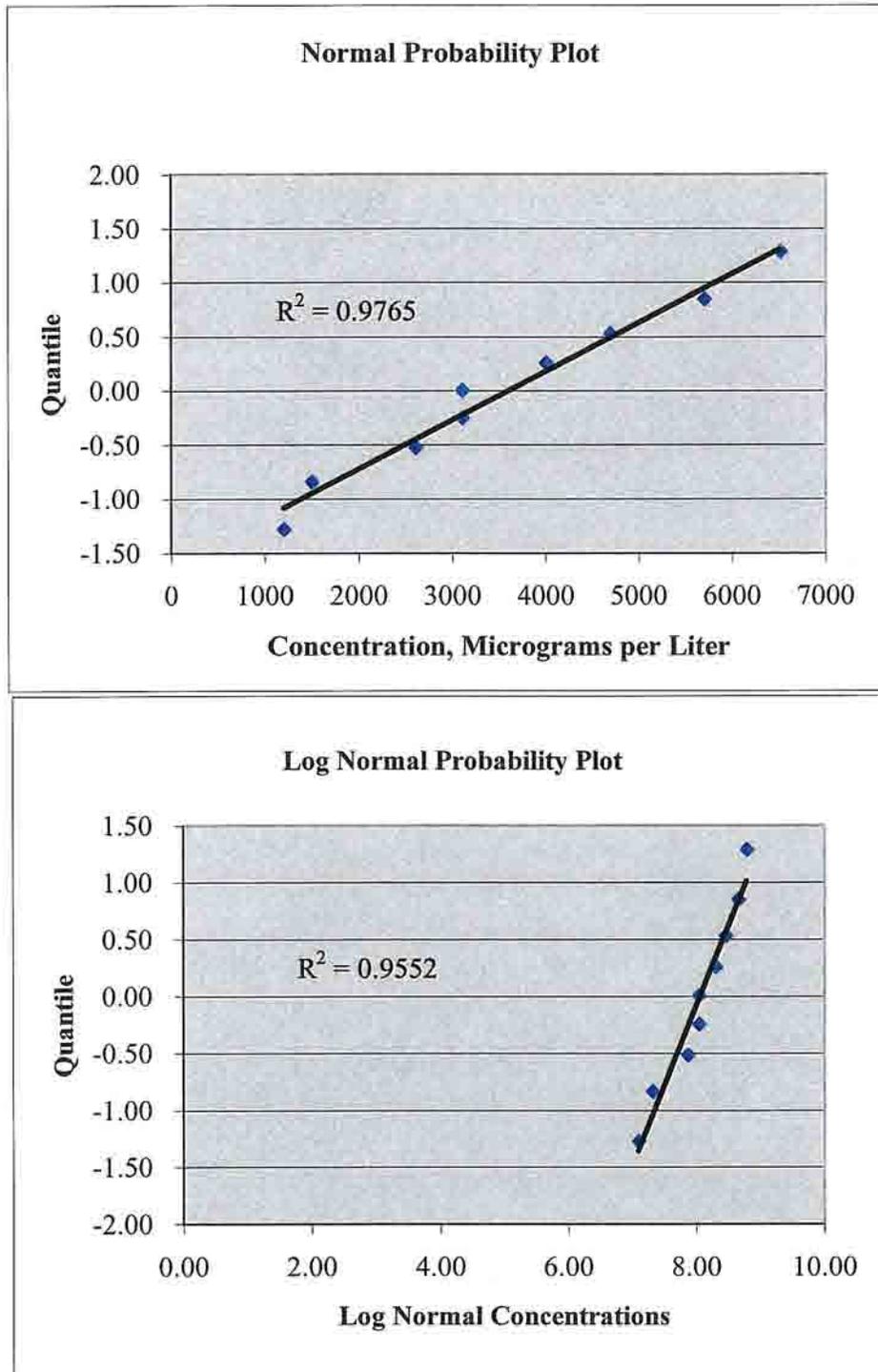
Probability Plots to determine the distribution of Barium (MW-3 Intrawell)

Complete the following table where:

- i = ordered value of sample, arranged from smallest to largest
- $X(i)$ = sample values arranged from smallest to largest
- $\text{LN}[X(i)]$ = Natural Log Value of sample concentrations arranged from smallest to largest
- $[i/(n+1)]$ = Cumulative probability
- n = number of samples = 9

$X(i)$	$\text{LN}[X(i)]$	i	Rank	$[i/(n+1)]$	Quantiles
1200	7.09	1	1	0.100	-1.28
1500	7.31	2	2	0.200	-0.84
2600	7.86	3	3	0.300	-0.52
3100	8.04	4	4	0.400	-0.25
3100	8.04	5	5	0.500	0.00
4000	8.29	6	6	0.600	0.25
4690	8.45	7	7	0.700	0.52
5700	8.65	8	8	0.800	0.84
6510	8.78	9	9	0.900	1.28

Probability Plots to determine the distribution of Barium (MW-3 Intrawell)



The distribution of the data appears to be normal

Project Name: Material Recovery, LLC C&D Landfill
 Project No: 073-9602407.100
 Date: 6/29/07



Shapiro Wilk Test Statistic (W) for normality of total Barium (MW-3 Intrawell)

Complete the following table where

- i = ordered value of sample, arranged from smallest to largest
- X(i) = sample values arranged from smallest to largest
- X(n-i+1) = sample values arranged from largest to smallest
- A(n-i+1) = coefficient from table A-1, Statistical Analysis of Ground-Water Data at RCRA Facilities
- B(i) = summation of (X(n-i+1)-X(i))A(n-i+1)

i	X(i)	X(n-i+1)	X(n-i+1) - X(i)	A(n-i+1)	B(i)
1	1200.00	6510.00	5310	0.5888	3126.53
2	1500.00	5700.00	4200	0.3244	1362.48
3	2600.00	4690.00	2090	0.1976	412.98
4	3100.00	4000.00	900	0.0947	85.23
5	3100.00	3100.00	0	0.0000	0.00
6	4000.00	3100.00	-900		
7	4690.00	2600.00	-2090		
8	5700.00	1500.00	-4200		
9	6510.00	1200.00	-5310		

The test statistic W can be found using:

$$W = \text{SQR}[B / (\text{SD} \times \text{SQRT}(n-1))]$$

where: B = summation of (X(n-i+1)-X(i))A(n-i+1) = 4987.22
 SD = standard deviation of the data group = 1799.17
 n = number of samples = 9

$$W = 0.960$$

Compare this value to the critical value in Table A-2 of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Addendum to Interim Final Guidance (Draft) July, 1992, to determine if the data is normally distributed.

From Table A-2 with (n) samples and a 95% confidence level, the critical value is

$$W(\text{crit}) = 0.829$$

and the calculated W = 0.960

Therefore the data set is Normal

Project Name: Material Recovery, LLC C&D Landfill
 Project No: 073-9602407.100
 Date: 6/29/07



Parametric Prediction Interval for normally distributed data

Analyte: Barium (MW-3 IntraWell)

Background Data			Quantitation	
Sample No.	Sample Date	Location	Concentration (ug/l)	Limit (ug/l)
1	08/07/02	MW-3	4000	500
2	06/16/03	MW-3	3100	500
3	12/16/03	MW-3	1200	500
4	06/16/04	MW-3	1500	500
5	12/16/04	MW-3	3100	500
6	06/14/05	MW-3	2600	500
7	12/27/05	MW-3	5700	500
8	06/21/06	MW-3	4690	500
9	12/13/06	MW-3	6510	10.0

Note: All sample concentrations are micrograms per liter

Using the background data, the upper Prediction Limit can be determined using:

$$\text{Upper Prediction Limit} = (\text{Mean Conc}) + t(n-1, k, .95) \times (\text{Std Dev}) \times \text{SQRT}(1/m + 1/n)$$

- where:
- Mean Conc = mean concentration background samples
 - t(n-1, k, .95) = Bonferroni t-statistic with
 - n-1 = degrees of freedom (number of samples - 1)
 - k = number of downgradient samples per event
 - .95 = confidence interval
 - Std Dev = standard deviation of background samples
 - m = number independent samples from each sampling point
 - n = number of background samples

For:

- Mean Conc = 3600.000
- Std Dev = 1799.173
- t(n-1, k, .95)*sqrt(1/m+1/n) = 3.010
- k = 4
- m = 1
- n = 9

UPL = 9016 ug/L



Project Name: Material Recovery, LLC C&D Landfill
 Project No: 073-9602407.100
 Date: 6/29/07

Parametric Tolerance Interval for normally distributed data

Analyte: Barium (MW-3 Intrawell)

Background Data			Quantitation	
Sample No.	Sample Date	Location	Concentration (ug/l)	Limit (ug/l)
1	Aug-02	MW-3	4000	500
2	Jun-03	MW-3	3100	500
3	Dec-03	MW-3	1200	500
4	Jun-04	MW-3	1500	500
5	Dec-04	MW-3	3100	500
6	Jun-05	MW-3	2600	500
7	Dec-05	MW-3	5700	500
8	Jun-06	MW-3	4690	500
9	Dec-06	MW-3	6510	10.0

Note: All sample concentrations are micrograms per liter

Using the background data, the upper Tolerance Limit can be determined using:

$$\text{Upper Tolerance Limit} = (\text{Mean Concentration}) + K \times (\text{Standard Deviation Samples})$$

- where: Mean Conc = mean concentration background samples
- K = factor for constructing one sided normal tolerance limit
taken from table 4-2, page 87, Statistical Methods for Groundwater Monitoring, Gibbons, 1994
- n = number of background samples
- STDS = Standard Deviation Samples

For: n = 9
 K = 3.032
 Mean Conc = 3600.00
 STDS = 1799.17

 UTL = 9055

Project Name: Material Recovery, LLC C&D Landfill
 Project No: 073-9602407.100
 Date: 6/29/07



Analyte: Mercury					Quantitation
Sample No.	Sample Date	Location	Concentration (ug/L)		Limit (ug/L)
1	Aug-02	MW-1	ND		0.5
2	Jun-03	MW-1	ND		0.5
3	Dec-03	MW-1	ND		0.5
4	Jun-04	MW-1	ND		0.5
5	Dec-04	MW-1	ND		0.5
6	Jun-05	MW-1	ND		0.5
7	Dec-05	MW-1	ND		0.5
8	Jun-06	MW-1	ND		2.0
9	Dec-06	MW-1	ND		0.2
10	Jun-07	MW-1	ND		0.2

Number of Data 10
 Number of Truncated Data 10
 Percentage of Truncated Data 100%
 Nonparametric Prediction Interval: **0.50**

Project Name: Material Recovery, LLC C&D Landfill
 Project No: 073-9602407.100
 Date: 6/29/07



Sample No.	Sample Date	Location	Concentration (ug/L)	Quantitation Limit (ug/L)
1	Aug-02	MW-3	ND	0.5
2	Jun-03	MW-3	ND	0.5
3	Dec-03	MW-3	ND	0.5
4	Jun-04	MW-3	ND	0.5
5	Dec-04	MW-3	ND	0.5
6	Jun-05	MW-3	ND	0.5
7	Dec-05	MW-3	ND	0.5
8	Jun-06	MW-3	ND	2.0
9	Dec-06	MW-3	ND	0.2

Number of Data 9
 Number of Truncated Data 9
 Percentage of Truncated Data 100%

Nonparametric Prediction Interval: 0.5

APPENDIX IV

GROUNDWATER MONITORING WELL MAINTENANCE RECORDS

GROUNDWATER MONITORING WELL MAINTENANCE RECORD

FACILITY: WCA - Material Recovery, LLC **PERMIT NO.:** 92-31

LOCATION: MW-1 **DATE:** June 28, 2007

INSPECTOR: B. Draper/W. Jappe **COMPANY:** Golder Associates NC Inc.

1. Is surface water diverted away from the well head? YES

2. Is the concrete pad still intact and free of cracks? YES

3. Has surface water runoff undercut the concrete pad? NO

4. Is the outer casing still secure and locked? YES

5. Is the well identification tag present and is it legible? YES

5a. Does the well identification tag provide the following information:

• The well identification number? YES

• Drilling contractor and registration number? YES

• Total well depth? YES

• Depth to screen? YES

• A warning that the well is not for water supply and that the ground water may contain hazardous materials? YES

6. Is the grout between the inner and outer well casings all the way to the ground surface? YES

7. Is the inner casing firmly grouted in place? YES

8. Are the inner and outer casings upright and unobstructed? YES

9. Is water collecting in the outer casing? Does a weep hole need to be bored in the outer casing to provide drainage? NO

10. Is the monitoring well accessible by a four-wheel drive vehicle? YES

11. Have brush and weeds been trimmed so that the well is easy to locate and access? YES

12. Does the inner well casing have a vented cap? YES

13. Is the monitoring well visible and adequately protected from moving equipment? YES

GROUNDWATER MONITORING WELL MAINTENANCE RECORD

FACILITY: WCA - Material Recovery, LLC **PERMIT NO.:** 92-31

LOCATION: MW-2 **DATE:** June 28, 2007

INSPECTOR: B. Draper/W. Jappe **COMPANY:** Golder Associates NC Inc.

1. Is surface water diverted away from the well head? YES

2. Is the concrete pad still intact and free of cracks? YES

3. Has surface water runoff undercut the concrete pad? NO

4. Is the outer casing still secure and locked? YES

5. Is the well identification tag present and is it legible? YES

5a. Does the well identification tag provide the following information:

• The well identification number? YES

• Drilling contractor and registration number? YES

• Total well depth? YES

• Depth to screen? YES

• A warning that the well is not for water supply and that the ground water may contain hazardous materials? YES

6. Is the grout between the inner and outer well casings all the way to the ground surface? YES

7. Is the inner casing firmly grouted in place? YES

8. Are the inner and outer casings upright and unobstructed? YES

9. Is water collecting in the outer casing? Does a weep hole need to be bored in the outer casing to provide drainage? NO

10. Is the monitoring well accessible by a four-wheel drive vehicle? YES

11. Have brush and weeds been trimmed so that the well is easy to locate and access? NO

12. Does the inner well casing have a vented cap? YES

13. Is the monitoring well visible and adequately protected from moving equipment? YES

GROUNDWATER MONITORING WELL MAINTENANCE RECORD

FACILITY: WCA - Material Recovery, LLC **PERMIT NO.:** 92-31

LOCATION: MW-3 **DATE:** June 28, 2007

INSPECTOR: B. Draper/W. Jappe **COMPANY:** Golder Associates NC Inc.

1. Is surface water diverted away from the well head? YES

2. Is the concrete pad still intact and free of cracks? YES

3. Has surface water runoff undercut the concrete pad? NO

4. Is the outer casing still secure and locked? YES

5. Is the well identification tag present and is it legible? YES

5a. Does the well identification tag provide the following information:

• The well identification number? YES

• Drilling contractor and registration number? YES

• Total well depth? YES

• Depth to screen? YES

• A warning that the well is not for water supply and that the ground water may contain hazardous materials? YES

6. Is the grout between the inner and outer well casings all the way to the ground surface? YES

7. Is the inner casing firmly grouted in place? YES

8. Are the inner and outer casings upright and unobstructed? YES

9. Is water collecting in the outer casing? Does a weep hole need to be bored in the outer casing to provide drainage? NO

10. Is the monitoring well accessible by a four-wheel drive vehicle? YES

11. Have brush and weeds been trimmed so that the well is easy to locate and access? YES

12. Does the inner well casing have a vented cap? YES

13. Is the monitoring well visible and adequately protected from moving equipment? YES

GROUNDWATER MONITORING WELL MAINTENANCE RECORD

FACILITY: WCA - Material Recovery, LLC **PERMIT NO.:** 92-31

LOCATION: MW-4 **DATE:** June 28, 2007

INSPECTOR: B. Draper/W. Jappe **COMPANY:** Golder Associates NC Inc.

1. Is surface water diverted away from the well head? YES

2. Is the concrete pad still intact and free of cracks? YES

3. Has surface water runoff undercut the concrete pad? NO

4. Is the outer casing still secure and locked? YES

5. Is the well identification tag present and is it legible? YES

5a. Does the well identification tag provide the following information:

• The well identification number? YES

• Drilling contractor and registration number? YES

• Total well depth? YES

• Depth to screen? YES

• A warning that the well is not for water supply and that the ground water may contain hazardous materials? YES

6. Is the grout between the inner and outer well casings all the way to the ground surface? YES

7. Is the inner casing firmly grouted in place? YES

8. Are the inner and outer casings upright and unobstructed? YES

9. Is water collecting in the outer casing? Does a weep hole need to be bored in the outer casing to provide drainage? NO

10. Is the monitoring well accessible by a four-wheel drive vehicle? YES

11. Have brush and weeds been trimmed so that the well is easy to locate and access? YES

12. Does the inner well casing have a vented cap? YES

13. Is the monitoring well visible and adequately protected from moving equipment? YES

GROUNDWATER MONITORING WELL MAINTENANCE RECORD

FACILITY: WCA - Material Recovery, LLC **PERMIT NO.:** 92-31

LOCATION: MW-5 **DATE:** June 28, 2007

INSPECTOR: B. Draper/W. Jappe **COMPANY:** Golder Associates NC Inc.

1. Is surface water diverted away from the well head? YES

2. Is the concrete pad still intact and free of cracks? YES

3. Has surface water runoff undercut the concrete pad? NO

4. Is the outer casing still secure and locked? YES

5. Is the well identification tag present and is it legible? YES

5a. Does the well identification tag provide the following information:

- The well identification number? YES
- Drilling contractor and registration number? YES
- Total well depth? YES
- Depth to screen? YES
- A warning that the well is not for water supply and that the ground water may contain hazardous materials? YES

6. Is the grout between the inner and outer well casings all the way to the ground surface? YES

7. Is the inner casing firmly grouted in place? YES

8. Are the inner and outer casings upright and unobstructed? YES

9. Is water collecting in the outer casing? Does a weep hole need to be bored in the outer casing to provide drainage? NO

10. Is the monitoring well accessible by a four-wheel drive vehicle? YES

11. Have brush and weeds been trimmed so that the well is easy to locate and access? YES

12. Does the inner well casing have a vented cap? YES

13. Is the monitoring well visible and adequately protected from moving equipment? YES