

PHASE II ENVIRONMENTAL SITE ASSESSMENT

**City of Cedar Rapids Contract No.: 1110-103
HR Green Project No.: 40100139
Cedar Rapids Track No.: CR3396 GA**

**1208 1st Street NW
Cedar Rapids, Iowa**

Prepared for:
**City of Cedar Rapids
1201 6th Street SW
Cedar Rapids, IA 52404**

February 10, 2011

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1.0 EXECUTIVE SUMMARY

HR Green was retained by the City of Cedar Rapids (City) to conduct a Phase II Environmental Site Assessment (ESA) for the property located at 1208 1st Street NW, Cedar Rapids, Linn County, Iowa (Figure 1 in Appendix A). The property is owned by Richard & Joyce Aldershof and comprises an area of approximately 0.32 acres which is hereinafter referred to as the “property.”

During the month of June 2010, HR Green completed a Phase I ESA on the subject property. The Phase I assessment process revealed the presence of recognized environmental conditions (RECs)¹ in connection with the property.

Phase II investigation activities were conducted on the property on January 25, 2011. The intent of the assessment is to determine any environmental impairment to the property and its affect on redevelopment planning.

The results of the Phase II investigation are provided in this document. The findings and conclusions are summarized as follows:

- No PCBs were detected in the soil sample. VOCs were detected below Statewide Standards and TEH as diesel was detected below the Tier 1 Look-up Value.
- No PCBs were detected in the groundwater sample. VOCs were detected above and below Statewide Standards for a protected groundwater source. TEH as diesel and motor oil were detected above the Tier 1 Look-up Value for actual groundwater ingestion.

Based on the property’s current use and planned redevelopment as green space, it is the opinion of HR Green the detected constituents represent a risk to human health and the environment. Due to the close proximity of residential properties, presence of groundwater contamination, and the non-cancer risk being unacceptable for a site resident, this report should be forwarded to the IDNR for review.

¹ *Recognized environmental conditions*, as used by ASTM Standard E 1527-05 is defined as the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water on the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include *de minimis* conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

2.0 INTRODUCTION

2.1 Purpose

The objective of this assessment was to evaluate any environmental impairment to the property resulting from the RECs identified during the Phase I ESA process. The data gathered during this assessment will assist the City in evaluating the feasibility of redevelopment by comparing constituent concentrations on the property to the risk-based standards outlined in Iowa Administrative Code (IAC) 567 *Chapter 137: Iowa Land Recycling Program and Response Action Standards* or the Tier 1 Levels in IAC *Chapter 135: Technical Standards and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks (USTs)*.

Should the City pursue acquisition of the property, this assessment will allow them to satisfy the all appropriate inquiry requirements to obtain protection from potential liability under CERCLA as an innocent landowner, a contiguous property owner, or a bona fide prospective purchaser.

2.2 Problem Statement

The City of Cedar Rapids is evaluating properties previously impacted by flooding in 2008 and within the planned redevelopment zone. Evaluation of these properties is conducted through the collection and analysis of environmental data.

Evaluation of environmental impairment is conducted using the regulatory programs outlined in the Iowa Administrative Code (IAC). Evaluation of environmental impairment not associated with USTs involves risk-based evaluation and response action through the voluntary Land Recycling Program (LRP) as set forth in IAC 567-137(457B) *Chapter 137: Iowa Land Recycling Program and Statewide Response Action Standards* (IAC 137). In the event that contamination is associated with USTs, IAC 137 defers to the evaluation criteria outlined in IAC 567-135(455B) *Chapter 135: Technical Standards and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks* (IAC 135). For this Project, soil and groundwater evaluations for public risk were conducted according to IAC 135 and IAC 137, depending on the source of contamination.

2.3 Background

A Phase I ESA was completed on the property during August 2010 and identified RECs. Historical operations on the property and the surrounding area consisted of commercial development and residential development, including automotive related businesses and USTs.

Based on the data gathered during the Phase I ESA process, a Phase II ESA was recommended to determine any actual impairment to the property. HR Green considered the results of Phase I ESA to develop a Phase II investigation approach that would produce data of sufficient quantity and quality for project decisions. Information from additional Phase II ESAs from adjoining properties will be incorporated into this Phase II ESA as supplemental information.

2.4 Principal User

The principle end user of project information is the City of Cedar Rapids. Further reliance by others is beyond the scope of this project.

The City will make primary use of the data to aid in decision-making relative to considering properties for redevelopment. The data will not be the sole nor final determinant in the positive or negative determination of feasibility for redevelopment. It is anticipated a Phase II ESA evaluation done for preliminary assessment and feasibility for a property will be used as the basis for potential secondary phases of investigation and subsequent remedial actions. Funding for subsequent investigation and remediation by the City or other entities could be external to federal programs.

3.0 SITE CHARACTERISTICS

The property is located within the NW ¼ of the SW ¼ of Section 21, Township 83 North, Range 7 West in Linn County, Iowa, and is further located at 41° 59' 2.8" North latitude and 91° 40' 34.7" West longitude (see Figure 1, Appendix B).

3.1 Phase I Environmental Site Assessment

A Phase I ESA was completed on the property during June 2010 and identified two RECs. The RECs are summarized below.

On-Site RECs:

1. Records from the Iowa Department of Natural Resources (IDNR) show two USTs located on the property were never officially closed. The owner informed HR Green they were believed to be removed by rising flood waters. Based on the lack of permanent closure reports, these USTs have the potential to impact the property and, therefore, are considered a REC.

Off-Site REC:

2. The historical use of the adjoining property located northwest of the property at 1215 2nd Street NW is considered a REC. The site was listed by city directories as a hydraulic and battery service store from 1973-1978, an auto battery shop from 1988-1993, two auto body shops and a car wash in 1998, and was an auto heating & AC repair shop from 2003-2007. Based on the inferred groundwater flow direction to the southeast, the historical use of this adjacent property has the potential to impact the property.

4.0 ON-SITE DEVIATIONS FROM PLAN

There were no site-specific conditions which warranted deviation from the proposed sampling plan.

5.0 PHASE II ENVIRONMENTAL SITE ASSESSMENT

Phase II field investigation activities were conducted on January 25, 2011 to investigate potential impact from on and off-site RECs. One soil boring (1208-SB1) was completed on the subject property using a direct-push truck-mounted geoprobe with 3-inch macro-cores and acetate liners.

The sample location is depicted on Figure 2 in Appendix B. Soil boring logs are provided in Appendix D. Laboratory analytical reports, including quality control data and the chain of custody are provided in Appendix C. A description of the sample location and rationale for laboratory analysis was provided in the Work Request.

5.1 Soil Assessment

Soil samples were collected over the full depth of the soil boring, screened for the presence of volatile organic compounds (VOCs) using a photo-ionization detector (PID), and logged for geologic materials. A soil sample was collected for laboratory analysis from the 8-10 feet below ground surface interval where a PID reading of 1333 parts per million was observed. The soil sample was placed in a laboratory supplied container and transported to the laboratory under chain of custody protocol to be analyzed for polychlorinated biphenyls (PCBs), VOCs, and total extractable hydrocarbons (TEHs).

No PCBs were detected in the soil sample. VOCs were detected below Statewide Standards, and TEH as diesel was detected below the Tier 1 Look-up Value. Soil sample results are presented in Table 1 for detected analytes.

Table 1
Phase II ESA Soil Analytical Results (mg/kg)¹

Contaminant	Statewide Standard	Sample ID
		1208-SB1 (8-10')
Total Extractable Hydrocarbons		
Diesel	3800*	26.8
Gasoline	N/A	49.7
Motor Oil	N/A	19.9
Volatile Organic Compounds		
Benzene	88	0.00828
Butylbenzene, n-	23000	0.310
Cumene (Isopropylbenzene)	7600	0.193
Ethylbenzene	7600	0.280
Hexane, N-	4600	0.115
Naphthalene	1100	0.0568
n-Propylbenzene	N/A	3.57
p-Isopropyltoluene	N/A	0.0397
sec-Butylbenzene	N/A	0.0908
Trimethylbenzene, 1,2,4-	3800	11.7
Trimethylbenzene, 1,3,5-	3800	0.234
Xylene, Mixture	15000	0.0532

- **Bold** indicates concentration above laboratory reporting limits.
- * Tier 1 Look-up Value

5.2 Groundwater Assessment

A groundwater sample was collected using a 1-inch diameter, 4-foot stainless steel screen-point sampler to evaluate any impact to groundwater beneath the property. Once the screen-point sampler was driven to the desired depth, the groundwater was purged and sampled using a peristaltic pump with disposable polyethylene tubing.

¹ mg/kg = milligrams per kilogram

The groundwater sample was collected and submitted to the laboratory for analysis of PCBs, VOCs, and TEHs. No PCBs were detected in the groundwater sample. Benzene, naphthalene, and 1,2,4-trimethylbenzene were detected above Statewide Standards for a protected groundwater source, but below the Statewide Standards for a non-protected groundwater source. TEH as diesel and motor oil were detected above the Tier 1 Look-up Value for actual groundwater ingestion. Groundwater sample results are presented in Table 2 for detected analytes.

Table 2
Phase II ESA Groundwater Analytical Results (mg/L)¹

Contaminant	Statewide Standard		Sample ID
	Protected	Non-Protected	1208-SB1
Total Extractable Hydrocarbons			
Diesel	1.2*	75*	4.22
Gasoline	N/A	N/A	23.2
Motor Oil	0.4*	40*	0.516
Volatile Organic Compounds			
Benzene	0.005	0.1	0.0517
Butylbenzene, n-	2.1	10	0.0602
Carbon disulfide	0.7	3.5	0.000240**
Cumene (Isopropylbenzene)	0.7	3.5	0.129
Ethylbenzene	0.7	3.5	0.682
Hexane, N-	0.42	2.1	0.0268
Naphthalene	0.1	0.7	0.101
p-Isopropyltoluene	N/A	N/A	0.00829
Propylbenzene, N-	0.7	3.5	0.312
sec-Butylbenzene	N/A	N/A	0.0210
tert-Butylbenzene	N/A	N/A	0.00159
Toluene	1	5	0.00711
Trimethylbenzene, 1,2,4-	0.35	1.8	0.966
Trimethylbenzene, 1,3,5-	0.35	1.8	0.128
Xylene, Mixture	10	50	0.379

- **Bold** indicates concentration above laboratory reporting limits. Shaded indicates concentration above Statewide Standard.
- * Tier 1 Look-up Values for actual and potential receptors.
- **Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated.

5.3 Supplemental Information

One boring was placed on the adjacent parcel to the west located at 1207 2nd Street NW to investigate RECs #2, the adjacent property's historic uses as automotive related businesses. The soil and groundwater samples did not contain any constituents above Statewide Standards.

5.4 Risk Evaluations

Subrule 567 IAC 137.10(7) specifies cumulative risk criteria that must be complied with to acquire a no further action certificate under the Iowa Land Recycling Program (LRP). Cumulative risk is the summation of cancer and noncancer risks, determined separately,

¹ mg/L = milligrams per liter

based on exposure to multiple contaminants from the same medium and exposure of the same individual to contaminants in multiple media. Evaluation of cumulative risk is conducted using the cumulative risk calculator on the IDNR Contaminated Sites Section website. The cumulative risk calculator assesses risk to potentially exposed parties, based on three standard exposure scenarios, from multiple contaminants and multiple media (i.e., groundwater, soil, and air).

To evaluate compliance with the acceptable risk criteria, the cumulative concentrations of contaminants must meet standards limiting increased cancer and non-cancer health risk. The cumulative risk criteria are as follows:

- Cumulative cancer risk shall not exceed 1 in 10,000.
- Non-cancer health risk to the same target organ shall not exceed a cumulative Hazard Quotient of 1.

Determination of exposure point concentrations for the risk calculation can be accomplished using one of the following methods.

- The maximum value for each contaminant in each medium from multiple samples of each medium of concern.
- The 95% Upper Confidence Limit (95% UCL) of the mean contaminant concentration in each medium.

For the purposes of this evaluation, the maximum contaminant concentration in each medium (soil and groundwater) was used to evaluate risk associated with the potential exposure pathways. This evaluation was conducted using the site resident (residential) and site worker exposure scenario. The site resident scenario is typically used when compliance with background or Statewide Standards is sought with no associated land use restrictions.

Cumulative Risk Calculator results are summarized in Appendix E.

Soil

According to the Cumulative Risk Calculator, the cumulative cancer risk for site resident and site worker exposure to the constituents detected in soil is 0. A cumulative cancer risk of ≤ 1 represents an acceptable risk. Therefore, the cumulative cancer risk for the soils is acceptable.

The hazard quotients for each target organ for the constituents detected in the soils are also acceptable. A sum value for each target organ must be ≤ 1 to be considered acceptable for non-cancer health risk to a site resident and site worker. The value was 0 for all target organs.

Groundwater

According to the Cumulative Risk Calculator, the cumulative cancer risk for site resident exposure to the constituents detected in groundwater is 0.28 and the cumulative cancer risk for site worker exposure is 0.06. A cumulative cancer risk of ≤ 1 represents an acceptable risk. Therefore, the cumulative cancer risk for groundwater is acceptable for a site resident.

The hazard quotients for each target organ for the constituents detected in groundwater are not acceptable for a site resident and acceptable for a site worker. A sum value for each target organ must be ≤ 1 to be considered acceptable for non-cancer health risk. The value was >1 for two target organs for a site resident, but were <1 for all target organs for a site worker.

It should be noted the IDNR cumulative risk calculator only evaluates cumulative risk for those constituents with an established statewide standard. Therefore, the concentration of diesel, gasoline, motor oil, n-propylbenzene, p-isopropyltoluene, and sec-butylbenzene, which were detected in soil, and diesel, gasoline, motor oil, p-isopropyltoluene, sec-butylbenzene, and tert-butylbenzene, which were detected in the groundwater, were not included in the calculations for the cumulative risk analysis.

6.0 FINDINGS AND CONCLUSIONS

The results of the Phase II investigation are provided in this document. The findings and conclusions are summarized as follows:

- No PCBs were detected in the soil sample. VOCs were detected below Statewide Standards, and TEH as diesel was detected below the Tier 1 Look-up Value.
- No PCBs were detected in the groundwater sample. Benzene, naphthalene, and 1,2,4-trimethylbenzene were detected above Statewide Standards for a protected groundwater source, but below the Statewide Standards for a non-protected groundwater source. TEH as diesel and motor oil were detected above the Tier 1 Look-up Value for actual groundwater ingestion.

7.0 RECOMMENDATIONS

Based on the property's current use and planned redevelopment as green space, it is the opinion of HR Green the detected constituents represent a risk to human health and the environment. Due to the close proximity of residential properties, presence of groundwater contamination, and the non-cancer risk being unacceptable for a site resident, this report should be forwarded to the IDNR for review.

8.0 SIGNATURES OF ENVIRONMENTAL PROFESSIONALS

We declare, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in §312.10 of 40 CFR 312 and we have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the site. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Signatures of the environmental professionals responsible for this report:



Michael Goalen, Project Manager, Quality Control and Assurance



Diane Pals, Project Scientist, Technical Review



Bridget Wolfe, Staff Scientist, Report Preparer

APPENDIX A
QUALIFICATIONS

QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONALS

COMPANY QUALIFICATIONS

HR Green Inc. is a multi-disciplined consulting engineering firm providing services in the civil, environmental, structural, mechanical and electrical engineering disciplines. The firm, founded in 1913, serves Midwest cities, utilities, industries, and various state and federal agencies. The home office is located in Cedar Rapids, Iowa, with branch offices in Des Moines and Sioux City, Iowa; Saint Paul, Minnesota; St. Louis, Missouri; Sioux Falls, South Dakota; Houston, Texas; York, Pennsylvania; and in McHenry, New Lenox, Yorkville, Chicago and Moline, Illinois. The firm currently employs approximately 400 architects, engineers, planners, scientists, surveyors, technicians, and support staff.

HR Green Inc. has completed environmental site assessments and property transfer evaluations for a variety of public and private clients in Iowa, Minnesota, Missouri, South Dakota, and Wisconsin. The firm is experienced in multiple phases of environmental services, including site assessments, contaminant release investigations, and remediation programs. Additionally, hazardous materials management, permit compliance, solid waste management, storm water management, and underground storage tank system management services are provided by the firm.

QUALIFICATIONS OF INDIVIDUALS PREPARING THIS REPORT

Mr. Michael Goalen is an environmental scientist with eleven years of experience in the environmental consulting industry and has experience with a wide variety of environmental issues including Phase I and II Environmental Site Assessments in accordance with the ASTM standard, Brownfield Site Assessments, remediation, and risk based assessments of hazardous waste sites. Mr. Goalen is 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) certified.

Ms. Diane Pals is a Project Scientist II with experience with a variety of environmental projects including Phase I Environmental Site Assessments Brownfields site assessments, remediation oversight, stormwater sampling, Iowa Land Recycling Program, Iowa risk Based Corrective Action Program, former manufactured gas plant site, and project management of municipal solid waste reduction studies. Diane is 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) and HAZWOPER supervisor certified.

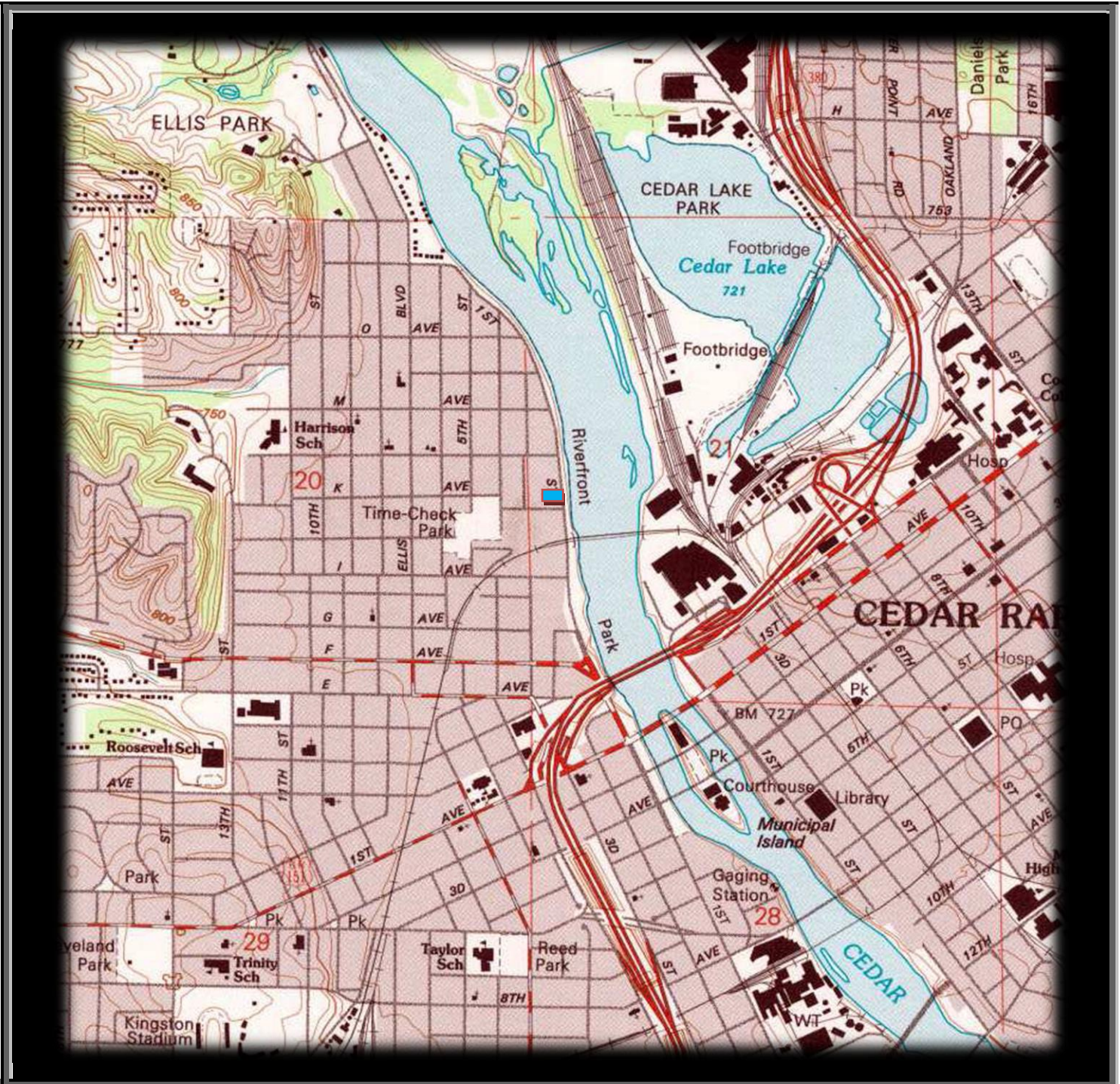
Ms. Bridget Wolfe is an Environmental Scientist with experience on a wide range of environmental projects including Phase I and Phase II environmental site assessments in accordance with the ASTM standard, soil boring installation, soil and groundwater water sampling, and acquiring field parameters. She has worked on multiple Brownfield redevelopment projects and is also 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) certified.

APPENDIX B

Figures

Figure 1 – Site Vicinity Map

Figure 2 – Sampling Location Map



Subject Property



Figure 1 Site Vicinity Map

1208 1st Street NW
Cedar Rapids, IA
City of Cedar Rapids



HR Green



Legend

- Soil Boring ●
- REC Location ▲

**Figure 2
Sample Location Map**

1208 1st Street NW
Cedar Rapids, IA
City of Cedar Rapids



APPENDIX C

Laboratory Reports/ Chain of Custody Documentation

February 04, 2011

Client:

HOWARD R. GREEN CO.- DES MOINES <
2550 University Ave W, Ste 400 N
St. Paul, MN 55114

Work Order: CUA1026
Project Name: 1208 1st Street NW Cluster 1 - Cedar Rapids, IA
Project Number: 40100139

Attn: Mike Goalen

Date Received: 01/26/11

The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-(800)750-2401

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
1208-SB1 8-10'	CUA1026-01	01/25/11 09:34
1208-SB1	CUA1026-02	01/25/11 09:45

Samples were received into laboratory at a temperature of 1.70 °C.

NELAC states that samples which require thermal preservation shall be considered acceptable if the arrival temperature is within 2 degrees C of the required temperature or the method specified range. For samples with a temperature requirement of 4 degrees C, an arrival temperature from 0 degrees C to 6 degrees C meets specifications. Samples that are delivered to the laboratory on the same day that they are collected may not meet these criteria. In these cases, the samples are considered acceptable if there is evidence that the chilling process has begun, such as arrival on ice.

Please refer to the Temperature and Sample Receipt form that is included with this report for additional information regarding the condition of samples at the time of receipt by the laboratory.

The reported results were obtained in compliance with the 2003 NELAC standards unless otherwise noted.

Reproduction of this analytical report is permitted only in its entirety. This report shall not be reproduced except in full without the written approval of the laboratory.

TestAmerica Laboratories, Inc. certifies that the analytical results contained herein apply only to the specific sample analyzed.

Approved By:



TestAmerica Cedar Falls

Angela Muehling
Project Coordinator

HOWARD R. GREEN CO.- DES MOINES <
2550 University Ave W, Ste 400 N
St. Paul, MN 55114
Mike Goalen

Work Order: CUA1026
Project: 1208 1st Street NW Cluster 1 - Cedar Rapids, IA
Project Number: 40100139

Received: 01/26/11
Reported: 02/04/11 15:52

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	MDL	MRL	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: CUA1026-01 (1208-SB1 8-10' - Soil)							Sampled: 01/25/11 09:34		Recvd: 01/26/11 08:55	
	Sampled By:	Bridget Wolfe		Phone	(651) 644-4389					
General Chemistry Parameters										
% Solids	80.5		%		0.100	1	01/26/11 16:18	sas	11A0889	SM 2540 G
Volatile Organic Compounds										
Acetone	<0.0465	L	mg/kg dry		0.0465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
Acrylonitrile	<0.0465		mg/kg dry		0.0465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
Benzene	0.00828		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
Bromobenzene	<0.00465		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
Bromochloromethane	<0.00465		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
Bromodichloromethane	<0.00465		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
Bromoform	<0.00931		mg/kg dry		0.00931	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
Bromomethane	<0.0186		mg/kg dry		0.0186	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
2-Butanone (MEK)	<0.0465		mg/kg dry		0.0465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
n-Butylbenzene	0.310		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
sec-Butylbenzene	0.0908		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
tert-Butylbenzene	<0.00465		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
Carbon disulfide	<0.00465		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
Carbon Tetrachloride	<0.00465		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
Chlorobenzene	<0.00465		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
Chlorodibromomethane	<0.00465		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
Chloroethane	<0.0186		mg/kg dry		0.0186	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
Chloroform	<0.00465		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
Chloromethane	<0.0186		mg/kg dry		0.0186	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
2-Chlorotoluene	<0.00465		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
4-Chlorotoluene	<0.00465		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
1,2-Dibromo-3-chloropropane	<0.0465		mg/kg dry		0.0465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
1,2-Dibromoethane (EDB)	<0.0465		mg/kg dry		0.0465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
Dibromomethane	<0.00465		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
1,2-Dichlorobenzene	<0.00465		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
1,3-Dichlorobenzene	<0.00465		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
1,4-Dichlorobenzene	<0.00465		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
Dichlorodifluoromethane	<0.0140		mg/kg dry		0.0140	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
1,1-Dichloroethane	<0.00465		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
1,2-Dichloroethane	<0.00465		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
1,1-Dichloroethene	<0.00465		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
cis-1,2-Dichloroethene	<0.00465		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
trans-1,2-Dichloroethene	<0.00465		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
1,2-Dichloropropane	<0.00465		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
1,3-Dichloropropane	<0.00465		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
2,2-Dichloropropane	<0.0186		mg/kg dry		0.0186	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
1,1-Dichloropropene	<0.00465		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
cis-1,3-Dichloropropene	<0.00465		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
trans-1,3-Dichloropropene	<0.00465		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
Ethylbenzene	0.280		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
Hexachlorobutadiene	<0.0233		mg/kg dry		0.0233	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
Hexane	0.115		mg/kg dry		0.0233	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
Isopropylbenzene	0.193		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
p-Isopropyltoluene	0.0397		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
Methylene Chloride	<0.0465		mg/kg dry		0.0465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B

HOWARD R. GREEN CO.- DES MOINES <
2550 University Ave W, Ste 400 N
St. Paul, MN 55114
Mike Goalen

Work Order: CUA1026
Project: 1208 1st Street NW Cluster 1 - Cedar Rapids, IA
Project Number: 40100139

Received: 01/26/11
Reported: 02/04/11 15:52

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	MDL	MRL	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: CUA1026-01 (1208-SB1 8-10' - Soil) - cont.						Sampled: 01/25/11 09:34		Recvd: 01/26/11 08:55		
Volatile Organic Compounds - cont.										
Methyl tert-Butyl Ether	<0.00465		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
Naphthalene	0.0568		mg/kg dry		0.0233	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
n-Propylbenzene	3.57		mg/kg dry		0.492	79.2	01/28/11 15:36	EEE	11A0947	SW 8260B
Styrene	<0.00465		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
1,1,1,2-Tetrachloroethane	<0.00465		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
1,1,2,2-Tetrachloroethane	<0.00465		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
Tetrachloroethene	<0.00465		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
Toluene	<0.00465		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
1,2,3-Trichlorobenzene	<0.0233		mg/kg dry		0.0233	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
1,2,4-Trichlorobenzene	<0.0233		mg/kg dry		0.0233	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
1,1,1-Trichloroethane	<0.00465		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
1,1,2-Trichloroethane	<0.00465		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
Trichloroethene	<0.00465		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
Trichlorofluoromethane	<0.0186		mg/kg dry		0.0186	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
1,2,3-Trichloropropane	<0.00465		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
1,2,4-Trimethylbenzene	11.7		mg/kg dry		0.492	79.2	01/28/11 15:36	EEE	11A0947	SW 8260B
1,3,5-Trimethylbenzene	0.234		mg/kg dry		0.00465	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
Vinyl chloride	<0.0140		mg/kg dry		0.0140	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
Xylenes, total	0.0532		mg/kg dry		0.0140	0.75	01/26/11 16:40	EEE	11A0894	SW 8260B
<i>Surr: Dibromofluoromethane (75-125%)</i>	<i>117 %</i>									
<i>Surr: Toluene-d8 (80-120%)</i>	<i>119 %</i>									
<i>Surr: 4-Bromofluorobenzene (80-120%)</i>	<i>94 %</i>									
UST ANALYSIS PARAMETERS										
Total Extractable Hydrocarbons	96.4		mg/kg		18.8	1	01/28/11 17:31	jdb	[CALC]	OA-2 - 8015B
Diesel	26.8		mg/kg		18.8	1.88	01/28/11 17:31	jdb	11A0900	OA-2 - 8015B
Gasoline	49.7		mg/kg		18.8	1.88	01/28/11 17:31	jdb	11A0900	OA-2 - 8015B
Motor Oil	19.9		mg/kg		18.8	1.88	01/28/11 17:31	jdb	11A0900	OA-2 - 8015B
<i>Surr: Octacosane (50-150%)</i>	<i>110 %</i>									
Polychlorinated Biphenyls by EPA Method 8082										
PCB-1016	<0.123		mg/kg dry		0.123	1.98	02/04/11 00:24	jar	11A0936	SW 8082
PCB-1221	<0.123		mg/kg dry		0.123	1.98	02/04/11 00:24	jar	11A0936	SW 8082
PCB-1232	<0.123		mg/kg dry		0.123	1.98	02/04/11 00:24	jar	11A0936	SW 8082
PCB-1242	<0.123		mg/kg dry		0.123	1.98	02/04/11 00:24	jar	11A0936	SW 8082
PCB-1248	<0.123		mg/kg dry		0.123	1.98	02/04/11 00:24	jar	11A0936	SW 8082
PCB-1254	<0.123		mg/kg dry		0.123	1.98	02/04/11 00:24	jar	11A0936	SW 8082
PCB-1260	<0.123		mg/kg dry		0.123	1.98	02/04/11 00:24	jar	11A0936	SW 8082
PCB-1268	<0.123		mg/kg dry		0.123	1.98	02/04/11 00:24	jar	11A0936	SW 8082
<i>Surr: Decachlorobiphenyl (55-120%)</i>	<i>159 %</i>	<i>Z6</i>								
<i>Surr: Tetrachloro-meta-xylene (45-105%)</i>	<i>108 %</i>	<i>Z6</i>								

HOWARD R. GREEN CO.- DES MOINES <
2550 University Ave W, Ste 400 N
St. Paul, MN 55114
Mike Goalen

Work Order: CUA1026
Project: 1208 1st Street NW Cluster 1 - Cedar Rapids, IA
Project Number: 40100139

Received: 01/26/11
Reported: 02/04/11 15:52

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	MDL	MRL	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method	
Sample ID: CUA1026-02 (1208-SB1 - Ground Water)						Sampled: 01/25/11 09:45		Recvd: 01/26/11 08:55			
Sampled By: Bridget Wolfe						Phone (651) 644-4389					
Volatile Organic Compounds											
Acetone	<0.00179		mg/L	0.00179	0.0100	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
Acrylonitrile	<0.000190		mg/L	0.000190	0.0100	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
Benzene	0.0517		mg/L	0.000110	0.000500	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
Bromobenzene	<0.000210		mg/L	0.000210	0.00100	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
Bromochloromethane	<0.000120		mg/L	0.000120	0.00500	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
Bromodichloromethane	<0.000120		mg/L	0.000120	0.00100	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
Bromoform	<0.000140		mg/L	0.000140	0.00500	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
Bromomethane	<0.000220		mg/L	0.000220	0.00400	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
2-Butanone (MEK)	<0.000160		mg/L	0.000160	0.0100	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
n-Butylbenzene	0.0602		mg/L	0.000370	0.00100	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
sec-Butylbenzene	0.0210		mg/L	0.000200	0.00100	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
tert-Butylbenzene	0.00159		mg/L	0.000120	0.00100	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
Carbon disulfide	0.000240 J		mg/L	0.000150	0.00100	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
Carbon Tetrachloride	<0.000240		mg/L	0.000240	0.00200	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
Chlorobenzene	<0.000190		mg/L	0.000190	0.00100	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
Chlorodibromomethane	<0.000200		mg/L	0.000200	0.00500	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
Chloroethane	<0.000150		mg/L	0.000150	0.00400	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
Chloroform	<0.000280		mg/L	0.000280	0.00100	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
Chloromethane	<0.000310		mg/L	0.000310	0.00300	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
2-Chlorotoluene	<0.000120		mg/L	0.000120	0.00100	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
4-Chlorotoluene	<0.000130		mg/L	0.000130	0.00100	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
1,2-Dibromo-3-chloropropane	<0.000120		mg/L	0.000120	0.0100	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
1,2-Dibromoethane (EDB)	<0.000130		mg/L	0.000130	0.0100	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
Dibromomethane	<0.000180		mg/L	0.000180	0.00100	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
1,2-Dichlorobenzene	<0.000140		mg/L	0.000140	0.00100	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
1,3-Dichlorobenzene	<0.000170		mg/L	0.000170	0.00100	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
1,4-Dichlorobenzene	<0.000200		mg/L	0.000200	0.00100	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
Dichlorodifluoromethane	<0.000200		mg/L	0.000200	0.00300	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
1,1-Dichloroethane	<0.000210		mg/L	0.000210	0.00100	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
1,2-Dichloroethane	<0.000180		mg/L	0.000180	0.00100	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
1,1-Dichloroethene	<0.000150		mg/L	0.000150	0.00200	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
cis-1,2-Dichloroethene	<0.000130		mg/L	0.000130	0.00100	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
trans-1,2-Dichloroethene	<0.000210		mg/L	0.000210	0.00100	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
1,2-Dichloropropane	<0.000110		mg/L	0.000110	0.00100	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
1,3-Dichloropropane	<0.000160		mg/L	0.000160	0.00100	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
2,2-Dichloropropane	<0.000180		mg/L	0.000180	0.00400	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
1,1-Dichloropropene	<0.000150		mg/L	0.000150	0.00100	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
cis-1,3-Dichloropropene	<0.000150		mg/L	0.000150	0.00500	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
trans-1,3-Dichloropropene	<0.000220		mg/L	0.000220	0.00500	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
Ethylbenzene	0.682		mg/L	0.00210	0.0100	10	02/01/11 14:34	sjn	11B0009	SW 8260B	
Hexachlorobutadiene	<0.000200		mg/L	0.000200	0.00500	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
Hexane	0.0268		mg/L	0.000200	0.00100	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
Isopropylbenzene	0.129		mg/L	0.000190	0.00100	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
p-Isopropyltoluene	0.00829		mg/L	0.000140	0.00100	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
Methylene Chloride	<0.000170		mg/L	0.000170	0.00500	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
Methyl tert-Butyl Ether	<0.000160		mg/L	0.000160	0.00100	1	01/31/11 17:30	EEE	11B0006	SW 8260B	
Naphthalene	0.101		mg/L	0.000370	0.00500	1	01/31/11 17:30	EEE	11B0006	SW 8260B	

HOWARD R. GREEN CO.- DES MOINES <
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Mike Goalen

Work Order: CUA1026
Project: 1208 1st Street NW Cluster 1 - Cedar Rapids, IA
Project Number: 40100139

Received: 01/26/11
Reported: 02/04/11 15:52

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	MDL	MRL	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: CUA1026-02 (1208-SB1 - Ground Water) - cont.						Sampled: 01/25/11 09:45		Recvd: 01/26/11 08:55		
Volatile Organic Compounds - cont.										
n-Propylbenzene	0.312		mg/L	0.000100	0.00100	1	01/31/11 17:30	EEE	11B0006	SW 8260B
Styrene	<0.000100		mg/L	0.000100	0.00100	1	01/31/11 17:30	EEE	11B0006	SW 8260B
1,1,1,2-Tetrachloroethane	<0.000210		mg/L	0.000210	0.00100	1	01/31/11 17:30	EEE	11B0006	SW 8260B
1,1,2,2-Tetrachloroethane	<0.000100		mg/L	0.000100	0.00200	1	01/31/11 17:30	EEE	11B0006	SW 8260B
Tetrachloroethene	<0.000180		mg/L	0.000180	0.00100	1	01/31/11 17:30	EEE	11B0006	SW 8260B
Toluene	0.00711		mg/L	0.000150	0.00100	1	01/31/11 17:30	EEE	11B0006	SW 8260B
1,2,3-Trichlorobenzene	<0.000160		mg/L	0.000160	0.00500	1	01/31/11 17:30	EEE	11B0006	SW 8260B
1,2,4-Trichlorobenzene	<0.000160		mg/L	0.000160	0.00500	1	01/31/11 17:30	EEE	11B0006	SW 8260B
1,1,1-Trichloroethane	<0.000120		mg/L	0.000120	0.00100	1	01/31/11 17:30	EEE	11B0006	SW 8260B
1,1,2-Trichloroethane	<0.000120		mg/L	0.000120	0.00100	1	01/31/11 17:30	EEE	11B0006	SW 8260B
Trichloroethene	<0.000190		mg/L	0.000190	0.00100	1	01/31/11 17:30	EEE	11B0006	SW 8260B
Trichlorofluoromethane	<0.000170		mg/L	0.000170	0.00400	1	01/31/11 17:30	EEE	11B0006	SW 8260B
1,2,3-Trichloropropane	<0.000190		mg/L	0.000190	0.00500	1	01/31/11 17:30	EEE	11B0006	SW 8260B
1,2,4-Trimethylbenzene	0.966		mg/L	0.00200	0.0100	10	02/01/11 14:34	sjn	11B0009	SW 8260B
1,3,5-Trimethylbenzene	0.128		mg/L	0.000200	0.00100	1	01/31/11 17:30	EEE	11B0006	SW 8260B
Vinyl chloride	<0.000100		mg/L	0.000100	0.00100	1	01/31/11 17:30	EEE	11B0006	SW 8260B
Xylenes, total	0.379		mg/L	0.000130	0.00300	1	01/31/11 17:30	EEE	11B0006	SW 8260B
<i>Surr: Dibromofluoromethane (75-120%)</i>	<i>117 %</i>									
<i>Surr: Dibromofluoromethane (75-120%)</i>	<i>85 %</i>									
<i>Surr: Toluene-d8 (80-120%)</i>	<i>99 %</i>									
<i>Surr: Toluene-d8 (80-120%)</i>	<i>97 %</i>									
<i>Surr: 4-Bromofluorobenzene (75-110%)</i>	<i>103 %</i>									
<i>Surr: 4-Bromofluorobenzene (75-110%)</i>	<i>104 %</i>									
VOC Preservation Check										
pH	<2.00		units		2.00	1	02/01/11 11:05	cmm	11B0016	SW
UST ANALYSIS PARAMETERS										
Total Extractable Hydrocarbons	27900		ug/L		300	1	01/27/11 22:27	jdb	[CALC]	OA-2 - 8015B
Diesel	4.22	Q	mg/L		0.300	1.09	01/27/11 22:27	jdb	11A0855	OA-2 - 8015B
Gasoline	23.2		mg/L		0.300	1.09	01/27/11 22:27	jdb	11A0855	OA-2 - 8015B
Motor Oil	0.516	Q	mg/L		0.300	1.09	01/27/11 22:27	jdb	11A0855	OA-2 - 8015B
<i>Surr: Octacosane (55-150%)</i>	<i>102 %</i>									
Polychlorinated Biphenyls by EPA Method 8082										
PCB-1016	<0.00800	RL1	mg/L		0.00800	10.9	02/04/11 11:34	jar	11A0961	SW 8082
PCB-1221	<0.00800	RL1	mg/L		0.00800	10.9	02/04/11 11:34	jar	11A0961	SW 8082
PCB-1232	<0.00800	RL1	mg/L		0.00800	10.9	02/04/11 11:34	jar	11A0961	SW 8082
PCB-1242	<0.00800	RL1	mg/L		0.00800	10.9	02/04/11 11:34	jar	11A0961	SW 8082
PCB-1248	<0.00800	RL1	mg/L		0.00800	10.9	02/04/11 11:34	jar	11A0961	SW 8082
PCB-1254	<0.00800	RL1	mg/L		0.00800	10.9	02/04/11 11:34	jar	11A0961	SW 8082
PCB-1260	<0.00800	RL1	mg/L		0.00800	10.9	02/04/11 11:34	jar	11A0961	SW 8082
PCB-1268	<0.00800	RL1	mg/L		0.00800	10.9	02/04/11 11:34	jar	11A0961	SW 8082
<i>Surr: Decachlorobiphenyl (45-110%)</i>	<i>40 %</i>	Z6								
<i>Surr: Tetrachloro-meta-xylene (40-90%)</i>	<i>56 %</i>									

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Work Order: CUA1026

Received: 01/26/11
Reported: 02/04/11 15:52

Project: 1208 1st Street NW Cluster 1 - Cedar Rapids, IA

Project Number: 40100139

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
Polychlorinated Biphenyls by EPA Method 8082							
SW 8082	11A0936	CUA1026-01	15.14	10.00	01/28/11 08:51	TCH	SW 3550B GC
SW 8082	11A0961	CUA1026-02	920.00	5.00	01/28/11 14:06	RAK	SW 3510C GC
UST ANALYSIS PARAMETERS							
OA-2 - 8015B	[CALC]	CUA1026-01	1.00	1.00	01/27/11 09:46		[CALC]
OA-2 - 8015B	11A0900	CUA1026-01	15.94	1.50	01/27/11 09:46	TCH	SW 3550B GC
OA-2 - 8015B	[CALC]	CUA1026-02	1.00	1.00	01/26/11 11:57		[CALC]
OA-2 - 8015B	11A0855	CUA1026-02	920.00	1.00	01/26/11 11:57	RAK	SW 3510C GC

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 Project Number: 40100139

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 Reported: 02/04/11 15:52

LABORATORY BLANK QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD RPD	RPD Limit	Q
Volatile Organic Compounds														
Acetone	11A0894			mg/kg wet	N/A	0.0938	<0.0938							L
Acrylonitrile	11A0894			mg/kg wet	N/A	0.0938	<0.0938							
Benzene	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
Bromobenzene	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
Bromochloromethane	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
Bromodichloromethane	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
Bromoform	11A0894			mg/kg wet	N/A	0.0188	<0.0188							
Bromomethane	11A0894			mg/kg wet	N/A	0.0375	<0.0375							
2-Butanone (MEK)	11A0894			mg/kg wet	N/A	0.0938	<0.0938							
n-Butylbenzene	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
sec-Butylbenzene	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
tert-Butylbenzene	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
Carbon disulfide	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
Carbon Tetrachloride	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
Chlorobenzene	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
Chlorodibromomethane	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
Chloroethane	11A0894			mg/kg wet	N/A	0.0375	<0.0375							
Chloroform	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
Chloromethane	11A0894			mg/kg wet	N/A	0.0375	<0.0375							
2-Chlorotoluene	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
4-Chlorotoluene	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
1,2-Dibromo-3-chloropropane	11A0894			mg/kg wet	N/A	0.0938	<0.0938							
1,2-Dibromoethane (EDB)	11A0894			mg/kg wet	N/A	0.0938	<0.0938							
Dibromomethane	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
1,2-Dichlorobenzene	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
1,3-Dichlorobenzene	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
1,4-Dichlorobenzene	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
Dichlorodifluoromethane	11A0894			mg/kg wet	N/A	0.0281	<0.0281							
1,1-Dichloroethane	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
1,2-Dichloroethane	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
1,1-Dichloroethene	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
cis-1,2-Dichloroethene	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
trans-1,2-Dichloroethene	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
1,2-Dichloropropane	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
1,3-Dichloropropane	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
2,2-Dichloropropane	11A0894			mg/kg wet	N/A	0.0375	<0.0375							
1,1-Dichloropropene	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
cis-1,3-Dichloropropene	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
trans-1,3-Dichloropropene	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
Ethylbenzene	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
Hexachlorobutadiene	11A0894			mg/kg wet	N/A	0.0469	<0.0469							
Hexane	11A0894			mg/kg wet	N/A	0.0469	<0.0469							
Isopropylbenzene	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
p-Isopropyltoluene	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
Methylene Chloride	11A0894			mg/kg wet	N/A	0.0938	<0.0938							

HOWARD R. GREEN CO.- DES MOINES <
2550 University Ave W, Ste 400 N
St. Paul, MN 55114
Mike Goalen

Work Order: CUA1026
Project: 1208 1st Street NW Cluster 1 - Cedar Rapids, IA
Project Number: 40100139

Received: 01/26/11
Reported: 02/04/11 15:52

LABORATORY BLANK QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD RPD	RPD Limit	Q
Volatile Organic Compounds														
Methyl tert-Butyl Ether	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
Naphthalene	11A0894			mg/kg wet	N/A	0.0469	<0.0469							
n-Propylbenzene	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
Styrene	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
1,1,1,2-Tetrachloroethane	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
1,1,2,2-Tetrachloroethane	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
Tetrachloroethene	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
Toluene	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
1,2,3-Trichlorobenzene	11A0894			mg/kg wet	N/A	0.0469	<0.0469							
1,2,4-Trichlorobenzene	11A0894			mg/kg wet	N/A	0.0469	<0.0469							
1,1,1-Trichloroethane	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
1,1,2-Trichloroethane	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
Trichloroethene	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
Trichlorofluoromethane	11A0894			mg/kg wet	N/A	0.0375	<0.0375							
1,2,3-Trichloropropane	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
1,2,4-Trimethylbenzene	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
1,3,5-Trimethylbenzene	11A0894			mg/kg wet	N/A	0.00938	<0.00938							
Vinyl chloride	11A0894			mg/kg wet	N/A	0.0281	<0.0281							
Xylenes, total	11A0894			mg/kg wet	N/A	0.0281	<0.0281							
Surrogate: Dibromofluoromethane	11A0894			ug/L					114		75-125			
Surrogate: Toluene-d8	11A0894			ug/L					97		80-120			
Surrogate: 4-Bromofluorobenzene	11A0894			ug/L					97		80-120			
Acetone	11A0947			mg/kg wet	N/A	2.40	<2.40							
Acrylonitrile	11A0947			mg/kg wet	N/A	2.40	<2.40							
Benzene	11A0947			mg/kg wet	N/A	0.240	<0.240							
Bromobenzene	11A0947			mg/kg wet	N/A	0.240	<0.240							
Bromochloromethane	11A0947			mg/kg wet	N/A	0.240	<0.240							
Bromodichloromethane	11A0947			mg/kg wet	N/A	0.240	<0.240							
Bromoform	11A0947			mg/kg wet	N/A	0.481	<0.481							
Bromomethane	11A0947			mg/kg wet	N/A	0.961	<0.961							
2-Butanone (MEK)	11A0947			mg/kg wet	N/A	2.40	<2.40							
n-Butylbenzene	11A0947			mg/kg wet	N/A	0.240	<0.240							
sec-Butylbenzene	11A0947			mg/kg wet	N/A	0.240	<0.240							
tert-Butylbenzene	11A0947			mg/kg wet	N/A	0.240	<0.240							
Carbon disulfide	11A0947			mg/kg wet	N/A	0.240	<0.240							
Carbon Tetrachloride	11A0947			mg/kg wet	N/A	0.240	<0.240							
Chlorobenzene	11A0947			mg/kg wet	N/A	0.240	<0.240							
Chlorodibromomethane	11A0947			mg/kg wet	N/A	0.240	<0.240							
Chloroethane	11A0947			mg/kg wet	N/A	0.961	<0.961							
Chloroform	11A0947			mg/kg wet	N/A	0.240	<0.240							
Chloromethane	11A0947			mg/kg wet	N/A	0.961	<0.961							
2-Chlorotoluene	11A0947			mg/kg wet	N/A	0.240	<0.240							
4-Chlorotoluene	11A0947			mg/kg wet	N/A	0.240	<0.240							
1,2-Dibromo-3-chloropropane	11A0947			mg/kg wet	N/A	2.40	<2.40							

HOWARD R. GREEN CO.- DES MOINES <
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 Project Number: 40100139

Received: 01/26/11
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LABORATORY BLANK QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Dup Result	% REC	Dup %REC	% REC Limits	RPD RPD	RPD Limit	Q
Volatile Organic Compounds													
1,2-Dibromoethane (EDB)	11A0947			mg/kg wet	N/A	2.40	<2.40						
Dibromomethane	11A0947			mg/kg wet	N/A	0.240	<0.240						
1,2-Dichlorobenzene	11A0947			mg/kg wet	N/A	0.240	<0.240						
1,3-Dichlorobenzene	11A0947			mg/kg wet	N/A	0.240	<0.240						
1,4-Dichlorobenzene	11A0947			mg/kg wet	N/A	0.240	<0.240						
Dichlorodifluoromethane	11A0947			mg/kg wet	N/A	0.721	<0.721						
1,1-Dichloroethane	11A0947			mg/kg wet	N/A	0.240	<0.240						
1,2-Dichloroethane	11A0947			mg/kg wet	N/A	0.240	<0.240						
1,1-Dichloroethene	11A0947			mg/kg wet	N/A	0.240	<0.240						
cis-1,2-Dichloroethene	11A0947			mg/kg wet	N/A	0.240	<0.240						
trans-1,2-Dichloroethene	11A0947			mg/kg wet	N/A	0.240	<0.240						
1,2-Dichloropropane	11A0947			mg/kg wet	N/A	0.240	<0.240						
1,3-Dichloropropane	11A0947			mg/kg wet	N/A	0.240	<0.240						
2,2-Dichloropropane	11A0947			mg/kg wet	N/A	0.961	<0.961						
1,1-Dichloropropene	11A0947			mg/kg wet	N/A	0.240	<0.240						
cis-1,3-Dichloropropene	11A0947			mg/kg wet	N/A	0.240	<0.240						
trans-1,3-Dichloropropene	11A0947			mg/kg wet	N/A	0.240	<0.240						
Ethylbenzene	11A0947			mg/kg wet	N/A	0.240	<0.240						
Hexachlorobutadiene	11A0947			mg/kg wet	N/A	1.20	<1.20						
Hexane	11A0947			mg/kg wet	N/A	1.20	<1.20						
Isopropylbenzene	11A0947			mg/kg wet	N/A	0.240	<0.240						
p-Isopropyltoluene	11A0947			mg/kg wet	N/A	0.240	<0.240						
Methylene Chloride	11A0947			mg/kg wet	N/A	2.40	<2.40						
Methyl tert-Butyl Ether	11A0947			mg/kg wet	N/A	0.240	<0.240						
Naphthalene	11A0947			mg/kg wet	N/A	1.20	<1.20						
n-Propylbenzene	11A0947			mg/kg wet	N/A	0.240	<0.240						
Styrene	11A0947			mg/kg wet	N/A	0.240	<0.240						
1,1,1,2-Tetrachloroethane	11A0947			mg/kg wet	N/A	0.240	<0.240						
1,1,2,2-Tetrachloroethane	11A0947			mg/kg wet	N/A	0.240	<0.240						
Tetrachloroethene	11A0947			mg/kg wet	N/A	0.240	<0.240						
Toluene	11A0947			mg/kg wet	N/A	0.240	<0.240						
1,2,3-Trichlorobenzene	11A0947			mg/kg wet	N/A	1.20	<1.20						
1,2,4-Trichlorobenzene	11A0947			mg/kg wet	N/A	1.20	<1.20						
1,1,1-Trichloroethane	11A0947			mg/kg wet	N/A	0.240	<0.240						
1,1,2-Trichloroethane	11A0947			mg/kg wet	N/A	0.240	<0.240						
Trichloroethene	11A0947			mg/kg wet	N/A	0.240	<0.240						
Trichlorofluoromethane	11A0947			mg/kg wet	N/A	0.961	<0.961						
1,2,3-Trichloropropane	11A0947			mg/kg wet	N/A	0.240	<0.240						
1,2,4-Trimethylbenzene	11A0947			mg/kg wet	N/A	0.240	<0.240						
1,3,5-Trimethylbenzene	11A0947			mg/kg wet	N/A	0.240	<0.240						
Vinyl chloride	11A0947			mg/kg wet	N/A	0.721	<0.721						
Xylenes, total	11A0947			mg/kg wet	N/A	0.721	<0.721						
Surrogate: Dibromofluoromethane	11A0947			ug/L				111		75-125			
Surrogate: Toluene-d8	11A0947			ug/L				98		80-120			
Surrogate: 4-Bromofluorobenzene	11A0947			ug/L				98		80-120			

HOWARD R. GREEN CO.- DES MOINES <
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 Project Number: 40100139

Received: 01/26/11
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LABORATORY BLANK QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD RPD	RPD Limit	Q
Volatile Organic Compounds														
Acetone	11B0006			mg/L	0.00179	0.0100	<0.00179							
Acrylonitrile	11B0006			mg/L	0.000190	0.0100	<0.000190							
Benzene	11B0006			mg/L	0.000110	0.000500	<0.000110							
Bromobenzene	11B0006			mg/L	0.000210	0.00100	<0.000210							
Bromochloromethane	11B0006			mg/L	0.000120	0.00500	<0.000120							
Bromodichloromethane	11B0006			mg/L	0.000120	0.00100	<0.000120							
Bromoform	11B0006			mg/L	0.000140	0.00500	<0.000140							
Bromomethane	11B0006			mg/L	0.000220	0.00400	<0.000220							
2-Butanone (MEK)	11B0006			mg/L	0.000160	0.0100	<0.000160							
n-Butylbenzene	11B0006			mg/L	0.000370	0.00100	<0.000370							
sec-Butylbenzene	11B0006			mg/L	0.000200	0.00100	<0.000200							
tert-Butylbenzene	11B0006			mg/L	0.000120	0.00100	<0.000120							
Carbon disulfide	11B0006			mg/L	0.000150	0.00100	<0.000150							
Carbon Tetrachloride	11B0006			mg/L	0.000240	0.00200	<0.000240							
Chlorobenzene	11B0006			mg/L	0.000190	0.00100	<0.000190							
Chlorodibromomethane	11B0006			mg/L	0.000200	0.00500	<0.000200							
Chloroethane	11B0006			mg/L	0.000150	0.00400	<0.000150							
Chloroform	11B0006			mg/L	0.000280	0.00100	<0.000280							
Chloromethane	11B0006			mg/L	0.000310	0.00300	<0.000310							
2-Chlorotoluene	11B0006			mg/L	0.000120	0.00100	<0.000120							
4-Chlorotoluene	11B0006			mg/L	0.000130	0.00100	<0.000130							
1,2-Dibromo-3-chloropropane	11B0006			mg/L	0.000120	0.0100	<0.000120							
1,2-Dibromoethane (EDB)	11B0006			mg/L	0.000130	0.0100	<0.000130							
Dibromomethane	11B0006			mg/L	0.000180	0.00100	<0.000180							
1,2-Dichlorobenzene	11B0006			mg/L	0.000140	0.00100	<0.000140							
1,3-Dichlorobenzene	11B0006			mg/L	0.000170	0.00100	<0.000170							
1,4-Dichlorobenzene	11B0006			mg/L	0.000200	0.00100	<0.000200							
Dichlorodifluoromethane	11B0006			mg/L	0.000200	0.00300	<0.000200							
1,1-Dichloroethane	11B0006			mg/L	0.000210	0.00100	<0.000210							
1,2-Dichloroethane	11B0006			mg/L	0.000180	0.00100	<0.000180							
1,1-Dichloroethene	11B0006			mg/L	0.000150	0.00200	<0.000150							
cis-1,2-Dichloroethene	11B0006			mg/L	0.000130	0.00100	<0.000130							
trans-1,2-Dichloroethene	11B0006			mg/L	0.000210	0.00100	<0.000210							
1,2-Dichloropropane	11B0006			mg/L	0.000110	0.00100	<0.000110							
1,3-Dichloropropane	11B0006			mg/L	0.000160	0.00100	<0.000160							
2,2-Dichloropropane	11B0006			mg/L	0.000180	0.00400	<0.000180							
1,1-Dichloropropene	11B0006			mg/L	0.000150	0.00100	<0.000150							
cis-1,3-Dichloropropene	11B0006			mg/L	0.000150	0.00500	<0.000150							
trans-1,3-Dichloropropene	11B0006			mg/L	0.000220	0.00500	<0.000220							
Ethylbenzene	11B0006			mg/L	0.000210	0.00100	<0.000210							
Hexachlorobutadiene	11B0006			mg/L	0.000200	0.00500	0.000340							J
Hexane	11B0006			mg/L	0.000200	0.00100	<0.000200							
Isopropylbenzene	11B0006			mg/L	0.000190	0.00100	<0.000190							
p-Isopropyltoluene	11B0006			mg/L	0.000140	0.00100	<0.000140							

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LABORATORY BLANK QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD RPD	RPD Limit	Q	
Volatile Organic Compounds															
Methylene Chloride	11B0006			mg/L	0.000170	0.00500	0.000270							J	
Methyl tert-Butyl Ether	11B0006			mg/L	0.000160	0.00100	<0.000160								
Naphthalene	11B0006			mg/L	0.000370	0.00500	<0.000370								
n-Propylbenzene	11B0006			mg/L	0.000100	0.00100	<0.000100								
Styrene	11B0006			mg/L	0.000100	0.00100	<0.000100								
1,1,1,2-Tetrachloroethane	11B0006			mg/L	0.000210	0.00100	<0.000210								
1,1,2,2-Tetrachloroethane	11B0006			mg/L	0.000100	0.00100	<0.000100								
Tetrachloroethene	11B0006			mg/L	0.000180	0.00100	<0.000180								
Toluene	11B0006			mg/L	0.000150	0.00100	<0.000150								
1,2,3-Trichlorobenzene	11B0006			mg/L	0.000160	0.00500	0.000250							J	
1,2,4-Trichlorobenzene	11B0006			mg/L	0.000160	0.00500	0.000190							J	
1,1,1-Trichloroethane	11B0006			mg/L	0.000120	0.00100	<0.000120								
1,1,2-Trichloroethane	11B0006			mg/L	0.000120	0.00100	<0.000120								
Trichloroethene	11B0006			mg/L	0.000190	0.00100	<0.000190								
Trichlorofluoromethane	11B0006			mg/L	0.000170	0.00400	<0.000170								
1,2,3-Trichloropropane	11B0006			mg/L	0.000190	0.00100	<0.000190								
1,2,4-Trimethylbenzene	11B0006			mg/L	0.000200	0.00100	<0.000200								
1,3,5-Trimethylbenzene	11B0006			mg/L	0.000200	0.00100	<0.000200								
Vinyl chloride	11B0006			mg/L	0.000100	0.00100	<0.000100								
Xylenes, total	11B0006			mg/L	0.000130	0.00300	<0.000130								
Surrogate: Dibromofluoromethane	11B0006			ug/L					117		75-120				
Surrogate: Toluene-d8	11B0006			ug/L					99		80-120				
Surrogate: 4-Bromofluorobenzene	11B0006			ug/L					100		75-110				
Acetone	11B0009			mg/L	0.00179	0.0100	<0.00179								
Acrylonitrile	11B0009			mg/L	0.000190	0.0100	<0.000190								
Benzene	11B0009			mg/L	0.000110	0.000500	<0.000110								
Bromobenzene	11B0009			mg/L	0.000210	0.00100	<0.000210								
Bromochloromethane	11B0009			mg/L	0.000120	0.00500	<0.000120								
Bromodichloromethane	11B0009			mg/L	0.000120	0.00100	<0.000120								
Bromoform	11B0009			mg/L	0.000140	0.00500	<0.000140								
Bromomethane	11B0009			mg/L	0.000220	0.00400	<0.000220							CIN	
2-Butanone (MEK)	11B0009			mg/L	0.000160	0.0100	<0.000160								
n-Butylbenzene	11B0009			mg/L	0.000370	0.00100	<0.000370								
sec-Butylbenzene	11B0009			mg/L	0.000200	0.00100	<0.000200								
tert-Butylbenzene	11B0009			mg/L	0.000120	0.00100	<0.000120								
Carbon disulfide	11B0009			mg/L	0.000150	0.00100	<0.000150								
Carbon Tetrachloride	11B0009			mg/L	0.000240	0.00200	<0.000240							CIN	
Chlorobenzene	11B0009			mg/L	0.000190	0.00100	<0.000190								
Chlorodibromomethane	11B0009			mg/L	0.000200	0.00500	<0.000200								
Chloroethane	11B0009			mg/L	0.000150	0.00400	<0.000150								
Chloroform	11B0009			mg/L	0.000280	0.00100	<0.000280								
Chloromethane	11B0009			mg/L	0.000310	0.00300	<0.000310								
2-Chlorotoluene	11B0009			mg/L	0.000120	0.00100	<0.000120								
4-Chlorotoluene	11B0009			mg/L	0.000130	0.00100	<0.000130								

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Work Order: CUA1026
 Project: 1208 1st Street NW Cluster 1 - Cedar Rapids, IA
 Project Number: 40100139

Received: 01/26/11
 Reported: 02/04/11 15:52

LABORATORY BLANK QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD RPD	RPD Limit	Q	
Volatile Organic Compounds															
1,2-Dibromo-3-chloropropane	11B0009			mg/L	0.000120	0.0100	<0.000120								
1,2-Dibromoethane (EDB)	11B0009			mg/L	0.000130	0.0100	<0.000130								
Dibromomethane	11B0009			mg/L	0.000180	0.00100	<0.000180								
1,2-Dichlorobenzene	11B0009			mg/L	0.000140	0.00100	<0.000140								
1,3-Dichlorobenzene	11B0009			mg/L	0.000170	0.00100	<0.000170								
1,4-Dichlorobenzene	11B0009			mg/L	0.000200	0.00100	<0.000200								
Dichlorodifluoromethane	11B0009			mg/L	0.000200	0.00300	<0.000200								
1,1-Dichloroethane	11B0009			mg/L	0.000210	0.00100	<0.000210								
1,2-Dichloroethane	11B0009			mg/L	0.000180	0.00100	<0.000180								
1,1-Dichloroethene	11B0009			mg/L	0.000150	0.00200	<0.000150								
cis-1,2-Dichloroethene	11B0009			mg/L	0.000130	0.00100	<0.000130								
trans-1,2-Dichloroethene	11B0009			mg/L	0.000210	0.00100	<0.000210								
1,2-Dichloropropane	11B0009			mg/L	0.000110	0.00100	<0.000110								
1,3-Dichloropropane	11B0009			mg/L	0.000160	0.00100	<0.000160								
2,2-Dichloropropane	11B0009			mg/L	0.000180	0.00400	<0.000180								CIN
1,1-Dichloropropene	11B0009			mg/L	0.000150	0.00100	<0.000150								
cis-1,3-Dichloropropene	11B0009			mg/L	0.000150	0.00500	<0.000150								
trans-1,3-Dichloropropene	11B0009			mg/L	0.000220	0.00500	<0.000220								
Ethylbenzene	11B0009			mg/L	0.000210	0.00100	<0.000210								
Hexachlorobutadiene	11B0009			mg/L	0.000200	0.00500	0.00137								J
Hexane	11B0009			mg/L	0.000200	0.00100	<0.000200								
Isopropylbenzene	11B0009			mg/L	0.000190	0.00100	<0.000190								
p-Isopropyltoluene	11B0009			mg/L	0.000140	0.00100	0.000140								J
Methylene Chloride	11B0009			mg/L	0.000170	0.00500	<0.000170								
Methyl tert-Butyl Ether	11B0009			mg/L	0.000160	0.00100	<0.000160								
Naphthalene	11B0009			mg/L	0.000370	0.00500	0.000440								J
n-Propylbenzene	11B0009			mg/L	0.000100	0.00100	<0.000100								
Styrene	11B0009			mg/L	0.000100	0.00100	<0.000100								
1,1,1,2-Tetrachloroethane	11B0009			mg/L	0.000210	0.00100	<0.000210								
1,1,2,2-Tetrachloroethane	11B0009			mg/L	0.000100	0.00100	<0.000100								
Tetrachloroethene	11B0009			mg/L	0.000180	0.00100	<0.000180								
Toluene	11B0009			mg/L	0.000150	0.00100	<0.000150								
1,2,3-Trichlorobenzene	11B0009			mg/L	0.000160	0.00500	0.00101								J
1,2,4-Trichlorobenzene	11B0009			mg/L	0.000160	0.00500	0.000720								J
1,1,1-Trichloroethane	11B0009			mg/L	0.000120	0.00100	<0.000120								
1,1,2-Trichloroethane	11B0009			mg/L	0.000120	0.00100	<0.000120								
Trichloroethene	11B0009			mg/L	0.000190	0.00100	<0.000190								
Trichlorofluoromethane	11B0009			mg/L	0.000170	0.00400	<0.000170								
1,2,3-Trichloropropane	11B0009			mg/L	0.000190	0.00100	<0.000190								
1,2,4-Trimethylbenzene	11B0009			mg/L	0.000200	0.00100	<0.000200								
1,3,5-Trimethylbenzene	11B0009			mg/L	0.000200	0.00100	<0.000200								
Vinyl chloride	11B0009			mg/L	0.000100	0.00100	<0.000100								
Xylenes, total	11B0009			mg/L	0.000130	0.00300	<0.000130								
Surrogate: Dibromofluoromethane	11B0009			ug/L					88		75-120				
Surrogate: Toluene-d8	11B0009			ug/L					97		80-120				

HOWARD R. GREEN CO.- DES MOINES <
 2550 University Ave W, Ste 400 N
 St. Paul, MN 55114
 Mike Goalen

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 Project Number: 40100139

Received: 01/26/11
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LABORATORY BLANK QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD RPD	RPD Limit	Q
Volatile Organic Compounds														
<i>Surrogate: 4-Bromofluorobenzene</i>	11B0009			ug/L					104		75-110			
UST ANALYSIS PARAMETERS														
Diesel	11A0855			mg/L	N/A	0.300	<0.300							
Gasoline	11A0855			mg/L	N/A	0.300	<0.300							
Motor Oil	11A0855			mg/L	N/A	0.300	<0.300							
<i>Surrogate: Octacosane</i>	11A0855			mg/L					68		55-150			
Diesel	11A0900			mg/kg	N/A	10.0	<10.0							
Gasoline	11A0900			mg/kg	N/A	10.0	<10.0							
Motor Oil	11A0900			mg/kg	N/A	10.0	<10.0							
<i>Surrogate: Octacosane</i>	11A0900			mg/kg					113		50-150			
Polychlorinated Biphenyls by EPA Method 8082														
PCB-1016	11A0936			mg/kg wet	N/A	0.0500	<0.0500							
PCB-1221	11A0936			mg/kg wet	N/A	0.0500	<0.0500							
PCB-1232	11A0936			mg/kg wet	N/A	0.0500	<0.0500							
PCB-1242	11A0936			mg/kg wet	N/A	0.0500	<0.0500							
PCB-1248	11A0936			mg/kg wet	N/A	0.0500	<0.0500							
PCB-1254	11A0936			mg/kg wet	N/A	0.0500	<0.0500							
PCB-1260	11A0936			mg/kg wet	N/A	0.0500	<0.0500							
PCB-1268	11A0936			mg/kg wet	N/A	0.0500	<0.0500							
<i>Surrogate: Decachlorobiphenyl</i>	11A0936			mg/kg wet					83		55-120			
<i>Surrogate: Tetrachloro-meta-xylene</i>	11A0936			mg/kg wet					70		45-105			
PCB-1016	11A0961			mg/L	N/A	0.000800	<0.000800							
PCB-1221	11A0961			mg/L	N/A	0.000800	<0.000800							
PCB-1232	11A0961			mg/L	N/A	0.000800	<0.000800							
PCB-1242	11A0961			mg/L	N/A	0.000800	<0.000800							
PCB-1248	11A0961			mg/L	N/A	0.000800	<0.000800							
PCB-1254	11A0961			mg/L	N/A	0.000800	<0.000800							
PCB-1260	11A0961			mg/L	N/A	0.000800	<0.000800							
PCB-1268	11A0961			mg/L	N/A	0.000800	<0.000800							
<i>Surrogate: Decachlorobiphenyl</i>	11A0961			mg/L					67		45-110			
<i>Surrogate: Tetrachloro-meta-xylene</i>	11A0961			mg/L					55		40-90			

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LABORATORY DUPLICATE QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	% REC	Dup %REC	% REC Limits	RPD RPD	RPD Limit	Q
General Chemistry Parameters													
QC Source Sample: CUA0978-01													
% Solids	11A0889	18.6		%	N/A	0.100	19.1				3	10	

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LCS/LCS DUPLICATE QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Dup Result	% REC	Dup %REC	% REC Limits	RPD RPD	RPD Limit	Q
Volatile Organic Compounds													
Acetone	11A0894		0.0352	mg/kg wet	N/A	0.0880	0.0542		154	65-150		40	L
Acrylonitrile	11A0894		0.0352	mg/kg wet	N/A	0.0880	0.0331		94	45-140		35	
Benzene	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0378		107	55-135		25	
Bromobenzene	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0330		94	65-125		35	
Bromochloromethane	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0374		106	65-130		35	
Bromodichloromethane	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0367		104	65-130		30	
Bromoform	11A0894		0.0352	mg/kg wet	N/A	0.0176	0.0275		78	50-135		40	
Bromomethane	11A0894		0.0352	mg/kg wet	N/A	0.0352	0.0224		64	45-135		40	
2-Butanone (MEK)	11A0894		0.0352	mg/kg wet	N/A	0.0880	0.0351		100	50-145		40	
n-Butylbenzene	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0283		80	55-130		30	
sec-Butylbenzene	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0256		73	60-125		30	
tert-Butylbenzene	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0261		74	55-125		25	
Carbon disulfide	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0347		99	40-135		40	
Carbon Tetrachloride	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0312		89	55-130		30	
Chlorobenzene	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0302		86	60-120		30	
Chlorodibromomethane	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0333		95	55-130		40	
Chloroethane	11A0894		0.0352	mg/kg wet	N/A	0.0352	0.0345		98	50-145		40	
Chloroform	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0381		108	65-130		30	
Chloromethane	11A0894		0.0352	mg/kg wet	N/A	0.0352	0.0357		101	40-135		40	
2-Chlorotoluene	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0334		95	60-125		35	
4-Chlorotoluene	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0349		99	60-125		35	
1,2-Dibromo-3-chloropropane	11A0894		0.0352	mg/kg wet	N/A	0.0880	0.0278		79	50-140		35	
1,2-Dibromoethane (EDB)	11A0894		0.0352	mg/kg wet	N/A	0.0880	0.0325		92	55-140		30	
Dibromomethane	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0367		104	65-135		30	
1,2-Dichlorobenzene	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0299		85	65-120		30	
1,3-Dichlorobenzene	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0288		82	60-125		30	
1,4-Dichlorobenzene	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0305		87	60-125		30	
Dichlorodifluoromethane	11A0894		0.0352	mg/kg wet	N/A	0.0264	0.0324		92	40-135		35	
1,1-Dichloroethane	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0375		106	55-135		40	
1,2-Dichloroethane	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0404		115	60-140		30	
1,1-Dichloroethene	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0319		91	50-145		40	
cis-1,2-Dichloroethene	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0379		108	60-135		40	
trans-1,2-Dichloroethene	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0357		101	55-135		40	
1,2-Dichloropropane	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0375		107	55-130		30	
1,3-Dichloropropane	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0393		112	55-140		30	
2,2-Dichloropropane	11A0894		0.0352	mg/kg wet	N/A	0.0352	0.0363		103	40-135		45	
1,1-Dichloropropene	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0379		108	55-130		30	
cis-1,3-Dichloropropene	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0369		105	50-115		35	
trans-1,3-Dichloropropene	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0364		103	55-130		30	
Ethylbenzene	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0320		91	60-125		30	
Hexachlorobutadiene	11A0894		0.0352	mg/kg wet	N/A	0.0440	0.0234		67	40-135		35	
Hexane	11A0894		0.0352	mg/kg wet	N/A	0.0440	0.0329		93	45-140		35	
Isopropylbenzene	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0303		86	60-125		35	
p-Isopropyltoluene	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0264		75	60-120		30	
Methylene Chloride	11A0894		0.0352	mg/kg wet	N/A	0.0880	0.0577		164	55-145		40	L5

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Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD RPD	RPD Limit	Q	
Volatile Organic Compounds															
Methyl tert-Butyl Ether	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0399		113		55-130		30		
Naphthalene	11A0894		0.0352	mg/kg wet	N/A	0.0440	0.0282		80		50-130		30		
n-Propylbenzene	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0324		92		50-125		35		
Styrene	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0315		90		60-125		35		
1,1,1,2-Tetrachloroethane	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0318		90		65-125		30		
1,1,2,2-Tetrachloroethane	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0356		101		60-125		35		
Tetrachloroethene	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0296		84		55-125		40		
Toluene	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0313		89		60-130		35		
1,2,3-Trichlorobenzene	11A0894		0.0352	mg/kg wet	N/A	0.0440	0.0269		76		50-130		35		
1,2,4-Trichlorobenzene	11A0894		0.0352	mg/kg wet	N/A	0.0440	0.0263		75		45-135		35		
1,1,1-Trichloroethane	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0325		92		60-125		30		
1,1,2-Trichloroethane	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0378		107		55-135		30		
Trichloroethene	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0335		95		60-130		30		
Trichlorofluoromethane	11A0894		0.0352	mg/kg wet	N/A	0.0352	0.0314		89		50-145		40		
1,2,3-Trichloropropane	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0303		86		50-145		35		
1,2,4-Trimethylbenzene	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0319		91		55-125		35		
1,3,5-Trimethylbenzene	11A0894		0.0352	mg/kg wet	N/A	0.00880	0.0312		89		50-130		35		
Vinyl chloride	11A0894		0.0352	mg/kg wet	N/A	0.0264	0.0338		96		45-140		40		
Xylenes, total	11A0894		0.106	mg/kg wet	N/A	0.0264	0.0928		88		50-130		30		
Surrogate: Dibromofluoromethane	11A0894			ug/L					111		75-125				
Surrogate: Toluene-d8	11A0894			ug/L					97		80-120				
Surrogate: 4-Bromofluorobenzene	11A0894			ug/L					100		80-120				
Acetone	11A0947		0.996	mg/kg wet	N/A	2.49	1.06	1.20	106	120	65-150	12	40		
Acrylonitrile	11A0947		0.996	mg/kg wet	N/A	2.49	0.950	1.15	95	115	45-140	19	35		
Benzene	11A0947		0.996	mg/kg wet	N/A	0.249	1.00	1.04	101	104	55-135	4	25		
Bromobenzene	11A0947		0.996	mg/kg wet	N/A	0.249	0.939	0.987	94	99	65-125	5	35		
Bromochloromethane	11A0947		0.996	mg/kg wet	N/A	0.249	1.07	1.12	108	112	65-130	4	35		
Bromodichloromethane	11A0947		0.996	mg/kg wet	N/A	0.249	0.967	1.02	97	102	65-130	5	30		
Bromoform	11A0947		0.996	mg/kg wet	N/A	0.498	0.859	0.938	86	94	50-135	9	40		
Bromomethane	11A0947		0.996	mg/kg wet	N/A	0.996	1.11	1.15	112	115	45-135	3	40		
2-Butanone (MEK)	11A0947		0.996	mg/kg wet	N/A	2.49	0.868	1.04	87	104	50-145	18	40		
n-Butylbenzene	11A0947		0.996	mg/kg wet	N/A	0.249	0.933	0.993	94	100	55-130	6	30		
sec-Butylbenzene	11A0947		0.996	mg/kg wet	N/A	0.249	0.956	1.01	96	101	60-125	5	30		
tert-Butylbenzene	11A0947		0.996	mg/kg wet	N/A	0.249	0.951	1.00	95	100	55-125	5	25		
Carbon disulfide	11A0947		0.996	mg/kg wet	N/A	0.249	1.05	1.04	105	104	40-135	0	40		
Carbon Tetrachloride	11A0947		0.996	mg/kg wet	N/A	0.249	1.00	1.03	101	104	55-130	3	30		
Chlorobenzene	11A0947		0.996	mg/kg wet	N/A	0.249	0.909	0.935	91	94	60-120	3	30		
Chlorodibromomethane	11A0947		0.996	mg/kg wet	N/A	0.249	0.917	0.968	92	97	55-130	5	40		
Chloroethane	11A0947		0.996	mg/kg wet	N/A	0.996	1.04	1.06	104	107	50-145	3	40		
Chloroform	11A0947		0.996	mg/kg wet	N/A	0.249	1.06	1.10	107	110	65-130	3	30		
Chloromethane	11A0947		0.996	mg/kg wet	N/A	0.996	1.04	1.04	104	105	40-135	1	40		
2-Chlorotoluene	11A0947		0.996	mg/kg wet	N/A	0.249	0.940	0.979	94	98	60-125	4	35		
4-Chlorotoluene	11A0947		0.996	mg/kg wet	N/A	0.249	0.947	0.959	95	96	60-125	1	35		
1,2-Dibromo-3-chloropropane	11A0947		0.996	mg/kg wet	N/A	2.49	0.772	0.925	78	93	50-140	18	35		

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Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Dup Result	% REC	Dup %REC	% REC Limits	RPD RPD	RPD Limit	Q
Volatile Organic Compounds													
1,2-Dibromoethane (EDB)	11A0947		0.996	mg/kg wet	N/A	2.49	0.928	0.993	93	100	55-140	7	30
Dibromomethane	11A0947		0.996	mg/kg wet	N/A	0.249	0.961	1.04	96	104	65-135	7	30
1,2-Dichlorobenzene	11A0947		0.996	mg/kg wet	N/A	0.249	0.894	0.972	90	97	65-120	8	30
1,3-Dichlorobenzene	11A0947		0.996	mg/kg wet	N/A	0.249	0.921	0.949	93	95	60-125	3	30
1,4-Dichlorobenzene	11A0947		0.996	mg/kg wet	N/A	0.249	0.922	0.965	93	97	60-125	5	30
Dichlorodifluoromethane	11A0947		0.996	mg/kg wet	N/A	0.747	1.02	1.00	103	101	40-135	2	35
1,1-Dichloroethane	11A0947		0.996	mg/kg wet	N/A	0.249	1.07	1.08	108	108	55-135	1	40
1,2-Dichloroethane	11A0947		0.996	mg/kg wet	N/A	0.249	1.05	1.13	105	113	60-140	7	30
1,1-Dichloroethene	11A0947		0.996	mg/kg wet	N/A	0.249	1.10	1.14	110	114	50-145	4	40
cis-1,2-Dichloroethene	11A0947		0.996	mg/kg wet	N/A	0.249	1.16	1.15	116	116	60-135	0	40
trans-1,2-Dichloroethene	11A0947		0.996	mg/kg wet	N/A	0.249	1.12	1.12	112	112	55-135	0	40
1,2-Dichloropropane	11A0947		0.996	mg/kg wet	N/A	0.249	0.957	1.02	96	102	55-130	6	30
1,3-Dichloropropane	11A0947		0.996	mg/kg wet	N/A	0.249	0.933	1.00	94	100	55-140	7	30
2,2-Dichloropropane	11A0947		0.996	mg/kg wet	N/A	0.996	1.12	1.12	112	113	40-135	1	45
1,1-Dichloropropene	11A0947		0.996	mg/kg wet	N/A	0.249	1.14	1.15	114	116	55-130	2	30
cis-1,3-Dichloropropene	11A0947		0.996	mg/kg wet	N/A	0.249	0.983	1.02	99	102	50-115	3	35
trans-1,3-Dichloropropene	11A0947		0.996	mg/kg wet	N/A	0.249	0.937	1.02	94	102	55-130	9	30
Ethylbenzene	11A0947		0.996	mg/kg wet	N/A	0.249	0.983	0.987	99	99	60-125	1	30
Hexachlorobutadiene	11A0947		0.996	mg/kg wet	N/A	1.25	0.970	1.05	97	105	40-135	8	35
Hexane	11A0947		0.996	mg/kg wet	N/A	1.25	1.08	1.10	108	111	45-140	3	35
Isopropylbenzene	11A0947		0.996	mg/kg wet	N/A	0.249	0.967	1.00	97	100	60-125	4	35
p-Isopropyltoluene	11A0947		0.996	mg/kg wet	N/A	0.249	0.963	0.999	97	100	60-120	4	30
Methylene Chloride	11A0947		0.996	mg/kg wet	N/A	2.49	1.06	1.04	106	104	55-145	2	40
Methyl tert-Butyl Ether	11A0947		0.996	mg/kg wet	N/A	0.249	1.02	1.11	102	111	55-130	8	30
Naphthalene	11A0947		0.996	mg/kg wet	N/A	1.25	0.837	0.982	84	98	50-130	16	30
n-Propylbenzene	11A0947		0.996	mg/kg wet	N/A	0.249	0.961	0.984	96	99	50-125	2	35
Styrene	11A0947		0.996	mg/kg wet	N/A	0.249	0.967	0.981	97	98	60-125	1	35
1,1,1,2-Tetrachloroethane	11A0947		0.996	mg/kg wet	N/A	0.249	0.997	1.01	100	101	65-125	2	30
1,1,2,2-Tetrachloroethane	11A0947		0.996	mg/kg wet	N/A	0.249	0.869	0.948	87	95	60-125	9	35
Tetrachloroethene	11A0947		0.996	mg/kg wet	N/A	0.249	1.03	1.04	103	104	55-125	1	40
Toluene	11A0947		0.996	mg/kg wet	N/A	0.249	0.985	0.998	99	100	60-130	1	35
1,2,3-Trichlorobenzene	11A0947		0.996	mg/kg wet	N/A	1.25	0.856	0.982	86	98	50-130	14	35
1,2,4-Trichlorobenzene	11A0947		0.996	mg/kg wet	N/A	1.25	0.900	0.992	90	99	45-135	10	35
1,1,1-Trichloroethane	11A0947		0.996	mg/kg wet	N/A	0.249	1.04	1.07	104	107	60-125	3	30
1,1,2-Trichloroethane	11A0947		0.996	mg/kg wet	N/A	0.249	0.922	0.969	93	97	55-135	5	30
Trichloroethene	11A0947		0.996	mg/kg wet	N/A	0.249	1.02	1.03	102	103	60-130	1	30
Trichlorofluoromethane	11A0947		0.996	mg/kg wet	N/A	0.996	1.15	1.17	115	117	50-145	1	40
1,2,3-Trichloropropane	11A0947		0.996	mg/kg wet	N/A	0.249	0.866	0.997	87	100	50-145	14	35
1,2,4-Trimethylbenzene	11A0947		0.996	mg/kg wet	N/A	0.249	0.965	0.995	97	100	55-125	3	35
1,3,5-Trimethylbenzene	11A0947		0.996	mg/kg wet	N/A	0.249	0.943	0.971	95	97	50-130	3	35
Vinyl chloride	11A0947		0.996	mg/kg wet	N/A	0.747	1.13	1.16	114	116	45-140	2	40
Xylenes, total	11A0947		2.99	mg/kg wet	N/A	0.747	2.87	2.97	96	99	50-130	3	30
Surrogate: Dibromofluoromethane	11A0947			ug/L					110	112	75-125		
Surrogate: Toluene-d8	11A0947			ug/L					98	97	80-120		
Surrogate: 4-Bromofluorobenzene	11A0947			ug/L					100	100	80-120		

HOWARD R. GREEN CO.- DES MOINES <
2550 University Ave W, Ste 400 N
St. Paul, MN 55114
Mike Goalen

Work Order: CUA1026
Project: 1208 1st Street NW Cluster 1 - Cedar Rapids, IA
Project Number: 40100139

Received: 01/26/11
Reported: 02/04/11 15:52

LCS/LCS DUPLICATE QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD RPD	RPD Limit	Q
Volatile Organic Compounds														
Acetone	11B0006		20.0	ug/L	N/A	N/A	24.8		124		60-150		20	
Acrylonitrile	11B0006		20.0	ug/L	N/A	N/A	23.9		119		50-145		25	
Benzene	11B0006		20.0	ug/L	N/A	N/A	22.2		111		70-130		25	
Bromobenzene	11B0006		20.0	ug/L	N/A	N/A	19.7		99		75-130		20	
Bromochloromethane	11B0006		20.0	ug/L	N/A	N/A	23.6		118		65-145		10	
Bromodichloromethane	11B0006		20.0	ug/L	N/A	N/A	21.7		108		60-130		15	
Bromoform	11B0006		20.0	ug/L	N/A	N/A	19.8		99		30-125		25	
Bromomethane	11B0006		20.0	ug/L	N/A	N/A	24.9		124		35-130		35	
2-Butanone (MEK)	11B0006		20.0	ug/L	N/A	N/A	20.8		104		55-140		25	
n-Butylbenzene	11B0006		20.0	ug/L	N/A	N/A	20.1		100		55-135		10	
sec-Butylbenzene	11B0006		20.0	ug/L	N/A	N/A	20.4		102		65-135		15	
tert-Butylbenzene	11B0006		20.0	ug/L	N/A	N/A	20.4		102		60-135		10	
Carbon disulfide	11B0006		20.0	ug/L	N/A	N/A	23.0		115		40-130		20	
Carbon Tetrachloride	11B0006		20.0	ug/L	N/A	N/A	21.7		109		55-130		25	
Chlorobenzene	11B0006		20.0	ug/L	N/A	N/A	19.2		96		75-125		15	
Chlorodibromomethane	11B0006		20.0	ug/L	N/A	N/A	20.3		101		45-125		20	
Chloroethane	11B0006		20.0	ug/L	N/A	N/A	23.9		120		55-135		20	
Chloroform	11B0006		20.0	ug/L	N/A	N/A	24.7		124		70-125		15	
Chloromethane	11B0006		20.0	ug/L	N/A	N/A	22.4		112		30-125		25	
2-Chlorotoluene	11B0006		20.0	ug/L	N/A	N/A	19.9		99		75-135		15	
4-Chlorotoluene	11B0006		20.0	ug/L	N/A	N/A	20.2		101		70-140		20	
1,2-Dibromo-3-chloropropane	11B0006		20.0	ug/L	N/A	N/A	18.6		93		35-130		25	
1,2-Dibromoethane (EDB)	11B0006		20.0	ug/L	N/A	N/A	20.9		105		70-135		25	
Dibromomethane	11B0006		20.0	ug/L	N/A	N/A	20.5		102		75-130		30	
1,2-Dichlorobenzene	11B0006		20.0	ug/L	N/A	N/A	20.0		100		65-135		10	
1,3-Dichlorobenzene	11B0006		20.0	ug/L	N/A	N/A	19.8		99		70-130		10	
1,4-Dichlorobenzene	11B0006		20.0	ug/L	N/A	N/A	20.0		100		60-140		10	
Dichlorodifluoromethane	11B0006		20.0	ug/L	N/A	N/A	23.0		115		35-130		25	
1,1-Dichloroethane	11B0006		20.0	ug/L	N/A	N/A	24.5		122		60-130		15	
1,2-Dichloroethane	11B0006		20.0	ug/L	N/A	N/A	25.1		126		65-140		15	
1,1-Dichloroethene	11B0006		20.0	ug/L	N/A	N/A	26.4		132		60-135		20	
cis-1,2-Dichloroethene	11B0006		20.0	ug/L	N/A	N/A	25.4		127		70-135		15	
trans-1,2-Dichloroethene	11B0006		20.0	ug/L	N/A	N/A	25.2		126		60-145		15	
1,2-Dichloropropane	11B0006		20.0	ug/L	N/A	N/A	20.7		103		65-130		15	
1,3-Dichloropropane	11B0006		20.0	ug/L	N/A	N/A	20.8		104		75-125		15	
2,2-Dichloropropane	11B0006		20.0	ug/L	N/A	N/A	25.5		127		25-120		35	L5
1,1-Dichloropropene	11B0006		20.0	ug/L	N/A	N/A	26.4		132		60-140		20	
cis-1,3-Dichloropropene	11B0006		20.0	ug/L	N/A	N/A	21.9		109		30-120		20	
trans-1,3-Dichloropropene	11B0006		20.0	ug/L	N/A	N/A	21.3		106		35-120		15	
Ethylbenzene	11B0006		20.0	ug/L	N/A	N/A	20.4		102		70-130		35	
Hexachlorobutadiene	11B0006		20.0	ug/L	N/A	N/A	20.3		102		60-135		15	
Hexane	11B0006		20.0	ug/L	N/A	N/A	25.1		126		40-135		35	
Isopropylbenzene	11B0006		20.0	ug/L	N/A	N/A	20.5		102		70-125		15	
p-Isopropyltoluene	11B0006		20.0	ug/L	N/A	N/A	20.6		103		60-140		10	

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Project Number: 40100139

Received: 01/26/11
Reported: 02/04/11 15:52

LCS/LCS DUPLICATE QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD RPD	RPD Limit	Q
Volatile Organic Compounds														
Methylene Chloride	11B0006		20.0	ug/L	N/A	N/A	23.0		115		55-145		20	
Methyl tert-Butyl Ether	11B0006		20.0	ug/L	N/A	N/A	24.4		122		50-135		30	
Naphthalene	11B0006		20.0	ug/L	N/A	N/A	19.0		95		40-135		35	
n-Propylbenzene	11B0006		20.0	ug/L	N/A	N/A	20.3		101		70-135		20	
Styrene	11B0006		20.0	ug/L	N/A	N/A	20.4		102		70-130		15	
1,1,1,2-Tetrachloroethane	11B0006		20.0	ug/L	N/A	N/A	20.5		103		65-120		15	
1,1,2,2-Tetrachloroethane	11B0006		20.0	ug/L	N/A	N/A	20.4		102		65-130		20	
Tetrachloroethene	11B0006		20.0	ug/L	N/A	N/A	21.7		108		70-135		15	
Toluene	11B0006		20.0	ug/L	N/A	N/A	20.8		104		70-135		30	
1,2,3-Trichlorobenzene	11B0006		20.0	ug/L	N/A	N/A	19.7		99		55-130		15	
1,2,4-Trichlorobenzene	11B0006		20.0	ug/L	N/A	N/A	19.6		98		40-135		15	
1,1,1-Trichloroethane	11B0006		20.0	ug/L	N/A	N/A	22.1		110		60-125		15	
1,1,2-Trichloroethane	11B0006		20.0	ug/L	N/A	N/A	21.0		105		75-125		15	
Trichloroethene	11B0006		20.0	ug/L	N/A	N/A	22.4		112		70-130		20	
Trichlorofluoromethane	11B0006		20.0	ug/L	N/A	N/A	26.3		131		55-145		20	
1,2,3-Trichloropropane	11B0006		20.0	ug/L	N/A	N/A	21.0		105		60-150		20	
1,2,4-Trimethylbenzene	11B0006		20.0	ug/L	N/A	N/A	20.2		101		70-140		15	
1,3,5-Trimethylbenzene	11B0006		20.0	ug/L	N/A	N/A	20.1		100		70-140		15	
Vinyl chloride	11B0006		20.0	ug/L	N/A	N/A	26.0		130		45-135		20	
Xylenes, total	11B0006		60.0	ug/L	N/A	N/A	61.0		102		70-130		35	
<i>Surrogate: Dibromofluoromethane</i>	<i>11B0006</i>			ug/L					<i>119</i>		<i>75-120</i>			
<i>Surrogate: Toluene-d8</i>	<i>11B0006</i>			ug/L					<i>98</i>		<i>80-120</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>11B0006</i>			ug/L					<i>102</i>		<i>80-120</i>			
Acetone	11B0009		20.0	ug/L	N/A	N/A	16.1		80		60-150		20	
Acrylonitrile	11B0009		20.0	ug/L	N/A	N/A	16.3		82		50-145		25	
Benzene	11B0009		20.0	ug/L	N/A	N/A	19.2		96		70-130		25	
Bromobenzene	11B0009		20.0	ug/L	N/A	N/A	19.2		96		75-130		20	
Bromochloromethane	11B0009		20.0	ug/L	N/A	N/A	18.5		93		65-145		10	
Bromodichloromethane	11B0009		20.0	ug/L	N/A	N/A	18.3		91		60-130		15	
Bromoform	11B0009		20.0	ug/L	N/A	N/A	18.5		93		30-125		25	
Bromomethane	11B0009		20.0	ug/L	N/A	N/A	14.5		72		35-130		35	CIN
2-Butanone (MEK)	11B0009		20.0	ug/L	N/A	N/A	17.2		86		55-140		25	
n-Butylbenzene	11B0009		20.0	ug/L	N/A	N/A	17.5		88		55-135		10	
sec-Butylbenzene	11B0009		20.0	ug/L	N/A	N/A	18.4		92		65-135		15	
tert-Butylbenzene	11B0009		20.0	ug/L	N/A	N/A	18.5		92		60-135		10	
Carbon disulfide	11B0009		20.0	ug/L	N/A	N/A	15.9		80		40-130		20	
Carbon Tetrachloride	11B0009		20.0	ug/L	N/A	N/A	20.1		101		55-130		25	CIN
Chlorobenzene	11B0009		20.0	ug/L	N/A	N/A	18.2		91		75-125		15	
Chlorodibromomethane	11B0009		20.0	ug/L	N/A	N/A	18.0		90		45-125		20	
Chloroethane	11B0009		20.0	ug/L	N/A	N/A	19.4		97		55-135		20	
Chloroform	11B0009		20.0	ug/L	N/A	N/A	16.6		83		70-125		15	
Chloromethane	11B0009		20.0	ug/L	N/A	N/A	13.3		67		30-125		25	
2-Chlorotoluene	11B0009		20.0	ug/L	N/A	N/A	18.6		93		75-135		15	
4-Chlorotoluene	11B0009		20.0	ug/L	N/A	N/A	18.4		92		70-140		20	

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LCS/LCS DUPLICATE QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD RPD	RPD Limit	Q
Volatile Organic Compounds														
1,2-Dibromo-3-chloropropane	11B0009		20.0	ug/L	N/A	N/A	15.5		77		35-130		25	
1,2-Dibromoethane (EDB)	11B0009		20.0	ug/L	N/A	N/A	18.7		93		70-135		25	
Dibromomethane	11B0009		20.0	ug/L	N/A	N/A	19.3		97		75-130		30	
1,2-Dichlorobenzene	11B0009		20.0	ug/L	N/A	N/A	18.1		90		65-135		10	
1,3-Dichlorobenzene	11B0009		20.0	ug/L	N/A	N/A	17.9		90		70-130		10	
1,4-Dichlorobenzene	11B0009		20.0	ug/L	N/A	N/A	18.3		92		60-140		10	
Dichlorodifluoromethane	11B0009		20.0	ug/L	N/A	N/A	18.3		92		35-130		25	
1,1-Dichloroethane	11B0009		20.0	ug/L	N/A	N/A	17.4		87		60-130		15	
1,2-Dichloroethane	11B0009		20.0	ug/L	N/A	N/A	17.1		86		65-140		15	
1,1-Dichloroethene	11B0009		20.0	ug/L	N/A	N/A	18.4		92		60-135		20	
cis-1,2-Dichloroethene	11B0009		20.0	ug/L	N/A	N/A	17.2		86		70-135		15	
trans-1,2-Dichloroethene	11B0009		20.0	ug/L	N/A	N/A	18.1		90		60-145		15	
1,2-Dichloropropane	11B0009		20.0	ug/L	N/A	N/A	18.6		93		65-130		15	
1,3-Dichloropropane	11B0009		20.0	ug/L	N/A	N/A	18.7		94		75-125		15	
2,2-Dichloropropane	11B0009		20.0	ug/L	N/A	N/A	12.6		63		25-120		35	CIN
1,1-Dichloropropene	11B0009		20.0	ug/L	N/A	N/A	17.9		90		60-140		20	
cis-1,3-Dichloropropene	11B0009		20.0	ug/L	N/A	N/A	18.6		93		30-120		20	
trans-1,3-Dichloropropene	11B0009		20.0	ug/L	N/A	N/A	18.2		91		35-120		15	
Ethylbenzene	11B0009		20.0	ug/L	N/A	N/A	18.7		94		70-130		35	
Hexachlorobutadiene	11B0009		20.0	ug/L	N/A	N/A	17.6		88		60-135		15	
Hexane	11B0009		20.0	ug/L	N/A	N/A	16.6		83		40-135		35	
Isopropylbenzene	11B0009		20.0	ug/L	N/A	N/A	18.8		94		70-125		15	
p-Isopropyltoluene	11B0009		20.0	ug/L	N/A	N/A	18.0		90		60-140		10	
Methylene Chloride	11B0009		20.0	ug/L	N/A	N/A	16.5		82		55-145		20	
Methyl tert-Butyl Ether	11B0009		20.0	ug/L	N/A	N/A	17.6		88		50-135		30	
Naphthalene	11B0009		20.0	ug/L	N/A	N/A	16.0		80		40-135		35	
n-Propylbenzene	11B0009		20.0	ug/L	N/A	N/A	18.8		94		70-135		20	
Styrene	11B0009		20.0	ug/L	N/A	N/A	18.4		92		70-130		15	
1,1,1,2-Tetrachloroethane	11B0009		20.0	ug/L	N/A	N/A	19.1		96		65-120		15	
1,1,2,2-Tetrachloroethane	11B0009		20.0	ug/L	N/A	N/A	18.2		91		65-130		20	
Tetrachloroethene	11B0009		20.0	ug/L	N/A	N/A	20.1		100		70-135		15	
Toluene	11B0009		20.0	ug/L	N/A	N/A	18.8		94		70-135		30	
1,2,3-Trichlorobenzene	11B0009		20.0	ug/L	N/A	N/A	17.2		86		55-130		15	
1,2,4-Trichlorobenzene	11B0009		20.0	ug/L	N/A	N/A	17.2		86		40-135		15	
1,1,1-Trichloroethane	11B0009		20.0	ug/L	N/A	N/A	20.0		100		60-125		15	
1,1,2-Trichloroethane	11B0009		20.0	ug/L	N/A	N/A	18.0		90		75-125		15	
Trichloroethene	11B0009		20.0	ug/L	N/A	N/A	19.1		96		70-130		20	
Trichlorofluoromethane	11B0009		20.0	ug/L	N/A	N/A	17.1		86		55-145		20	
1,2,3-Trichloropropane	11B0009		20.0	ug/L	N/A	N/A	18.0		90		60-150		20	
1,2,4-Trimethylbenzene	11B0009		20.0	ug/L	N/A	N/A	18.9		94		70-140		15	
1,3,5-Trimethylbenzene	11B0009		20.0	ug/L	N/A	N/A	18.6		93		70-140		15	
Vinyl chloride	11B0009		20.0	ug/L	N/A	N/A	18.1		91		45-135		20	
Xylenes, total	11B0009		60.0	ug/L	N/A	N/A	57.2		95		70-130		35	
Surrogate: Dibromofluoromethane	11B0009			ug/L					89		75-120			
Surrogate: Toluene-d8	11B0009			ug/L					97		80-120			

HOWARD R. GREEN CO.- DES MOINES <
 2550 University Ave W, Ste 400 N
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 Mike Goalen

Work Order: CUA1026

Received: 01/26/11
 Reported: 02/04/11 15:52

Project: 1208 1st Street NW Cluster 1 - Cedar Rapids, IA

Project Number: 40100139

LCS/LCS DUPLICATE QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD RPD	RPD Limit	Q
Volatile Organic Compounds														
<i>Surrogate: 4-Bromofluorobenzene</i>	11B0009			ug/L					105		80-120			
UST ANALYSIS PARAMETERS														
Gasoline	11A0855		2.00	mg/L	N/A	0.300	0.787	0.881	39	44	20-95	11	35	
<i>Surrogate: Octacosane</i>	11A0855			mg/L					73	78	45-140			
Gasoline	11A0900		66.7	mg/kg	N/A	10.0	41.7		62		40-105			
<i>Surrogate: Octacosane</i>	11A0900			mg/kg					96		65-150			
Polychlorinated Biphenyls by EPA Method 8082														
PCB-1248	11A0936		0.167	mg/kg wet	N/A	0.0500	0.0971		58		45-120			
<i>Surrogate: Decachlorobiphenyl</i>	11A0936			mg/kg wet					80		60-115			
<i>Surrogate: Tetrachloro-meta-xylene</i>	11A0936			mg/kg wet					61		45-100			
PCB-1248	11A0961		0.0050	mg/L	N/A	0.000800	0.00254	0.00224	51	45	35-105	13	20	
<i>Surrogate: Decachlorobiphenyl</i>	11A0961		0	mg/L					65	61	45-110			
<i>Surrogate: Tetrachloro-meta-xylene</i>	11A0961			mg/L					51	46	35-90			

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Work Order: CUA1026
Project: 1208 1st Street NW Cluster 1 - Cedar Rapids, IA
Project Number: 40100139

Received: 01/26/11
Reported: 02/04/11 15:52

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Dup Result	% REC	Dup %REC	% REC Limits	RPD RPD	RPD Limit	Q	
Volatile Organic Compounds														
QC Source Sample: CUA1008-01														
Methyl tert-Butyl Ether	11A0894	<0.0221	0.0883	mg/kg wet	N/A	0.0221	0.0860	0.105	97	106	55-130	20	40	
Naphthalene	11A0894	2.82	0.0883	mg/kg wet	N/A	0.110	4420000	4970000	000000000000000000	15-130	12	40	MHA	
n-Propylbenzene	11A0894	1.49	0.0883	mg/kg wet	N/A	0.0221	4420000	4970000	000000000000000000	20-125	12	40	M1	
Styrene	11A0894	<0.0221	0.0883	mg/kg wet	N/A	0.0221	0.284	0.323	321	325	20-125	13	40	M1
1,1,1,2-Tetrachloroethane	11A0894	<0.0221	0.0883	mg/kg wet	N/A	0.0221	0.0600	0.0684	68	69	45-120	13	35	
1,1,2,2-Tetrachloroethane	11A0894	<0.0221	0.0883	mg/kg wet	N/A	0.0221	0.381	0.406	431	409	40-125	7	40	M1
Tetrachloroethene	11A0894	<0.0221	0.0883	mg/kg wet	N/A	0.0221	0.0531	0.0583	60	59	30-125	9	40	
Toluene	11A0894	7.05	0.0883	mg/kg wet	N/A	0.0221	4420000	4970000	000000000000000000	35-130	12	40	MHA	
1,2,3-Trichlorobenzene	11A0894	<0.110	0.0883	mg/kg wet	N/A	0.110	0.0555	0.0568	63	57	10-130	2	40	
1,2,4-Trichlorobenzene	11A0894	<0.110	0.0883	mg/kg wet	N/A	0.110	0.0429	0.0479	49	48	15-135	11	40	
1,1,1-Trichloroethane	11A0894	<0.0221	0.0883	mg/kg wet	N/A	0.0221	0.0715	0.0801	81	81	45-125	11	35	
1,1,2-Trichloroethane	11A0894	<0.0221	0.0883	mg/kg wet	N/A	0.0221	0.342	0.127	387	127	45-135	92	40	M1,R
Trichloroethene	11A0894	<0.0221	0.0883	mg/kg wet	N/A	0.0221	0.0883	0.0997	100	100	40-130	12	35	
Trichlorofluoromethane	11A0894	<0.0883	0.0883	mg/kg wet	N/A	0.0883	0.0718	0.0809	81	81	45-145	12	35	
1,2,3-Trichloropropane	11A0894	<0.0221	0.0883	mg/kg wet	N/A	0.0221	0.157	0.146	177	147	50-145	7	40	M1
1,2,4-Trimethylbenzene	11A0894	6.95	0.0883	mg/kg wet	N/A	0.0221	4420000	4970000	000000000000000000	20-125	12	40	MHA	
1,3,5-Trimethylbenzene	11A0894	2.38	0.0883	mg/kg wet	N/A	0.0221	4420000	4970000	000000000000000000	20-130	12	35	MHA	
Vinyl chloride	11A0894	<0.0663	0.0883	mg/kg wet	N/A	0.0663	0.0779	0.0886	88	89	40-140	13	40	
Xylenes, total	11A0894	12.0	0.265	mg/kg wet	N/A	0.0663	4420000	4970000	670000006700000000	30-130	12	40	MHA	
Surrogate: Dibromofluoromethane	11A0894			ug/L					115	120	75-125			
Surrogate: Toluene-d8	11A0894			ug/L					114	110	80-120			
Surrogate: 4-Bromofluorobenzene	11A0894			ug/L					92	92	80-120			
QC Source Sample: CUA1164-01														
Acetone	11B0006	2.15	20.0	ug/L	N/A	N/A	15.8	15.9	68	69	45-150	1	35	
Acrylonitrile	11B0006	0.160	20.0	ug/L	N/A	N/A	21.0	20.7	104	103	45-145	2	35	
Benzene	11B0006	0.0400	20.0	ug/L	N/A	N/A	19.2	18.8	96	94	50-130	2	20	
Bromobenzene	11B0006	0.0600	20.0	ug/L	N/A	N/A	18.0	17.4	90	87	60-135	3	15	
Bromochloromethane	11B0006	<0.12	20.0	ug/L	N/A	N/A	22.8	22.0	114	110	55-145	3	25	
Bromodichloromethane	11B0006	<0.12	20.0	ug/L	N/A	N/A	19.0	19.0	95	95	50-130	0	15	
Bromoform	11B0006	<0.14	20.0	ug/L	N/A	N/A	16.6	17.7	83	89	30-125	7	25	
Bromomethane	11B0006	0.140	20.0	ug/L	N/A	N/A	22.3	21.9	111	109	30-130	2	35	
2-Butanone (MEK)	11B0006	<0.16	20.0	ug/L	N/A	N/A	16.2	18.8	81	94	45-140	15	35	
n-Butylbenzene	11B0006	0.220	20.0	ug/L	N/A	N/A	16.7	16.7	82	82	40-135	0	20	
sec-Butylbenzene	11B0006	0.180	20.0	ug/L	N/A	N/A	16.8	17.0	83	84	40-135	1	20	
tert-Butylbenzene	11B0006	0.0300	20.0	ug/L	N/A	N/A	16.8	17.0	84	85	40-135	1	20	
Carbon disulfide	11B0006	0.150	20.0	ug/L	N/A	N/A	20.9	18.5	104	92	30-130	12	30	
Carbon Tetrachloride	11B0006	0.210	20.0	ug/L	N/A	N/A	17.1	16.6	84	82	35-130	3	20	
Chlorobenzene	11B0006	0.0300	20.0	ug/L	N/A	N/A	17.6	16.7	88	84	60-130	5	15	
Chlorodibromomethane	11B0006	<0.20	20.0	ug/L	N/A	N/A	18.0	18.6	90	93	35-130	3	20	
Chloroethane	11B0006	0.0400	20.0	ug/L	N/A	N/A	20.6	19.4	103	97	40-135	6	20	
Chloroform	11B0006	<0.28	20.0	ug/L	N/A	N/A	22.1	21.5	111	108	55-125	3	15	
Chloromethane	11B0006	0.0500	20.0	ug/L	N/A	N/A	19.9	19.2	99	96	25-125	3	25	
2-Chlorotoluene	11B0006	0.110	20.0	ug/L	N/A	N/A	17.5	17.4	87	87	55-140	0	20	
4-Chlorotoluene	11B0006	0.0900	20.0	ug/L	N/A	N/A	17.8	17.5	89	87	50-140	2	20	
1,2-Dibromo-3-chloropropane	11B0006	<0.12	20.0	ug/L	N/A	N/A	15.5	15.8	78	79	35-130	2	30	

HOWARD R. GREEN CO.- DES MOINES <
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 Project: 1208 1st Street NW Cluster 1 - Cedar Rapids, IA
 Project Number: 40100139

Received: 01/26/11
 Reported: 02/04/11 15:52

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Dup Result	% REC	Dup %REC	% REC Limits	RPD RPD	RPD Limit	Q
Volatile Organic Compounds													
QC Source Sample: CUA1164-01													
1,2-Dibromoethane (EDB)	11B0006	<0.13	20.0	ug/L	N/A	N/A	17.8	19.3	89	97	55-140	8	20
Dibromomethane	11B0006	<0.18	20.0	ug/L	N/A	N/A	18.6	18.4	93	92	60-135	1	15
1,2-Dichlorobenzene	11B0006	0.190	20.0	ug/L	N/A	N/A	17.5	17.4	87	86	55-140	1	20
1,3-Dichlorobenzene	11B0006	0.150	20.0	ug/L	N/A	N/A	17.4	16.9	86	84	55-135	3	15
1,4-Dichlorobenzene	11B0006	0.160	20.0	ug/L	N/A	N/A	17.6	17.3	87	86	55-140	2	15
Dichlorodifluoromethane	11B0006	<0.20	20.0	ug/L	N/A	N/A	16.9	15.9	85	79	15-130	6	25
1,1-Dichloroethane	11B0006	<0.21	20.0	ug/L	N/A	N/A	21.7	20.8	109	104	50-130	4	25
1,2-Dichloroethane	11B0006	<0.18	20.0	ug/L	N/A	N/A	22.9	22.3	115	112	55-140	3	15
1,1-Dichloroethene	11B0006	<0.15	20.0	ug/L	N/A	N/A	21.4	20.1	107	100	35-135	6	30
cis-1,2-Dichloroethene	11B0006	3.89	20.0	ug/L	N/A	N/A	26.7	26.2	114	111	45-135	2	20
trans-1,2-Dichloroethene	11B0006	1.06	20.0	ug/L	N/A	N/A	22.9	22.2	109	105	45-145	3	35
1,2-Dichloropropane	11B0006	0.0200	20.0	ug/L	N/A	N/A	18.8	18.9	94	94	55-130	0	15
1,3-Dichloropropane	11B0006	0.0200	20.0	ug/L	N/A	N/A	18.6	18.4	93	92	60-135	1	15
2,2-Dichloropropane	11B0006	<0.18	20.0	ug/L	N/A	N/A	22.0	20.8	110	104	20-120	5	35
1,1-Dichloropropene	11B0006	<0.15	20.0	ug/L	N/A	N/A	21.6	20.2	108	101	40-140	7	20
cis-1,3-Dichloropropene	11B0006	0.0100	20.0	ug/L	N/A	N/A	19.5	18.6	97	93	25-120	4	20
trans-1,3-Dichloropropene	11B0006	0.0200	20.0	ug/L	N/A	N/A	18.5	19.0	93	95	25-120	3	20
Ethylbenzene	11B0006	0.0800	20.0	ug/L	N/A	N/A	17.8	17.4	89	87	45-135	2	20
Hexachlorobutadiene	11B0006	0.760	20.0	ug/L	N/A	N/A	16.9	15.2	81	72	40-135	11	30
Hexane	11B0006	0.0600	20.0	ug/L	N/A	N/A	17.3	17.1	86	85	25-135	1	35
Isopropylbenzene	11B0006	0.0500	20.0	ug/L	N/A	N/A	17.2	16.8	86	84	45-125	2	15
p-Isopropyltoluene	11B0006	<0.14	20.0	ug/L	N/A	N/A	16.9	17.3	85	86	40-140	2	20
Methylene Chloride	11B0006	0.240	20.0	ug/L	N/A	N/A	22.0	21.0	109	104	45-145	4	30
Methyl tert-Butyl Ether	11B0006	<0.16	20.0	ug/L	N/A	N/A	21.6	22.6	108	113	40-135	5	25
Naphthalene	11B0006	0.690	20.0	ug/L	N/A	N/A	16.9	17.6	81	85	40-135	4	20
n-Propylbenzene	11B0006	0.0900	20.0	ug/L	N/A	N/A	17.2	17.0	85	85	45-140	1	20
Styrene	11B0006	0.0200	20.0	ug/L	N/A	N/A	18.0	17.6	90	88	40-135	2	20
1,1,1,2-Tetrachloroethane	11B0006	<0.21	20.0	ug/L	N/A	N/A	18.0	18.0	90	90	50-130	0	20
1,1,2,2-Tetrachloroethane	11B0006	0.0300	20.0	ug/L	N/A	N/A	17.1	18.6	85	93	55-140	9	20
Tetrachloroethene	11B0006	1.49	20.0	ug/L	N/A	N/A	18.6	18.7	85	86	40-135	1	20
Toluene	11B0006	0.100	20.0	ug/L	N/A	N/A	18.0	17.4	89	87	45-135	3	20
1,2,3-Trichlorobenzene	11B0006	0.730	20.0	ug/L	N/A	N/A	17.3	18.5	83	89	50-140	7	25
1,2,4-Trichlorobenzene	11B0006	0.440	20.0	ug/L	N/A	N/A	17.1	18.3	83	89	40-135	7	25
1,1,1-Trichloroethane	11B0006	<0.12	20.0	ug/L	N/A	N/A	17.9	17.4	90	87	40-125	3	20
1,1,2-Trichloroethane	11B0006	0.0400	20.0	ug/L	N/A	N/A	18.6	18.9	93	94	60-130	1	15
Trichloroethene	11B0006	12.1	20.0	ug/L	N/A	N/A	29.0	27.8	84	78	50-130	4	20
Trichlorofluoromethane	11B0006	<0.17	20.0	ug/L	N/A	N/A	19.7	19.3	98	96	40-145	2	25
1,2,3-Trichloropropane	11B0006	<0.19	20.0	ug/L	N/A	N/A	17.7	18.2	89	91	55-150	2	20
1,2,4-Trimethylbenzene	11B0006	0.150	20.0	ug/L	N/A	N/A	18.0	17.7	89	88	45-140	1	20
1,3,5-Trimethylbenzene	11B0006	0.100	20.0	ug/L	N/A	N/A	17.3	17.5	86	87	45-140	2	20
Vinyl chloride	11B0006	0.0300	20.0	ug/L	N/A	N/A	22.0	19.6	110	98	30-135	11	20
Xylenes, total	11B0006	<0.13	60.0	ug/L	N/A	N/A	53.3	53.1	89	89	40-135	0	20
Surrogate: Dibromofluoromethane	11B0006			ug/L					122	124	75-120		Z6
Surrogate: Toluene-d8	11B0006			ug/L					99	98	80-120		
Surrogate: 4-Bromofluorobenzene	11B0006			ug/L					102	100	80-120		

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Project Number: 40100139

Received: 01/26/11
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MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Dup Result	% REC	Dup %REC	% REC Limits	RPD RPD	RPD Limit	Q	
Volatile Organic Compounds														
QC Source Sample: CUA1188-01														
Acetone	11B0009	5950	20.0	ug/L	N/A	N/A	1.00E9	1.00E9	000000000000000000	45-150	0	35	MHA	
Acrylonitrile	11B0009	<0.19	20.0	ug/L	N/A	N/A	15.0	16.0	75	80	45-145	6	35	
Benzene	11B0009	7.80	20.0	ug/L	N/A	N/A	24.2	24.1	82	81	50-130	1	20	
Bromobenzene	11B0009	<0.21	20.0	ug/L	N/A	N/A	18.4	18.5	92	92	60-135	0	15	
Bromochloromethane	11B0009	<0.12	20.0	ug/L	N/A	N/A	16.7	16.1	84	80	55-145	4	25	
Bromodichloromethane	11B0009	21.8	20.0	ug/L	N/A	N/A	16.9	16.9	-25	-24	50-130	0	15	M1
Bromoform	11B0009	<0.14	20.0	ug/L	N/A	N/A	17.2	17.3	86	86	30-125	1	25	
Bromomethane	11B0009	0.800	20.0	ug/L	N/A	N/A	13.6	13.4	64	63	30-130	1	35	CIN
2-Butanone (MEK)	11B0009	15.4	20.0	ug/L	N/A	N/A	24.5	24.5	45	46	45-140	0	35	
n-Butylbenzene	11B0009	0.200	20.0	ug/L	N/A	N/A	16.4	16.9	81	84	40-135	3	20	
sec-Butylbenzene	11B0009	0.600	20.0	ug/L	N/A	N/A	16.5	17.3	80	84	40-135	5	20	
tert-Butylbenzene	11B0009	<0.12	20.0	ug/L	N/A	N/A	16.8	17.6	84	88	40-135	5	20	
Carbon disulfide	11B0009	1.00	20.0	ug/L	N/A	N/A	16.4	16.2	77	76	30-130	1	30	
Carbon Tetrachloride	11B0009	4.00	20.0	ug/L	N/A	N/A	17.5	16.7	68	64	35-130	5	20	CIN
Chlorobenzene	11B0009	0.200	20.0	ug/L	N/A	N/A	17.1	17.3	85	86	60-130	1	15	
Chlorodibromomethane	11B0009	6.60	20.0	ug/L	N/A	N/A	17.4	17.3	54	53	35-130	1	20	
Chloroethane	11B0009	7.80	20.0	ug/L	N/A	N/A	17.0	16.4	46	43	40-135	4	20	
Chloroform	11B0009	102	20.0	ug/L	N/A	N/A	15.1	15.2	-434	-433	55-125	1	15	M1
Chloromethane	11B0009	<0.31	20.0	ug/L	N/A	N/A	10.9	10.3	54	52	25-125	5	25	
2-Chlorotoluene	11B0009	0.200	20.0	ug/L	N/A	N/A	16.6	17.4	82	86	55-140	5	20	
4-Chlorotoluene	11B0009	0.200	20.0	ug/L	N/A	N/A	16.8	17.6	83	87	50-140	5	20	
1,2-Dibromo-3-chloropropane	11B0009	2.00	20.0	ug/L	N/A	N/A	16.0	16.5	70	72	35-130	3	30	
1,2-Dibromoethane (EDB)	11B0009	<0.13	20.0	ug/L	N/A	N/A	17.7	18.1	88	91	55-140	2	20	
Dibromomethane	11B0009	<0.18	20.0	ug/L	N/A	N/A	17.5	18.2	87	91	60-135	4	15	
1,2-Dichlorobenzene	11B0009	<0.14	20.0	ug/L	N/A	N/A	17.2	18.0	86	90	55-140	5	20	
1,3-Dichlorobenzene	11B0009	0.400	20.0	ug/L	N/A	N/A	16.4	17.1	80	84	55-135	4	15	
1,4-Dichlorobenzene	11B0009	0.600	20.0	ug/L	N/A	N/A	16.8	17.3	81	84	55-140	3	15	
Dichlorodifluoromethane	11B0009	<0.20	20.0	ug/L	N/A	N/A	11.2	11.2	56	56	15-130	0	25	
1,1-Dichloroethane	11B0009	<0.21	20.0	ug/L	N/A	N/A	15.5	15.6	77	78	50-130	1	25	
1,2-Dichloroethane	11B0009	<0.18	20.0	ug/L	N/A	N/A	16.3	16.4	82	82	55-140	0	15	
1,1-Dichloroethene	11B0009	<0.15	20.0	ug/L	N/A	N/A	14.6	14.3	73	71	35-135	3	30	
cis-1,2-Dichloroethene	11B0009	<0.13	20.0	ug/L	N/A	N/A	15.7	15.9	79	80	45-135	1	20	
trans-1,2-Dichloroethene	11B0009	<0.21	20.0	ug/L	N/A	N/A	15.2	15.1	76	75	45-145	1	35	
1,2-Dichloropropane	11B0009	<0.11	20.0	ug/L	N/A	N/A	16.9	17.2	85	86	55-130	2	15	
1,3-Dichloropropane	11B0009	<0.16	20.0	ug/L	N/A	N/A	17.7	17.6	89	88	60-135	1	15	
2,2-Dichloropropane	11B0009	<0.18	20.0	ug/L	N/A	N/A	15.6	14.9	78	74	20-120	4	35	CIN
1,1-Dichloropropene	11B0009	<0.15	20.0	ug/L	N/A	N/A	15.4	15.4	77	77	40-140	0	20	
cis-1,3-Dichloropropene	11B0009	<0.15	20.0	ug/L	N/A	N/A	18.0	17.9	90	90	25-120	1	20	
trans-1,3-Dichloropropene	11B0009	0.400	20.0	ug/L	N/A	N/A	17.9	17.6	87	86	25-120	2	20	
Ethylbenzene	11B0009	0.400	20.0	ug/L	N/A	N/A	17.0	17.1	83	84	45-135	1	20	
Hexachlorobutadiene	11B0009	<0.20	20.0	ug/L	N/A	N/A	16.9	17.2	84	86	40-135	2	30	
Hexane	11B0009	<0.20	20.0	ug/L	N/A	N/A	14.6	15.3	73	77	25-135	5	35	
Isopropylbenzene	11B0009	<0.19	20.0	ug/L	N/A	N/A	15.8	16.2	79	81	45-125	2	15	
p-Isopropyltoluene	11B0009	0.200	20.0	ug/L	N/A	N/A	16.3	17.1	80	84	40-140	5	20	

HOWARD R. GREEN CO.- DES MOINES <
2550 University Ave W, Ste 400 N
St. Paul, MN 55114
Mike Goalen

Work Order: CUA1026
Project: 1208 1st Street NW Cluster 1 - Cedar Rapids, IA
Project Number: 40100139

Received: 01/26/11
Reported: 02/04/11 15:52

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD RPD	RPD Limit	Q
Volatile Organic Compounds														
QC Source Sample: CUA1188-01														
Methylene Chloride	11B0009	1.20	20.0	ug/L	N/A	N/A	15.1	15.0	69	69	45-145	0	30	
Methyl tert-Butyl Ether	11B0009	<0.16	20.0	ug/L	N/A	N/A	17.0	17.3	85	86	40-135	2	25	
Naphthalene	11B0009	0.200	20.0	ug/L	N/A	N/A	16.3	17.1	80	84	40-135	5	20	
n-Propylbenzene	11B0009	0.200	20.0	ug/L	N/A	N/A	16.8	17.8	83	88	45-140	6	20	
Styrene	11B0009	<0.10	20.0	ug/L	N/A	N/A	16.5	16.4	83	82	40-135	1	20	
1,1,1,2-Tetrachloroethane	11B0009	<0.21	20.0	ug/L	N/A	N/A	17.3	17.6	87	88	50-130	2	20	
1,1,2,2-Tetrachloroethane	11B0009	<0.10	20.0	ug/L	N/A	N/A	17.2	17.3	86	87	55-140	1	20	
Tetrachloroethene	11B0009	<0.18	20.0	ug/L	N/A	N/A	17.9	18.1	90	91	40-135	1	20	
Toluene	11B0009	4.40	20.0	ug/L	N/A	N/A	20.8	21.3	82	84	45-135	3	20	
1,2,3-Trichlorobenzene	11B0009	0.800	20.0	ug/L	N/A	N/A	17.8	18.6	85	89	50-140	4	25	
1,2,4-Trichlorobenzene	11B0009	<0.16	20.0	ug/L	N/A	N/A	16.6	17.5	83	88	40-135	5	25	
1,1,1-Trichloroethane	11B0009	<0.12	20.0	ug/L	N/A	N/A	18.2	17.5	91	88	40-125	4	20	
1,1,2-Trichloroethane	11B0009	<0.12	20.0	ug/L	N/A	N/A	17.5	17.8	88	89	60-130	2	15	
Trichloroethene	11B0009	<0.19	20.0	ug/L	N/A	N/A	16.6	16.7	83	84	50-130	1	20	
Trichlorofluoromethane	11B0009	<0.17	20.0	ug/L	N/A	N/A	13.6	12.2	68	61	40-145	11	25	
1,2,3-Trichloropropane	11B0009	<0.19	20.0	ug/L	N/A	N/A	17.5	17.3	87	86	55-150	1	20	
1,2,4-Trimethylbenzene	11B0009	0.600	20.0	ug/L	N/A	N/A	17.9	18.5	87	89	45-140	3	20	
1,3,5-Trimethylbenzene	11B0009	0.400	20.0	ug/L	N/A	N/A	18.3	19.1	89	93	45-140	4	20	
Vinyl chloride	11B0009	<0.10	20.0	ug/L	N/A	N/A	14.2	14.0	71	70	30-135	2	20	
Xylenes, total	11B0009	<0.13	60.0	ug/L	N/A	N/A	55.2	55.9	92	93	40-135	1	20	
Surrogate: Dibromofluoromethane	11B0009			ug/L					90	91	75-120			
Surrogate: Toluene-d8	11B0009			ug/L					96	97	80-120			
Surrogate: 4-Bromofluorobenzene	11B0009			ug/L					105	107	80-120			
UST ANALYSIS PARAMETERS														
QC Source Sample: CUA1024-03														
Gasoline	11A0900	6.43	132	mg/kg	N/A	19.7	76.9	80.8	54	57	10-100	5	40	
Surrogate: Octacosane	11A0900			mg/kg					97	96	55-150			
Polychlorinated Biphenyls by EPA Method 8082														
QC Source Sample: CUA1024-01														
PCB-1248	11A0936	<0.0566	0.186	mg/kg dry	N/A	0.0566	0.105	0.101	56	55	25-120	4	35	
Surrogate: Decachlorobiphenyl	11A0936			mg/kg dry					81	76	30-125			
Surrogate: Tetrachloro-meta-xylene	11A0936			mg/kg dry					60	60	30-115			

HOWARD R. GREEN CO.- DES MOINES <
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Work Order: CUA1026
 Project: 1208 1st Street NW Cluster 1 - Cedar Rapids, IA
 Project Number: 40100139

Received: 01/26/11
 Reported: 02/04/11 15:52

CERTIFICATION SUMMARY

TestAmerica Cedar Falls

Method	Matrix	Nelac	Iowa
OA-2 - 8015B	Solid/Soil	X	X
OA-2 - 8015B	Water - NonPotable	X	X
SM 2540 G	Solid/Soil		X
SW 8082	Solid/Soil	X	X
SW 8082	Water - NonPotable	X	X
SW 8260B	Solid/Soil	X	X
SW 8260B	Water - NonPotable	X	X
SW	Water - NonPotable		

Any abnormalities or departures from sample acceptance policy shall be documented on the 'Sample Receipt and Temperature Log Form' and 'Sample Non-conformance Form' (if applicable) included with this report.

For information concerning certifications of this facility or another TestAmerica facility, please visit our website at www.TestAmericaInc.com

Samples collected by TestAmerica Field Services personnel are noted on the Chain of Custody (COC) and are sampled in accordance with TA-CF SOP CF-FSS-01.

DATA QUALIFIERS AND DEFINITIONS

- CIN** The % RSD for this compound was above 15%. The average % RSD for all compounds in the calibration met the 15% criteria specified in EPA methods 8260B/8270C.
- J** Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated.
- L** Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above the control limits. Analyte not detected, data not impacted.
- L5** Laboratory Control Sample was outside of acceptance limits. The MS or MSD was used to validate the batch.
- M1** The MS and/or MSD were outside control limits.
- MHA** Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information.
- Q** Poor chromatographic match to standard.
- R** Sample duplicate RPD exceeded the laboratory control limit.
- RL1** Reporting limit raised due to sample matrix effects.
- Z6** Surrogate recovery was outside control limits.

ADDITIONAL COMMENTS

Results are reported on a wet weight basis unless otherwise noted.

THE LEADER IN ENVIRONMENTAL TESTING

Sample Receipt and Temperature Log Form

Client: HR Green Project: CR Phase II's

City: CR

Date: 1-20-11 Receiver's Initials: CH Time (Delivered): 8:55

Temperature Record:

Cooler ID# (If Applicable)
LB107

1.7 °C / **On Ice**

Thermometer:

- IR - 61997671 'B'
 IR - 90876942 'C'
 IR - 61854108
 22126775

Courier:

<input checked="" type="checkbox"/> UPS	<input type="checkbox"/> TA Courier
<input type="checkbox"/> FedEx	<input type="checkbox"/> TA Field Services
<input type="checkbox"/> FedEx Ground	<input type="checkbox"/> Client
<input type="checkbox"/> US Postal Service	<input type="checkbox"/> Other
<input type="checkbox"/> Spee-Dee	

Temp Blank

Temperature out of compliance

Custody seals present?

Yes

Custody seals intact?

Yes No

Non-Conformance report started

Exceptions Noted

- Sample(s) not received in a cooler.
- Samples(s) received same day of sampling.
- Evidence of a chilling process
- Temperature not taken:

*Refer to SOP CF-SS-01 for Temperature Criteria

APPENDIX D

**Soil Boring Logs/
Monitor Well Construction Details**

SOIL BORING LOG AND MONITORING WELL CONSTRUCTION DIAGRAM

Boring/Well Number: 1208-SB1	Facility: Cedar Rapids Phase II's	Facility Street Address: 1208 1st Street NW, Cedar Rapids, IA
Boring Depth (ft) X Diameter (in): 12 X 3		Drilling Method: Geoprobe
Well contractor Name: BGS, Inc Registration Number: 6494		Logged By: Bridget Wolfe

Ground Surface Elevation (ASL):	Top of Casing Elevation (ASL):
------------------------------------	-----------------------------------

Date: 1/25/2011	Date: 1/25/2011	UST Number: NA	LUST Number: NA
Start Time: 9:27	End Time: 9:34		

Depth (feet)	Well Construction Details	Recovery (feet)	Sample No.	Sample Type	PID/FID Reading	USCS Class.	Soil Classification
0							
1		4/4			0.6	GP	0-2': Fill (gravel, sand)
2					0.7		
3					0.0	SP	2-7': Lt brown med sand
4					0.5		
5		3/4			0.0		
6					4.0		
7					3		
8					--	GP	7-7.5': Multicolored gravel/cinders
9		4/4			1333*	SM	7.5-12': Dk brown, moist silty sand, wet w/sheen
10					799*		& petro odor from 10-11.5'
11					25.0		
12					9.2		
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							

* Soil sample taken for analysis

Observations	Date:	1/25/2011			
Water Levels (ASL)	Level:	~10'			
Static Water Level v	Time:	9:34			

APPENDIX E

Risk Calculator Summary



Calculator Statewide Standards Chemical Specific Info. Related Links Help Print

For: Bridget Wolfe
 1208 1st Street NW
 Cedar Rapids IA Range 2 Soil
 Date: 2/7/2011

Cancer Risk Output

Chemical Name	CASRN	Resident Soil	Site Worker Soil
Benzene	000071-43-2	0	0
Naphthalene	000091-20-3	NQ	NQ
TOTALS:		0	0

Cummulative Cancer Risk Site Resident: 0 (All cancer risk values are x 10⁻⁴)
 Cummulative Cancer Risk Site Worker: 0

Site Resident-Non Cancer Risk Output by target organ

Chemical Name	CASRN	Media	Heart	Liver	Blood	Kidney	Skin	Endoc	Eye	Immu	Nerve	GenUr	Respi	Other	Devel	Gastro
Benzene	000071-43-2	Soil			0					0						
Butylbenzene, n-	000104-51-8	Soil												0		
Cumene (Isopropylbenzene)	000098-82-8	Soil					0									
Ethylbenzene	000100-41-4	Soil		0		0										
Hexane, N-	000110-54-3	Soil									0	0				
Naphthalene	000091-20-3	Soil			0							0		0		
Trimethylbenzene, 1,2,4-	000095-63-6	Soil												0		
Trimethylbenzene, 1,3,5-	000108-67-8	Soil												0		
Xylene, Mixture	001330-20-7	Soil									0			0		
Sum:			0	0	0	0	0	0	0	0	0	0	0	0	0	0

Site Worker-Non Cancer Risk Output by target organ

Chemical Name	CASRN	Media	Heart	Liver	Blood	Kidney	Skin	Endoc	Eye	Immu	Nerve	GenUr	Respi	Other	Devel	Gastro
Benzene	000071-43-2	Soil			0					0						
Butylbenzene, n-	000104-51-8	Soil												0		
Cumene (Isopropylbenzene)	000098-82-8	Soil					0									
Ethylbenzene	000100-41-4	Soil		0		0										
Hexane, N-	000110-54-3	Soil									0	0				
Naphthalene	000091-20-3	Soil			0							0		0		
Trimethylbenzene, 1,2,4-	000095-63-6	Soil												0		
Trimethylbenzene, 1,3,5-	000108-67-8	Soil												0		
Xylene, Mixture	001330-20-7	Soil									0			0		
Sum:			0	0	0	0	0	0	0	0	0	0	0	0	0	0

Interpretation of Results Summary?

Values associated with "Cumulative Cancer Risk" and non-cancer "Sum" that are less than or equal to 1.00 are within acceptable cumulative risk levels.

NQ means not quantifiable due to lack of a cancer slope factor.



Calculator

Statewide Standards

Chemical Specific Info.

Related Links

Help

Print

For: Bridget Wolfe
 1208 1st Street NW
 Cedar Rapids IA Groundwater
 Date: 2/7/2011

Cancer Risk Output

Chemical Name	CASRN	Resident Groundwater	Site Worker Groundwater
Benzene	000071-43-2	0.28	0.06
Naphthalene	000091-20-3	NQ	NQ
TOTALS:		0.28	0.06

Cummulative Cancer Risk Site Resident: 0.28 (All cancer risk values are x 10⁻⁴)
 Cummulative Cancer Risk Site Worker: 0.06

Site Resident-Non Cancer Risk Output by target organ

Chemical Name	CASRN	Media	Heart	Liver	Blood	Kidney	Skin	Endoc	Eye	Immu	Nerve	GenUr	Respi	Other	Devel	Gastro
Benzene	000071-43-2	Groundwater			0.86					0.86						
Butylbenzene, n-	000104-51-8	Groundwater												0.01		
Cumene (Isopropylbenzene)	000098-82-8	Groundwater				0.09										
Ethylbenzene	000100-41-4	Groundwater		0.45		0.45										
Hexane, N-	000110-54-3	Groundwater									0.03	0.03				
Naphthalene	000091-20-3	Groundwater			0.34						0.34			0.34		
Trimethylbenzene, 1,2,4-	000095-63-6	Groundwater												1.29		
Trimethylbenzene, 1,3,5-	000108-67-8	Groundwater												0.17		
Xylene, Mixture	001330-20-7	Groundwater									0.04			0.04		
Carbon Disulfide	000075-15-0	Groundwater		0												0
Propylbenzene, N-	103-65-1	Groundwater									0.21					
Toluene	000108-88-3	Groundwater		0.01		0.01			0.01	0.01	0.01	0.01			0.01	
Sum:			0	0.46	1.2	0.55	0	0	0	0.87	0.63	0.04	0	1.85	0.01	0

Site Worker-Non Cancer Risk Output by target organ

Chemical Name	CASRN	Media	Heart	Liver	Blood	Kidney	Skin	Endoc	Eye	Immu	Nerve	GenUr	Respi	Other	Devel	Gastro
Benzene	000071-43-2	Groundwater			0.11					0.11						
Butylbenzene, n-	000104-51-8	Groundwater												0		
Cumene (Isopropylbenzene)	000098-82-8	Groundwater				0.01										
Ethylbenzene	000100-41-4	Groundwater		0.06		0.06										
Hexane, N-	000110-54-3	Groundwater									0	0				
Naphthalene	000091-20-3	Groundwater			0.04						0.04			0.04		
Trimethylbenzene, 1,2,4-	000095-63-6	Groundwater												0.17		
Trimethylbenzene, 1,3,5-	000108-67-8	Groundwater												0.02		
Xylene, Mixture	001330-20-7	Groundwater														

		Groundwater							0.02		0.02		
Carbon Disulfide	000075-15-0												
		Groundwater	0									0	
Propylbenzene, N-	103-65-1												
		Groundwater							0.03				
Toluene	000108-88-3												
		Groundwater	0	0			0	0	0			0	
		Sum:	0	0.06	0.15	0.07	0	0	0	0.11	0.09	0	0
												0.25	0
													0

Interpretation of Results Summary?

Values associated with "Cumulative Cancer Risk" and non-cancer "Sum" that are less than or equal to 1.00 are within acceptable cumulative risk levels.

NQ means not quantifiable due to lack of a cancer slope factor.

APPENDIX F

Site Photographs



Site Photograph 1 – Boring location before drilling



Site Photograph 2 – Boring location before drilling

Site Photographs

1208 1st Street NW
Cedar Rapids, IA

Photographed:

1/25/11





Site Photograph 3 – Boring location after drilling



Site Photograph 4 – Boring location after drilling

Site Photographs

1208 1st Street NW
Cedar Rapids, IA

Photographed:

1/25/11



HR Green