

**PHASE II ENVIRONMENTAL SITE ASSESSMENT
US EPA BROWNFIELDS HAZARDOUS SUBSTANCE
ASSESSMENT GRANT:
EPA COOPERATIVE AGREEMENT NO. 97741401**

**Blum East Side Property
501 East 15th Street
Dubuque, Iowa**

December 4, 2015

HR GREEN, INC. PROJECT NO. 10140076

Prepared for:

**CITY OF DUBUQUE
50 W. 13th Street
Dubuque, IA 52001**



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1.0 EXECUTIVE SUMMARY

The City of Dubuque has retained HR Green, Inc. (HR Green) to conduct a Phase II Environmental Site Assessment (ESA) of the property owned by Blum Properties Inc. located at 501 East 15th Street, Dubuque, Dubuque County, Iowa (Figure 1 in Appendix B). The Dubuque County Assessor's Office's website describes the 0.23-acre property as PINs 1024284007, 1024284006, and 1024283901. This report hereinafter refers to the property as the "subject property", see Figure 1 in Appendix B.

HR Green completed a Phase I ESA on the subject property on December 1, 2015. The Phase I assessment revealed the presence of recognized environmental conditions (RECs)¹ in connection with the subject property. The results of the Phase II ESA are provided in this document. The findings and conclusions are summarized as follows:

- **Range 1 Soil:** Sample results identified eleven (11) PAH compounds above laboratory reporting limits. Only benzo[a]pyrene at location SB5 was identified at a level *above* Statewide Standards. Sample results identified up to six (6) RCRA metals above laboratory reporting limits. Lead and arsenic at locations SB1, SB2 and SB5 were identified at levels *above* Statewide Standards.

The concentrations detected present an *unacceptable* cancer and non-cancer risk for a site resident, site worker, and construction worker.

- **Range 2 Soil:** No VOC or TEH compounds were detected above laboratory reporting limits in Range 2 soil samples.
- **Groundwater:** Ten (10) PAHs, one (1) VOC, and one (1) RCRA metal were detected above laboratory reporting limits in the collected groundwater samples. Benzo[a]pyrene, benzo[b]fluoranthene, dibenz(a,h)anthracene, indeno[1,2,3-cd]pyrene, and tetrachloroethene were detected *above* protected groundwater Statewide Standards and *below* non-protected groundwater Statewide Standards.

The concentrations detected present an *unacceptable* cancer risk for a site resident. Non-cancer risk for site resident is *acceptable*. Risk factors for cancer and non-cancer risk for a site worker and construction worker were *acceptable*.

- **Vapor Intrusion:** Benzo[b]fluoranthene, chrysene, tetrachloroethene, and pyrene are sufficiently volatile and sufficiently toxic to present a vapor intrusion risk for slab-on-grade buildings.

The concentrations detected present an *acceptable* cancer and non-cancer risk for site resident, site worker, and construction worker.

- **PCB:** Analytical results did not indicate the presence of PCBs in the sampled areas on the subject property.

¹ *Recognized environmental conditions*, as used by ASTM Standard E 1527-13 is defined as the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. De minimis conditions are not recognized environmental conditions.

The City of Dubuque has an ordinance (Section No. 16-11-20) that prevents the installation of private wells unless public water is not available. This requires permit approval by the County's Health Department. Further, no wells may be installed within 500 feet of a LUST site. HR Green recommends notifying the County's Health Department of the groundwater results contained in this Phase II ESA to prevent the installation of new wells on the subject property or adjacent properties. This action will sever the groundwater ingestion pathway for the subject property.

The results of this study indicate that the subject property is not suitable for future residential, commercial, or industrial purposes without remediation of shallow soil. The levels of lead, arsenic, and benzo[a]pyrene contamination detected at SB5 indicate that the surface material covering the slab indoors will likely need to be managed as hazardous waste, and should be mitigated prior to demolition. TCLP sampling (utilizing appropriate personal protective equipment) of this material is recommended in order to determine proper disposal and safety procedures.

Lead and arsenic exceedances were noted in several locations around the building footprint. Further Range 1 soil sampling should be conducted once demolition of existing structures is completed. While not found in exceedance during this study, mercury was also detected in Range 1 soil. Observations including improper storage of liquid mercury on the adjoining subject property indicate that further mercury sampling in Range 1 soil should also be conducted once demolition is completed.

The source of tetrachloroethene exceedances in the groundwater samples is unknown and warrants further investigation.

This report should be provided to Iowa Department of Natural Resources (IDNR) for guidance on the suitability of the subject property for the planned reuse as a park and associated parking lot.

In addition to the soil, groundwater, and PCB wipe samples, an asbestos assessment was completed on the subject property under a separate scope of work. Asbestos containing material (ACM) was identified on the subject property in this assessment. Abatement of the ACM is required before the structure is demolished. The assessment report is included in Appendix C.

2.0 INTRODUCTION

The City of Dubuque (City) is currently participating in the U.S. Environmental Protection Agency (EPA) Brownfields Assessment program. The goal of this economic development initiative is to facilitate community revitalization and promote sustainable economic conditions by addressing any real or perceived environmental issues associated with abandoned, idle, or underused properties within the City.

2.1 Purpose

The major objective of the Brownfields Project is to eliminate concerns regarding perceived or actual contamination on properties so redevelopment can occur. 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, a Phase II ESA accessing the RECs will allow them to satisfy the all appropriate inquiry requirements to obtain protection from potential liability under CERCLA² as an innocent landowner, a contiguous property owner, or a bona fide prospective purchaser.

2.2 Problem Statement

The City of Dubuque is evaluating abandoned, idle, and underused properties with the intent of encouraging redevelopment. Evaluation of these properties is conducted through the collection and analysis of environmental data.

The EPA Brownfields Cooperative Agreement requires environmental data collected are of the appropriate type, quantity, and quality to support project decisions. Project data quality objectives (DQOs) were identified in the *Phase II ESA Data Quality Objectives and Generic Quality Assurance Project Plan, November 2014*. Project specific DQOs were identified and documented in the Phase II Sampling Plan.

Evaluation of environmental impairment is conducted using the regulatory programs outlined in 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 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 Comprehensive Environmental Response Compensation and Liability Act

2.3 Limitations and Exceptions of Assessments

This report has been prepared in accordance with generally accepted environmental methodologies referred to in ASTM 1903-11, and contains all the limitations inherent in these methodologies. No other warranties, expressed or implied, are made as to the professional services provided under the terms of our contract and included in this report.

2.4 Limiting Conditions and Methodologies Used

No ESA can eliminate all uncertainty. Furthermore, any sample, either surface or subsurface, taken for chemical analysis may or may not be representative of a larger population. Professional judgment and interpretation are inherent in the process and uncertainty is inevitable. Additional assessment may be able to reduce the uncertainty.

Even when Phase II ESA work is executed with an appropriate site-specific standard of care, certain conditions present especially difficult detection problems. Such conditions may include, but are not limited to, complex geological settings, the fate and transport characteristics of certain hazardous substances and petroleum products, the distribution of existing contamination, physical limitations imposed by the location of utilities and other man-made objects, and the limitations of assessment technologies.

Phase II ESAs do not generally require an exhaustive assessment of environmental conditions on a property. There is a point at which the cost of information obtained and the time required to obtain it outweigh the usefulness of the information and, in fact, may be a material detriment to the orderly completion of transactions. If hazardous substance or petroleum releases are confirmed on a parcel of property, the extent of further assessment is related to the degree of uncertainty that is acceptable to the user with respect to the real estate transaction.

Measurements and sampling data only represent the site conditions at the time of data collection. Therefore, the usability of data collected as part of this Phase II ESA may have a finite lifetime depending on the application and use being made of the data. An environmental professional should evaluate whether the generated data are appropriate for any subsequent use beyond the original purpose for which it was collected.

3.0 BACKGROUND

The subject property is located within Section 24, Township 89 North, Range 2 East in Dubuque County, Iowa, and is further located by the latitude 42.508918° North, and longitude -90.663100° West. Figure 1 in Appendix B shows the location of the subject property.

3.1 Site Characteristics

The 0.23-acre property consists of one parcel owned by Blum Properties Inc. and is described as 501 East 15th Street located in Dubuque, Dubuque County, Iowa (Figure 1, Appendix B). The subject property and the adjacent property to the west (411 E 15th St) which is also owned by Blum Properties, Inc. has operated as a scrap yard and recycling facility since 1963.

3.2 Phase I Environmental Site Assessment

HR Green completed a Phase I ESA on the subject property on December 1, 2015. The assessment revealed evidence of ten (10) RECs in connection with the subject property. The RECs are summarized below.

On-Site REC:

1. The subject property has operated as a scrap yard and recycling facility since 1963.
2. HR Green observed leaking batteries and car parts stored on pallets with associated staining on the ground.
3. HR Green observed hydraulic machinery that may contain PCBs with associated staining in the north building on the subject property.
4. HR Green observed stained pavement throughout the subject property associated with past and present scrap metal storage on the subject property.

Off-Site RECs:

5. The historical use of the adjacent parcel to the north as an automotive repair shop from 2004-2013.
6. The historical use of the adjacent property to the west of the subject property as railroad tracks from prior to 1884 until present.
7. The historical use of adjacent property to the southeast of the subject property as scrap yard from 1994-2002.
8. The historical and current use of the adjacent properties to the southwest as a coal yard, garage, and automotive repair operation. Currently a truck repair shop is located on a one of these properties.
9. The historical use of the adjacent property (across the railroad tracks) as a coffin manufacturer. This property was later operated, and remains in operation, as a junkyard.
10. This historical use a property located approximately 390 feet northwest of the

subject property as a casket hardware manufacturer and trim and door manufacturer.

4.0 ADDITIONAL PHASE II ACTIVITIES

Based on data gathered during this Phase I ESA, HR Green recommended completing a Phase II ESA to include soil and groundwater sampling for analytes including but not limited to the following: total extractable hydrocarbons (TEHs), volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), and Resource Conservation Recovery Act (RCRA) metals based on data gathered during this Phase I ESA. Phase II field investigation activities were conducted in accordance with the Phase II Sampling Plan (PIISP). The laboratory analytical reports can be found in Appendix C.

4.1 Soil Assessment

Five (5) soil borings were advanced on and around the subject property using a direct-push Geoprobe on November 11, 2015. Soils encountered were generally brown silty sand. Groundwater was encountered at an approximate depth of 14 feet below ground surface (bgs) across the subject property. Three (3) PCB wipe samples were also collected. Cinders were observed at 0-1' bgs in boring SB1, indicating the possible presence of PAH and RCRA metals contamination. Soil boring logs are provided in Appendix D.

The property owner indicated that lead acid batteries were stored in the general location of SB5. He stated that leaks were managed by dousing the area with baking soda in order to neutralize the acid and that any leaks would run toward the overhead door at that location. Soil sample SB5 at 0-6" was obtained from in-between the building slab and the concrete apron of the driveway servicing that door. This sample included surface material from the slab indoors as well as shallow soil.

Appendix F contains an HR Green Technical Memorandum on Assessment of Environmental Risk Related to Demolition at 411 and 501 15th St completed in September, 2015. This evaluation documented seven (7) to eight (8) 76-pound steel flask shipping containers in very poor condition on the adjacent west side Blum property (411 E 15th St). It is possible that mercury was transported across and/or stored on the subject property during the operational history resulting in elevated levels of mercury on the subject property.

The soil samples were field screened for the presence of organic vapors using a photo-ionization detector (PID). The soil core was then logged for geologic materials. Samples for SVOCs, PAHs, and RCRA metals were collected at sampling locations SB1, SB2, SB3, SB4, SB5, and SB6 in Range 1 (<2 feet bgs) soil as shown in Table 1. The full list of SVOC compounds was analyzed at location SB1 due to its position adjacent to the driveway where scrap material from the west side Blum property (411 E 15th St) would have been transported to the east side Blum property (subject property). The detected analytical results are summarized below.

Table 1
Phase II ESA Range 1 Soil Analytical Results – SVOCs, PAHs, and RCRA metals (mg/kg)

Parameter	SWS	SB1 0-2'	SB2 0-2'	SB3 0-2'	SB4 0-2'	SB5 0-6"	SB6 0-2'	Dup 2 (SB2 0-2')
SVOCs								
SVOCs	NA	No detections	NA	NA	NA	NA	NA	NA
PAHs								
Benzo[a]anthracene	3.1	NA	<0.112	0.150	<0.0114	0.435	0.134	0.187
Benzo[a]pyrene	0.31	NA	<0.112	0.132	<0.0114	0.824	0.147	0.241
Benzo[b]fluoranthene	3.1	NA	<0.112	0.252	<0.0114	0.583	0.229	0.522
Benzo[g,h,i]perylene	170	NA	<0.112	<0.115	<0.0114	0.660	0.124	0.130
Benzo[k]fluoranthene	31	NA	<0.112	<0.115	<0.0114	0.153	<0.114	0.169
Chrysene	310	NA	<0.112	0.199	<0.0114	0.865	0.172	0.311
Dibenz(a,h)anthracene	0.31	NA	<0.112	<0.115	<0.0114	0.141	<0.114	<0.104
Fluoranthene	2300	NA	<0.112	0.226	<0.0114	0.364	0.246	0.361
Indeno[1,2,3-cd]pyrene	3.1	NA	<0.112	<0.115	<0.0114	0.190	<0.114	0.115
Phenanthrene	1700	NA	<0.112	<0.115	<0.0114	0.183	<0.114	0.197
Pyrene	1700	NA	<0.112	0.167	<0.0114	0.768	0.194	0.294
RCRA Metals								
Arsenic	17	45.6	31.9	10.9	10.7	54.5	10.3	28.6
Barium	15000	181	243	89.3	84.9	246	115	154
Cadmium	70	<8.42	<4.98	<1.91	<1.81	6.89	<1.98	<5.04
Chromium	210 (Cr VI)	97.8	100	23.3	16.9	66.0	21.6	179
Lead	400	592	632	94.1	27.0	40,200	263	1280
Mercury	23	0.470	0.837	0.495	0.0837	0.205	0.267	0.995

Bold indicates concentration above laboratory reporting limits / Exceedances of Statewide Standards are **shaded** / NA – Not applicable / SWS – Statewide Standard

No SVOCs were detected above laboratory reporting limits in Range 1 soil at sample location SB1. Sample results identified eleven (11) PAH compounds above laboratory reporting limits. Only benzo[a]pyrene at location SB5 was identified at a level above the Statewide Standard. Sample results identified up to six (6) RCRA metals above laboratory reporting limits. Lead and arsenic at locations SB1, SB2, and SB5 were identified at levels above Statewide Standards.

The levels of lead, arsenic, and benzo[a]pyrene contamination detected at SB5 indicate that the surface material covering the slab indoors will likely need to be managed as hazardous waste, and should be mitigated prior to demolition.

Samples for TEH and VOC analysis were collected from all borings (except SB5) in Range 2 soil (>2 feet bgs) from just above the perceived water table. The analytical results are summarized in Table 2.

Table 2
Phase II ESA Range 2 Soil Analytical Results – TEHs and VOCs (mg/kg)

Parameter	SWS	SB1 12-14'	SB2 12-14'	SB3 12-14'	SB4 12-14'	SB6 12-14'
TEHs						
No detections						
VOCs						
No detections						

SWS – Statewide Standard

4.2 Groundwater Assessment

Groundwater samples were collected from each boring using a screen point sampler and a peristaltic pump with dedicated collection tubing. Groundwater was encountered at all borings (except SB5) and samples were analyzed for TEHs, VOCs, SVOCs, PAHs, and RCRA metals. The detected analytical results are summarized in Table 3.

Table 3
Phase II ESA Groundwater Analytical Results – TEHs, SVOCs, PAHs, and RCRA metals (mg/L)

Parameter	SWS PGW	SWS NPGW	SB1	SB2	SB3	SB4	SB6	Dup 1 (SB6)
TEHs								
TEH	NA	NA	<0.463	0.607 Z	<0.463	<0.463	<0.463	<0.463
SVOCs								
Bis(2-ethylhexyl) phthalate	0.006	0.25	0.189 B	NA	NA	NA	NA	NA
PAHs								
Benzo[a]anthracene	0.00024	0.0048	NA	0.000123	0.000195	<0.0000926	<0.0000926	<0.0000926
Benzo[a]pyrene	0.0002	0.001	NA	0.000103	0.000416	<0.0000926	<0.0000926	<0.0000926
Benzo[b]fluoranthene	0.00024	0.0048	NA	0.000167	0.000431	<0.0000926	<0.0000926	<0.0000926
Benzo[g,h,i]perylene	0.021	0.1	NA	0.000139	0.00107	<0.0000926	<0.0000926	<0.0000926
Benzo[k]fluoranthene	0.0024	0.048	NA	<0.0000926	0.000463	<0.0000926	<0.0000926	<0.0000926
Chrysene	0.024	0.48	NA	0.0000936	0.000197	<0.0000926	<0.0000926	<0.0000926
Dibenz(a,h)anthracene	0.000024	0.00048	NA	<0.0000926	0.00106	<0.0000926	<0.0000926	<0.0000926
Fluoranthene	0.28	1.4	NA	0.000109	<0.0000926	<0.0000926	<0.0000926	<0.0000926
Indeno[1,2,3-cd]pyrene	0.00024	0.0048	NA	0.000103	0.00109	<0.0000926	<0.0000926	<0.0000926
Pyrene	0.21	1	NA	0.0000933	<0.0000926	<0.0000926	<0.0000926	<0.0000926
VOCs								
Tetrachloroethene	0.005	1.7	0.0066	0.0101	0.00624	0.00629	0.0118	0.0127
Dissolved RCRA Metals								
Barium Dissolved	2	10	0.238	0.131	0.144	0.119	0.107	0.108

Bold indicates concentration above laboratory reporting limits / SWS - Statewide Standard, PGW - Protected groundwater / Exceedances of Statewide Standards are **shaded** / B - Compound was found in the blank and sample / NA – Not applicable / Z - The chromatographic response does not resemble a typical fuel pattern / NPGW - Non-protected groundwater

One (1) SVOC, one (1) TEH, ten (10) PAHs, one (1) VOC, and one (1) RCRA metal were detected above laboratory reporting limits in the collected groundwater samples. Benzo[a]pyrene, benzo[b]fluoranthene, dibenz(a,h)anthracene, indeno[1,2,3-cd]pyrene, and tetrachloroethene were detected *above* the protected groundwater Statewide Standards and *below* the non-protected groundwater Statewide Standards. The source

of tetrachloroethene exceedances in the groundwater samples is unknown and warrants further investigation.

Bis(2-ethylhexyl) phthalate was detected in the laboratory method blank, therefore, the detection in sample SB1 is not considered to be representative of conditions at the subject property and is considered a laboratory artifact. TEH was reported in sample SB2 with a laboratory flag indicating that the chromatographic response does not resemble a typical fuel pattern. Therefore, the TEH detection in sample SB2 is not considered to be representative of conditions at the subject property.

4.3 PCB Assessment

Three PCB wipe samples were collected as shown on Figure 2. The analytical results did not indicate the presence of PCBs in any of sampled areas on the subject property.

4.4 Risk Evaluations

Iowa Administrative Code 137.10(7), Sub rule 567 specifies cumulative risk criteria that must be complied with in order to acquire a no further action certificate (NFA) under the Iowa Land Recycling Program (LRP). Cumulative risk is the summation of cancer and non-cancer risks, determined separately, 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 (Calculator) on the IDNR Contaminated Sites Section website.

This Calculator assesses risk to potentially exposed parties, based on three standard exposure scenarios: site resident, site worker, and construction worker. The potential pathways for exposure under each of these scenarios are groundwater, soil, and air.

To evaluate compliance with the cumulative risk criteria, the results from the Calculator must not show increased cancer and non-cancer health risks. The cumulative risk criteria are as follows:

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

The values for input into the Calculator are chosen using one of the following representations of the dataset:

- The maximum value for each contaminant in each medium from multiple samples of each medium of concern; or,
- The 95% Upper Confidence Limit (95% UCL) of the mean contaminant concentration in each medium. This method requires a minimum of six samples.

For this report, risk was determined for a site resident, site worker, and construction worker using the maximum detected value for each contaminant.

Tables 4 and 5 summarize the cancer and non-cancer risk calculations. The straight sum for each media and exposure scenario (site resident, site worker, construction worker) is calculated in these tables. The City of Dubuque has an ordinance (Section No. 16-11-20) that prevents the installation of private wells unless public water is not available. Permits approval is required by the County's Health Department. Further, no wells may be installed within 500 feet of a LUST site. HR Green recommends notifying the County's Health Department of the groundwater results contained in this Phase II ESA to prevent the installation of new wells on the subject property or on adjacent properties. This action will sever the groundwater ingestion pathway for the subject property. Final risk calculation findings are determined after removal of values which are not considered to be complete exposure pathways. The Final Sum row of Tables 4 and 5 represents the actual applicable risk assessment results. Cumulative Risk calculation inputs and results are included in Appendix E

- **Range 1 Soil** The maximum values for the eleven (11) detected PAHs and six (6) detected RCRA metal compounds were input into the risk calculator.
- **Range 2 Soil** Risk calculations were not completed. There were no compounds of concern detected in Range 2 Soil.
- **Groundwater** The maximum values for the ten (10) detected PAHs, one (1) detected VOC, and one (1) detected RCRA metal compounds were input into the risk calculator.
- **Vapor Intrusion** Of the detected groundwater compounds, benzo[b]fluoranthene, chrysene, tetrachloroethene, and pyrene are sufficiently volatile and sufficiently toxic to present a vapor intrusion risk. The groundwater results were evaluated using the EPA Johnson and Ettinger Vapor Intrusion Model for Forward Calculation of Indoor Air Concentration¹ and the IDNR Cumulative Risk Calculator.

The maximum detected values of the compounds of concern for vapor intrusion were input into the vapor intrusion model for a **slab-on-grade building**. The highest indoor air concentration predicted by the model was then input into the Calculator.

Table 4
Phase II ESA IDNR Risk Calculator Cancer Summations

Media	Site Resident	Site Worker	Construction Worker
Range 1 Soil	1.13	0.26	0.02
Range 2 Soil	NA	NA	NA
Groundwater	1.87	0.38	0
Vapor Intrusion-SG	0	0	0
*Sum	3.00	0.64	0.02
**Final Sum	1.13	0.26	0.02

*Sum equals total calculated risk BEFORE excluding "severed" exposure pathways. Severed exposure pathways are greyed out. NA – not applicable. **Final Sum represents the actual applicable risk assessment results of all remaining human health risk exposure pathways. **A Final Sum of <1 represents acceptable cancer risk. A Final Sum of >1 represents unacceptable cancer risk.**

Note - ¹ http://www3.epa.gov/ceampub/learn2model/part-two/onsite/JnE_lite_forward.html

Table 5
Phase II ESA IDNR Risk Calculator Non-Cancer Summations

Site Resident														
Media	Heart	Liver	Blood	Kidney	Skin	Endoc	Eye	Immu	Nerve	GenUr	Respi	Other	Devel	Gastro
Range 1 Soil	102.22	0	0.85	100.63	1.73	0	0	0	0	0.1	0	0.95	100.47	2.58
Range 2 Soil	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GW	0.08	0.14	0	0.1	0	0	0	0	0.14	0	0	0	0.14	0
Vapor Intrusion-SG	0	0	0	0	0	0	0	0	0.09	0	0	0	0	0
*Sum	102.3	0.14	0.85	100.73	1.73	0	0	0	0.23	0.1	0	0.95	100.61	2.58
**Final Sum	102.22	0.14	0.85	100.63	0	0	0	0	0.09	0.1	0	0.95	100.47	2.58
Site Worker														
Media	Heart	Liver	Blood	Kidney	Skin	Endoc	Eye	Immu	Nerve	GenUr	Respi	Other	Devel	Gastro
Range 1 Soil	36.844	0	0.17	36.534	0.34	0	0	0	0	0.02	0	0.19	36.504	0.51
Range 2 Soil	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GW	0.01	0.02	0	0.01	0	0	0	0	0.02	0	0	0	0.02	0
Vapor Intrusion-SG	0	0	0	0	0	0	0	0	0.02	0	0	0	0	0
*Sum	36.854	0.02	0.17	36.544	0.34	0	0	0	0.04	0.02	0	0.19	36.524	0.51
**Final Sum	36.844	0	0.17	36.534	0.34	0	0	0	0.02	0.02	0	0.19	36.504	0.51
Construction Worker														
Media	Heart	Liver	Blood	Kidney	Skin	Endoc	Eye	Immu	Nerve	GenUr	Respi	Other	Devel	Gastro
Range 1 Soil	20.65	0	0.17	20.33	0.35	0	0	0	0	0.02	0	0.19	20.3	0.52
Range 2 Soil	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GW	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vapor Intrusion-SG	0	0	0	0	0	0	0	0	0.02	0	0	0	0	0
*Sum	20.65	0	0.17	20.33	0.35	0	0	0	0.02	0.02	0	0.19	20.3	0.52
**Final Sum	20.65	0	0.17	20.33	0.35	0	0	0	0.02	0.02	0	0.19	20.3	0.52

Endoc–endocrine system, Immu–immune system, GenUr–genitourinary system, Respi–respiratory system, Devel–developmental, SG–slab on grade

*Sum equals total calculated risk BEFORE excluding “severed” exposure pathways. Severed exposure pathways are greyed out.

**Final Sum represents the actual applicable risk assessment results of all remaining human health risk exposure pathways.

NA – Not applicable.

A Final Sum of <1 represents acceptable non-cancer risk. A Final Sum of >1 represents unacceptable non-cancer risk.

5.0 FINDINGS

- **Range 1 Soil:** Sample results identified eleven (11) PAH compounds above laboratory reporting limits. Only benzo[a]pyrene at location SB5 was identified at a level *above* Statewide Standards. Sample results identified up to six (6) RCRA metals above laboratory reporting limits. Lead and arsenic at locations SB1, SB2 and SB5 were identified at levels *above* Statewide Standards.

The concentrations detected present an *unacceptable* cancer and non-cancer risk for a site resident, site worker, and construction worker.

- **Range 2 Soil:** No VOC or TEH compounds were detected above laboratory reporting limits in Range 2 soil samples.
- **Groundwater:** Ten (10) PAHs, one (1) VOC, and one (1) RCRA metal were detected above laboratory reporting limits in the collected groundwater samples. Benzo[a]pyrene, benzo[b]fluoranthene, dibenz(a,h)anthracene, indeno[1,2,3-cd]pyrene, and tetrachloroethene were detected *above* protected groundwater Statewide Standards and *below* non-protected groundwater Statewide Standards.

The concentrations detected present an *unacceptable* cancer risk for a site resident. Non-cancer risk for site resident is *acceptable*. Risk factors for cancer and non-cancer risk for a site worker and construction worker were *acceptable*.

- **Vapor Intrusion:** Benzo[b]fluoranthene, chrysene, tetrachloroethene, and pyrene are sufficiently volatile and sufficiently toxic to present a vapor intrusion risk for slab-on-grade buildings.

The concentrations detected present an *acceptable* cancer and non-cancer risk for site resident, site worker, and construction worker.

- **PCB:** Analytical results did not indicate the presence of PCBs in the sampled areas on the subject property.

6.0 DISCUSSION AND RECOMMENDATIONS

The City of Dubuque has an ordinance (Section No. 16-11-20) that prevents the installation of private wells unless public water is not available. This requires permit approval by the County's Health Department. Further, no wells may be installed within 500 feet of a LUST site. HR Green recommends notifying the County's Health Department of the groundwater results contained in this Phase II ESA to prevent the installation of new wells on the subject property or adjacent properties. This action will sever the groundwater ingestion pathway for the subject property.

The results of this study indicate that the subject property is not suitable for future residential, commercial, or industrial purposes without remediation of shallow soil. The levels of lead, arsenic, and benzo[a]pyrene contamination detected at SB5 indicate that the surface material covering the slab indoors will likely need to be managed as hazardous waste, and should be mitigated prior to demolition. TCLP sampling (utilizing appropriate personal protective equipment) of this material is recommended in order to determine proper disposal and safety procedures.

Lead and arsenic exceedances were noted in several locations around the building footprint. Further Range 1 soil sampling should be conducted once demolition of existing structures is completed. While not found in exceedance during this study, mercury was also detected in Range 1 soil. Observations including improper storage of liquid mercury on the adjoining subject property indicate that further mercury sampling in Range 1 soil should also be conducted once demolition is completed.

The source of tetrachloroethene exceedances in the groundwater samples is unknown and warrants further investigation.

This report should be provided to Iowa Department of Natural Resources (IDNR) for guidance on the suitability of the subject property for the planned reuse as a park and associated parking lot.

In addition to the soil, groundwater, and PCB wipe samples, an asbestos assessment was completed on the subject property under a separate scope of work. Asbestos containing material (AC) was identified on the subject property in this assessment. Abatement of the ACM is required before the structure is demolished. The assessment report is included in Appendix C.

7.0 DATA VALIDATION AND USABILITY

Validation of the data collected during Phase II ESA of the subject property is included below.

7.1 Representativeness

All samples were collected in the manner and at locations specified in the Phase II Sampling Plan to accurately reflect the constituent concentrations in the media from

which they were taken at the time of sampling, except where noted in Section 4.0. Sample locations were biased to focus efforts on areas of the property with the greatest potential to impact adjacent properties.

Representativeness of the data was partially ensured by avoiding cross-contamination, adhering to standard sample handling and analytical procedures, and use of proper chain-of-custody documentation procedures.

7.2 Comparability

In order that one set of data may be compared with another, all analyses were performed by accepted EPA or state methods, and all analytical results were reported in similar concentration units and format.

7.3 Completeness

In order for a set of data to be used with confidence to make a decision, the data must be complete. The sampling design included the collection of samples from the area of the property most likely to impact adjacent properties. The samples recommended in the approved Phase II Sampling Plan were collected where possible and the data set is complete.

7.4 Sensitivity

Detection and quantification limits for sample data must be below the Statewide Standard action levels specified in IAC 137. Groundwater samples for the full list of SVOCs were not analyzed via SIM method therefore there were contaminants of concern that had laboratory RLs above Statewide Standards. HR Green has requested that the lab report be revised to include trace detections. HR Green will evaluate the trace detection report and issue a report revision if necessary.

7.5 Precision

Precision is a measure of the variability of a measurement system. Precision was assessed through the collection and evaluation of field quality control samples. Precision is typically an estimate by means of duplicate measurements and is expressed in terms of relative percent difference (RPD). The goal for precision of field duplicate results is ± 50 percent RPD for soil samples and ± 35 percent RPD for water samples.

The RPD between the primary and corresponding duplicate sample will be calculated using the below formula.

$$RPD = \left[\frac{2 \times (C_1 - C_2)}{(C_1 + C_2)} \right] \times 100$$

where: *RPD* = Relative percent difference

*C*₁ = Larger of the two observed measurement values

*C*₂ = Smaller of the two observed measurement values

One soil and one groundwater duplicate sample were collected from the subject property and analyzed for various parameters as described in the Phase II Sampling Plan. RPDs for groundwater samples and soil samples are shown in Table 5 and 6, respectively.

Table 6
Relative Percent Difference – Groundwater (mg/L)

Location	Parameter	Sample Concentration	Duplicate Concentration	RPD
SB6	VOCs			
	Tetrachloroethene	0.0118	0.0127	7.35
	RCRA Metals			
	Barium Dissolved	0.107	0.108	0.93

No RPDs were calculated for TEHs, PAHs, or VOCs in groundwater as there were no detections above the laboratory RLs and due to laboratory flags in the sample or duplicate sample.

Table 7
Relative Percent Difference – Soil (mg/kg)

Location	Parameter	Sample Concentration	Duplicate Concentration	RPD
SB2	SVOCs			
	Benzo[b]fluoranthene	<0.112	0.522	NC
	RCRA Metals			
	Arsenic	31.9	28.6	10.91
	Barium	243	154	44.84
	Chromium	100	179	56.63
	Lead	632	1280	67.78
	Mercury	0.837	0.995	17.25

NC: Not calculated

The RPD values for benzo(b)fluoranthene, chromium, and lead were outside of the precision goal for this project. This represents 37.5% of the RPD values calculated. The identified variability in soil sample and corresponding duplicate is believed to be a result of the discrete nature of soil contamination. The difference observed in these concentrations does not change the findings as they are both either above or below the compounds' applicable Statewide Standards.

The following methods were implemented in Phase II ESA with the goal of minimizing the RPDs.

- Take the duplicate in the immediate area of the original sample,
- collect the duplicate sample at the same time as the original sample, and
- avoid taking samples from areas of sand seams or other non-homogenous soils, whenever possible based on recovery.

7.6 Accuracy

Trip blanks were used to evaluate the purity of sample containers, chemical preservatives, and sampling equipment. No compounds were detected above laboratory reporting limits in the trip blank.

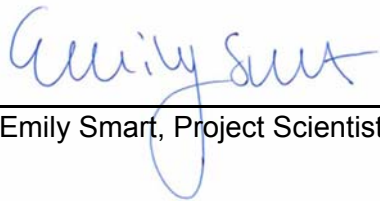
Several PAHs were detected in the field blank associated with the sampling event. The same PAHs were detected at similar levels in the sample from SB3. The lab chronicle shows that the sample from SB3 was run before the field blank sample. These field blank detections may be representative of a lab artifact.

All sampling and analytical activities were conducted in accordance with EPA approved methods or industry standard practices.

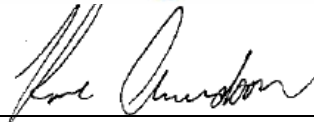
8.0 SIGNATURES OF ENVIRONMENTAL PROFESSIONALS

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 *subject 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:



Emily Smart, Project Scientist, Report Preparer



Rose Amundson, Staff Scientist II, Quality Control and Assurance



Scott Mattes, Project Director, Technical Review

APPENDIX A
QUALIFICATIONS



HR GREEN COMPANY PROFILE

HR Green, Inc. is a professional engineering and technical consulting firm serving clients in the public and private sectors. We are a privately held, employee-owned company, and fully committed to the success of our clients and the well-being of our nearly 400 employees.

HR Green builds **business accountability into every task we perform for our clients.** This means we partner with our clients to create viable facilities and healthy enterprises that are truly sustainable **for the client.**

We have been in business without interruption since 1913. We carefully target our technical services to address the most timely needs of society, and thus to succeed as sustainable businesses.

QUALIFICATIONS OF INDIVIDUALS PREPARING THIS REPORT

Ms. Rose Amundson is a Staff Scientist II with six years of experience working in the environmental field. Rose has completed work on Federal and State regulatory compliance reporting, Phase I and Phase II Environmental Site Assessments, site remediation planning and implementation, geographic information systems (GIS) projects, and surface water and groundwater modeling. Rose holds a Master's Degree in Hydrology from the University of Arizona and is 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) certified. Rose is also an Iowa Certified Groundwater Professional (#2103).

Ms. Emily Smart is a Project Scientist I with eight years of experience working as an environmental consultant. Emily's experience includes oversight on large scale remedial sites, management and execution of Phase I and Phase II Environmental Site Assessments, and Remedial Investigations, and State compliance reporting. Emily is a licensed professional geologist in the States of Washington (#2896) and Illinois (#196.001397) and holds a Master's Degree in Geoscience from the University of Iowa. Emily is also a certified groundwater professional (#2125) in the State of Iowa. Emily is 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) certified.

Mr. Scott Mattes is an Environmental Program Director with over 19 years of experience in the environmental engineering industry. Scott has extensive experience managing a range of environmental projects from RCRA Enforcement Actions, hazardous site demolitions, lead and asbestos management, construction permitting for airborne emission sources, environmental impact studies, Brownfield site clean-up and redevelopment, and State and Federal environmental compliance reporting. He also has widespread experience implementing geographic information systems (GIS) for numerous communities to assist with redevelopment planning, public involvement, and community-based asset management systems. Scott is a licensed Professional Environmental Engineer in Iowa (#18035) and Nebraska (#E-10197) and nationally recognized Certified Industrial Hygienist (#8408CP).

APPENDIX B

FIGURES

Figure 1 – Site Vicinity Map

Figure 2 – Sample Location Map



Legend

 Subject Property

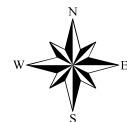
THE CITY OF
DUBUQUE
Masterpiece on the Mississippi

Figure 1

Site Location Map

501 East 15th Street

City of Dubuque
Dubuque County, Iowa



0 50 100

 Feet

1 inch = 100 feet


HRGreen



Legend

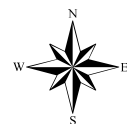
-  Sample Location
-  Subject Property

THE CITY OF
DUBUQUE
Masterpiece on the Mississippi

Figure 2 Sample Location Map

501 East 15th Street

City of Dubuque
Dubuque County, Iowa



0 25 50
 Feet
1 inch = 50 feet


HRGreen

APPENDIX C

LABORATORY REPORTS/CHAIN OF CUSTODY DOCUMENTATION ASBESTOS REPORT

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Cedar Falls

704 Enterprise Drive

Cedar Falls, IA 50613

Tel: (319)277-2401

TestAmerica Job ID: 310-68805-1

Client Project/Site: East Side Blum - Dubuque, IA

For:

HR Green, Inc

PO BOX 9009

Cedar Rapids, Iowa 52409

Attn: Emily Smart



Authorized for release by:

11/30/2015 6:04:37 PM

Shawn Hayes, Project Manager II

(319)277-2401

shawn.hayes@testamericainc.com

LINKS

Review your project
results through

TotalAccess

Have a Question?



Visit us at:

www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Job ID: 310-68805-1

Laboratory: TestAmerica Cedar Falls

Narrative

Job Narrative 310-68805-1

Comments

No additional comments.

Receipt

The samples were received on 11/12/2015 4:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.0° C and 2.7° C.

Receipt Exceptions

The following samples were submitted for analysis; however, were not listed on the Chain-of-Custody (COC): FB (310-68805-25) and Trip Blank (310-68805-26).

GC/MS VOA

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 310-109303 recovered above the upper control limit for sec-Butylbenzene (22.9 %D), N-Propylbenzene (21.1 %D), 1,2,4-Trimethylbenzene (20.9 %D), 1,3,5-Trimethylbenzene (21.7 %D), and tert-Butylbenzene (21.4 %D). The LCS associated with this CCV passes using CCV criteria for the affected analytes; therefore, the data have been reported.

Method(s) 8260C: The laboratory control sample (LCS) for batch analytical batch 310-109303 recovered outside control limits for the following analyte: 2,2-Dichloropropane. The analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 310-109631 recovered outside the control limit for Carbon tetrachloride(-22.3%D), Benzene(-20.9%D), and 1,1-Dichloropropene(-20.6%D). The LCS associated with this CCV passes CCV criteria for the affected analytes; therefore, the data have been reported.

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 310-109631 failed SPCC control limit for 1,1,2,2-Tetrachloroethane. The LCS associated with this CCV passes SPCC criteria for the affected analytes; therefore, the data have been reported.

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 310-109833 recovered above the upper control limit for Chlorodibromomethane(32.0%D) and Bromoform(43.2%D). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8260C: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for analytical batch 310-109833 recovered outside control limits for the following analytes: cis-1,3-Dichloropropene, Chlorobenzene, Chlorodibromomethane, 1,1,1-Trichloroethane, 2,2-Dichloropropane, Trichloroethene, and Ethylbenzene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 310-109785 recovered above the upper control limit for sec-Butylbenzene (25.8 %D), 1,3-Dichlorobenzene (21.3 %D), N-Propylbenzene (23.3 %D), 1,2,4-Trimethylbenzene (24.5 %D), 1,3,5-Trimethylbenzene (24.7 %D), 4-Chlorotoluene (20.1 %D) and tert-Butylbenzene (24.7 %D). The LCS associated with this CCV passes using CCV criteria for the affected analytes; therefore, the data have been reported.

Method(s) 8260C: The surrogate recovery for the LCS associated with analytical batch 310-109631 was outside the upper control limits. All associated sample surrogates fell within acceptance criteria; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 310-109084 recovered above the upper control limit for Di-n-octyl phthalate (21.5%D). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data

Case Narrative

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Job ID: 310-68805-1 (Continued)

Laboratory: TestAmerica Cedar Falls (Continued)

have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 310-109286 recovered above the upper control limit for Di-n-octyl phthalate (23.1%D). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The laboratory control sample (LCS) for batch preparation batch 310-108557 recovered outside control limits for the following analyte: 2,4-Dinitrophenol.

Method(s) 8270D: The following sample was diluted due to the nature of the sample matrix: SB1 0-2 (310-68805-15). Elevated reporting limits (RLs) are provided.

Method(s) 8270D: The method blank for preparation batch 310-108995 contained Bis(2-ethylhexyl) phthalate above the reporting limit (RL). Associated samples were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

Method(s) 8270D: Surrogate recovery for the following samples was outside control limits: SB1 0-2 (310-68805-15). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8270D SIM: The method blank for preparation batch 310-108556 contained Benzo[g,h,i]perylene, Dibenz(a,h)anthracene and Indeno[1,2,3-cd]pyrene above the reporting limit (RL). None of the samples associated with this method blank contained the target compound; therefore, re-extraction and/or re-analysis of samples were not performed.

Method(s) 8270D SIM: The following samples were diluted due to the nature of the sample matrix: SB6 0-2 (310-68805-2), SB5 0-1' (310-68805-8), Dupe 2 (310-68805-10) SB2 0-2 (310-68805-11) and SB3 0-2 (310-68805-23). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

Method(s) 8082A: The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 310-108552 recovered outside control limits for the following analytes: PCB-1016 and PCB-1260.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

Method(s) 6010C: The following samples were diluted due to the presence of an interferent: SB6 0-2 (310-68805-2), SB4 0-2 (310-68805-6), SB5 0-1' (310-68805-8), Dupe 2 (310-68805-10), SB2 0-2 (310-68805-11), SB1 0-2 (310-68805-15), and SB3 0-2 (310-68805-23). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-68805-1	SB6	Ground Water	11/11/15 08:15	11/12/15 16:30
310-68805-2	SB6 0-2	Soil	11/11/15 08:17	11/12/15 16:30
310-68805-3	SB6 12-14	Soil	11/11/15 08:20	11/12/15 16:30
310-68805-4	Dupe 1	Ground Water	11/11/15 00:00	11/12/15 16:30
310-68805-5	SB4	Ground Water	11/11/15 09:18	11/12/15 16:30
310-68805-6	SB4 0-2	Soil	11/11/15 09:15	11/12/15 16:30
310-68805-7	SB4 12-14	Soil	11/11/15 09:20	11/12/15 16:30
310-68805-8	SB5 0-1'	Soil	11/11/15 09:25	11/12/15 16:30
310-68805-9	SB2	Ground Water	11/11/15 10:20	11/12/15 16:30
310-68805-10	Dupe 2	Soil	11/11/15 00:00	11/12/15 16:30
310-68805-11	SB2 0-2	Soil	11/11/15 10:23	11/12/15 16:30
310-68805-12	SB2 12-14	Soil	11/11/15 10:27	11/12/15 16:30
310-68805-13	SB1	Ground Water	11/11/15 11:32	11/12/15 16:30
310-68805-14	Dupe 3	Ground Water	11/11/15 00:00	11/12/15 16:30
310-68805-15	SB1 0-2	Soil	11/11/15 11:18	11/12/15 16:30
310-68805-16	SB1 12-14	Soil	11/11/15 11:27	11/12/15 16:30
310-68805-17	Dupe 4	Soil	11/11/15 00:00	11/12/15 16:30
310-68805-18	PCB 1	Wipe	11/11/15 11:42	11/12/15 16:30
310-68805-19	PCB 2	Wipe	11/11/15 11:45	11/12/15 16:30
310-68805-20	PCB 3	Wipe	11/11/15 11:46	11/12/15 16:30
310-68805-21	Dup 5	Wipe	11/11/15 00:00	11/12/15 16:30
310-68805-22	SB3	Ground Water	11/11/15 12:03	11/12/15 16:30
310-68805-23	SB3 0-2	Soil	11/11/15 12:07	11/12/15 16:30
310-68805-24	SB3 12-14	Soil	11/11/15 12:12	11/12/15 16:30
310-68805-25	FB	Ground Water	11/11/15 00:00	11/12/15 16:30
310-68805-26	Trip Blank	Water	11/11/15 00:00	11/12/15 16:30

TestAmerica Cedar Falls

Detection Summary

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: SB6

Lab Sample ID: 310-68805-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Tetrachloroethene	11.8		1.00		ug/L	1			8260C	Total/NA
Barium	0.107		0.00200		mg/L	1			6020A	Dissolved

Client Sample ID: SB6 0-2

Lab Sample ID: 310-68805-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Benzo[a]anthracene	0.134	F1	0.114		mg/Kg	10		☼	8270D SIM	Total/NA
Benzo[a]pyrene	0.147	F1	0.114		mg/Kg	10		☼	8270D SIM	Total/NA
Benzo[b]fluoranthene	0.229	F1	0.114		mg/Kg	10		☼	8270D SIM	Total/NA
Benzo[g,h,i]perylene	0.124	F1	0.114		mg/Kg	10		☼	8270D SIM	Total/NA
Chrysene	0.172	F1	0.114		mg/Kg	10		☼	8270D SIM	Total/NA
Fluoranthene	0.246	F1	0.114		mg/Kg	10		☼	8270D SIM	Total/NA
Pyrene	0.194	F1	0.114		mg/Kg	10		☼	8270D SIM	Total/NA
Arsenic	10.3		7.91		mg/Kg	2		☼	6010C	Total/NA
Barium	115	F1	0.989		mg/Kg	2		☼	6010C	Total/NA
Chromium	21.6		1.98		mg/Kg	2		☼	6010C	Total/NA
Lead	263		9.89		mg/Kg	2		☼	6010C	Total/NA
Mercury	0.267		0.0207		mg/Kg	1		☼	7471B	Total/NA

Client Sample ID: SB6 12-14

Lab Sample ID: 310-68805-3

No Detections.

Client Sample ID: Dupe 1

Lab Sample ID: 310-68805-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Hexane	1.48		1.00		ug/L	1			8260C	Total/NA
Tetrachloroethene	12.7		1.00		ug/L	1			8260C	Total/NA
Barium	0.108		0.00200		mg/L	1			6020A	Dissolved

Client Sample ID: SB4

Lab Sample ID: 310-68805-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Tetrachloroethene	6.29		1.00		ug/L	1			8260C	Total/NA
Barium	0.119		0.00200		mg/L	1			6020A	Dissolved
Selenium	0.00600		0.00500		mg/L	1			6020A	Dissolved

Client Sample ID: SB4 0-2

Lab Sample ID: 310-68805-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Arsenic	10.7		7.26		mg/Kg	2		☼	6010C	Total/NA
Barium	84.9		0.907		mg/Kg	2		☼	6010C	Total/NA
Chromium	16.9		1.81		mg/Kg	2		☼	6010C	Total/NA
Lead	27.0		9.07		mg/Kg	2		☼	6010C	Total/NA
Mercury	0.0837		0.0223		mg/Kg	1		☼	7471B	Total/NA

Client Sample ID: SB4 12-14

Lab Sample ID: 310-68805-7

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Cedar Falls

Detection Summary

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: SB5 0-1'

Lab Sample ID: 310-68805-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	0.435		0.103		mg/Kg	10	☼	8270D SIM	Total/NA
Benzo[a]pyrene	0.824		0.103		mg/Kg	10	☼	8270D SIM	Total/NA
Benzo[b]fluoranthene	0.583		0.103		mg/Kg	10	☼	8270D SIM	Total/NA
Benzo[g,h,i]perylene	0.660		0.103		mg/Kg	10	☼	8270D SIM	Total/NA
Benzo[k]fluoranthene	0.153		0.103		mg/Kg	10	☼	8270D SIM	Total/NA
Chrysene	0.865		0.103		mg/Kg	10	☼	8270D SIM	Total/NA
Dibenz(a,h)anthracene	0.141		0.103		mg/Kg	10	☼	8270D SIM	Total/NA
Fluoranthene	0.364		0.103		mg/Kg	10	☼	8270D SIM	Total/NA
Indeno[1,2,3-cd]pyrene	0.190		0.103		mg/Kg	10	☼	8270D SIM	Total/NA
Phenanthrene	0.183		0.103		mg/Kg	10	☼	8270D SIM	Total/NA
Pyrene	0.768		0.103		mg/Kg	10	☼	8270D SIM	Total/NA
Arsenic	54.5		17.9		mg/Kg	5	☼	6010C	Total/NA
Barium	246		2.24		mg/Kg	5	☼	6010C	Total/NA
Cadmium	6.89		4.48		mg/Kg	5	☼	6010C	Total/NA
Chromium	66.0		4.48		mg/Kg	5	☼	6010C	Total/NA
Lead	40200		22.4		mg/Kg	5	☼	6010C	Total/NA
Mercury	0.205		0.0187		mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: SB2

Lab Sample ID: 310-68805-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	10.1		1.00		ug/L	1		8260C	Total/NA
Benzo[a]anthracene	0.123		0.0926		ug/L	1		8270D SIM	Total/NA
Benzo[a]pyrene	0.103		0.0926		ug/L	1		8270D SIM	Total/NA
Benzo[b]fluoranthene	0.167		0.0926		ug/L	1		8270D SIM	Total/NA
Benzo[g,h,i]perylene	0.139		0.0926		ug/L	1		8270D SIM	Total/NA
Chrysene	0.0936		0.0926		ug/L	1		8270D SIM	Total/NA
Fluoranthene	0.109		0.0926		ug/L	1		8270D SIM	Total/NA
Indeno[1,2,3-cd]pyrene	0.103		0.0926		ug/L	1		8270D SIM	Total/NA
Pyrene	0.0933		0.0926		ug/L	1		8270D SIM	Total/NA
Total Extractable Hydrocarbons	607	Z	463		ug/L	1		OA-2	Total/NA
Barium	0.131		0.00200		mg/L	1		6020A	Dissolved

Client Sample ID: Dupe 2

Lab Sample ID: 310-68805-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	0.187		0.104		mg/Kg	10	☼	8270D SIM	Total/NA
Benzo[a]pyrene	0.241		0.104		mg/Kg	10	☼	8270D SIM	Total/NA
Benzo[b]fluoranthene	0.522		0.104		mg/Kg	10	☼	8270D SIM	Total/NA
Benzo[g,h,i]perylene	0.130		0.104		mg/Kg	10	☼	8270D SIM	Total/NA
Benzo[k]fluoranthene	0.169		0.104		mg/Kg	10	☼	8270D SIM	Total/NA
Chrysene	0.311		0.104		mg/Kg	10	☼	8270D SIM	Total/NA
Fluoranthene	0.361		0.104		mg/Kg	10	☼	8270D SIM	Total/NA
Indeno[1,2,3-cd]pyrene	0.115		0.104		mg/Kg	10	☼	8270D SIM	Total/NA
Phenanthrene	0.197		0.104		mg/Kg	10	☼	8270D SIM	Total/NA
Pyrene	0.294		0.104		mg/Kg	10	☼	8270D SIM	Total/NA
Arsenic	28.6		20.2		mg/Kg	5	☼	6010C	Total/NA
Barium	154		2.52		mg/Kg	5	☼	6010C	Total/NA
Chromium	179		5.04		mg/Kg	5	☼	6010C	Total/NA
Lead	1280		25.2		mg/Kg	5	☼	6010C	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Cedar Falls

Detection Summary

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: Dupe 2 (Continued)

Lab Sample ID: 310-68805-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Mercury	0.995		0.0983		mg/Kg	5	☼	7471B	Total/NA

Client Sample ID: SB2 0-2

Lab Sample ID: 310-68805-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	31.9		19.9		mg/Kg	5	☼	6010C	Total/NA
Barium	243		2.49		mg/Kg	5	☼	6010C	Total/NA
Chromium	100		4.98		mg/Kg	5	☼	6010C	Total/NA
Lead	632		24.9		mg/Kg	5	☼	6010C	Total/NA
Mercury	0.837		0.101		mg/Kg	5	☼	7471B	Total/NA

Client Sample ID: SB2 12-14

Lab Sample ID: 310-68805-12

No Detections.

Client Sample ID: SB1

Lab Sample ID: 310-68805-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	6.60		1.00		ug/L	1		8260C	Total/NA
Bis(2-ethylhexyl) phthalate	189	B	50.0		ug/L	5		8270D	Total/NA
Barium	0.238		0.00200		mg/L	1		6020A	Dissolved

Client Sample ID: Dupe 3

Lab Sample ID: 310-68805-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	165	B	50.0		ug/L	5		8270D	Total/NA

Client Sample ID: SB1 0-2

Lab Sample ID: 310-68805-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	45.6		33.7		mg/Kg	10	☼	6010C	Total/NA
Barium	181		4.21		mg/Kg	10	☼	6010C	Total/NA
Chromium	97.8		8.42		mg/Kg	10	☼	6010C	Total/NA
Lead	592		42.1		mg/Kg	10	☼	6010C	Total/NA
Mercury	0.470		0.0202		mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: SB1 12-14

Lab Sample ID: 310-68805-16

No Detections.

Client Sample ID: Dupe 4

Lab Sample ID: 310-68805-17

No Detections.

Client Sample ID: PCB 1

Lab Sample ID: 310-68805-18

No Detections.

Client Sample ID: PCB 2

Lab Sample ID: 310-68805-19

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Cedar Falls

Detection Summary

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: PCB 3

Lab Sample ID: 310-68805-20

No Detections.

Client Sample ID: Dup 5

Lab Sample ID: 310-68805-21

No Detections.

Client Sample ID: SB3

Lab Sample ID: 310-68805-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	6.24		1.00		ug/L	1		8260C	Total/NA
Benzo[a]anthracene	0.195		0.0926		ug/L	1		8270D SIM	Total/NA
Benzo[a]pyrene	0.416		0.0926		ug/L	1		8270D SIM	Total/NA
Benzo[b]fluoranthene	0.431		0.0926		ug/L	1		8270D SIM	Total/NA
Benzo[g,h,i]perylene	1.07		0.0926		ug/L	1		8270D SIM	Total/NA
Benzo[k]fluoranthene	0.463		0.0926		ug/L	1		8270D SIM	Total/NA
Chrysene	0.197		0.0926		ug/L	1		8270D SIM	Total/NA
Dibenz(a,h)anthracene	1.06		0.0926		ug/L	1		8270D SIM	Total/NA
Indeno[1,2,3-cd]pyrene	1.09		0.0926		ug/L	1		8270D SIM	Total/NA
Barium	0.144		0.00200		mg/L	1		6020A	Dissolved

Client Sample ID: SB3 0-2

Lab Sample ID: 310-68805-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	0.150		0.115		mg/Kg	10	✱	8270D SIM	Total/NA
Benzo[a]pyrene	0.132		0.115		mg/Kg	10	✱	8270D SIM	Total/NA
Benzo[b]fluoranthene	0.252		0.115		mg/Kg	10	✱	8270D SIM	Total/NA
Chrysene	0.199		0.115		mg/Kg	10	✱	8270D SIM	Total/NA
Fluoranthene	0.226		0.115		mg/Kg	10	✱	8270D SIM	Total/NA
Pyrene	0.167		0.115		mg/Kg	10	✱	8270D SIM	Total/NA
Arsenic	10.9		7.66		mg/Kg	2	✱	6010C	Total/NA
Barium	89.3		0.957		mg/Kg	2	✱	6010C	Total/NA
Chromium	23.3		1.91		mg/Kg	2	✱	6010C	Total/NA
Lead	94.1		9.57		mg/Kg	2	✱	6010C	Total/NA
Mercury	0.495		0.0208		mg/Kg	1	✱	7471B	Total/NA

Client Sample ID: SB3 12-14

Lab Sample ID: 310-68805-24

No Detections.

Client Sample ID: FB

Lab Sample ID: 310-68805-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	1.50		1.00		ug/L	1		8260C	Total/NA
Benzo[a]anthracene	0.158		0.0926		ug/L	1		8270D SIM	Total/NA
Benzo[a]pyrene	0.483		0.0926		ug/L	1		8270D SIM	Total/NA
Benzo[b]fluoranthene	0.405		0.0926		ug/L	1		8270D SIM	Total/NA
Benzo[g,h,i]perylene	1.26		0.0926		ug/L	1		8270D SIM	Total/NA
Benzo[k]fluoranthene	0.541		0.0926		ug/L	1		8270D SIM	Total/NA
Chrysene	0.186		0.0926		ug/L	1		8270D SIM	Total/NA
Dibenz(a,h)anthracene	1.34		0.0926		ug/L	1		8270D SIM	Total/NA
Indeno[1,2,3-cd]pyrene	1.34		0.0926		ug/L	1		8270D SIM	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Cedar Falls

Detection Summary

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: Trip Blank

Lab Sample ID: 310-68805-26

☐ No Detections.

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This Detection Summary does not include radiochemical test results.

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: SB6

Date Collected: 11/11/15 08:15

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-1

Matrix: Ground Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			11/19/15 13:12	1
Benzene	<0.500		0.500		ug/L			11/19/15 13:12	1
Bromobenzene	<1.00		1.00		ug/L			11/19/15 13:12	1
Bromochloromethane	<5.00		5.00		ug/L			11/19/15 13:12	1
Bromodichloromethane	<1.00		1.00		ug/L			11/19/15 13:12	1
Bromoform	<5.00		5.00		ug/L			11/19/15 13:12	1
Bromomethane	<4.00		4.00		ug/L			11/19/15 13:12	1
2-Butanone (MEK)	<10.0		10.0		ug/L			11/19/15 13:12	1
n-Butylbenzene	<1.00		1.00		ug/L			11/19/15 13:12	1
sec-Butylbenzene	<1.00		1.00		ug/L			11/19/15 13:12	1
tert-Butylbenzene	<1.00		1.00		ug/L			11/19/15 13:12	1
Carbon disulfide	<1.00		1.00		ug/L			11/19/15 13:12	1
Carbon tetrachloride	<2.00		2.00		ug/L			11/19/15 13:12	1
Chlorobenzene	<1.00		1.00		ug/L			11/19/15 13:12	1
Chlorodibromomethane	<5.00		5.00		ug/L			11/19/15 13:12	1
Chloroethane	<4.00		4.00		ug/L			11/19/15 13:12	1
Chloroform	<1.00		1.00		ug/L			11/19/15 13:12	1
Chloromethane	<3.00		3.00		ug/L			11/19/15 13:12	1
2-Chlorotoluene	<1.00		1.00		ug/L			11/19/15 13:12	1
4-Chlorotoluene	<1.00		1.00		ug/L			11/19/15 13:12	1
1,2-Dibromo-3-Chloropropane	<10.0		10.0		ug/L			11/19/15 13:12	1
1,2-Dibromoethane (EDB)	<10.0		10.0		ug/L			11/19/15 13:12	1
Dibromomethane	<1.00		1.00		ug/L			11/19/15 13:12	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			11/19/15 13:12	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			11/19/15 13:12	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			11/19/15 13:12	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			11/19/15 13:12	1
1,1-Dichloroethane	<1.00		1.00		ug/L			11/19/15 13:12	1
1,2-Dichloroethane	<1.00		1.00		ug/L			11/19/15 13:12	1
1,1-Dichloroethene	<2.00		2.00		ug/L			11/19/15 13:12	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			11/19/15 13:12	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			11/19/15 13:12	1
1,2-Dichloropropane	<1.00		1.00		ug/L			11/19/15 13:12	1
1,3-Dichloropropane	<1.00		1.00		ug/L			11/19/15 13:12	1
2,2-Dichloropropane	<4.00 *		4.00		ug/L			11/19/15 13:12	1
1,1-Dichloropropene	<1.00		1.00		ug/L			11/19/15 13:12	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			11/19/15 13:12	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			11/19/15 13:12	1
Ethylbenzene	<1.00		1.00		ug/L			11/19/15 13:12	1
Hexachlorobutadiene	<5.00		5.00		ug/L			11/19/15 13:12	1
Hexane	<1.00		1.00		ug/L			11/19/15 13:12	1
Isopropylbenzene	<1.00		1.00		ug/L			11/19/15 13:12	1
p-Isopropyltoluene	<1.00		1.00		ug/L			11/19/15 13:12	1
Methylene Chloride	<5.00		5.00		ug/L			11/19/15 13:12	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			11/19/15 13:12	1
Naphthalene	<5.00		5.00		ug/L			11/19/15 13:12	1
N-Propylbenzene	<1.00		1.00		ug/L			11/19/15 13:12	1
Styrene	<1.00		1.00		ug/L			11/19/15 13:12	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			11/19/15 13:12	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: SB6

Date Collected: 11/11/15 08:15

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-1

Matrix: Ground Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			11/19/15 13:12	1
Tetrachloroethene	11.8		1.00		ug/L			11/19/15 13:12	1
Toluene	<1.00		1.00		ug/L			11/19/15 13:12	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			11/19/15 13:12	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			11/19/15 13:12	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			11/19/15 13:12	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			11/19/15 13:12	1
Trichloroethene	<1.00		1.00		ug/L			11/19/15 13:12	1
Trichlorofluoromethane	<4.00		4.00		ug/L			11/19/15 13:12	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			11/19/15 13:12	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			11/19/15 13:12	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			11/19/15 13:12	1
Vinyl chloride	<1.00		1.00		ug/L			11/19/15 13:12	1
Xylenes, Total	<3.00		3.00		ug/L			11/19/15 13:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		75 - 120		11/19/15 13:12	1
Dibromofluoromethane (Surr)	96		75 - 120		11/19/15 13:12	1
Toluene-d8 (Surr)	99		80 - 120		11/19/15 13:12	1

Method: 8270D SIM - Semivolatile Organic Compound (GC/MS SIM LL)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 13:25	1
Acenaphthylene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 13:25	1
Anthracene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 13:25	1
Benzo[a]anthracene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 13:25	1
Benzo[a]pyrene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 13:25	1
Benzo[b]fluoranthene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 13:25	1
Benzo[g,h,i]perylene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 13:25	1
Benzo[k]fluoranthene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 13:25	1
Chrysene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 13:25	1
Dibenz(a,h)anthracene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 13:25	1
Fluoranthene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 13:25	1
Fluorene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 13:25	1
Indeno[1,2,3-cd]pyrene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 13:25	1
2-Methylnaphthalene	<0.463		0.463		ug/L		11/13/15 14:23	11/16/15 13:25	1
Naphthalene	<0.463		0.463		ug/L		11/13/15 14:23	11/16/15 13:25	1
Phenanthrene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 13:25	1
Pyrene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 13:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	48		10 - 110	11/13/15 14:23	11/16/15 13:25	1
Nitrobenzene-d5 (Surr)	44		10 - 110	11/13/15 14:23	11/16/15 13:25	1
Terphenyl-d14 (Surr)	66		20 - 110	11/13/15 14:23	11/16/15 13:25	1

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<278		278		ug/L		11/16/15 16:44	11/17/15 17:36	1
Diesel	<278		278		ug/L		11/16/15 16:44	11/17/15 17:36	1
Waste Oil	<278		278		ug/L		11/16/15 16:44	11/17/15 17:36	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: SB6

Date Collected: 11/11/15 08:15

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-1

Matrix: Ground Water

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Extractable Hydrocarbons	<463		463		ug/L		11/16/15 16:44	11/17/15 17:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Octacosane	74		45 - 140				11/16/15 16:44	11/17/15 17:36	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200		mg/L		11/13/15 07:52	11/17/15 16:12	1
Barium	0.107		0.00200		mg/L		11/13/15 07:52	11/16/15 17:45	1
Cadmium	<0.000500		0.000500		mg/L		11/13/15 07:52	11/16/15 17:45	1
Chromium	<0.00500		0.00500		mg/L		11/13/15 07:52	11/16/15 17:45	1
Lead	<0.000500		0.000500		mg/L		11/13/15 07:52	11/16/15 17:45	1
Selenium	<0.00500		0.00500		mg/L		11/13/15 07:52	11/16/15 17:45	1
Silver	<0.00100		0.00100		mg/L		11/13/15 07:52	11/16/15 17:45	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		11/16/15 12:31	11/17/15 12:45	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: SB6 0-2

Date Collected: 11/11/15 08:17

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-2

Matrix: Soil

Percent Solids: 83.6

Method: 8270D SIM - Semivolatile Organic Compound (GC/MS SIM LL)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.114		0.114		mg/Kg	☼	11/17/15 08:54	11/18/15 15:38	10
Acenaphthylene	<0.114		0.114		mg/Kg	☼	11/17/15 08:54	11/18/15 15:38	10
Anthracene	<0.114	F1	0.114		mg/Kg	☼	11/17/15 08:54	11/18/15 15:38	10
Benzo[a]anthracene	0.134	F1	0.114		mg/Kg	☼	11/17/15 08:54	11/18/15 15:38	10
Benzo[a]pyrene	0.147	F1	0.114		mg/Kg	☼	11/17/15 08:54	11/18/15 15:38	10
Benzo[b]fluoranthene	0.229	F1	0.114		mg/Kg	☼	11/17/15 08:54	11/18/15 15:38	10
Benzo[g,h,i]perylene	0.124	F1	0.114		mg/Kg	☼	11/17/15 08:54	11/18/15 15:38	10
Benzo[k]fluoranthene	<0.114	F1	0.114		mg/Kg	☼	11/17/15 08:54	11/18/15 15:38	10
Chrysene	0.172	F1	0.114		mg/Kg	☼	11/17/15 08:54	11/18/15 15:38	10
Dibenz(a,h)anthracene	<0.114		0.114		mg/Kg	☼	11/17/15 08:54	11/18/15 15:38	10
Fluoranthene	0.246	F1	0.114		mg/Kg	☼	11/17/15 08:54	11/18/15 15:38	10
Fluorene	<0.114		0.114		mg/Kg	☼	11/17/15 08:54	11/18/15 15:38	10
Indeno[1,2,3-cd]pyrene	<0.114	F1	0.114		mg/Kg	☼	11/17/15 08:54	11/18/15 15:38	10
2-Methylnaphthalene	<0.114	F2	0.114		mg/Kg	☼	11/17/15 08:54	11/18/15 15:38	10
Naphthalene	<0.114		0.114		mg/Kg	☼	11/17/15 08:54	11/18/15 15:38	10
Phenanthrene	<0.114	F1	0.114		mg/Kg	☼	11/17/15 08:54	11/18/15 15:38	10
Pyrene	0.194	F1	0.114		mg/Kg	☼	11/17/15 08:54	11/18/15 15:38	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	65		10 - 110				11/17/15 08:54	11/18/15 15:38	10
Nitrobenzene-d5 (Surr)	63		10 - 110				11/17/15 08:54	11/18/15 15:38	10
Terphenyl-d14 (Surr)	59		20 - 110				11/17/15 08:54	11/18/15 15:38	10

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10.3		7.91		mg/Kg	☼	11/13/15 15:56	11/13/15 18:11	2
Barium	115	F1	0.989		mg/Kg	☼	11/13/15 15:56	11/13/15 18:11	2
Cadmium	<1.98		1.98		mg/Kg	☼	11/13/15 15:56	11/13/15 18:11	2
Chromium	21.6		1.98		mg/Kg	☼	11/13/15 15:56	11/13/15 18:11	2
Lead	263		9.89		mg/Kg	☼	11/13/15 15:56	11/13/15 18:11	2
Selenium	<14.8		14.8		mg/Kg	☼	11/13/15 15:56	11/13/15 18:11	2
Silver	<1.98		1.98		mg/Kg	☼	11/13/15 15:56	11/13/15 18:11	2

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.267		0.0207		mg/Kg	☼	11/12/15 15:51	11/18/15 10:48	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: SB6 12-14

Date Collected: 11/11/15 08:20

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-3

Matrix: Soil

Percent Solids: 90.6

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<41.3		41.3		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
Benzene	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
Bromobenzene	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
Bromochloromethane	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
Bromodichloromethane	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
Bromoform	<8.26		8.26		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
Bromomethane	<16.5		16.5		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
2-Butanone (MEK)	<41.3		41.3		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
n-Butylbenzene	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
sec-Butylbenzene	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
tert-Butylbenzene	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
Carbon disulfide	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
Carbon tetrachloride	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
Chlorobenzene	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
Chlorodibromomethane	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
Chloroethane	<16.5		16.5		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
Chloroform	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
Chloromethane	<16.5		16.5		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
2-Chlorotoluene	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
4-Chlorotoluene	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
1,2-Dibromo-3-Chloropropane	<41.3		41.3		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
1,2-Dibromoethane (EDB)	<41.3		41.3		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
Dibromomethane	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
1,2-Dichlorobenzene	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
1,3-Dichlorobenzene	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
1,4-Dichlorobenzene	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
Dichlorodifluoromethane	<12.4		12.4		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
1,1-Dichloroethane	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
1,2-Dichloroethane	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
1,1-Dichloroethene	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
cis-1,2-Dichloroethene	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
trans-1,2-Dichloroethene	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
1,2-Dichloropropane	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
1,3-Dichloropropane	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
2,2-Dichloropropane	<16.5		16.5		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
1,1-Dichloropropene	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
cis-1,3-Dichloropropene	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
trans-1,3-Dichloropropene	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
Ethylbenzene	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
Hexachlorobutadiene	<20.7		20.7		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
Hexane	<20.7		20.7		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
Isopropylbenzene	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
p-Isopropyltoluene	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
Methylene Chloride	<41.3		41.3		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
Methyl tert-butyl ether	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
Naphthalene	<20.7		20.7		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
N-Propylbenzene	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
Styrene	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
1,1,1,2-Tetrachloroethane	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: SB6 12-14

Date Collected: 11/11/15 08:20

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-3

Matrix: Soil

Percent Solids: 90.6

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
Tetrachloroethene	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
Toluene	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
1,2,3-Trichlorobenzene	<20.7		20.7		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
1,2,4-Trichlorobenzene	<20.7		20.7		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
1,1,1-Trichloroethane	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
1,1,2-Trichloroethane	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
Trichloroethene	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
Trichlorofluoromethane	<16.5		16.5		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
1,2,3-Trichloropropane	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
1,2,4-Trimethylbenzene	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
1,3,5-Trimethylbenzene	<4.13		4.13		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
Vinyl chloride	<12.4		12.4		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
Xylenes, Total	<12.4		12.4		ug/Kg	☼	11/20/15 07:59	11/21/15 00:28	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		80 - 120				11/20/15 07:59	11/21/15 00:28	1
Dibromofluoromethane (Surr)	90		75 - 125				11/20/15 07:59	11/21/15 00:28	1
Toluene-d8 (Surr)	101		80 - 120				11/20/15 07:59	11/21/15 00:28	1

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<9.56		9.56		mg/Kg		11/13/15 15:29	11/17/15 18:42	1
Diesel	<9.56		9.56		mg/Kg		11/13/15 15:29	11/17/15 18:42	1
Waste Oil	<9.56		9.56		mg/Kg		11/13/15 15:29	11/17/15 18:42	1
Total Extractable Hydrocarbons	<14.3		14.3		mg/Kg		11/13/15 15:29	11/17/15 18:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Octacosane	81		40 - 135				11/13/15 15:29	11/17/15 18:42	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: Dupe 1
Date Collected: 11/11/15 00:00
Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-4
Matrix: Ground Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			11/19/15 13:34	1
Benzene	<0.500		0.500		ug/L			11/19/15 13:34	1
Bromobenzene	<1.00		1.00		ug/L			11/19/15 13:34	1
Bromochloromethane	<5.00		5.00		ug/L			11/19/15 13:34	1
Bromodichloromethane	<1.00		1.00		ug/L			11/19/15 13:34	1
Bromoform	<5.00		5.00		ug/L			11/19/15 13:34	1
Bromomethane	<4.00		4.00		ug/L			11/19/15 13:34	1
2-Butanone (MEK)	<10.0		10.0		ug/L			11/19/15 13:34	1
n-Butylbenzene	<1.00		1.00		ug/L			11/19/15 13:34	1
sec-Butylbenzene	<1.00		1.00		ug/L			11/19/15 13:34	1
tert-Butylbenzene	<1.00		1.00		ug/L			11/19/15 13:34	1
Carbon disulfide	<1.00		1.00		ug/L			11/19/15 13:34	1
Carbon tetrachloride	<2.00		2.00		ug/L			11/19/15 13:34	1
Chlorobenzene	<1.00		1.00		ug/L			11/19/15 13:34	1
Chlorodibromomethane	<5.00		5.00		ug/L			11/19/15 13:34	1
Chloroethane	<4.00		4.00		ug/L			11/19/15 13:34	1
Chloroform	<1.00		1.00		ug/L			11/19/15 13:34	1
Chloromethane	<3.00		3.00		ug/L			11/19/15 13:34	1
2-Chlorotoluene	<1.00		1.00		ug/L			11/19/15 13:34	1
4-Chlorotoluene	<1.00		1.00		ug/L			11/19/15 13:34	1
1,2-Dibromo-3-Chloropropane	<10.0		10.0		ug/L			11/19/15 13:34	1
1,2-Dibromoethane (EDB)	<10.0		10.0		ug/L			11/19/15 13:34	1
Dibromomethane	<1.00		1.00		ug/L			11/19/15 13:34	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			11/19/15 13:34	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			11/19/15 13:34	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			11/19/15 13:34	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			11/19/15 13:34	1
1,1-Dichloroethane	<1.00		1.00		ug/L			11/19/15 13:34	1
1,2-Dichloroethane	<1.00		1.00		ug/L			11/19/15 13:34	1
1,1-Dichloroethene	<2.00		2.00		ug/L			11/19/15 13:34	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			11/19/15 13:34	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			11/19/15 13:34	1
1,2-Dichloropropane	<1.00		1.00		ug/L			11/19/15 13:34	1
1,3-Dichloropropane	<1.00		1.00		ug/L			11/19/15 13:34	1
2,2-Dichloropropane	<4.00 *		4.00		ug/L			11/19/15 13:34	1
1,1-Dichloropropene	<1.00		1.00		ug/L			11/19/15 13:34	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			11/19/15 13:34	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			11/19/15 13:34	1
Ethylbenzene	<1.00		1.00		ug/L			11/19/15 13:34	1
Hexachlorobutadiene	<5.00		5.00		ug/L			11/19/15 13:34	1
Hexane	1.48		1.00		ug/L			11/19/15 13:34	1
Isopropylbenzene	<1.00		1.00		ug/L			11/19/15 13:34	1
p-Isopropyltoluene	<1.00		1.00		ug/L			11/19/15 13:34	1
Methylene Chloride	<5.00		5.00		ug/L			11/19/15 13:34	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			11/19/15 13:34	1
Naphthalene	<5.00		5.00		ug/L			11/19/15 13:34	1
N-Propylbenzene	<1.00		1.00		ug/L			11/19/15 13:34	1
Styrene	<1.00		1.00		ug/L			11/19/15 13:34	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			11/19/15 13:34	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: Dupe 1

Date Collected: 11/11/15 00:00

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-4

Matrix: Ground Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			11/19/15 13:34	1
Tetrachloroethene	12.7		1.00		ug/L			11/19/15 13:34	1
Toluene	<1.00		1.00		ug/L			11/19/15 13:34	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			11/19/15 13:34	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			11/19/15 13:34	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			11/19/15 13:34	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			11/19/15 13:34	1
Trichloroethene	<1.00		1.00		ug/L			11/19/15 13:34	1
Trichlorofluoromethane	<4.00		4.00		ug/L			11/19/15 13:34	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			11/19/15 13:34	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			11/19/15 13:34	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			11/19/15 13:34	1
Vinyl chloride	<1.00		1.00		ug/L			11/19/15 13:34	1
Xylenes, Total	<3.00		3.00		ug/L			11/19/15 13:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		75 - 120		11/19/15 13:34	1
Dibromofluoromethane (Surr)	96		75 - 120		11/19/15 13:34	1
Toluene-d8 (Surr)	100		80 - 120		11/19/15 13:34	1

Method: 8270D SIM - Semivolatile Organic Compound (GC/MS SIM LL)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 13:49	1
Acenaphthylene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 13:49	1
Anthracene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 13:49	1
Benzo[a]anthracene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 13:49	1
Benzo[a]pyrene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 13:49	1
Benzo[b]fluoranthene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 13:49	1
Benzo[g,h,i]perylene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 13:49	1
Benzo[k]fluoranthene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 13:49	1
Chrysene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 13:49	1
Dibenz(a,h)anthracene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 13:49	1
Fluoranthene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 13:49	1
Fluorene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 13:49	1
Indeno[1,2,3-cd]pyrene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 13:49	1
2-Methylnaphthalene	<0.463		0.463		ug/L		11/13/15 14:23	11/16/15 13:49	1
Naphthalene	<0.463		0.463		ug/L		11/13/15 14:23	11/16/15 13:49	1
Phenanthrene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 13:49	1
Pyrene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 13:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	65		10 - 110	11/13/15 14:23	11/16/15 13:49	1
Nitrobenzene-d5 (Surr)	64		10 - 110	11/13/15 14:23	11/16/15 13:49	1
Terphenyl-d14 (Surr)	79		20 - 110	11/13/15 14:23	11/16/15 13:49	1

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<278		278		ug/L		11/16/15 16:44	11/17/15 17:51	1
Diesel	<278		278		ug/L		11/16/15 16:44	11/17/15 17:51	1
Waste Oil	<278		278		ug/L		11/16/15 16:44	11/17/15 17:51	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: Dupe 1

Date Collected: 11/11/15 00:00

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-4

Matrix: Ground Water

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Extractable Hydrocarbons	<463		463		ug/L		11/16/15 16:44	11/17/15 17:51	1

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Octacosane	82		45 - 140				11/16/15 16:44	11/17/15 17:51	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200		mg/L		11/13/15 07:52	11/17/15 16:16	1
Barium	0.108		0.00200		mg/L		11/13/15 07:52	11/16/15 17:48	1
Cadmium	<0.000500		0.000500		mg/L		11/13/15 07:52	11/16/15 17:48	1
Chromium	<0.00500		0.00500		mg/L		11/13/15 07:52	11/16/15 17:48	1
Lead	<0.000500		0.000500		mg/L		11/13/15 07:52	11/16/15 17:48	1
Selenium	<0.00500		0.00500		mg/L		11/13/15 07:52	11/16/15 17:48	1
Silver	<0.00100		0.00100		mg/L		11/13/15 07:52	11/16/15 17:48	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		11/16/15 12:31	11/17/15 12:58	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: SB4

Date Collected: 11/11/15 09:18

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-5

Matrix: Ground Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			11/23/15 20:44	1
Benzene	<0.500		0.500		ug/L			11/23/15 20:44	1
Bromobenzene	<1.00		1.00		ug/L			11/23/15 20:44	1
Bromochloromethane	<5.00		5.00		ug/L			11/23/15 20:44	1
Bromodichloromethane	<1.00		1.00		ug/L			11/23/15 20:44	1
Bromoform	<5.00		5.00		ug/L			11/23/15 20:44	1
Bromomethane	<4.00		4.00		ug/L			11/23/15 20:44	1
2-Butanone (MEK)	<10.0		10.0		ug/L			11/23/15 20:44	1
n-Butylbenzene	<1.00		1.00		ug/L			11/23/15 20:44	1
sec-Butylbenzene	<1.00		1.00		ug/L			11/23/15 20:44	1
tert-Butylbenzene	<1.00		1.00		ug/L			11/23/15 20:44	1
Carbon disulfide	<1.00		1.00		ug/L			11/25/15 15:42	1
Carbon tetrachloride	<2.00		2.00		ug/L			11/23/15 20:44	1
Chlorobenzene	<1.00		1.00		ug/L			11/23/15 20:44	1
Chlorodibromomethane	<5.00		5.00		ug/L			11/23/15 20:44	1
Chloroethane	<4.00		4.00		ug/L			11/23/15 20:44	1
Chloroform	<1.00		1.00		ug/L			11/23/15 20:44	1
Chloromethane	<3.00		3.00		ug/L			11/23/15 20:44	1
2-Chlorotoluene	<1.00		1.00		ug/L			11/23/15 20:44	1
4-Chlorotoluene	<1.00		1.00		ug/L			11/23/15 20:44	1
1,2-Dibromo-3-Chloropropane	<10.0		10.0		ug/L			11/23/15 20:44	1
1,2-Dibromoethane (EDB)	<10.0		10.0		ug/L			11/23/15 20:44	1
Dibromomethane	<1.00		1.00		ug/L			11/23/15 20:44	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			11/23/15 20:44	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			11/23/15 20:44	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			11/23/15 20:44	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			11/23/15 20:44	1
1,1-Dichloroethane	<1.00		1.00		ug/L			11/23/15 20:44	1
1,2-Dichloroethane	<1.00		1.00		ug/L			11/23/15 20:44	1
1,1-Dichloroethene	<2.00		2.00		ug/L			11/23/15 20:44	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			11/23/15 20:44	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			11/23/15 20:44	1
1,2-Dichloropropane	<1.00		1.00		ug/L			11/23/15 20:44	1
1,3-Dichloropropane	<1.00		1.00		ug/L			11/23/15 20:44	1
2,2-Dichloropropane	<4.00		4.00		ug/L			11/23/15 20:44	1
1,1-Dichloropropene	<1.00		1.00		ug/L			11/23/15 20:44	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			11/23/15 20:44	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			11/23/15 20:44	1
Ethylbenzene	<1.00		1.00		ug/L			11/23/15 20:44	1
Hexachlorobutadiene	<5.00		5.00		ug/L			11/23/15 20:44	1
Hexane	<1.00		1.00		ug/L			11/23/15 20:44	1
Isopropylbenzene	<1.00		1.00		ug/L			11/23/15 20:44	1
p-Isopropyltoluene	<1.00		1.00		ug/L			11/23/15 20:44	1
Methylene Chloride	<5.00		5.00		ug/L			11/23/15 20:44	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			11/23/15 20:44	1
Naphthalene	<5.00		5.00		ug/L			11/23/15 20:44	1
N-Propylbenzene	<1.00		1.00		ug/L			11/23/15 20:44	1
Styrene	<1.00		1.00		ug/L			11/23/15 20:44	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			11/23/15 20:44	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: SB4

Date Collected: 11/11/15 09:18

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-5

Matrix: Ground Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			11/23/15 20:44	1
Tetrachloroethene	6.29		1.00		ug/L			11/23/15 20:44	1
Toluene	<1.00		1.00		ug/L			11/23/15 20:44	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			11/23/15 20:44	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			11/23/15 20:44	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			11/23/15 20:44	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			11/23/15 20:44	1
Trichloroethene	<1.00		1.00		ug/L			11/23/15 20:44	1
Trichlorofluoromethane	<4.00		4.00		ug/L			11/23/15 20:44	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			11/23/15 20:44	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			11/23/15 20:44	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			11/23/15 20:44	1
Vinyl chloride	<1.00		1.00		ug/L			11/23/15 20:44	1
Xylenes, Total	<3.00		3.00		ug/L			11/23/15 20:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		75 - 120		11/23/15 20:44	1
4-Bromofluorobenzene (Surr)	103		75 - 120		11/25/15 15:42	1
Dibromofluoromethane (Surr)	95		75 - 120		11/23/15 20:44	1
Dibromofluoromethane (Surr)	92		75 - 120		11/25/15 15:42	1
Toluene-d8 (Surr)	100		80 - 120		11/23/15 20:44	1
Toluene-d8 (Surr)	98		80 - 120		11/25/15 15:42	1

Method: 8270D SIM - Semivolatile Organic Compound (GC/MS SIM LL)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 14:12	1
Acenaphthylene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 14:12	1
Anthracene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 14:12	1
Benzo[a]anthracene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 14:12	1
Benzo[a]pyrene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 14:12	1
Benzo[b]fluoranthene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 14:12	1
Benzo[g,h,i]perylene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 14:12	1
Benzo[k]fluoranthene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 14:12	1
Chrysene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 14:12	1
Dibenz(a,h)anthracene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 14:12	1
Fluoranthene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 14:12	1
Fluorene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 14:12	1
Indeno[1,2,3-cd]pyrene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 14:12	1
2-Methylnaphthalene	<0.463		0.463		ug/L		11/13/15 14:23	11/16/15 14:12	1
Naphthalene	<0.463		0.463		ug/L		11/13/15 14:23	11/16/15 14:12	1
Phenanthrene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 14:12	1
Pyrene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 14:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	71		10 - 110	11/13/15 14:23	11/16/15 14:12	1
Nitrobenzene-d5 (Surr)	70		10 - 110	11/13/15 14:23	11/16/15 14:12	1
Terphenyl-d14 (Surr)	67		20 - 110	11/13/15 14:23	11/16/15 14:12	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: SB4

Date Collected: 11/11/15 09:18

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-5

Matrix: Ground Water

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<278		278		ug/L	-	11/16/15 16:44	11/17/15 18:05	1
Diesel	<278		278		ug/L	-	11/16/15 16:44	11/17/15 18:05	1
Waste Oil	<278		278		ug/L	-	11/16/15 16:44	11/17/15 18:05	1
Total Extractable Hydrocarbons	<463		463		ug/L	-	11/16/15 16:44	11/17/15 18:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	87		45 - 140	11/16/15 16:44	11/17/15 18:05	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200		mg/L	-	11/13/15 07:52	11/17/15 16:19	1
Barium	0.119		0.00200		mg/L	-	11/13/15 07:52	11/16/15 17:51	1
Cadmium	<0.000500		0.000500		mg/L	-	11/13/15 07:52	11/16/15 17:51	1
Chromium	<0.00500		0.00500		mg/L	-	11/13/15 07:52	11/16/15 17:51	1
Lead	<0.000500		0.000500		mg/L	-	11/13/15 07:52	11/16/15 17:51	1
Selenium	0.00600		0.00500		mg/L	-	11/13/15 07:52	11/16/15 17:51	1
Silver	<0.00100		0.00100		mg/L	-	11/13/15 07:52	11/16/15 17:51	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L	-	11/16/15 12:31	11/17/15 12:59	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: SB4 0-2

Date Collected: 11/11/15 09:15

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-6

Matrix: Soil

Percent Solids: 86.5

Method: 8270D SIM - Semivolatile Organic Compound (GC/MS SIM LL)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.0114		0.0114		mg/Kg	☼	11/13/15 15:25	11/16/15 17:48	1
Acenaphthylene	<0.0114		0.0114		mg/Kg	☼	11/13/15 15:25	11/16/15 17:48	1
Anthracene	<0.0114		0.0114		mg/Kg	☼	11/13/15 15:25	11/16/15 17:48	1
Benzo[a]anthracene	<0.0114		0.0114		mg/Kg	☼	11/13/15 15:25	11/16/15 17:48	1
Benzo[a]pyrene	<0.0114		0.0114		mg/Kg	☼	11/13/15 15:25	11/16/15 17:48	1
Benzo[b]fluoranthene	<0.0114		0.0114		mg/Kg	☼	11/13/15 15:25	11/16/15 17:48	1
Benzo[g,h,i]perylene	<0.0114		0.0114		mg/Kg	☼	11/13/15 15:25	11/16/15 17:48	1
Benzo[k]fluoranthene	<0.0114		0.0114		mg/Kg	☼	11/13/15 15:25	11/16/15 17:48	1
Chrysene	<0.0114		0.0114		mg/Kg	☼	11/13/15 15:25	11/16/15 17:48	1
Dibenz(a,h)anthracene	<0.0114		0.0114		mg/Kg	☼	11/13/15 15:25	11/16/15 17:48	1
Fluoranthene	<0.0114		0.0114		mg/Kg	☼	11/13/15 15:25	11/16/15 17:48	1
Fluorene	<0.0114		0.0114		mg/Kg	☼	11/13/15 15:25	11/16/15 17:48	1
Indeno[1,2,3-cd]pyrene	<0.0114		0.0114		mg/Kg	☼	11/13/15 15:25	11/16/15 17:48	1
2-Methylnaphthalene	<0.0114		0.0114		mg/Kg	☼	11/13/15 15:25	11/16/15 17:48	1
Naphthalene	<0.0114		0.0114		mg/Kg	☼	11/13/15 15:25	11/16/15 17:48	1
Phenanthrene	<0.0114		0.0114		mg/Kg	☼	11/13/15 15:25	11/16/15 17:48	1
Pyrene	<0.0114		0.0114		mg/Kg	☼	11/13/15 15:25	11/16/15 17:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	65		10 - 110	11/13/15 15:25	11/16/15 17:48	1
Nitrobenzene-d5 (Surr)	69		10 - 110	11/13/15 15:25	11/16/15 17:48	1
Terphenyl-d14 (Surr)	65		20 - 110	11/13/15 15:25	11/16/15 17:48	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10.7		7.26		mg/Kg	☼	11/13/15 15:56	11/13/15 18:20	2
Barium	84.9		0.907		mg/Kg	☼	11/13/15 15:56	11/13/15 18:20	2
Cadmium	<1.81		1.81		mg/Kg	☼	11/13/15 15:56	11/13/15 18:20	2
Chromium	16.9		1.81		mg/Kg	☼	11/13/15 15:56	11/13/15 18:20	2
Lead	27.0		9.07		mg/Kg	☼	11/13/15 15:56	11/13/15 18:20	2
Selenium	<13.6		13.6		mg/Kg	☼	11/13/15 15:56	11/13/15 18:20	2
Silver	<1.81		1.81		mg/Kg	☼	11/13/15 15:56	11/13/15 18:20	2

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0837		0.0223		mg/Kg	☼	11/12/15 15:51	11/18/15 10:50	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: SB4 12-14

Date Collected: 11/11/15 09:20

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-7

Matrix: Soil

Percent Solids: 92.6

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<538		538		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
Benzene	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
Bromobenzene	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
Bromochloromethane	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
Bromodichloromethane	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
Bromoform	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
Bromomethane	<538		538		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
2-Butanone (MEK)	<269		269		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
n-Butylbenzene	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
sec-Butylbenzene	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
tert-Butylbenzene	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
Carbon disulfide	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
Carbon tetrachloride	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
Chlorobenzene	<108	*	108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
Chlorodibromomethane	<108	*	108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
Chloroethane	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
Chloroform	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
Chloromethane	<269		269		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
2-Chlorotoluene	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
4-Chlorotoluene	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
1,2-Dibromo-3-Chloropropane	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
1,2-Dibromoethane (EDB)	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
Dibromomethane	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
1,2-Dichlorobenzene	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
1,3-Dichlorobenzene	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
1,4-Dichlorobenzene	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
Dichlorodifluoromethane	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
1,1-Dichloroethane	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
1,2-Dichloroethane	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
1,1-Dichloroethene	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
cis-1,2-Dichloroethene	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
trans-1,2-Dichloroethene	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
1,2-Dichloropropane	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
1,3-Dichloropropane	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
2,2-Dichloropropane	<108	*	108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
1,1-Dichloropropene	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
cis-1,3-Dichloropropene	<108	*	108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
trans-1,3-Dichloropropene	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
Ethylbenzene	<108	*	108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
Hexachlorobutadiene	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
Hexane	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
Isopropylbenzene	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
p-Isopropyltoluene	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
Methylene Chloride	<269		269		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
Methyl tert-butyl ether	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
Naphthalene	<269		269		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
N-Propylbenzene	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
Styrene	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
1,1,1,2-Tetrachloroethane	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: SB4 12-14

Date Collected: 11/11/15 09:20

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-7

Matrix: Soil

Percent Solids: 92.6

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
Tetrachloroethene	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
Toluene	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
1,2,3-Trichlorobenzene	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
1,2,4-Trichlorobenzene	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
1,1,1-Trichloroethane	<108	*	108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
1,1,2-Trichloroethane	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
Trichloroethene	<108	*	108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
Trichlorofluoromethane	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
1,2,3-Trichloropropane	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
1,2,4-Trimethylbenzene	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
1,3,5-Trimethylbenzene	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
Vinyl chloride	<108		108		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1
Xylenes, Total	<161		161		ug/Kg	☼	11/23/15 08:59	11/23/15 13:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		80 - 120	11/23/15 08:59	11/23/15 13:30	1
Dibromofluoromethane (Surr)	89		75 - 125	11/23/15 08:59	11/23/15 13:30	1
Toluene-d8 (Surr)	94		80 - 120	11/23/15 08:59	11/23/15 13:30	1

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<9.78		9.78		mg/Kg		11/13/15 15:29	11/17/15 18:56	1
Diesel	<9.78		9.78		mg/Kg		11/13/15 15:29	11/17/15 18:56	1
Waste Oil	<9.78		9.78		mg/Kg		11/13/15 15:29	11/17/15 18:56	1
Total Extractable Hydrocarbons	<14.7		14.7		mg/Kg		11/13/15 15:29	11/17/15 18:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	78		40 - 135	11/13/15 15:29	11/17/15 18:56	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: SB5 0-1'

Date Collected: 11/11/15 09:25

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-8

Matrix: Soil

Percent Solids: 96.4

Method: 8270D SIM - Semivolatile Organic Compound (GC/MS SIM LL)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.103		0.103		mg/Kg	☼	11/17/15 08:54	11/18/15 16:02	10
Acenaphthylene	<0.103		0.103		mg/Kg	☼	11/17/15 08:54	11/18/15 16:02	10
Anthracene	<0.103		0.103		mg/Kg	☼	11/17/15 08:54	11/18/15 16:02	10
Benzo[a]anthracene	0.435		0.103		mg/Kg	☼	11/17/15 08:54	11/18/15 16:02	10
Benzo[a]pyrene	0.824		0.103		mg/Kg	☼	11/17/15 08:54	11/18/15 16:02	10
Benzo[b]fluoranthene	0.583		0.103		mg/Kg	☼	11/17/15 08:54	11/18/15 16:02	10
Benzo[g,h,i]perylene	0.660		0.103		mg/Kg	☼	11/17/15 08:54	11/18/15 16:02	10
Benzo[k]fluoranthene	0.153		0.103		mg/Kg	☼	11/17/15 08:54	11/18/15 16:02	10
Chrysene	0.865		0.103		mg/Kg	☼	11/17/15 08:54	11/18/15 16:02	10
Dibenz(a,h)anthracene	0.141		0.103		mg/Kg	☼	11/17/15 08:54	11/18/15 16:02	10
Fluoranthene	0.364		0.103		mg/Kg	☼	11/17/15 08:54	11/18/15 16:02	10
Fluorene	<0.103		0.103		mg/Kg	☼	11/17/15 08:54	11/18/15 16:02	10
Indeno[1,2,3-cd]pyrene	0.190		0.103		mg/Kg	☼	11/17/15 08:54	11/18/15 16:02	10
2-Methylnaphthalene	<0.103		0.103		mg/Kg	☼	11/17/15 08:54	11/18/15 16:02	10
Naphthalene	<0.103		0.103		mg/Kg	☼	11/17/15 08:54	11/18/15 16:02	10
Phenanthrene	0.183		0.103		mg/Kg	☼	11/17/15 08:54	11/18/15 16:02	10
Pyrene	0.768		0.103		mg/Kg	☼	11/17/15 08:54	11/18/15 16:02	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	63		10 - 110	11/17/15 08:54	11/18/15 16:02	10
Nitrobenzene-d5 (Surr)	55		10 - 110	11/17/15 08:54	11/18/15 16:02	10
Terphenyl-d14 (Surr)	60		20 - 110	11/17/15 08:54	11/18/15 16:02	10

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	54.5		17.9		mg/Kg	☼	11/13/15 15:56	11/13/15 19:00	5
Barium	246		2.24		mg/Kg	☼	11/13/15 15:56	11/13/15 19:00	5
Cadmium	6.89		4.48		mg/Kg	☼	11/13/15 15:56	11/13/15 19:00	5
Chromium	66.0		4.48		mg/Kg	☼	11/13/15 15:56	11/13/15 19:00	5
Lead	40200		22.4		mg/Kg	☼	11/13/15 15:56	11/13/15 19:00	5
Selenium	<33.6		33.6		mg/Kg	☼	11/13/15 15:56	11/13/15 19:00	5
Silver	<4.48		4.48		mg/Kg	☼	11/13/15 15:56	11/13/15 19:00	5

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.205		0.0187		mg/Kg	☼	11/12/15 15:51	11/18/15 10:51	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: SB2

Date Collected: 11/11/15 10:20

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-9

Matrix: Ground Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			11/23/15 21:05	1
Benzene	<0.500		0.500		ug/L			11/23/15 21:05	1
Bromobenzene	<1.00		1.00		ug/L			11/23/15 21:05	1
Bromochloromethane	<5.00		5.00		ug/L			11/23/15 21:05	1
Bromodichloromethane	<1.00		1.00		ug/L			11/23/15 21:05	1
Bromoform	<5.00		5.00		ug/L			11/23/15 21:05	1
Bromomethane	<4.00		4.00		ug/L			11/23/15 21:05	1
2-Butanone (MEK)	<10.0		10.0		ug/L			11/23/15 21:05	1
n-Butylbenzene	<1.00		1.00		ug/L			11/23/15 21:05	1
sec-Butylbenzene	<1.00		1.00		ug/L			11/23/15 21:05	1
tert-Butylbenzene	<1.00		1.00		ug/L			11/23/15 21:05	1
Carbon disulfide	<1.00		1.00		ug/L			11/25/15 16:04	1
Carbon tetrachloride	<2.00		2.00		ug/L			11/23/15 21:05	1
Chlorobenzene	<1.00		1.00		ug/L			11/23/15 21:05	1
Chlorodibromomethane	<5.00		5.00		ug/L			11/23/15 21:05	1
Chloroethane	<4.00		4.00		ug/L			11/23/15 21:05	1
Chloroform	<1.00		1.00		ug/L			11/23/15 21:05	1
Chloromethane	<3.00		3.00		ug/L			11/23/15 21:05	1
2-Chlorotoluene	<1.00		1.00		ug/L			11/23/15 21:05	1
4-Chlorotoluene	<1.00		1.00		ug/L			11/23/15 21:05	1
1,2-Dibromo-3-Chloropropane	<10.0		10.0		ug/L			11/23/15 21:05	1
1,2-Dibromoethane (EDB)	<10.0		10.0		ug/L			11/23/15 21:05	1
Dibromomethane	<1.00		1.00		ug/L			11/23/15 21:05	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			11/23/15 21:05	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			11/23/15 21:05	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			11/23/15 21:05	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			11/23/15 21:05	1
1,1-Dichloroethane	<1.00		1.00		ug/L			11/23/15 21:05	1
1,2-Dichloroethane	<1.00		1.00		ug/L			11/23/15 21:05	1
1,1-Dichloroethene	<2.00		2.00		ug/L			11/23/15 21:05	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			11/23/15 21:05	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			11/23/15 21:05	1
1,2-Dichloropropane	<1.00		1.00		ug/L			11/23/15 21:05	1
1,3-Dichloropropane	<1.00		1.00		ug/L			11/23/15 21:05	1
2,2-Dichloropropane	<4.00		4.00		ug/L			11/23/15 21:05	1
1,1-Dichloropropene	<1.00		1.00		ug/L			11/23/15 21:05	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			11/23/15 21:05	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			11/23/15 21:05	1
Ethylbenzene	<1.00		1.00		ug/L			11/23/15 21:05	1
Hexachlorobutadiene	<5.00		5.00		ug/L			11/23/15 21:05	1
Hexane	<1.00		1.00		ug/L			11/23/15 21:05	1
Isopropylbenzene	<1.00		1.00		ug/L			11/23/15 21:05	1
p-Isopropyltoluene	<1.00		1.00		ug/L			11/23/15 21:05	1
Methylene Chloride	<5.00		5.00		ug/L			11/23/15 21:05	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			11/23/15 21:05	1
Naphthalene	<5.00		5.00		ug/L			11/23/15 21:05	1
N-Propylbenzene	<1.00		1.00		ug/L			11/23/15 21:05	1
Styrene	<1.00		1.00		ug/L			11/23/15 21:05	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			11/23/15 21:05	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: SB2

Date Collected: 11/11/15 10:20

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-9

Matrix: Ground Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			11/23/15 21:05	1
Tetrachloroethene	10.1		1.00		ug/L			11/23/15 21:05	1
Toluene	<1.00		1.00		ug/L			11/23/15 21:05	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			11/23/15 21:05	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			11/23/15 21:05	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			11/23/15 21:05	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			11/23/15 21:05	1
Trichloroethene	<1.00		1.00		ug/L			11/23/15 21:05	1
Trichlorofluoromethane	<4.00		4.00		ug/L			11/23/15 21:05	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			11/23/15 21:05	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			11/23/15 21:05	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			11/23/15 21:05	1
Vinyl chloride	<1.00		1.00		ug/L			11/23/15 21:05	1
Xylenes, Total	<3.00		3.00		ug/L			11/23/15 21:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		75 - 120		11/23/15 21:05	1
4-Bromofluorobenzene (Surr)	105		75 - 120		11/25/15 16:04	1
Dibromofluoromethane (Surr)	98		75 - 120		11/23/15 21:05	1
Dibromofluoromethane (Surr)	92		75 - 120		11/25/15 16:04	1
Toluene-d8 (Surr)	96		80 - 120		11/23/15 21:05	1
Toluene-d8 (Surr)	101		80 - 120		11/25/15 16:04	1

Method: 8270D SIM - Semivolatile Organic Compound (GC/MS SIM LL)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 14:36	1
Acenaphthylene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 14:36	1
Anthracene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 14:36	1
Benzo[a]anthracene	0.123		0.0926		ug/L		11/13/15 14:23	11/16/15 14:36	1
Benzo[a]pyrene	0.103		0.0926		ug/L		11/13/15 14:23	11/16/15 14:36	1
Benzo[b]fluoranthene	0.167		0.0926		ug/L		11/13/15 14:23	11/16/15 14:36	1
Benzo[g,h,i]perylene	0.139		0.0926		ug/L		11/13/15 14:23	11/16/15 14:36	1
Benzo[k]fluoranthene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 14:36	1
Chrysene	0.0936		0.0926		ug/L		11/13/15 14:23	11/16/15 14:36	1
Dibenz(a,h)anthracene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 14:36	1
Fluoranthene	0.109		0.0926		ug/L		11/13/15 14:23	11/16/15 14:36	1
Fluorene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 14:36	1
Indeno[1,2,3-cd]pyrene	0.103		0.0926		ug/L		11/13/15 14:23	11/16/15 14:36	1
2-Methylnaphthalene	<0.463		0.463		ug/L		11/13/15 14:23	11/16/15 14:36	1
Naphthalene	<0.463		0.463		ug/L		11/13/15 14:23	11/16/15 14:36	1
Phenanthrene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 14:36	1
Pyrene	0.0933		0.0926		ug/L		11/13/15 14:23	11/16/15 14:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	52		10 - 110	11/13/15 14:23	11/16/15 14:36	1
Nitrobenzene-d5 (Surr)	53		10 - 110	11/13/15 14:23	11/16/15 14:36	1
Terphenyl-d14 (Surr)	51		20 - 110	11/13/15 14:23	11/16/15 14:36	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: SB2

Date Collected: 11/11/15 10:20

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-9

Matrix: Ground Water

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<278		278		ug/L	-	11/16/15 16:44	11/17/15 18:20	1
Diesel	<278		278		ug/L	-	11/16/15 16:44	11/17/15 18:20	1
Waste Oil	<278		278		ug/L	-	11/16/15 16:44	11/17/15 18:20	1
Total Extractable Hydrocarbons	607	Z	463		ug/L	-	11/16/15 16:44	11/17/15 18:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n</i> -Octacosane	87		45 - 140	11/16/15 16:44	11/17/15 18:20	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200		mg/L	-	11/13/15 07:52	11/17/15 16:26	1
Barium	0.131		0.00200		mg/L	-	11/13/15 07:52	11/16/15 17:58	1
Cadmium	<0.000500		0.000500		mg/L	-	11/13/15 07:52	11/16/15 17:58	1
Chromium	<0.00500		0.00500		mg/L	-	11/13/15 07:52	11/16/15 17:58	1
Lead	<0.000500		0.000500		mg/L	-	11/13/15 07:52	11/16/15 17:58	1
Selenium	<0.00500		0.00500		mg/L	-	11/13/15 07:52	11/16/15 17:58	1
Silver	<0.00100		0.00100		mg/L	-	11/13/15 07:52	11/16/15 17:58	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L	-	11/16/15 12:31	11/17/15 13:01	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: Dupe 2

Date Collected: 11/11/15 00:00

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-10

Matrix: Soil

Percent Solids: 93.5

Method: 8270D SIM - Semivolatile Organic Compound (GC/MS SIM LL)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.104		0.104		mg/Kg	☼	11/17/15 08:54	11/18/15 16:27	10
Acenaphthylene	<0.104		0.104		mg/Kg	☼	11/17/15 08:54	11/18/15 16:27	10
Anthracene	<0.104		0.104		mg/Kg	☼	11/17/15 08:54	11/18/15 16:27	10
Benzo[a]anthracene	0.187		0.104		mg/Kg	☼	11/17/15 08:54	11/18/15 16:27	10
Benzo[a]pyrene	0.241		0.104		mg/Kg	☼	11/17/15 08:54	11/18/15 16:27	10
Benzo[b]fluoranthene	0.522		0.104		mg/Kg	☼	11/17/15 08:54	11/18/15 16:27	10
Benzo[g,h,i]perylene	0.130		0.104		mg/Kg	☼	11/17/15 08:54	11/18/15 16:27	10
Benzo[k]fluoranthene	0.169		0.104		mg/Kg	☼	11/17/15 08:54	11/18/15 16:27	10
Chrysene	0.311		0.104		mg/Kg	☼	11/17/15 08:54	11/18/15 16:27	10
Dibenz(a,h)anthracene	<0.104		0.104		mg/Kg	☼	11/17/15 08:54	11/18/15 16:27	10
Fluoranthene	0.361		0.104		mg/Kg	☼	11/17/15 08:54	11/18/15 16:27	10
Fluorene	<0.104		0.104		mg/Kg	☼	11/17/15 08:54	11/18/15 16:27	10
Indeno[1,2,3-cd]pyrene	0.115		0.104		mg/Kg	☼	11/17/15 08:54	11/18/15 16:27	10
2-Methylnaphthalene	<0.104		0.104		mg/Kg	☼	11/17/15 08:54	11/18/15 16:27	10
Naphthalene	<0.104		0.104		mg/Kg	☼	11/17/15 08:54	11/18/15 16:27	10
Phenanthrene	0.197		0.104		mg/Kg	☼	11/17/15 08:54	11/18/15 16:27	10
Pyrene	0.294		0.104		mg/Kg	☼	11/17/15 08:54	11/18/15 16:27	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	57		10 - 110				11/17/15 08:54	11/18/15 16:27	10
Nitrobenzene-d5 (Surr)	55		10 - 110				11/17/15 08:54	11/18/15 16:27	10
Terphenyl-d14 (Surr)	55		20 - 110				11/17/15 08:54	11/18/15 16:27	10

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	28.6		20.2		mg/Kg	☼	11/13/15 15:56	11/13/15 19:02	5
Barium	154		2.52		mg/Kg	☼	11/13/15 15:56	11/13/15 19:02	5
Cadmium	<5.04		5.04		mg/Kg	☼	11/13/15 15:56	11/13/15 19:02	5
Chromium	179		5.04		mg/Kg	☼	11/13/15 15:56	11/13/15 19:02	5
Lead	1280		25.2		mg/Kg	☼	11/13/15 15:56	11/13/15 19:02	5
Selenium	<37.8		37.8		mg/Kg	☼	11/13/15 15:56	11/13/15 19:02	5
Silver	<5.04		5.04		mg/Kg	☼	11/13/15 15:56	11/13/15 19:02	5

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.995		0.0983		mg/Kg	☼	11/12/15 15:51	11/18/15 11:33	5

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: SB2 0-2

Date Collected: 11/11/15 10:23

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-11

Matrix: Soil

Percent Solids: 88.4

Method: 8270D SIM - Semivolatile Organic Compound (GC/MS SIM LL)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.112		0.112		mg/Kg	☼	11/13/15 15:25	11/16/15 19:00	10
Acenaphthylene	<0.112		0.112		mg/Kg	☼	11/13/15 15:25	11/16/15 19:00	10
Anthracene	<0.112		0.112		mg/Kg	☼	11/13/15 15:25	11/16/15 19:00	10
Benzo[a]anthracene	<0.112		0.112		mg/Kg	☼	11/13/15 15:25	11/16/15 19:00	10
Benzo[a]pyrene	<0.112		0.112		mg/Kg	☼	11/13/15 15:25	11/16/15 19:00	10
Benzo[b]fluoranthene	<0.112		0.112		mg/Kg	☼	11/13/15 15:25	11/16/15 19:00	10
Benzo[g,h,i]perylene	<0.112		0.112		mg/Kg	☼	11/13/15 15:25	11/16/15 19:00	10
Benzo[k]fluoranthene	<0.112		0.112		mg/Kg	☼	11/13/15 15:25	11/16/15 19:00	10
Chrysene	<0.112		0.112		mg/Kg	☼	11/13/15 15:25	11/16/15 19:00	10
Dibenz(a,h)anthracene	<0.112		0.112		mg/Kg	☼	11/13/15 15:25	11/16/15 19:00	10
Fluoranthene	<0.112		0.112		mg/Kg	☼	11/13/15 15:25	11/16/15 19:00	10
Fluorene	<0.112		0.112		mg/Kg	☼	11/13/15 15:25	11/16/15 19:00	10
Indeno[1,2,3-cd]pyrene	<0.112		0.112		mg/Kg	☼	11/13/15 15:25	11/16/15 19:00	10
2-Methylnaphthalene	<0.112		0.112		mg/Kg	☼	11/13/15 15:25	11/16/15 19:00	10
Naphthalene	<0.112		0.112		mg/Kg	☼	11/13/15 15:25	11/16/15 19:00	10
Phenanthrene	<0.112		0.112		mg/Kg	☼	11/13/15 15:25	11/16/15 19:00	10
Pyrene	<0.112		0.112		mg/Kg	☼	11/13/15 15:25	11/16/15 19:00	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	42		10 - 110	11/13/15 15:25	11/16/15 19:00	10
Nitrobenzene-d5 (Surr)	37		10 - 110	11/13/15 15:25	11/16/15 19:00	10
Terphenyl-d14 (Surr)	55		20 - 110	11/13/15 15:25	11/16/15 19:00	10

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	31.9		19.9		mg/Kg	☼	11/13/15 15:56	11/13/15 19:05	5
Barium	243		2.49		mg/Kg	☼	11/13/15 15:56	11/13/15 19:05	5
Cadmium	<4.98		4.98		mg/Kg	☼	11/13/15 15:56	11/13/15 19:05	5
Chromium	100		4.98		mg/Kg	☼	11/13/15 15:56	11/13/15 19:05	5
Lead	632		24.9		mg/Kg	☼	11/13/15 15:56	11/13/15 19:05	5
Selenium	<37.4		37.4		mg/Kg	☼	11/13/15 15:56	11/13/15 19:05	5
Silver	<4.98		4.98		mg/Kg	☼	11/13/15 15:56	11/13/15 19:05	5

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.837		0.101		mg/Kg	☼	11/12/15 15:51	11/18/15 11:37	5

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: SB2 12-14

Date Collected: 11/11/15 10:27

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-12

Matrix: Soil

Percent Solids: 84.6

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<40.9		40.9		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
Benzene	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
Bromobenzene	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
Bromochloromethane	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
Bromodichloromethane	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
Bromoform	<8.17		8.17		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
Bromomethane	<16.3		16.3		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
2-Butanone (MEK)	<40.9		40.9		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
n-Butylbenzene	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
sec-Butylbenzene	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
tert-Butylbenzene	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
Carbon disulfide	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
Carbon tetrachloride	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
Chlorobenzene	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
Chlorodibromomethane	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
Chloroethane	<16.3		16.3		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
Chloroform	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
Chloromethane	<16.3		16.3		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
2-Chlorotoluene	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
4-Chlorotoluene	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
1,2-Dibromo-3-Chloropropane	<40.9		40.9		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
1,2-Dibromoethane (EDB)	<40.9		40.9		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
Dibromomethane	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
1,2-Dichlorobenzene	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
1,3-Dichlorobenzene	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
1,4-Dichlorobenzene	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
Dichlorodifluoromethane	<12.3		12.3		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
1,1-Dichloroethane	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
1,2-Dichloroethane	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
1,1-Dichloroethene	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
cis-1,2-Dichloroethene	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
trans-1,2-Dichloroethene	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
1,2-Dichloropropane	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
1,3-Dichloropropane	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
2,2-Dichloropropane	<16.3		16.3		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
1,1-Dichloropropene	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
cis-1,3-Dichloropropene	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
trans-1,3-Dichloropropene	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
Ethylbenzene	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
Hexachlorobutadiene	<20.4		20.4		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
Hexane	<20.4		20.4		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
Isopropylbenzene	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
p-Isopropyltoluene	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
Methylene Chloride	<40.9		40.9		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
Methyl tert-butyl ether	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
Naphthalene	<20.4		20.4		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
N-Propylbenzene	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
Styrene	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
1,1,1,2-Tetrachloroethane	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: SB2 12-14

Lab Sample ID: 310-68805-12

Date Collected: 11/11/15 10:27

Matrix: Soil

Date Received: 11/12/15 16:30

Percent Solids: 84.6

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
Tetrachloroethene	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
Toluene	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
1,2,3-Trichlorobenzene	<20.4		20.4		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
1,2,4-Trichlorobenzene	<20.4		20.4		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
1,1,1-Trichloroethane	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
1,1,2-Trichloroethane	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
Trichloroethene	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
Trichlorofluoromethane	<16.3		16.3		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
1,2,3-Trichloropropane	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
1,2,4-Trimethylbenzene	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
1,3,5-Trimethylbenzene	<4.09		4.09		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
Vinyl chloride	<12.3		12.3		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1
Xylenes, Total	<12.3		12.3		ug/Kg	☼	11/20/15 07:59	11/21/15 01:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	86		80 - 120	11/20/15 07:59	11/21/15 01:17	1
Dibromofluoromethane (Surr)	91		75 - 125	11/20/15 07:59	11/21/15 01:17	1
Toluene-d8 (Surr)	91		80 - 120	11/20/15 07:59	11/21/15 01:17	1

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<9.86		9.86		mg/Kg		11/13/15 15:29	11/17/15 19:11	1
Diesel	<9.86		9.86		mg/Kg		11/13/15 15:29	11/17/15 19:11	1
Waste Oil	<9.86		9.86		mg/Kg		11/13/15 15:29	11/17/15 19:11	1
Total Extractable Hydrocarbons	<14.8		14.8		mg/Kg		11/13/15 15:29	11/17/15 19:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	94		40 - 135	11/13/15 15:29	11/17/15 19:11	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: SB1

Date Collected: 11/11/15 11:32

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-13

Matrix: Ground Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			11/23/15 21:27	1
Benzene	<0.500		0.500		ug/L			11/23/15 21:27	1
Bromobenzene	<1.00		1.00		ug/L			11/23/15 21:27	1
Bromochloromethane	<5.00		5.00		ug/L			11/23/15 21:27	1
Bromodichloromethane	<1.00		1.00		ug/L			11/23/15 21:27	1
Bromoform	<5.00		5.00		ug/L			11/23/15 21:27	1
Bromomethane	<4.00		4.00		ug/L			11/23/15 21:27	1
2-Butanone (MEK)	<10.0		10.0		ug/L			11/23/15 21:27	1
n-Butylbenzene	<1.00		1.00		ug/L			11/23/15 21:27	1
sec-Butylbenzene	<1.00		1.00		ug/L			11/23/15 21:27	1
tert-Butylbenzene	<1.00		1.00		ug/L			11/23/15 21:27	1
Carbon disulfide	<1.00		1.00		ug/L			11/25/15 16:26	1
Carbon tetrachloride	<2.00		2.00		ug/L			11/23/15 21:27	1
Chlorobenzene	<1.00		1.00		ug/L			11/23/15 21:27	1
Chlorodibromomethane	<5.00		5.00		ug/L			11/23/15 21:27	1
Chloroethane	<4.00		4.00		ug/L			11/23/15 21:27	1
Chloroform	<1.00		1.00		ug/L			11/23/15 21:27	1
Chloromethane	<3.00		3.00		ug/L			11/23/15 21:27	1
2-Chlorotoluene	<1.00		1.00		ug/L			11/23/15 21:27	1
4-Chlorotoluene	<1.00		1.00		ug/L			11/23/15 21:27	1
1,2-Dibromo-3-Chloropropane	<10.0		10.0		ug/L			11/23/15 21:27	1
1,2-Dibromoethane (EDB)	<10.0		10.0		ug/L			11/23/15 21:27	1
Dibromomethane	<1.00		1.00		ug/L			11/23/15 21:27	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			11/23/15 21:27	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			11/23/15 21:27	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			11/23/15 21:27	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			11/23/15 21:27	1
1,1-Dichloroethane	<1.00		1.00		ug/L			11/23/15 21:27	1
1,2-Dichloroethane	<1.00		1.00		ug/L			11/23/15 21:27	1
1,1-Dichloroethene	<2.00		2.00		ug/L			11/23/15 21:27	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			11/23/15 21:27	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			11/23/15 21:27	1
1,2-Dichloropropane	<1.00		1.00		ug/L			11/23/15 21:27	1
1,3-Dichloropropane	<1.00		1.00		ug/L			11/23/15 21:27	1
2,2-Dichloropropane	<4.00		4.00		ug/L			11/23/15 21:27	1
1,1-Dichloropropene	<1.00		1.00		ug/L			11/23/15 21:27	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			11/23/15 21:27	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			11/23/15 21:27	1
Ethylbenzene	<1.00		1.00		ug/L			11/23/15 21:27	1
Hexachlorobutadiene	<5.00		5.00		ug/L			11/23/15 21:27	1
Hexane	<1.00		1.00		ug/L			11/23/15 21:27	1
Isopropylbenzene	<1.00		1.00		ug/L			11/23/15 21:27	1
p-Isopropyltoluene	<1.00		1.00		ug/L			11/23/15 21:27	1
Methylene Chloride	<5.00		5.00		ug/L			11/23/15 21:27	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			11/23/15 21:27	1
Naphthalene	<5.00		5.00		ug/L			11/23/15 21:27	1
N-Propylbenzene	<1.00		1.00		ug/L			11/23/15 21:27	1
Styrene	<1.00		1.00		ug/L			11/23/15 21:27	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			11/23/15 21:27	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: SB1

Date Collected: 11/11/15 11:32

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-13

Matrix: Ground Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			11/23/15 21:27	1
Tetrachloroethene	6.60		1.00		ug/L			11/23/15 21:27	1
Toluene	<1.00		1.00		ug/L			11/23/15 21:27	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			11/23/15 21:27	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			11/23/15 21:27	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			11/23/15 21:27	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			11/23/15 21:27	1
Trichloroethene	<1.00		1.00		ug/L			11/23/15 21:27	1
Trichlorofluoromethane	<4.00		4.00		ug/L			11/23/15 21:27	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			11/23/15 21:27	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			11/23/15 21:27	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			11/23/15 21:27	1
Vinyl chloride	<1.00		1.00		ug/L			11/23/15 21:27	1
Xylenes, Total	<3.00		3.00		ug/L			11/23/15 21:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		75 - 120		11/23/15 21:27	1
4-Bromofluorobenzene (Surr)	104		75 - 120		11/25/15 16:26	1
Dibromofluoromethane (Surr)	101		75 - 120		11/23/15 21:27	1
Dibromofluoromethane (Surr)	91		75 - 120		11/25/15 16:26	1
Toluene-d8 (Surr)	95		80 - 120		11/23/15 21:27	1
Toluene-d8 (Surr)	106		80 - 120		11/25/15 16:26	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
Acenaphthylene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
Anthracene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
Benzidine	<100		100		ug/L		11/17/15 14:48	11/19/15 13:13	1
Benzo[a]anthracene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
Benzo[a]pyrene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
Benzo[b]fluoranthene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
Benzo[g,h,i]perylene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
Benzoic acid	<100		100		ug/L		11/17/15 14:48	11/19/15 13:13	1
Benzo[k]fluoranthene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
Benzyl alcohol	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
Bis(2-chloroethoxy)methane	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
Bis(2-chloroethyl)ether	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
bis (2-chloroisopropyl) ether	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
Bis(2-ethylhexyl) phthalate	189	B	50.0		ug/L		11/17/15 14:48	11/20/15 11:21	5
4-Bromophenyl phenyl ether	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
Butyl benzyl phthalate	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
Carbazole	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
4-Chloroaniline	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
4-Chloro-3-methylphenol	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
2-Chloronaphthalene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
2-Chlorophenol	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
4-Chlorophenyl phenyl ether	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
Chrysene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
Dibenz(a,h)anthracene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: SB1

Date Collected: 11/11/15 11:32

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-13

Matrix: Ground Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenzofuran	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
1,2-Dichlorobenzene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
1,3-Dichlorobenzene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
1,4-Dichlorobenzene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
3,3'-Dichlorobenzidine	<50.0		50.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
2,4-Dichlorophenol	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
Diethyl phthalate	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
2,4-Dimethylphenol	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
Dimethyl phthalate	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
Di-n-butyl phthalate	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
4,6-Dinitro-2-methylphenol	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
2,4-Dinitrophenol	<20.0		20.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
2,4-Dinitrotoluene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
2,6-Dinitrotoluene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
Di-n-octyl phthalate	<20.0		20.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
Fluoranthene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
Fluorene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
Hexachlorobenzene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
Hexachlorobutadiene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
Hexachlorocyclopentadiene	<20.0		20.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
Hexachloroethane	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
Indeno[1,2,3-cd]pyrene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
Isophorone	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
2-Methylnaphthalene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
2-Methylphenol	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
Methylphenol, 3 & 4	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
Naphthalene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
2-Nitroaniline	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
3-Nitroaniline	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
4-Nitroaniline	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
Nitrobenzene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
2-Nitrophenol	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
4-Nitrophenol	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
N-Nitrosodimethylamine	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
N-Nitrosodi-n-propylamine	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
N-Nitrosodiphenylamine	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
Pentachlorophenol	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
Phenanthrene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
Phenol	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
Pyrene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
Pyridine	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
Total Cresols	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
1,2,4-Trichlorobenzene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
2,4,5-Trichlorophenol	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1
2,4,6-Trichlorophenol	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	48		25 - 80	11/17/15 14:48	11/19/15 13:13	1
2-Fluorophenol (Surr)	26		15 - 50	11/17/15 14:48	11/19/15 13:13	1
Nitrobenzene-d5 (Surr)	50		25 - 80	11/17/15 14:48	11/19/15 13:13	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: SB1

Date Collected: 11/11/15 11:32

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-13

Matrix: Ground Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d6 (Surr)	18		10 - 35	11/17/15 14:48	11/19/15 13:13	1
Terphenyl-d14 (Surr)	57		30 - 105	11/17/15 14:48	11/19/15 13:13	1
2,4,6-Tribromophenol (Surr)	58		25 - 100	11/17/15 14:48	11/19/15 13:13	1

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<278		278		ug/L		11/16/15 16:44	11/17/15 18:34	1
Diesel	<278		278		ug/L		11/16/15 16:44	11/17/15 18:34	1
Waste Oil	<278		278		ug/L		11/16/15 16:44	11/17/15 18:34	1
Total Extractable Hydrocarbons	<463		463		ug/L		11/16/15 16:44	11/17/15 18:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	83		45 - 140	11/16/15 16:44	11/17/15 18:34	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200		mg/L		11/13/15 07:52	11/17/15 16:29	1
Barium	0.238		0.00200		mg/L		11/13/15 07:52	11/16/15 18:01	1
Cadmium	<0.000500		0.000500		mg/L		11/13/15 07:52	11/16/15 18:01	1
Chromium	<0.00500		0.00500		mg/L		11/13/15 07:52	11/16/15 18:01	1
Lead	<0.000500		0.000500		mg/L		11/13/15 07:52	11/16/15 18:01	1
Selenium	<0.00500		0.00500		mg/L		11/13/15 07:52	11/16/15 18:01	1
Silver	<0.00100		0.00100		mg/L		11/13/15 07:52	11/16/15 18:01	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		11/16/15 12:31	11/17/15 13:02	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: Dupe 3
Date Collected: 11/11/15 00:00
Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-14
Matrix: Ground Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
Acenaphthylene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
Anthracene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
Benzidine	<100		100		ug/L		11/17/15 14:48	11/19/15 13:37	1
Benzo[a]anthracene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
Benzo[a]pyrene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
Benzo[b]fluoranthene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
Benzo[g,h,i]perylene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
Benzoic acid	<100		100		ug/L		11/17/15 14:48	11/19/15 13:37	1
Benzo[k]fluoranthene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
Benzyl alcohol	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
Bis(2-chloroethoxy)methane	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
Bis(2-chloroethyl)ether	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
bis (2-chloroisopropyl) ether	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
Bis(2-ethylhexyl) phthalate	165	B	50.0		ug/L		11/17/15 14:48	11/20/15 11:45	5
4-Bromophenyl phenyl ether	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
Butyl benzyl phthalate	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
Carbazole	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
4-Chloroaniline	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
4-Chloro-3-methylphenol	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
2-Chloronaphthalene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
2-Chlorophenol	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
4-Chlorophenyl phenyl ether	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
Chrysene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
Dibenz(a,h)anthracene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
Dibenzofuran	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
1,2-Dichlorobenzene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
1,3-Dichlorobenzene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
1,4-Dichlorobenzene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
3,3'-Dichlorobenzidine	<50.0		50.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
2,4-Dichlorophenol	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
Diethyl phthalate	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
2,4-Dimethylphenol	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
Dimethyl phthalate	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
Di-n-butyl phthalate	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
4,6-Dinitro-2-methylphenol	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
2,4-Dinitrophenol	<20.0		20.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
2,4-Dinitrotoluene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
2,6-Dinitrotoluene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
Di-n-octyl phthalate	<20.0		20.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
Fluoranthene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
Fluorene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
Hexachlorobenzene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
Hexachlorobutadiene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
Hexachlorocyclopentadiene	<20.0		20.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
Hexachloroethane	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
Indeno[1,2,3-cd]pyrene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
Isophorone	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
2-Methylnaphthalene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: Dupe 3

Date Collected: 11/11/15 00:00

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-14

Matrix: Ground Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
Methylphenol, 3 & 4	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
Naphthalene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
2-Nitroaniline	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
3-Nitroaniline	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
4-Nitroaniline	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
Nitrobenzene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
2-Nitrophenol	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
4-Nitrophenol	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
N-Nitrosodimethylamine	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
N-Nitrosodi-n-propylamine	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
N-Nitrosodiphenylamine	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
Pentachlorophenol	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
Phenanthrene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
Phenol	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
Pyrene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
Pyridine	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
Total Cresols	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
1,2,4-Trichlorobenzene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
2,4,5-Trichlorophenol	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1
2,4,6-Trichlorophenol	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 13:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	47		25 - 80	11/17/15 14:48	11/19/15 13:37	1
2-Fluorophenol (Surr)	26		15 - 50	11/17/15 14:48	11/19/15 13:37	1
Nitrobenzene-d5 (Surr)	49		25 - 80	11/17/15 14:48	11/19/15 13:37	1
Phenol-d6 (Surr)	18		10 - 35	11/17/15 14:48	11/19/15 13:37	1
Terphenyl-d14 (Surr)	62		30 - 105	11/17/15 14:48	11/19/15 13:37	1
2,4,6-Tribromophenol (Surr)	56		25 - 100	11/17/15 14:48	11/19/15 13:37	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: SB1 0-2

Date Collected: 11/11/15 11:18

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-15

Matrix: Soil

Percent Solids: 91.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<2180	F2	2180		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
Acenaphthylene	<2180	F2	2180		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
Anthracene	<2180	F2	2180		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
Benzidine	<35900		35900		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
Benzo[a]anthracene	<2180	F2	2180		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
Benzo[a]pyrene	<2180	F2	2180		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
Benzo[b]fluoranthene	<2180	F2	2180		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
Benzo[g,h,i]perylene	<2180	F1	2180		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
Benzoic acid	<7180		7180		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
Benzo[k]fluoranthene	<2180	F2	2180		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
Benzyl alcohol	<3590	F2	3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
Bis(2-chloroethoxy)methane	<3590		3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
Bis(2-chloroethyl)ether	<3590		3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
bis (2-chloroisopropyl) ether	<3590		3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
Bis(2-ethylhexyl) phthalate	<3590	F2	3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
4-Bromophenyl phenyl ether	<3590	F2	3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
Butyl benzyl phthalate	<3590	F2	3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
Carbazole	<3590	F2	3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
4-Chloroaniline	<3590	F2	3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
4-Chloro-3-methylphenol	<3590	F2	3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
2-Chloronaphthalene	<3590	F2	3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
2-Chlorophenol	<3590	F2 F1	3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
4-Chlorophenyl phenyl ether	<3590	F2	3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
Chrysene	<2180	F2	2180		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
Dibenz(a,h)anthracene	<3590	F2	3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
Dibenzofuran	<3590	F2	3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
1,2-Dichlorobenzene	<3590		3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
1,3-Dichlorobenzene	<3590		3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
1,4-Dichlorobenzene	<3590		3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
3,3'-Dichlorobenzidine	<3590		3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
2,4-Dichlorophenol	<3590	F1	3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
Diethyl phthalate	<3590	F1	3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
2,4-Dimethylphenol	<3590	F2	3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
Dimethyl phthalate	<3590	F2	3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
Di-n-butyl phthalate	<3590	F1	3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
4,6-Dinitro-2-methylphenol	<3590	F1	3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
2,4-Dinitrophenol	<7180	F1 *	7180		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
2,4-Dinitrotoluene	<3590	F2	3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
2,6-Dinitrotoluene	<3590	F2	3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
Di-n-octyl phthalate	<3590	F2	3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
Fluoranthene	<2180	F2	2180		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
Fluorene	<2180	F2	2180		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
Hexachlorobenzene	<3590	F2	3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
Hexachlorobutadiene	<3590		3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
Hexachlorocyclopentadiene	<7180	F1	7180		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
Hexachloroethane	<3590		3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
Indeno[1,2,3-cd]pyrene	<2180	F2	2180		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
Isophorone	<3590	F2	3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
2-Methylnaphthalene	<2180		2180		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: SB1 0-2

Date Collected: 11/11/15 11:18

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-15

Matrix: Soil

Percent Solids: 91.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	<3590	F2	3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
Methylphenol, 3 & 4	<3590	F2	3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
Naphthalene	<2180		2180		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
2-Nitroaniline	<3590	F2	3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
3-Nitroaniline	<3590	F1	3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
4-Nitroaniline	<3590	F2	3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
Nitrobenzene	<3590		3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
2-Nitrophenol	<3590	F1	3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
4-Nitrophenol	<3590	F1	3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
N-Nitrosodimethylamine	<3590		3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
N-Nitrosodi-n-propylamine	<3590		3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
N-Nitrosodiphenylamine	<3590	F2	3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
Pentachlorophenol	<3590	F1	3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
Phenanthrene	<3590	F2	3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
Phenol	<3590	F2	3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
Pyrene	<3590	F2	3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
Pyridine	<3590	F1	3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
Total Cresols	<3590	F2	3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
1,2,4-Trichlorobenzene	<3590		3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
2,4,5-Trichlorophenol	<3590	F1	3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10
2,4,6-Trichlorophenol	<3590	F1	3590		ug/Kg	☼	11/13/15 15:27	11/18/15 17:20	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	18	X	20 - 90	11/13/15 15:27	11/18/15 17:20	10
2-Fluorophenol (Surr)	3	X	15 - 90	11/13/15 15:27	11/18/15 17:20	10
Nitrobenzene-d5 (Surr)	17		15 - 90	11/13/15 15:27	11/18/15 17:20	10
Phenol-d6 (Surr)	12	X	20 - 90	11/13/15 15:27	11/18/15 17:20	10
Terphenyl-d14 (Surr)	40		35 - 110	11/13/15 15:27	11/18/15 17:20	10
2,4,6-Tribromophenol (Surr)	0	X	25 - 105	11/13/15 15:27	11/18/15 17:20	10

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	45.6		33.7		mg/Kg	☼	11/13/15 15:56	11/13/15 19:07	10
Barium	181		4.21		mg/Kg	☼	11/13/15 15:56	11/13/15 19:07	10
Cadmium	<8.42		8.42		mg/Kg	☼	11/13/15 15:56	11/13/15 19:07	10
Chromium	97.8		8.42		mg/Kg	☼	11/13/15 15:56	11/13/15 19:07	10
Lead	592		42.1		mg/Kg	☼	11/13/15 15:56	11/13/15 19:07	10
Selenium	<63.2		63.2		mg/Kg	☼	11/13/15 15:56	11/13/15 19:07	10
Silver	<8.42		8.42		mg/Kg	☼	11/13/15 15:56	11/13/15 19:07	10

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.470		0.0202		mg/Kg	☼	11/12/15 15:51	11/18/15 10:56	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: SB1 12-14

Date Collected: 11/11/15 11:27

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-16

Matrix: Soil

Percent Solids: 92.6

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<39.8		39.8		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
Benzene	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
Bromobenzene	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
Bromochloromethane	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
Bromodichloromethane	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
Bromoform	<7.95		7.95		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
Bromomethane	<15.9		15.9		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
2-Butanone (MEK)	<39.8		39.8		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
n-Butylbenzene	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
sec-Butylbenzene	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
tert-Butylbenzene	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
Carbon disulfide	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
Carbon tetrachloride	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
Chlorobenzene	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
Chlorodibromomethane	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
Chloroethane	<15.9		15.9		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
Chloroform	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
Chloromethane	<15.9		15.9		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
2-Chlorotoluene	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
4-Chlorotoluene	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
1,2-Dibromo-3-Chloropropane	<39.8		39.8		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
1,2-Dibromoethane (EDB)	<39.8		39.8		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
Dibromomethane	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
1,2-Dichlorobenzene	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
1,3-Dichlorobenzene	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
1,4-Dichlorobenzene	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
Dichlorodifluoromethane	<11.9		11.9		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
1,1-Dichloroethane	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
1,2-Dichloroethane	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
1,1-Dichloroethene	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
cis-1,2-Dichloroethene	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
trans-1,2-Dichloroethene	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
1,2-Dichloropropane	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
1,3-Dichloropropane	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
2,2-Dichloropropane	<15.9		15.9		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
1,1-Dichloropropene	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
cis-1,3-Dichloropropene	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
trans-1,3-Dichloropropene	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
Ethylbenzene	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
Hexachlorobutadiene	<19.9		19.9		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
Hexane	<19.9		19.9		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
Isopropylbenzene	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
p-Isopropyltoluene	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
Methylene Chloride	<39.8		39.8		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
Methyl tert-butyl ether	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
Naphthalene	<19.9		19.9		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
N-Propylbenzene	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
Styrene	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
1,1,1,2-Tetrachloroethane	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: SB1 12-14

Lab Sample ID: 310-68805-16

Date Collected: 11/11/15 11:27

Matrix: Soil

Date Received: 11/12/15 16:30

Percent Solids: 92.6

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
Tetrachloroethene	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
Toluene	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
1,2,3-Trichlorobenzene	<19.9		19.9		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
1,2,4-Trichlorobenzene	<19.9		19.9		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
1,1,1-Trichloroethane	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
1,1,2-Trichloroethane	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
Trichloroethene	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
Trichlorofluoromethane	<15.9		15.9		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
1,2,3-Trichloropropane	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
1,2,4-Trimethylbenzene	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
1,3,5-Trimethylbenzene	<3.98		3.98		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
Vinyl chloride	<11.9		11.9		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1
Xylenes, Total	<11.9		11.9		ug/Kg	☼	11/20/15 07:59	11/21/15 01:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		80 - 120	11/20/15 07:59	11/21/15 01:42	1
Dibromofluoromethane (Surr)	95		75 - 125	11/20/15 07:59	11/21/15 01:42	1
Toluene-d8 (Surr)	100		80 - 120	11/20/15 07:59	11/21/15 01:42	1

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<9.66		9.66		mg/Kg		11/13/15 15:29	11/17/15 19:25	1
Diesel	<9.66		9.66		mg/Kg		11/13/15 15:29	11/17/15 19:25	1
Waste Oil	<9.66		9.66		mg/Kg		11/13/15 15:29	11/17/15 19:25	1
Total Extractable Hydrocarbons	<14.5		14.5		mg/Kg		11/13/15 15:29	11/17/15 19:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	93		40 - 135	11/13/15 15:29	11/17/15 19:25	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: Dupe 4

Date Collected: 11/11/15 00:00

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-17

Matrix: Soil

Percent Solids: 92.3

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<38.7		38.7		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
Benzene	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
Bromobenzene	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
Bromochloromethane	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
Bromodichloromethane	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
Bromoform	<7.73		7.73		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
Bromomethane	<15.5		15.5		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
2-Butanone (MEK)	<38.7		38.7		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
n-Butylbenzene	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
sec-Butylbenzene	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
tert-Butylbenzene	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
Carbon disulfide	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
Carbon tetrachloride	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
Chlorobenzene	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
Chlorodibromomethane	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
Chloroethane	<15.5		15.5		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
Chloroform	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
Chloromethane	<15.5		15.5		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
2-Chlorotoluene	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
4-Chlorotoluene	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
1,2-Dibromo-3-Chloropropane	<38.7		38.7		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
1,2-Dibromoethane (EDB)	<38.7		38.7		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
Dibromomethane	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
1,2-Dichlorobenzene	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
1,3-Dichlorobenzene	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
1,4-Dichlorobenzene	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
Dichlorodifluoromethane	<11.6		11.6		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
1,1-Dichloroethane	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
1,2-Dichloroethane	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
1,1-Dichloroethene	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
cis-1,2-Dichloroethene	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
trans-1,2-Dichloroethene	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
1,2-Dichloropropane	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
1,3-Dichloropropane	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
2,2-Dichloropropane	<15.5		15.5		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
1,1-Dichloropropene	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
cis-1,3-Dichloropropene	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
trans-1,3-Dichloropropene	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
Ethylbenzene	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
Hexachlorobutadiene	<19.3		19.3		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
Hexane	<19.3		19.3		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
Isopropylbenzene	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
p-Isopropyltoluene	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
Methylene Chloride	<38.7		38.7		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
Methyl tert-butyl ether	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
Naphthalene	<19.3		19.3		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
N-Propylbenzene	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
Styrene	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
1,1,1,2-Tetrachloroethane	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: Dupe 4

Date Collected: 11/11/15 00:00

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-17

Matrix: Soil

Percent Solids: 92.3

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
Tetrachloroethene	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
Toluene	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
1,2,3-Trichlorobenzene	<19.3		19.3		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
1,2,4-Trichlorobenzene	<19.3		19.3		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
1,1,1-Trichloroethane	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
1,1,2-Trichloroethane	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
Trichloroethene	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
Trichlorofluoromethane	<15.5		15.5		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
1,2,3-Trichloropropane	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
1,2,4-Trimethylbenzene	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
1,3,5-Trimethylbenzene	<3.87		3.87		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
Vinyl chloride	<11.6		11.6		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
Xylenes, Total	<11.6		11.6		ug/Kg	☼	11/20/15 07:59	11/21/15 02:07	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		80 - 120				11/20/15 07:59	11/21/15 02:07	1
Dibromofluoromethane (Surr)	105		75 - 125				11/20/15 07:59	11/21/15 02:07	1
Toluene-d8 (Surr)	91		80 - 120				11/20/15 07:59	11/21/15 02:07	1

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<9.63		9.63		mg/Kg		11/13/15 15:29	11/17/15 19:39	1
Diesel	<9.63		9.63		mg/Kg		11/13/15 15:29	11/17/15 19:39	1
Waste Oil	<9.63		9.63		mg/Kg		11/13/15 15:29	11/17/15 19:39	1
Total Extractable Hydrocarbons	<14.4		14.4		mg/Kg		11/13/15 15:29	11/17/15 19:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Octacosane	82		40 - 135				11/13/15 15:29	11/17/15 19:39	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: PCB 1
Date Collected: 11/11/15 11:42
Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-18
Matrix: Wipe

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<1.00	*	1.00		ug/Wipe		11/13/15 15:21	11/16/15 18:48	1
PCB-1221	<1.00		1.00		ug/Wipe		11/13/15 15:21	11/16/15 18:48	1
PCB-1232	<1.00		1.00		ug/Wipe		11/13/15 15:21	11/16/15 18:48	1
PCB-1242	<1.00		1.00		ug/Wipe		11/13/15 15:21	11/16/15 18:48	1
PCB-1248	<1.00		1.00		ug/Wipe		11/13/15 15:21	11/16/15 18:48	1
PCB-1254	<1.00		1.00		ug/Wipe		11/13/15 15:21	11/16/15 18:48	1
PCB-1260	<1.00	*	1.00		ug/Wipe		11/13/15 15:21	11/16/15 18:48	1
PCB-1268	<1.00		1.00		ug/Wipe		11/13/15 15:21	11/16/15 18:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	82		56 - 146				11/13/15 15:21	11/16/15 18:48	1
Tetrachloro-m-xylene	60		42 - 132				11/13/15 15:21	11/16/15 18:48	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: PCB 2

Date Collected: 11/11/15 11:45

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-19

Matrix: Wipe

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<1.00	*	1.00		ug/Wipe		11/13/15 15:21	11/16/15 18:59	1
PCB-1221	<1.00		1.00		ug/Wipe		11/13/15 15:21	11/16/15 18:59	1
PCB-1232	<1.00		1.00		ug/Wipe		11/13/15 15:21	11/16/15 18:59	1
PCB-1242	<1.00		1.00		ug/Wipe		11/13/15 15:21	11/16/15 18:59	1
PCB-1248	<1.00		1.00		ug/Wipe		11/13/15 15:21	11/16/15 18:59	1
PCB-1254	<1.00		1.00		ug/Wipe		11/13/15 15:21	11/16/15 18:59	1
PCB-1260	<1.00	*	1.00		ug/Wipe		11/13/15 15:21	11/16/15 18:59	1
PCB-1268	<1.00		1.00		ug/Wipe		11/13/15 15:21	11/16/15 18:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	75		56 - 146				11/13/15 15:21	11/16/15 18:59	1
Tetrachloro-m-xylene	61		42 - 132				11/13/15 15:21	11/16/15 18:59	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: PCB 3

Date Collected: 11/11/15 11:46

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-20

Matrix: Wipe

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<1.00	*	1.00		ug/Wipe		11/13/15 15:21	11/16/15 19:10	1
PCB-1221	<1.00		1.00		ug/Wipe		11/13/15 15:21	11/16/15 19:10	1
PCB-1232	<1.00		1.00		ug/Wipe		11/13/15 15:21	11/16/15 19:10	1
PCB-1242	<1.00		1.00		ug/Wipe		11/13/15 15:21	11/16/15 19:10	1
PCB-1248	<1.00		1.00		ug/Wipe		11/13/15 15:21	11/16/15 19:10	1
PCB-1254	<1.00		1.00		ug/Wipe		11/13/15 15:21	11/16/15 19:10	1
PCB-1260	<1.00	*	1.00		ug/Wipe		11/13/15 15:21	11/16/15 19:10	1
PCB-1268	<1.00		1.00		ug/Wipe		11/13/15 15:21	11/16/15 19:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	67		56 - 146				11/13/15 15:21	11/16/15 19:10	1
Tetrachloro-m-xylene	61		42 - 132				11/13/15 15:21	11/16/15 19:10	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: Dup 5
Date Collected: 11/11/15 00:00
Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-21
Matrix: Wipe

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<1.00	*	1.00		ug/Wipe		11/13/15 15:21	11/17/15 10:54	1
PCB-1221	<1.00		1.00		ug/Wipe		11/13/15 15:21	11/17/15 10:54	1
PCB-1232	<1.00		1.00		ug/Wipe		11/13/15 15:21	11/17/15 10:54	1
PCB-1242	<1.00		1.00		ug/Wipe		11/13/15 15:21	11/17/15 10:54	1
PCB-1248	<1.00		1.00		ug/Wipe		11/13/15 15:21	11/17/15 10:54	1
PCB-1254	<1.00		1.00		ug/Wipe		11/13/15 15:21	11/17/15 10:54	1
PCB-1260	<1.00	*	1.00		ug/Wipe		11/13/15 15:21	11/17/15 10:54	1
PCB-1268	<1.00		1.00		ug/Wipe		11/13/15 15:21	11/17/15 10:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	80		56 - 146				11/13/15 15:21	11/17/15 10:54	1
Tetrachloro-m-xylene	42		42 - 132				11/13/15 15:21	11/17/15 10:54	1

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: SB3

Date Collected: 11/11/15 12:03

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-22

Matrix: Ground Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			11/23/15 21:49	1
Benzene	<0.500		0.500		ug/L			11/23/15 21:49	1
Bromobenzene	<1.00		1.00		ug/L			11/23/15 21:49	1
Bromochloromethane	<5.00		5.00		ug/L			11/23/15 21:49	1
Bromodichloromethane	<1.00		1.00		ug/L			11/23/15 21:49	1
Bromoform	<5.00		5.00		ug/L			11/23/15 21:49	1
Bromomethane	<4.00		4.00		ug/L			11/23/15 21:49	1
2-Butanone (MEK)	<10.0		10.0		ug/L			11/23/15 21:49	1
n-Butylbenzene	<1.00		1.00		ug/L			11/23/15 21:49	1
sec-Butylbenzene	<1.00		1.00		ug/L			11/23/15 21:49	1
tert-Butylbenzene	<1.00		1.00		ug/L			11/23/15 21:49	1
Carbon disulfide	<1.00		1.00		ug/L			11/25/15 16:47	1
Carbon tetrachloride	<2.00		2.00		ug/L			11/23/15 21:49	1
Chlorobenzene	<1.00		1.00		ug/L			11/23/15 21:49	1
Chlorodibromomethane	<5.00		5.00		ug/L			11/23/15 21:49	1
Chloroethane	<4.00		4.00		ug/L			11/23/15 21:49	1
Chloroform	<1.00		1.00		ug/L			11/23/15 21:49	1
Chloromethane	<3.00		3.00		ug/L			11/23/15 21:49	1
2-Chlorotoluene	<1.00		1.00		ug/L			11/23/15 21:49	1
4-Chlorotoluene	<1.00		1.00		ug/L			11/23/15 21:49	1
1,2-Dibromo-3-Chloropropane	<10.0		10.0		ug/L			11/23/15 21:49	1
1,2-Dibromoethane (EDB)	<10.0		10.0		ug/L			11/23/15 21:49	1
Dibromomethane	<1.00		1.00		ug/L			11/23/15 21:49	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			11/23/15 21:49	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			11/23/15 21:49	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			11/23/15 21:49	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			11/23/15 21:49	1
1,1-Dichloroethane	<1.00		1.00		ug/L			11/23/15 21:49	1
1,2-Dichloroethane	<1.00		1.00		ug/L			11/23/15 21:49	1
1,1-Dichloroethene	<2.00		2.00		ug/L			11/23/15 21:49	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			11/23/15 21:49	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			11/23/15 21:49	1
1,2-Dichloropropane	<1.00		1.00		ug/L			11/23/15 21:49	1
1,3-Dichloropropane	<1.00		1.00		ug/L			11/23/15 21:49	1
2,2-Dichloropropane	<4.00		4.00		ug/L			11/23/15 21:49	1
1,1-Dichloropropene	<1.00		1.00		ug/L			11/23/15 21:49	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			11/23/15 21:49	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			11/23/15 21:49	1
Ethylbenzene	<1.00		1.00		ug/L			11/23/15 21:49	1
Hexachlorobutadiene	<5.00		5.00		ug/L			11/23/15 21:49	1
Hexane	<1.00		1.00		ug/L			11/23/15 21:49	1
Isopropylbenzene	<1.00		1.00		ug/L			11/23/15 21:49	1
p-Isopropyltoluene	<1.00		1.00		ug/L			11/23/15 21:49	1
Methylene Chloride	<5.00		5.00		ug/L			11/23/15 21:49	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			11/23/15 21:49	1
Naphthalene	<5.00		5.00		ug/L			11/23/15 21:49	1
N-Propylbenzene	<1.00		1.00		ug/L			11/23/15 21:49	1
Styrene	<1.00		1.00		ug/L			11/23/15 21:49	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			11/23/15 21:49	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: SB3

Date Collected: 11/11/15 12:03

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-22

Matrix: Ground Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			11/23/15 21:49	1
Tetrachloroethene	6.24		1.00		ug/L			11/23/15 21:49	1
Toluene	<1.00		1.00		ug/L			11/23/15 21:49	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			11/23/15 21:49	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			11/23/15 21:49	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			11/23/15 21:49	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			11/23/15 21:49	1
Trichloroethene	<1.00		1.00		ug/L			11/23/15 21:49	1
Trichlorofluoromethane	<4.00		4.00		ug/L			11/23/15 21:49	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			11/23/15 21:49	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			11/23/15 21:49	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			11/23/15 21:49	1
Vinyl chloride	<1.00		1.00		ug/L			11/23/15 21:49	1
Xylenes, Total	<3.00		3.00		ug/L			11/23/15 21:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		75 - 120		11/23/15 21:49	1
4-Bromofluorobenzene (Surr)	106		75 - 120		11/25/15 16:47	1
Dibromofluoromethane (Surr)	99		75 - 120		11/23/15 21:49	1
Dibromofluoromethane (Surr)	95		75 - 120		11/25/15 16:47	1
Toluene-d8 (Surr)	95		80 - 120		11/23/15 21:49	1
Toluene-d8 (Surr)	104		80 - 120		11/25/15 16:47	1

Method: 8270D SIM - Semivolatile Organic Compound (GC/MS SIM LL)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 15:00	1
Acenaphthylene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 15:00	1
Anthracene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 15:00	1
Benzo[a]anthracene	0.195		0.0926		ug/L		11/13/15 14:23	11/16/15 15:00	1
Benzo[a]pyrene	0.416		0.0926		ug/L		11/13/15 14:23	11/16/15 15:00	1
Benzo[b]fluoranthene	0.431		0.0926		ug/L		11/13/15 14:23	11/16/15 15:00	1
Benzo[g,h,i]perylene	1.07		0.0926		ug/L		11/13/15 14:23	11/16/15 15:00	1
Benzo[k]fluoranthene	0.463		0.0926		ug/L		11/13/15 14:23	11/16/15 15:00	1
Chrysene	0.197		0.0926		ug/L		11/13/15 14:23	11/16/15 15:00	1
Dibenz(a,h)anthracene	1.06		0.0926		ug/L		11/13/15 14:23	11/16/15 15:00	1
Fluoranthene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 15:00	1
Fluorene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 15:00	1
Indeno[1,2,3-cd]pyrene	1.09		0.0926		ug/L		11/13/15 14:23	11/16/15 15:00	1
2-Methylnaphthalene	<0.463		0.463		ug/L		11/13/15 14:23	11/16/15 15:00	1
Naphthalene	<0.463		0.463		ug/L		11/13/15 14:23	11/16/15 15:00	1
Phenanthrene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 15:00	1
Pyrene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 15:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	51		10 - 110	11/13/15 14:23	11/16/15 15:00	1
Nitrobenzene-d5 (Surr)	55		10 - 110	11/13/15 14:23	11/16/15 15:00	1
Terphenyl-d14 (Surr)	47		20 - 110	11/13/15 14:23	11/16/15 15:00	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: SB3

Date Collected: 11/11/15 12:03

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-22

Matrix: Ground Water

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<278		278		ug/L	-	11/16/15 16:44	11/17/15 18:48	1
Diesel	<278		278		ug/L	-	11/16/15 16:44	11/17/15 18:48	1
Waste Oil	<278		278		ug/L	-	11/16/15 16:44	11/17/15 18:48	1
Total Extractable Hydrocarbons	<463		463		ug/L	-	11/16/15 16:44	11/17/15 18:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	97		45 - 140	11/16/15 16:44	11/17/15 18:48	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200		mg/L	-	11/13/15 07:52	11/17/15 16:32	1
Barium	0.144		0.00200		mg/L	-	11/13/15 07:52	11/16/15 18:05	1
Cadmium	<0.000500		0.000500		mg/L	-	11/13/15 07:52	11/16/15 18:05	1
Chromium	<0.00500		0.00500		mg/L	-	11/13/15 07:52	11/16/15 18:05	1
Lead	<0.000500		0.000500		mg/L	-	11/13/15 07:52	11/16/15 18:05	1
Selenium	<0.00500		0.00500		mg/L	-	11/13/15 07:52	11/16/15 18:05	1
Silver	<0.00100		0.00100		mg/L	-	11/13/15 07:52	11/16/15 18:05	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L	-	11/16/15 12:31	11/17/15 13:04	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: SB3 0-2

Date Collected: 11/11/15 12:07

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-23

Matrix: Soil

Percent Solids: 85.9

Method: 8270D SIM - Semivolatile Organic Compound (GC/MS SIM LL)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.115		0.115		mg/Kg	☼	11/17/15 08:54	11/18/15 16:51	10
Acenaphthylene	<0.115		0.115		mg/Kg	☼	11/17/15 08:54	11/18/15 16:51	10
Anthracene	<0.115		0.115		mg/Kg	☼	11/17/15 08:54	11/18/15 16:51	10
Benzo[a]anthracene	0.150		0.115		mg/Kg	☼	11/17/15 08:54	11/18/15 16:51	10
Benzo[a]pyrene	0.132		0.115		mg/Kg	☼	11/17/15 08:54	11/18/15 16:51	10
Benzo[b]fluoranthene	0.252		0.115		mg/Kg	☼	11/17/15 08:54	11/18/15 16:51	10
Benzo[g,h,i]perylene	<0.115		0.115		mg/Kg	☼	11/17/15 08:54	11/18/15 16:51	10
Benzo[k]fluoranthene	<0.115		0.115		mg/Kg	☼	11/17/15 08:54	11/18/15 16:51	10
Chrysene	0.199		0.115		mg/Kg	☼	11/17/15 08:54	11/18/15 16:51	10
Dibenz(a,h)anthracene	<0.115		0.115		mg/Kg	☼	11/17/15 08:54	11/18/15 16:51	10
Fluoranthene	0.226		0.115		mg/Kg	☼	11/17/15 08:54	11/18/15 16:51	10
Fluorene	<0.115		0.115		mg/Kg	☼	11/17/15 08:54	11/18/15 16:51	10
Indeno[1,2,3-cd]pyrene	<0.115		0.115		mg/Kg	☼	11/17/15 08:54	11/18/15 16:51	10
2-Methylnaphthalene	<0.115		0.115		mg/Kg	☼	11/17/15 08:54	11/18/15 16:51	10
Naphthalene	<0.115		0.115		mg/Kg	☼	11/17/15 08:54	11/18/15 16:51	10
Phenanthrene	<0.115		0.115		mg/Kg	☼	11/17/15 08:54	11/18/15 16:51	10
Pyrene	0.167		0.115		mg/Kg	☼	11/17/15 08:54	11/18/15 16:51	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	60		10 - 110				11/17/15 08:54	11/18/15 16:51	10
Nitrobenzene-d5 (Surr)	51		10 - 110				11/17/15 08:54	11/18/15 16:51	10
Terphenyl-d14 (Surr)	62		20 - 110				11/17/15 08:54	11/18/15 16:51	10

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10.9		7.66		mg/Kg	☼	11/13/15 15:56	11/13/15 18:34	2
Barium	89.3		0.957		mg/Kg	☼	11/13/15 15:56	11/13/15 18:34	2
Cadmium	<1.91		1.91		mg/Kg	☼	11/13/15 15:56	11/13/15 18:34	2
Chromium	23.3		1.91		mg/Kg	☼	11/13/15 15:56	11/13/15 18:34	2
Lead	94.1		9.57		mg/Kg	☼	11/13/15 15:56	11/13/15 18:34	2
Selenium	<14.4		14.4		mg/Kg	☼	11/13/15 15:56	11/13/15 18:34	2
Silver	<1.91		1.91		mg/Kg	☼	11/13/15 15:56	11/13/15 18:34	2

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.495		0.0208		mg/Kg	☼	11/12/15 15:51	11/18/15 10:57	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: SB3 12-14

Lab Sample ID: 310-68805-24

Date Collected: 11/11/15 12:12

Matrix: Soil

Date Received: 11/12/15 16:30

Percent Solids: 90.5

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<39.7		39.7		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
Benzene	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
Bromobenzene	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
Bromochloromethane	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
Bromodichloromethane	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
Bromoform	<7.95		7.95		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
Bromomethane	<15.9		15.9		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
2-Butanone (MEK)	<39.7		39.7		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
n-Butylbenzene	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
sec-Butylbenzene	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
tert-Butylbenzene	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
Carbon disulfide	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
Carbon tetrachloride	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
Chlorobenzene	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
Chlorodibromomethane	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
Chloroethane	<15.9		15.9		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
Chloroform	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
Chloromethane	<15.9		15.9		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
2-Chlorotoluene	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
4-Chlorotoluene	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
1,2-Dibromo-3-Chloropropane	<39.7		39.7		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
1,2-Dibromoethane (EDB)	<39.7		39.7		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
Dibromomethane	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
1,2-Dichlorobenzene	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
1,3-Dichlorobenzene	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
1,4-Dichlorobenzene	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
Dichlorodifluoromethane	<11.9		11.9		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
1,1-Dichloroethane	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
1,2-Dichloroethane	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
1,1-Dichloroethene	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
cis-1,2-Dichloroethene	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
trans-1,2-Dichloroethene	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
1,2-Dichloropropane	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
1,3-Dichloropropane	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
2,2-Dichloropropane	<15.9		15.9		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
1,1-Dichloropropene	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
cis-1,3-Dichloropropene	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
trans-1,3-Dichloropropene	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
Ethylbenzene	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
Hexachlorobutadiene	<19.9		19.9		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
Hexane	<19.9		19.9		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
Isopropylbenzene	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
p-Isopropyltoluene	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
Methylene Chloride	<39.7		39.7		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
Methyl tert-butyl ether	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
Naphthalene	<19.9		19.9		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
N-Propylbenzene	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
Styrene	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
1,1,1,2-Tetrachloroethane	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: SB3 12-14

Lab Sample ID: 310-68805-24

Date Collected: 11/11/15 12:12

Matrix: Soil

Date Received: 11/12/15 16:30

Percent Solids: 90.5

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
Tetrachloroethene	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
Toluene	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
1,2,3-Trichlorobenzene	<19.9		19.9		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
1,2,4-Trichlorobenzene	<19.9		19.9		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
1,1,1-Trichloroethane	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
1,1,2-Trichloroethane	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
Trichloroethene	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
Trichlorofluoromethane	<15.9		15.9		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
1,2,3-Trichloropropane	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
1,2,4-Trimethylbenzene	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
1,3,5-Trimethylbenzene	<3.97		3.97		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
Vinyl chloride	<11.9		11.9		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
Xylenes, Total	<11.9		11.9		ug/Kg	☼	11/20/15 07:59	11/21/15 02:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		80 - 120				11/20/15 07:59	11/21/15 02:31	1
Dibromofluoromethane (Surr)	86		75 - 125				11/20/15 07:59	11/21/15 02:31	1
Toluene-d8 (Surr)	101		80 - 120				11/20/15 07:59	11/21/15 02:31	1

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<9.83		9.83		mg/Kg		11/13/15 15:29	11/17/15 19:53	1
Diesel	<9.83		9.83		mg/Kg		11/13/15 15:29	11/17/15 19:53	1
Waste Oil	<9.83		9.83		mg/Kg		11/13/15 15:29	11/17/15 19:53	1
Total Extractable Hydrocarbons	<14.7		14.7		mg/Kg		11/13/15 15:29	11/17/15 19:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Octacosane	82		40 - 135				11/13/15 15:29	11/17/15 19:53	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: FB

Date Collected: 11/11/15 00:00

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-25

Matrix: Ground Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			11/23/15 22:10	1
Benzene	<0.500		0.500		ug/L			11/23/15 22:10	1
Bromobenzene	<1.00		1.00		ug/L			11/23/15 22:10	1
Bromochloromethane	<5.00		5.00		ug/L			11/23/15 22:10	1
Bromodichloromethane	<1.00		1.00		ug/L			11/23/15 22:10	1
Bromoform	<5.00		5.00		ug/L			11/23/15 22:10	1
Bromomethane	<4.00		4.00		ug/L			11/23/15 22:10	1
2-Butanone (MEK)	<10.0		10.0		ug/L			11/23/15 22:10	1
n-Butylbenzene	<1.00		1.00		ug/L			11/23/15 22:10	1
sec-Butylbenzene	<1.00		1.00		ug/L			11/23/15 22:10	1
tert-Butylbenzene	<1.00		1.00		ug/L			11/23/15 22:10	1
Carbon disulfide	<1.00		1.00		ug/L			11/25/15 17:09	1
Carbon tetrachloride	<2.00		2.00		ug/L			11/23/15 22:10	1
Chlorobenzene	<1.00		1.00		ug/L			11/23/15 22:10	1
Chlorodibromomethane	<5.00		5.00		ug/L			11/23/15 22:10	1
Chloroethane	<4.00		4.00		ug/L			11/23/15 22:10	1
Chloroform	1.50		1.00		ug/L			11/23/15 22:10	1
Chloromethane	<3.00		3.00		ug/L			11/23/15 22:10	1
2-Chlorotoluene	<1.00		1.00		ug/L			11/23/15 22:10	1
4-Chlorotoluene	<1.00		1.00		ug/L			11/23/15 22:10	1
1,2-Dibromo-3-Chloropropane	<10.0		10.0		ug/L			11/23/15 22:10	1
1,2-Dibromoethane (EDB)	<10.0		10.0		ug/L			11/23/15 22:10	1
Dibromomethane	<1.00		1.00		ug/L			11/23/15 22:10	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			11/23/15 22:10	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			11/23/15 22:10	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			11/23/15 22:10	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			11/23/15 22:10	1
1,1-Dichloroethane	<1.00		1.00		ug/L			11/23/15 22:10	1
1,2-Dichloroethane	<1.00		1.00		ug/L			11/23/15 22:10	1
1,1-Dichloroethene	<2.00		2.00		ug/L			11/23/15 22:10	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			11/23/15 22:10	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			11/23/15 22:10	1
1,2-Dichloropropane	<1.00		1.00		ug/L			11/23/15 22:10	1
1,3-Dichloropropane	<1.00		1.00		ug/L			11/23/15 22:10	1
2,2-Dichloropropane	<4.00		4.00		ug/L			11/23/15 22:10	1
1,1-Dichloropropene	<1.00		1.00		ug/L			11/23/15 22:10	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			11/23/15 22:10	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			11/23/15 22:10	1
Ethylbenzene	<1.00		1.00		ug/L			11/23/15 22:10	1
Hexachlorobutadiene	<5.00		5.00		ug/L			11/23/15 22:10	1
Hexane	<1.00		1.00		ug/L			11/23/15 22:10	1
Isopropylbenzene	<1.00		1.00		ug/L			11/23/15 22:10	1
p-Isopropyltoluene	<1.00		1.00		ug/L			11/23/15 22:10	1
Methylene Chloride	<5.00		5.00		ug/L			11/23/15 22:10	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			11/23/15 22:10	1
Naphthalene	<5.00		5.00		ug/L			11/23/15 22:10	1
N-Propylbenzene	<1.00		1.00		ug/L			11/23/15 22:10	1
Styrene	<1.00		1.00		ug/L			11/23/15 22:10	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			11/23/15 22:10	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: FB

Date Collected: 11/11/15 00:00

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-25

Matrix: Ground Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			11/23/15 22:10	1
Tetrachloroethene	<1.00		1.00		ug/L			11/23/15 22:10	1
Toluene	<1.00		1.00		ug/L			11/23/15 22:10	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			11/23/15 22:10	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			11/23/15 22:10	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			11/23/15 22:10	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			11/23/15 22:10	1
Trichloroethene	<1.00		1.00		ug/L			11/23/15 22:10	1
Trichlorofluoromethane	<4.00		4.00		ug/L			11/23/15 22:10	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			11/23/15 22:10	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			11/23/15 22:10	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			11/23/15 22:10	1
Vinyl chloride	<1.00		1.00		ug/L			11/23/15 22:10	1
Xylenes, Total	<3.00		3.00		ug/L			11/23/15 22:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		75 - 120		11/23/15 22:10	1
4-Bromofluorobenzene (Surr)	110		75 - 120		11/25/15 17:09	1
Dibromofluoromethane (Surr)	99		75 - 120		11/23/15 22:10	1
Dibromofluoromethane (Surr)	98		75 - 120		11/25/15 17:09	1
Toluene-d8 (Surr)	93		80 - 120		11/23/15 22:10	1
Toluene-d8 (Surr)	99		80 - 120		11/25/15 17:09	1

Method: 8270D SIM - Semivolatile Organic Compound (GC/MS SIM LL)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 15:24	1
Acenaphthylene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 15:24	1
Anthracene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 15:24	1
Benzo[a]anthracene	0.158		0.0926		ug/L		11/13/15 14:23	11/16/15 15:24	1
Benzo[a]pyrene	0.483		0.0926		ug/L		11/13/15 14:23	11/16/15 15:24	1
Benzo[b]fluoranthene	0.405		0.0926		ug/L		11/13/15 14:23	11/16/15 15:24	1
Benzo[g,h,i]perylene	1.26		0.0926		ug/L		11/13/15 14:23	11/16/15 15:24	1
Benzo[k]fluoranthene	0.541		0.0926		ug/L		11/13/15 14:23	11/16/15 15:24	1
Chrysene	0.186		0.0926		ug/L		11/13/15 14:23	11/16/15 15:24	1
Dibenz(a,h)anthracene	1.34		0.0926		ug/L		11/13/15 14:23	11/16/15 15:24	1
Fluoranthene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 15:24	1
Fluorene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 15:24	1
Indeno[1,2,3-cd]pyrene	1.34		0.0926		ug/L		11/13/15 14:23	11/16/15 15:24	1
2-Methylnaphthalene	<0.463		0.463		ug/L		11/13/15 14:23	11/16/15 15:24	1
Naphthalene	<0.463		0.463		ug/L		11/13/15 14:23	11/16/15 15:24	1
Phenanthrene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 15:24	1
Pyrene	<0.0926		0.0926		ug/L		11/13/15 14:23	11/16/15 15:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	67		10 - 110	11/13/15 14:23	11/16/15 15:24	1
Nitrobenzene-d5 (Surr)	71		10 - 110	11/13/15 14:23	11/16/15 15:24	1
Terphenyl-d14 (Surr)	84		20 - 110	11/13/15 14:23	11/16/15 15:24	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: FB

Date Collected: 11/11/15 00:00

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-25

Matrix: Ground Water

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<278		278		ug/L	-	11/16/15 16:44	11/17/15 19:03	1
Diesel	<278		278		ug/L	-	11/16/15 16:44	11/17/15 19:03	1
Waste Oil	<278		278		ug/L	-	11/16/15 16:44	11/17/15 19:03	1
Total Extractable Hydrocarbons	<463		463		ug/L	-	11/16/15 16:44	11/17/15 19:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	97		45 - 140	11/16/15 16:44	11/17/15 19:03	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200		mg/L	-	11/13/15 07:52	11/17/15 16:36	1
Barium	<0.00200		0.00200		mg/L	-	11/13/15 07:52	11/16/15 18:08	1
Cadmium	<0.000500		0.000500		mg/L	-	11/13/15 07:52	11/16/15 18:08	1
Chromium	<0.00500		0.00500		mg/L	-	11/13/15 07:52	11/16/15 18:08	1
Lead	<0.000500		0.000500		mg/L	-	11/13/15 07:52	11/16/15 18:08	1
Selenium	<0.00500		0.00500		mg/L	-	11/13/15 07:52	11/16/15 18:08	1
Silver	<0.00100		0.00100		mg/L	-	11/13/15 07:52	11/16/15 18:08	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L	-	11/16/15 12:31	11/17/15 13:05	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: Trip Blank

Date Collected: 11/11/15 00:00

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-26

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			11/23/15 22:32	1
Benzene	<0.500		0.500		ug/L			11/23/15 22:32	1
Bromobenzene	<1.00		1.00		ug/L			11/23/15 22:32	1
Bromochloromethane	<5.00		5.00		ug/L			11/23/15 22:32	1
Bromodichloromethane	<1.00		1.00		ug/L			11/23/15 22:32	1
Bromoform	<5.00		5.00		ug/L			11/23/15 22:32	1
Bromomethane	<4.00		4.00		ug/L			11/23/15 22:32	1
2-Butanone (MEK)	<10.0		10.0		ug/L			11/23/15 22:32	1
n-Butylbenzene	<1.00		1.00		ug/L			11/23/15 22:32	1
sec-Butylbenzene	<1.00		1.00		ug/L			11/23/15 22:32	1
tert-Butylbenzene	<1.00		1.00		ug/L			11/23/15 22:32	1
Carbon disulfide	<1.00		1.00		ug/L			11/25/15 13:33	1
Carbon tetrachloride	<2.00		2.00		ug/L			11/23/15 22:32	1
Chlorobenzene	<1.00		1.00		ug/L			11/23/15 22:32	1
Chlorodibromomethane	<5.00		5.00		ug/L			11/23/15 22:32	1
Chloroethane	<4.00		4.00		ug/L			11/23/15 22:32	1
Chloroform	<1.00		1.00		ug/L			11/23/15 22:32	1
Chloromethane	<3.00		3.00		ug/L			11/23/15 22:32	1
2-Chlorotoluene	<1.00		1.00		ug/L			11/23/15 22:32	1
4-Chlorotoluene	<1.00		1.00		ug/L			11/23/15 22:32	1
1,2-Dibromo-3-Chloropropane	<10.0		10.0		ug/L			11/23/15 22:32	1
1,2-Dibromoethane (EDB)	<10.0		10.0		ug/L			11/23/15 22:32	1
Dibromomethane	<1.00		1.00		ug/L			11/23/15 22:32	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			11/23/15 22:32	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			11/23/15 22:32	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			11/23/15 22:32	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			11/23/15 22:32	1
1,1-Dichloroethane	<1.00		1.00		ug/L			11/23/15 22:32	1
1,2-Dichloroethane	<1.00		1.00		ug/L			11/23/15 22:32	1
1,1-Dichloroethene	<2.00		2.00		ug/L			11/23/15 22:32	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			11/23/15 22:32	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			11/23/15 22:32	1
1,2-Dichloropropane	<1.00		1.00		ug/L			11/23/15 22:32	1
1,3-Dichloropropane	<1.00		1.00		ug/L			11/23/15 22:32	1
2,2-Dichloropropane	<4.00		4.00		ug/L			11/23/15 22:32	1
1,1-Dichloropropene	<1.00		1.00		ug/L			11/23/15 22:32	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			11/23/15 22:32	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			11/23/15 22:32	1
Ethylbenzene	<1.00		1.00		ug/L			11/23/15 22:32	1
Hexachlorobutadiene	<5.00		5.00		ug/L			11/23/15 22:32	1
Hexane	<1.00		1.00		ug/L			11/23/15 22:32	1
Isopropylbenzene	<1.00		1.00		ug/L			11/23/15 22:32	1
p-Isopropyltoluene	<1.00		1.00		ug/L			11/23/15 22:32	1
Methylene Chloride	<5.00		5.00		ug/L			11/23/15 22:32	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			11/23/15 22:32	1
Naphthalene	<5.00		5.00		ug/L			11/23/15 22:32	1
N-Propylbenzene	<1.00		1.00		ug/L			11/23/15 22:32	1
Styrene	<1.00		1.00		ug/L			11/23/15 22:32	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			11/23/15 22:32	1

TestAmerica Cedar Falls

Client Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: Trip Blank

Lab Sample ID: 310-68805-26

Date Collected: 11/11/15 00:00

Matrix: Water

Date Received: 11/12/15 16:30

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			11/23/15 22:32	1
Tetrachloroethene	<1.00		1.00		ug/L			11/23/15 22:32	1
Toluene	<1.00		1.00		ug/L			11/23/15 22:32	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			11/23/15 22:32	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			11/23/15 22:32	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			11/23/15 22:32	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			11/23/15 22:32	1
Trichloroethene	<1.00		1.00		ug/L			11/23/15 22:32	1
Trichlorofluoromethane	<4.00		4.00		ug/L			11/23/15 22:32	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			11/23/15 22:32	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			11/23/15 22:32	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			11/23/15 22:32	1
Vinyl chloride	<1.00		1.00		ug/L			11/23/15 22:32	1
Xylenes, Total	<3.00		3.00		ug/L			11/23/15 22:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		75 - 120		11/23/15 22:32	1
4-Bromofluorobenzene (Surr)	109		75 - 120		11/25/15 13:33	1
Dibromofluoromethane (Surr)	96		75 - 120		11/23/15 22:32	1
Dibromofluoromethane (Surr)	92		75 - 120		11/25/15 13:33	1
Toluene-d8 (Surr)	95		80 - 120		11/23/15 22:32	1
Toluene-d8 (Surr)	102		80 - 120		11/25/15 13:33	1

TestAmerica Cedar Falls

Definitions/Glossary

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
F1	MS and/or MSD Recovery is outside acceptance limits.
X	Surrogate is outside control limits
F2	MS/MSD RPD exceeds control limits
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
*	RPD of the LCS and LCSD exceeds the control limits
Z	The chromatographic response does not resemble a typical fuel pattern.

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
F3	Duplicate RPD exceeds the control limit

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Ground Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (75-120)	DBFM (75-120)	TOL (80-120)
310-68805-1	SB6	96	96	99
310-68805-4	Dupe 1	96	96	100
310-68805-5	SB4	101	95	100
310-68805-5	SB4	103	92	98
310-68805-9	SB2	99	98	96
310-68805-9	SB2	105	92	101
310-68805-13	SB1	98	101	95
310-68805-13	SB1	104	91	106
310-68805-22	SB3	97	99	95
310-68805-22	SB3	106	95	104
310-68805-25	FB	91	99	93
310-68805-25	FB	110	98	99

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Soil

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (80-120)	DBFM (75-125)	TOL (80-120)
310-68805-3	SB6 12-14	98	90	101
310-68805-7	SB4 12-14	101	89	94
310-68805-12	SB2 12-14	86	91	91
310-68805-16	SB1 12-14	95	95	100
310-68805-17	Dupe 4	90	105	91
310-68805-24	SB3 12-14	99	86	101

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (80-120)	DBFM (75-125)	TOL (80-120)
LCS 310-109627/2-A	Lab Control Sample	123 X	99	105
LCS 310-109813/2-A	Lab Control Sample	102	102	94
LCSD 310-109813/3-A	Lab Control Sample Dup	102	104	93
MB 310-109627/1-A	Method Blank	102	95	108
MB 310-109813/1-A	Method Blank	102	93	94

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

TestAmerica Cedar Falls

Surrogate Summary

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (75-120)	DBFM (75-120)	TOL (80-120)
310-68805-26	Trip Blank	96	96	95
310-68805-26	Trip Blank	109	92	102
LCS 310-109303/6	Lab Control Sample	98	105	94
LCS 310-109785/5	Lab Control Sample	104	98	99
LCS 310-110240/7	Lab Control Sample	94	100	101
LCS 310-110240/8	Lab Control Sample	113	93	103
MB 310-109303/8	Method Blank	103	99	102
MB 310-109785/7	Method Blank	97	98	99
MB 310-110240/6	Method Blank	106	94	98

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Ground Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (25-80)	2FP (15-50)	NBZ (25-80)	PHL (10-35)	TPH (30-105)	TBP (25-100)
310-68805-13	SB1	48	26	50	18	57	58
310-68805-14	Dupe 3	47	26	49	18	62	56

Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d6 (Surr)
TPH = Terphenyl-d14 (Surr)
TBP = 2,4,6-Tribromophenol (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Soil

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (20-90)	2FP (15-90)	NBZ (15-90)	PHL (20-90)	TPH (35-110)	TBP (25-105)
310-68805-15	SB1 0-2	18 X	3 X	17	12 X	40	0 X
310-68805-15 MS	SB1 0-2	20	5 X	20	11 X	22 X	0 X
310-68805-15 MSD	SB1 0-2	31	9 X	29	23	46	1 X

Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d6 (Surr)

TestAmerica Cedar Falls

Surrogate Summary

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

TPH = Terphenyl-d14 (Surr)
TBP = 2,4,6-Tribromophenol (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (20-90)	2FP (15-90)	NBZ (15-90)	PHL (20-90)	TPH (35-110)	TBP (25-105)
LCS 310-108557/2-A	Lab Control Sample	41	37	40	40	59	57
MB 310-108557/1-A	Method Blank	46	44	49	49	79	61

Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d6 (Surr)
TPH = Terphenyl-d14 (Surr)
TBP = 2,4,6-Tribromophenol (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (25-80)	2FP (15-50)	NBZ (25-80)	PHL (10-35)	TPH (30-105)	TBP (25-100)
LCS 310-108995/2-A	Lab Control Sample	50	28	51	21	67	55
LCSD 310-108995/3-A	Lab Control Sample Dup	49	28	51	20	67	54
MB 310-108995/1-A	Method Blank	36	23	38	16	76	46

Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d6 (Surr)
TPH = Terphenyl-d14 (Surr)
TBP = 2,4,6-Tribromophenol (Surr)

Method: 8270D SIM - Semivolatile Organic Compound (GC/MS SIM LL)

Matrix: Ground Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		FBP (10-110)	NBZ (10-110)	TPH (20-110)
310-68805-1	SB6	48	44	66
310-68805-4	Dupe 1	65	64	79
310-68805-5	SB4	71	70	67
310-68805-9	SB2	52	53	51
310-68805-22	SB3	51	55	47
310-68805-25	FB	67	71	84
310-68805-25	FB	65	67	77

Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)
NBZ = Nitrobenzene-d5 (Surr)
TPH = Terphenyl-d14 (Surr)

TestAmerica Cedar Falls

Surrogate Summary

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: 8270D SIM - Semivolatile Organic Compound (GC/MS SIM LL)

Matrix: Soil

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		FBP (10-110)	NBZ (10-110)	TPH (20-110)
310-68805-2	SB6 0-2	65	63	59
310-68805-2 MS	SB6 0-2	44	45	55
310-68805-2 MSD	SB6 0-2	62	58	58
310-68805-6	SB4 0-2	65	69	65
310-68805-8	SB5 0-1'	63	55	60
310-68805-10	Dupe 2	57	55	55
310-68805-11	SB2 0-2	42	37	55
310-68805-23	SB3 0-2	60	51	62

Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)

NBZ = Nitrobenzene-d5 (Surr)

TPH = Terphenyl-d14 (Surr)

Method: 8270D SIM - Semivolatile Organic Compound (GC/MS SIM LL)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		FBP (10-110)	NBZ (10-110)	TPH (20-110)
LCS 310-108556/2-A	Lab Control Sample	60	56	72
LCS 310-109091/2-A	Lab Control Sample	56	55	58
MB 310-108556/1-A	Method Blank	41	40	54
MB 310-109091/1-A	Method Blank	62	62	60

Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)

NBZ = Nitrobenzene-d5 (Surr)

TPH = Terphenyl-d14 (Surr)

Method: 8270D SIM - Semivolatile Organic Compound (GC/MS SIM LL)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		FBP (10-110)	NBZ (10-110)	TPH (20-110)
LCS 310-108535/2-A	Lab Control Sample	55	53	76
LCSD 310-108535/3-A	Lab Control Sample Dup	62	57	80
MB 310-108535/1-A	Method Blank	52	52	61

Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)

NBZ = Nitrobenzene-d5 (Surr)

TPH = Terphenyl-d14 (Surr)

TestAmerica Cedar Falls

Surrogate Summary

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Wipe

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCB1 (56-146)	TCX1 (42-132)
310-68805-18	PCB 1	82	60
310-68805-19	PCB 2	75	61
310-68805-20	PCB 3	67	61
310-68805-21	Dup 5	80	42
LCS 310-108552/2-A	Lab Control Sample	74	73
LCSD 310-108552/3-A	Lab Control Sample Dup	77	59
MB 310-108552/1-A	Method Blank	70	73

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)

TCX = Tetrachloro-m-xylene

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Matrix: Ground Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	OTC (45-140)
310-68805-1	SB6	74
310-68805-4	Dupe 1	82
310-68805-5	SB4	87
310-68805-9	SB2	87
310-68805-13	SB1	83
310-68805-22	SB3	97
310-68805-25	FB	97

Surrogate Legend

OTC = n-Octacosane

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Matrix: Soil

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	OTC (40-135)
310-68805-3	SB6 12-14	81
310-68805-7	SB4 12-14	78
310-68805-12	SB2 12-14	94
310-68805-16	SB1 12-14	93
310-68805-17	Dupe 4	82
310-68805-24	SB3 12-14	82

Surrogate Legend

OTC = n-Octacosane

TestAmerica Cedar Falls

Surrogate Summary

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	OTC (40-135)
LCS 310-108558/2-A	Lab Control Sample	94
MB 310-108558/1-A	Method Blank	78

Surrogate Legend

OTC = n-Octacosane

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	OTC (45-140)
LCS 310-108740/2-A	Lab Control Sample	91
LCSD 310-108740/3-A	Lab Control Sample Dup	88
MB 310-108740/1-A	Method Blank	92

Surrogate Legend

OTC = n-Octacosane

QC Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 310-109303/8

Matrix: Water

Analysis Batch: 109303

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			11/19/15 09:14	1
Benzene	<0.500		0.500		ug/L			11/19/15 09:14	1
Bromobenzene	<1.00		1.00		ug/L			11/19/15 09:14	1
Bromochloromethane	<5.00		5.00		ug/L			11/19/15 09:14	1
Bromodichloromethane	<1.00		1.00		ug/L			11/19/15 09:14	1
Bromoform	<5.00		5.00		ug/L			11/19/15 09:14	1
Bromomethane	<4.00		4.00		ug/L			11/19/15 09:14	1
2-Butanone (MEK)	<10.0		10.0		ug/L			11/19/15 09:14	1
n-Butylbenzene	<1.00		1.00		ug/L			11/19/15 09:14	1
sec-Butylbenzene	<1.00		1.00		ug/L			11/19/15 09:14	1
tert-Butylbenzene	<1.00		1.00		ug/L			11/19/15 09:14	1
Carbon disulfide	<1.00		1.00		ug/L			11/19/15 09:14	1
Carbon tetrachloride	<2.00		2.00		ug/L			11/19/15 09:14	1
Chlorobenzene	<1.00		1.00		ug/L			11/19/15 09:14	1
Chlorodibromomethane	<5.00		5.00		ug/L			11/19/15 09:14	1
Chloroethane	<4.00		4.00		ug/L			11/19/15 09:14	1
Chloroform	<1.00		1.00		ug/L			11/19/15 09:14	1
Chloromethane	<3.00		3.00		ug/L			11/19/15 09:14	1
2-Chlorotoluene	<1.00		1.00		ug/L			11/19/15 09:14	1
4-Chlorotoluene	<1.00		1.00		ug/L			11/19/15 09:14	1
1,2-Dibromo-3-Chloropropane	<10.0		10.0		ug/L			11/19/15 09:14	1
1,2-Dibromoethane (EDB)	<10.0		10.0		ug/L			11/19/15 09:14	1
Dibromomethane	<1.00		1.00		ug/L			11/19/15 09:14	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			11/19/15 09:14	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			11/19/15 09:14	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			11/19/15 09:14	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			11/19/15 09:14	1
1,1-Dichloroethane	<1.00		1.00		ug/L			11/19/15 09:14	1
1,2-Dichloroethane	<1.00		1.00		ug/L			11/19/15 09:14	1
1,1-Dichloroethene	<2.00		2.00		ug/L			11/19/15 09:14	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			11/19/15 09:14	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			11/19/15 09:14	1
1,2-Dichloropropane	<1.00		1.00		ug/L			11/19/15 09:14	1
1,3-Dichloropropane	<1.00		1.00		ug/L			11/19/15 09:14	1
2,2-Dichloropropane	<4.00		4.00		ug/L			11/19/15 09:14	1
1,1-Dichloropropene	<1.00		1.00		ug/L			11/19/15 09:14	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			11/19/15 09:14	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			11/19/15 09:14	1
Ethylbenzene	<1.00		1.00		ug/L			11/19/15 09:14	1
Hexachlorobutadiene	<5.00		5.00		ug/L			11/19/15 09:14	1
Hexane	<1.00		1.00		ug/L			11/19/15 09:14	1
Isopropylbenzene	<1.00		1.00		ug/L			11/19/15 09:14	1
p-Isopropyltoluene	<1.00		1.00		ug/L			11/19/15 09:14	1
Methylene Chloride	<5.00		5.00		ug/L			11/19/15 09:14	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			11/19/15 09:14	1
Naphthalene	<5.00		5.00		ug/L			11/19/15 09:14	1
N-Propylbenzene	<1.00		1.00		ug/L			11/19/15 09:14	1
Styrene	<1.00		1.00		ug/L			11/19/15 09:14	1

TestAmerica Cedar Falls

QC Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 310-109303/8

Matrix: Water

Analysis Batch: 109303

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			11/19/15 09:14	1
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			11/19/15 09:14	1
Tetrachloroethene	<1.00		1.00		ug/L			11/19/15 09:14	1
Toluene	<1.00		1.00		ug/L			11/19/15 09:14	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			11/19/15 09:14	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			11/19/15 09:14	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			11/19/15 09:14	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			11/19/15 09:14	1
Trichloroethene	<1.00		1.00		ug/L			11/19/15 09:14	1
Trichlorofluoromethane	<4.00		4.00		ug/L			11/19/15 09:14	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			11/19/15 09:14	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			11/19/15 09:14	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			11/19/15 09:14	1
Vinyl chloride	<1.00		1.00		ug/L			11/19/15 09:14	1
Xylenes, Total	<3.00		3.00		ug/L			11/19/15 09:14	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		75 - 120		11/19/15 09:14	1
Dibromofluoromethane (Surr)	99		75 - 120		11/19/15 09:14	1
Toluene-d8 (Surr)	102		80 - 120		11/19/15 09:14	1

Lab Sample ID: LCS 310-109303/6

Matrix: Water

Analysis Batch: 109303

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	40.0	32.74		ug/L		82	60 - 150
Benzene	20.0	21.30		ug/L		107	70 - 130
Bromobenzene	20.0	19.39		ug/L		97	75 - 130
Bromochloromethane	20.0	22.56		ug/L		113	65 - 145
Bromodichloromethane	20.0	17.39		ug/L		87	60 - 130
Bromoform	20.0	12.90		ug/L		64	30 - 125
2-Butanone (MEK)	40.0	35.47		ug/L		89	55 - 140
n-Butylbenzene	20.0	21.39		ug/L		107	55 - 135
sec-Butylbenzene	20.0	20.51		ug/L		103	65 - 135
tert-Butylbenzene	20.0	20.05		ug/L		100	60 - 135
Carbon disulfide	20.0	21.90		ug/L		109	40 - 130
Carbon tetrachloride	20.0	21.29		ug/L		106	55 - 130
Chlorobenzene	20.0	20.08		ug/L		100	75 - 125
Chlorodibromomethane	20.0	16.04		ug/L		80	45 - 125
Chloroform	20.0	22.22		ug/L		111	70 - 125
2-Chlorotoluene	20.0	20.16		ug/L		101	75 - 135
4-Chlorotoluene	20.0	19.09		ug/L		95	70 - 140
1,2-Dibromo-3-Chloropropane	20.0	16.24		ug/L		81	35 - 130
1,2-Dibromoethane (EDB)	20.0	19.54		ug/L		98	70 - 135
Dibromomethane	20.0	19.04		ug/L		95	75 - 130
1,2-Dichlorobenzene	20.0	20.08		ug/L		100	65 - 135
1,3-Dichlorobenzene	20.0	19.36		ug/L		97	70 - 130

TestAmerica Cedar Falls

QC Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 310-109303/6

Matrix: Water

Analysis Batch: 109303

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	20.0	20.45		ug/L		102	60 - 140
1,1-Dichloroethane	20.0	21.21		ug/L		106	60 - 130
1,2-Dichloroethane	20.0	21.45		ug/L		107	65 - 140
1,1-Dichloroethene	20.0	23.81		ug/L		119	60 - 135
cis-1,2-Dichloroethene	20.0	20.58		ug/L		103	70 - 135
trans-1,2-Dichloroethene	20.0	21.98		ug/L		110	60 - 145
1,2-Dichloropropane	20.0	21.03		ug/L		105	65 - 130
1,3-Dichloropropane	20.0	19.77		ug/L		99	75 - 125
2,2-Dichloropropane	20.0	24.79	*	ug/L		124	25 - 120
1,1-Dichloropropene	20.0	23.58		ug/L		118	60 - 140
cis-1,3-Dichloropropene	20.0	17.91		ug/L		90	30 - 120
trans-1,3-Dichloropropene	20.0	17.35		ug/L		87	35 - 120
Ethylbenzene	20.0	19.91		ug/L		100	70 - 130
Hexachlorobutadiene	20.0	22.23		ug/L		111	60 - 135
Hexane	20.0	25.52		ug/L		128	40 - 135
Isopropylbenzene	20.0	20.26		ug/L		101	70 - 125
p-Isopropyltoluene	20.0	21.00		ug/L		105	60 - 140
Methylene Chloride	20.0	19.99		ug/L		100	55 - 145
Methyl tert-butyl ether	20.0	18.96		ug/L		95	50 - 135
Naphthalene	20.0	18.87		ug/L		94	40 - 135
N-Propylbenzene	20.0	20.66		ug/L		103	70 - 135
Styrene	20.0	19.36		ug/L		97	70 - 130
1,1,1,2-Tetrachloroethane	20.0	17.67		ug/L		88	65 - 120
1,1,2,2-Tetrachloroethane	20.0	16.81		ug/L		84	65 - 130
Tetrachloroethene	20.0	20.97		ug/L		105	70 - 135
Toluene	20.0	20.67		ug/L		103	70 - 135
1,2,3-Trichlorobenzene	20.0	20.43		ug/L		102	55 - 130
1,2,4-Trichlorobenzene	20.0	21.48		ug/L		107	40 - 135
1,1,1-Trichloroethane	20.0	21.79		ug/L		109	60 - 125
1,1,2-Trichloroethane	20.0	18.88		ug/L		94	75 - 125
Trichloroethene	20.0	21.21		ug/L		106	70 - 130
1,2,3-Trichloropropane	20.0	16.67		ug/L		83	60 - 150
1,2,4-Trimethylbenzene	20.0	20.21		ug/L		101	70 - 140
1,3,5-Trimethylbenzene	20.0	19.94		ug/L		100	70 - 140
Xylenes, Total	40.0	39.30		ug/L		98	70 - 130

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	98		75 - 120
Dibromofluoromethane (Surr)	105		75 - 120
Toluene-d8 (Surr)	94		80 - 120

Lab Sample ID: MB 310-109627/1-A

Matrix: Solid

Analysis Batch: 109631

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 109627

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<119		119		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
Benzene	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1

TestAmerica Cedar Falls

QC Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 310-109627/1-A

Matrix: Solid

Analysis Batch: 109631

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 109627

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromobenzene	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
Bromochloromethane	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
Bromodichloromethane	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
Bromoform	<23.8		23.8		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
Bromomethane	<47.6		47.6		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
2-Butanone (MEK)	<119		119		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
n-Butylbenzene	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
sec-Butylbenzene	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
tert-Butylbenzene	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
Carbon disulfide	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
Carbon tetrachloride	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
Chlorobenzene	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
Chlorodibromomethane	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
Chloroethane	<47.6		47.6		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
Chloroform	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
Chloromethane	<47.6		47.6		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
2-Chlorotoluene	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
4-Chlorotoluene	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
1,2-Dibromo-3-Chloropropane	<119		119		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
1,2-Dibromoethane (EDB)	<119		119		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
Dibromomethane	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
1,2-Dichlorobenzene	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
1,3-Dichlorobenzene	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
1,4-Dichlorobenzene	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
Dichlorodifluoromethane	<35.7		35.7		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
1,1-Dichloroethane	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
1,2-Dichloroethane	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
1,1-Dichloroethene	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
cis-1,2-Dichloroethene	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
trans-1,2-Dichloroethene	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
1,2-Dichloropropane	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
1,3-Dichloropropane	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
2,2-Dichloropropane	<47.6		47.6		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
1,1-Dichloropropene	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
cis-1,3-Dichloropropene	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
trans-1,3-Dichloropropene	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
Ethylbenzene	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
Hexachlorobutadiene	<59.6		59.6		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
Hexane	<59.6		59.6		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
Isopropylbenzene	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
p-Isopropyltoluene	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
Methylene Chloride	<119		119		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
Methyl tert-butyl ether	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
Naphthalene	<59.6		59.6		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
N-Propylbenzene	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
Styrene	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
1,1,1,2-Tetrachloroethane	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
1,1,2,2-Tetrachloroethane	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1

TestAmerica Cedar Falls

QC Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 310-109627/1-A

Matrix: Solid

Analysis Batch: 109631

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 109627

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
Toluene	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
1,2,3-Trichlorobenzene	<59.6		59.6		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
1,2,4-Trichlorobenzene	<59.6		59.6		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
1,1,1-Trichloroethane	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
1,1,2-Trichloroethane	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
Trichloroethene	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
Trichlorofluoromethane	<47.6		47.6		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
1,2,3-Trichloropropane	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
1,2,4-Trimethylbenzene	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
1,3,5-Trimethylbenzene	<11.9		11.9		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
Vinyl chloride	<35.7		35.7		ug/Kg		11/20/15 07:59	11/20/15 22:25	1
Xylenes, Total	<35.7		35.7		ug/Kg		11/20/15 07:59	11/20/15 22:25	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		80 - 120	11/20/15 07:59	11/20/15 22:25	1
Dibromofluoromethane (Surr)	95		75 - 125	11/20/15 07:59	11/20/15 22:25	1
Toluene-d8 (Surr)	108		80 - 120	11/20/15 07:59	11/20/15 22:25	1

Lab Sample ID: LCS 310-109627/2-A

Matrix: Solid

Analysis Batch: 109631

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 109627

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Acetone	82.0	88.32	J	ug/Kg		108	65 - 150
Benzene	41.0	35.61		ug/Kg		87	55 - 135
Bromobenzene	41.0	40.76		ug/Kg		99	65 - 125
Bromochloromethane	41.0	34.73		ug/Kg		85	65 - 130
Bromodichloromethane	41.0	36.50		ug/Kg		89	65 - 130
Bromoform	41.0	40.20		ug/Kg		98	50 - 135
2-Butanone (MEK)	82.0	79.32	J	ug/Kg		97	50 - 145
n-Butylbenzene	41.0	29.53		ug/Kg		72	55 - 130
sec-Butylbenzene	41.0	33.23		ug/Kg		81	60 - 125
tert-Butylbenzene	41.0	33.15		ug/Kg		81	55 - 125
Carbon disulfide	41.0	36.10		ug/Kg		88	40 - 135
Carbon tetrachloride	41.0	34.78		ug/Kg		85	55 - 130
Chlorobenzene	41.0	33.69		ug/Kg		82	60 - 120
Chlorodibromomethane	41.0	33.51		ug/Kg		82	55 - 130
Chloroform	41.0	35.57		ug/Kg		87	65 - 130
2-Chlorotoluene	41.0	37.98		ug/Kg		93	60 - 125
4-Chlorotoluene	41.0	34.47		ug/Kg		84	60 - 125
1,2-Dibromo-3-Chloropropane	41.0	34.39	J	ug/Kg		84	50 - 140
1,2-Dibromoethane (EDB)	41.0	35.27	J	ug/Kg		86	55 - 140
Dibromomethane	41.0	43.41		ug/Kg		106	65 - 135
1,2-Dichlorobenzene	41.0	32.12		ug/Kg		78	65 - 120
1,3-Dichlorobenzene	41.0	31.12		ug/Kg		76	60 - 125
1,4-Dichlorobenzene	41.0	30.63		ug/Kg		75	60 - 125
1,1-Dichloroethane	41.0	37.48		ug/Kg		91	55 - 135

TestAmerica Cedar Falls

QC Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 310-109627/2-A

Matrix: Solid

Analysis Batch: 109631

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 109627

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloroethane	41.0	37.46		ug/Kg		91	60 - 140
1,1-Dichloroethene	41.0	38.96		ug/Kg		95	50 - 145
cis-1,2-Dichloroethene	41.0	37.51		ug/Kg		91	60 - 135
trans-1,2-Dichloroethene	41.0	33.78		ug/Kg		82	55 - 135
1,2-Dichloropropane	41.0	39.19		ug/Kg		96	55 - 130
1,3-Dichloropropane	41.0	36.51		ug/Kg		89	55 - 140
2,2-Dichloropropane	41.0	35.36	J	ug/Kg		86	40 - 135
1,1-Dichloropropene	41.0	35.14		ug/Kg		86	55 - 130
cis-1,3-Dichloropropene	41.0	39.79		ug/Kg		97	50 - 115
trans-1,3-Dichloropropene	41.0	34.31		ug/Kg		84	55 - 130
Ethylbenzene	41.0	33.70		ug/Kg		82	60 - 125
Hexachlorobutadiene	41.0	29.06	J	ug/Kg		71	40 - 135
Hexane	41.0	30.34	J	ug/Kg		74	45 - 140
Isopropylbenzene	41.0	37.68		ug/Kg		92	60 - 125
p-Isopropyltoluene	41.0	30.70		ug/Kg		75	60 - 120
Methylene Chloride	41.0	46.35	J	ug/Kg		113	55 - 145
Methyl tert-butyl ether	41.0	36.38		ug/Kg		89	55 - 130
Naphthalene	41.0	36.27	J	ug/Kg		88	50 - 130
N-Propylbenzene	41.0	35.05		ug/Kg		85	50 - 125
Styrene	41.0	36.93		ug/Kg		90	60 - 125
1,1,1,2-Tetrachloroethane	41.0	36.20		ug/Kg		88	65 - 125
1,1,1,2,2-Tetrachloroethane	41.0	39.22		ug/Kg		96	60 - 125
Tetrachloroethene	41.0	35.78		ug/Kg		87	55 - 125
Toluene	41.0	33.74		ug/Kg		82	60 - 130
1,2,3-Trichlorobenzene	41.0	31.71	J	ug/Kg		77	50 - 130
1,2,4-Trichlorobenzene	41.0	27.66	J	ug/Kg		67	45 - 135
1,1,1-Trichloroethane	41.0	34.86		ug/Kg		85	60 - 125
1,1,2-Trichloroethane	41.0	37.23		ug/Kg		91	55 - 135
Trichloroethene	41.0	34.41		ug/Kg		84	60 - 130
1,2,3-Trichloropropane	41.0	42.55		ug/Kg		104	50 - 145
1,2,4-Trimethylbenzene	41.0	35.05		ug/Kg		85	55 - 125
1,3,5-Trimethylbenzene	41.0	37.08		ug/Kg		90	50 - 130
Xylenes, Total	82.0	73.41		ug/Kg		90	50 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	123	X	80 - 120
Dibromofluoromethane (Surr)	99		75 - 125
Toluene-d8 (Surr)	105		80 - 120

Lab Sample ID: MB 310-109785/7

Matrix: Water

Analysis Batch: 109785

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			11/23/15 19:17	1
Benzene	<0.500		0.500		ug/L			11/23/15 19:17	1
Bromobenzene	<1.00		1.00		ug/L			11/23/15 19:17	1
Bromochloromethane	<5.00		5.00		ug/L			11/23/15 19:17	1

TestAmerica Cedar Falls

QC Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 310-109785/7

Matrix: Water

Analysis Batch: 109785

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	<1.00		1.00		ug/L			11/23/15 19:17	1
Bromoform	<5.00		5.00		ug/L			11/23/15 19:17	1
Bromomethane	<4.00		4.00		ug/L			11/23/15 19:17	1
2-Butanone (MEK)	<10.0		10.0		ug/L			11/23/15 19:17	1
n-Butylbenzene	<1.00		1.00		ug/L			11/23/15 19:17	1
sec-Butylbenzene	<1.00		1.00		ug/L			11/23/15 19:17	1
tert-Butylbenzene	<1.00		1.00		ug/L			11/23/15 19:17	1
Carbon tetrachloride	<2.00		2.00		ug/L			11/23/15 19:17	1
Chlorobenzene	<1.00		1.00		ug/L			11/23/15 19:17	1
Chlorodibromomethane	<5.00		5.00		ug/L			11/23/15 19:17	1
Chloroethane	<4.00		4.00		ug/L			11/23/15 19:17	1
Chloroform	<1.00		1.00		ug/L			11/23/15 19:17	1
Chloromethane	<3.00		3.00		ug/L			11/23/15 19:17	1
2-Chlorotoluene	<1.00		1.00		ug/L			11/23/15 19:17	1
4-Chlorotoluene	<1.00		1.00		ug/L			11/23/15 19:17	1
1,2-Dibromo-3-Chloropropane	<10.0		10.0		ug/L			11/23/15 19:17	1
1,2-Dibromoethane (EDB)	<10.0		10.0		ug/L			11/23/15 19:17	1
Dibromomethane	<1.00		1.00		ug/L			11/23/15 19:17	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			11/23/15 19:17	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			11/23/15 19:17	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			11/23/15 19:17	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			11/23/15 19:17	1
1,1-Dichloroethane	<1.00		1.00		ug/L			11/23/15 19:17	1
1,2-Dichloroethane	<1.00		1.00		ug/L			11/23/15 19:17	1
1,1-Dichloroethene	<2.00		2.00		ug/L			11/23/15 19:17	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			11/23/15 19:17	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			11/23/15 19:17	1
1,2-Dichloropropane	<1.00		1.00		ug/L			11/23/15 19:17	1
1,3-Dichloropropane	<1.00		1.00		ug/L			11/23/15 19:17	1
2,2-Dichloropropane	<4.00		4.00		ug/L			11/23/15 19:17	1
1,1-Dichloropropene	<1.00		1.00		ug/L			11/23/15 19:17	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			11/23/15 19:17	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			11/23/15 19:17	1
Ethylbenzene	<1.00		1.00		ug/L			11/23/15 19:17	1
Hexachlorobutadiene	<5.00		5.00		ug/L			11/23/15 19:17	1
Hexane	<1.00		1.00		ug/L			11/23/15 19:17	1
Isopropylbenzene	<1.00		1.00		ug/L			11/23/15 19:17	1
p-Isopropyltoluene	<1.00		1.00		ug/L			11/23/15 19:17	1
Methylene Chloride	<5.00		5.00		ug/L			11/23/15 19:17	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			11/23/15 19:17	1
Naphthalene	<5.00		5.00		ug/L			11/23/15 19:17	1
N-Propylbenzene	<1.00		1.00		ug/L			11/23/15 19:17	1
Styrene	<1.00		1.00		ug/L			11/23/15 19:17	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			11/23/15 19:17	1
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			11/23/15 19:17	1
Tetrachloroethene	<1.00		1.00		ug/L			11/23/15 19:17	1
Toluene	<1.00		1.00		ug/L			11/23/15 19:17	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			11/23/15 19:17	1

TestAmerica Cedar Falls

QC Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 310-109785/7

Matrix: Water

Analysis Batch: 109785

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			11/23/15 19:17	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			11/23/15 19:17	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			11/23/15 19:17	1
Trichloroethene	<1.00		1.00		ug/L			11/23/15 19:17	1
Trichlorofluoromethane	<4.00		4.00		ug/L			11/23/15 19:17	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			11/23/15 19:17	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			11/23/15 19:17	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			11/23/15 19:17	1
Vinyl chloride	<1.00		1.00		ug/L			11/23/15 19:17	1
Xylenes, Total	<3.00		3.00		ug/L			11/23/15 19:17	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		75 - 120		11/23/15 19:17	1
Dibromofluoromethane (Surr)	98		75 - 120		11/23/15 19:17	1
Toluene-d8 (Surr)	99		80 - 120		11/23/15 19:17	1

Lab Sample ID: LCS 310-109785/5

Matrix: Water

Analysis Batch: 109785

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	40.0	32.10		ug/L		80	60 - 150
Benzene	20.0	19.62		ug/L		98	70 - 130
Bromobenzene	20.0	21.83		ug/L		109	75 - 130
Bromochloromethane	20.0	20.40		ug/L		102	65 - 145
Bromodichloromethane	20.0	17.67		ug/L		88	60 - 130
Bromoform	20.0	13.25		ug/L		66	30 - 125
2-Butanone (MEK)	40.0	36.83		ug/L		92	55 - 140
n-Butylbenzene	20.0	21.24		ug/L		106	55 - 135
sec-Butylbenzene	20.0	21.73		ug/L		109	65 - 135
tert-Butylbenzene	20.0	21.54		ug/L		108	60 - 135
Carbon tetrachloride	20.0	19.33		ug/L		97	55 - 130
Chlorobenzene	20.0	21.38		ug/L		107	75 - 125
Chlorodibromomethane	20.0	16.29		ug/L		81	45 - 125
Chloroform	20.0	20.85		ug/L		104	70 - 125
2-Chlorotoluene	20.0	21.46		ug/L		107	75 - 135
4-Chlorotoluene	20.0	21.47		ug/L		107	70 - 140
1,2-Dibromo-3-Chloropropane	20.0	14.63		ug/L		73	35 - 130
1,2-Dibromoethane (EDB)	20.0	19.62		ug/L		98	70 - 135
Dibromomethane	20.0	19.30		ug/L		97	75 - 130
1,2-Dichlorobenzene	20.0	21.00		ug/L		105	65 - 135
1,3-Dichlorobenzene	20.0	21.15		ug/L		106	70 - 130
1,4-Dichlorobenzene	20.0	21.69		ug/L		108	60 - 140
1,1-Dichloroethane	20.0	19.61		ug/L		98	60 - 130
1,2-Dichloroethane	20.0	20.94		ug/L		105	65 - 140
1,1-Dichloroethene	20.0	18.99		ug/L		95	60 - 135
cis-1,2-Dichloroethene	20.0	19.99		ug/L		100	70 - 135
trans-1,2-Dichloroethene	20.0	19.09		ug/L		95	60 - 145

TestAmerica Cedar Falls

QC Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 310-109785/5

Matrix: Water

Analysis Batch: 109785

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloropropane	20.0	20.33		ug/L		102	65 - 130
1,3-Dichloropropane	20.0	20.33		ug/L		102	75 - 125
2,2-Dichloropropane	20.0	20.58		ug/L		103	25 - 120
1,1-Dichloropropene	20.0	20.98		ug/L		105	60 - 140
cis-1,3-Dichloropropene	20.0	17.56		ug/L		88	30 - 120
trans-1,3-Dichloropropene	20.0	15.78		ug/L		79	35 - 120
Ethylbenzene	20.0	20.98		ug/L		105	70 - 130
Hexachlorobutadiene	20.0	22.00		ug/L		110	60 - 135
Hexane	20.0	18.98		ug/L		95	40 - 135
Isopropylbenzene	20.0	21.17		ug/L		106	70 - 125
p-Isopropyltoluene	20.0	21.35		ug/L		107	60 - 140
Methylene Chloride	20.0	18.86		ug/L		94	55 - 145
Methyl tert-butyl ether	20.0	17.73		ug/L		89	50 - 135
Naphthalene	20.0	18.24		ug/L		91	40 - 135
N-Propylbenzene	20.0	21.69		ug/L		108	70 - 135
Styrene	20.0	20.36		ug/L		102	70 - 130
1,1,1,2-Tetrachloroethane	20.0	18.98		ug/L		95	65 - 120
1,1,1,2,2-Tetrachloroethane	20.0	19.16		ug/L		96	65 - 130
Tetrachloroethene	20.0	20.43		ug/L		102	70 - 135
Toluene	20.0	20.15		ug/L		101	70 - 135
1,2,3-Trichlorobenzene	20.0	21.13		ug/L		106	55 - 130
1,2,4-Trichlorobenzene	20.0	19.27		ug/L		96	40 - 135
1,1,1-Trichloroethane	20.0	20.72		ug/L		104	60 - 125
1,1,2-Trichloroethane	20.0	19.13		ug/L		96	75 - 125
Trichloroethene	20.0	21.05		ug/L		105	70 - 130
1,2,3-Trichloropropane	20.0	19.12		ug/L		96	60 - 150
1,2,4-Trimethylbenzene	20.0	21.62		ug/L		108	70 - 140
1,3,5-Trimethylbenzene	20.0	21.33		ug/L		107	70 - 140
Xylenes, Total	40.0	40.37		ug/L		101	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		75 - 120
Dibromofluoromethane (Surr)	98		75 - 120
Toluene-d8 (Surr)	99		80 - 120

Lab Sample ID: MB 310-109813/1-A

Matrix: Solid

Analysis Batch: 109833

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 109813

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<485		485		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
Benzene	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
Bromobenzene	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
Bromochloromethane	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
Bromodichloromethane	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
Bromoform	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
Bromomethane	<485		485		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
2-Butanone (MEK)	<242		242		ug/Kg		11/23/15 08:59	11/23/15 11:55	1

TestAmerica Cedar Falls

QC Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 310-109813/1-A

Matrix: Solid

Analysis Batch: 109833

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 109813

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
sec-Butylbenzene	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
tert-Butylbenzene	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
Carbon disulfide	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
Carbon tetrachloride	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
Chlorobenzene	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
Chlorodibromomethane	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
Chloroethane	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
Chloroform	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
Chloromethane	<242		242		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
2-Chlorotoluene	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
4-Chlorotoluene	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
1,2-Dibromo-3-Chloropropane	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
1,2-Dibromoethane (EDB)	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
Dibromomethane	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
1,2-Dichlorobenzene	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
1,3-Dichlorobenzene	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
1,4-Dichlorobenzene	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
Dichlorodifluoromethane	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
1,1-Dichloroethane	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
1,2-Dichloroethane	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
1,1-Dichloroethene	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
cis-1,2-Dichloroethene	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
trans-1,2-Dichloroethene	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
1,2-Dichloropropane	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
1,3-Dichloropropane	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
2,2-Dichloropropane	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
1,1-Dichloropropene	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
cis-1,3-Dichloropropene	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
trans-1,3-Dichloropropene	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
Ethylbenzene	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
Hexachlorobutadiene	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
Hexane	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
Isopropylbenzene	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
p-Isopropyltoluene	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
Methylene Chloride	<242		242		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
Methyl tert-butyl ether	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
Naphthalene	<242		242		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
N-Propylbenzene	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
Styrene	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
1,1,1,2-Tetrachloroethane	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
1,1,2,2-Tetrachloroethane	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
Tetrachloroethene	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
Toluene	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
1,2,3-Trichlorobenzene	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
1,2,4-Trichlorobenzene	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
1,1,1-Trichloroethane	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
1,1,2-Trichloroethane	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1

TestAmerica Cedar Falls

QC Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 310-109813/1-A

Matrix: Solid

Analysis Batch: 109833

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 109813

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
Trichlorofluoromethane	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
1,2,3-Trichloropropane	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
1,2,4-Trimethylbenzene	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
1,3,5-Trimethylbenzene	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
Vinyl chloride	<96.9		96.9		ug/Kg		11/23/15 08:59	11/23/15 11:55	1
Xylenes, Total	<145		145		ug/Kg		11/23/15 08:59	11/23/15 11:55	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		80 - 120	11/23/15 08:59	11/23/15 11:55	1
Dibromofluoromethane (Surr)	93		75 - 125	11/23/15 08:59	11/23/15 11:55	1
Toluene-d8 (Surr)	94		80 - 120	11/23/15 08:59	11/23/15 11:55	1

Lab Sample ID: LCS 310-109813/2-A

Matrix: Solid

Analysis Batch: 109833

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 109813

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	1840	1867		ug/Kg		101	65 - 150
Benzene	921	1157		ug/Kg		126	55 - 135
Bromobenzene	921	1113		ug/Kg		121	65 - 125
Bromochloromethane	921	1125		ug/Kg		122	65 - 130
Bromodichloromethane	921	1043		ug/Kg		113	65 - 130
Bromoform	921	1133		ug/Kg		123	50 - 135
2-Butanone (MEK)	1840	1822		ug/Kg		99	50 - 145
n-Butylbenzene	921	1049		ug/Kg		114	55 - 130
sec-Butylbenzene	921	1062		ug/Kg		115	60 - 125
tert-Butylbenzene	921	1031		ug/Kg		112	55 - 125
Carbon disulfide	921	947.0		ug/Kg		103	40 - 135
Carbon tetrachloride	921	1133		ug/Kg		123	55 - 130
Chlorobenzene	921	1104		ug/Kg		120	60 - 120
Chlorodibromomethane	921	1148		ug/Kg		125	55 - 130
Chloroform	921	1128		ug/Kg		122	65 - 130
2-Chlorotoluene	921	1009		ug/Kg		110	60 - 125
4-Chlorotoluene	921	1026		ug/Kg		111	60 - 125
1,2-Dibromo-3-Chloropropane	921	723.8		ug/Kg		79	50 - 140
1,2-Dibromoethane (EDB)	921	1016		ug/Kg		110	55 - 140
Dibromomethane	921	1079		ug/Kg		117	65 - 135
1,2-Dichlorobenzene	921	992.0		ug/Kg		108	65 - 120
1,3-Dichlorobenzene	921	1012		ug/Kg		110	60 - 125
1,4-Dichlorobenzene	921	1016		ug/Kg		110	60 - 125
1,1-Dichloroethane	921	1102		ug/Kg		120	55 - 135
1,2-Dichloroethane	921	1069		ug/Kg		116	60 - 140
1,1-Dichloroethene	921	1115		ug/Kg		121	50 - 145
cis-1,2-Dichloroethene	921	1152		ug/Kg		125	60 - 135
trans-1,2-Dichloroethene	921	1121		ug/Kg		122	55 - 135
1,2-Dichloropropane	921	1054		ug/Kg		114	55 - 130
1,3-Dichloropropane	921	1023		ug/Kg		111	55 - 140

TestAmerica Cedar Falls

QC Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 310-109813/2-A

Matrix: Solid

Analysis Batch: 109833

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 109813

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,2-Dichloropropane	921	1243		ug/Kg		135	40 - 135
1,1-Dichloropropene	921	1145		ug/Kg		124	55 - 130
cis-1,3-Dichloropropene	921	1073	*	ug/Kg		116	50 - 115
trans-1,3-Dichloropropene	921	1015		ug/Kg		110	55 - 130
Ethylbenzene	921	1149		ug/Kg		125	60 - 125
Hexachlorobutadiene	921	1024		ug/Kg		111	40 - 135
Hexane	921	1074		ug/Kg		117	45 - 140
Isopropylbenzene	921	1117		ug/Kg		121	60 - 125
p-Isopropyltoluene	921	1065		ug/Kg		116	60 - 120
Methylene Chloride	921	1124		ug/Kg		122	55 - 145
Methyl tert-butyl ether	921	1059		ug/Kg		115	55 - 130
Naphthalene	921	901.4		ug/Kg		98	50 - 130
N-Propylbenzene	921	1116		ug/Kg		121	50 - 125
Styrene	921	1104		ug/Kg		120	60 - 125
1,1,1,2-Tetrachloroethane	921	1052		ug/Kg		114	65 - 125
1,1,2,2-Tetrachloroethane	921	972.4		ug/Kg		106	60 - 125
Tetrachloroethene	921	1063		ug/Kg		115	55 - 125
Toluene	921	1134		ug/Kg		123	60 - 130
1,2,3-Trichlorobenzene	921	961.8		ug/Kg		104	50 - 130
1,2,4-Trichlorobenzene	921	979.8		ug/Kg		106	45 - 135
1,1,1-Trichloroethane	921	1164	*	ug/Kg		126	60 - 125
1,1,2-Trichloroethane	921	1020		ug/Kg		111	55 - 135
Trichloroethene	921	1127		ug/Kg		122	60 - 130
1,2,3-Trichloropropane	921	923.0		ug/Kg		100	50 - 145
1,2,4-Trimethylbenzene	921	1033		ug/Kg		112	55 - 125
1,3,5-Trimethylbenzene	921	1037		ug/Kg		113	50 - 130
Xylenes, Total	1840	2202		ug/Kg		119	50 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		80 - 120
Dibromofluoromethane (Surr)	102		75 - 125
Toluene-d8 (Surr)	94		80 - 120

Lab Sample ID: LCSD 310-109813/3-A

Matrix: Solid

Analysis Batch: 109833

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 109813

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Acetone	1870	2020		ug/Kg		108	65 - 150	8	40
Benzene	934	1245		ug/Kg		133	55 - 135	7	25
Bromobenzene	934	1121		ug/Kg		120	65 - 125	1	35
Bromochloromethane	934	1186		ug/Kg		127	65 - 130	5	35
Bromodichloromethane	934	1154		ug/Kg		124	65 - 130	10	30
Bromoform	934	1161		ug/Kg		124	50 - 135	2	40
2-Butanone (MEK)	1870	1949		ug/Kg		104	50 - 145	7	40
n-Butylbenzene	934	1086		ug/Kg		116	55 - 130	3	30
sec-Butylbenzene	934	1090		ug/Kg		117	60 - 125	3	30
tert-Butylbenzene	934	1050		ug/Kg		112	55 - 125	2	25

TestAmerica Cedar Falls

QC Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 310-109813/3-A

Matrix: Solid

Analysis Batch: 109833

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 109813

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Carbon disulfide	934	1003		ug/Kg		107	40 - 135	6	40
Carbon tetrachloride	934	1184		ug/Kg		127	55 - 130	4	30
Chlorobenzene	934	1169	*	ug/Kg		125	60 - 120	6	30
Chlorodibromomethane	934	1227	*	ug/Kg		131	55 - 130	7	40
Chloroform	934	1204		ug/Kg		129	65 - 130	7	30
2-Chlorotoluene	934	1068		ug/Kg		114	60 - 125	6	35
4-Chlorotoluene	934	1088		ug/Kg		117	60 - 125	6	35
1,2-Dibromo-3-Chloropropane	934	794.2		ug/Kg		85	50 - 140	9	35
1,2-Dibromoethane (EDB)	934	1076		ug/Kg		115	55 - 140	6	30
Dibromomethane	934	1151		ug/Kg		123	65 - 135	6	30
1,2-Dichlorobenzene	934	1083		ug/Kg		116	65 - 120	9	30
1,3-Dichlorobenzene	934	1092		ug/Kg		117	60 - 125	8	30
1,4-Dichlorobenzene	934	1044		ug/Kg		112	60 - 125	3	30
1,1-Dichloroethane	934	1164		ug/Kg		125	55 - 135	5	40
1,2-Dichloroethane	934	1167		ug/Kg		125	60 - 140	9	30
1,1-Dichloroethene	934	1192		ug/Kg		128	50 - 145	7	40
cis-1,2-Dichloroethene	934	1235		ug/Kg		132	60 - 135	7	40
trans-1,2-Dichloroethene	934	1191		ug/Kg		128	55 - 135	6	40
1,2-Dichloropropane	934	1190		ug/Kg		127	55 - 130	12	30
1,3-Dichloropropane	934	1062		ug/Kg		114	55 - 140	4	30
2,2-Dichloropropane	934	1294	*	ug/Kg		139	40 - 135	4	45
1,1-Dichloropropene	934	1196		ug/Kg		128	55 - 130	4	30
cis-1,3-Dichloropropene	934	1102	*	ug/Kg		118	50 - 115	3	35
trans-1,3-Dichloropropene	934	1076		ug/Kg		115	55 - 130	6	30
Ethylbenzene	934	1175	*	ug/Kg		126	60 - 125	2	30
Hexachlorobutadiene	934	1076		ug/Kg		115	40 - 135	5	35
Hexane	934	1050		ug/Kg		112	45 - 140	2	35
Isopropylbenzene	934	1155		ug/Kg		124	60 - 125	3	35
p-Isopropyltoluene	934	1074		ug/Kg		115	60 - 120	1	30
Methylene Chloride	934	1164		ug/Kg		125	55 - 145	3	40
Methyl tert-butyl ether	934	1118		ug/Kg		120	55 - 130	5	30
Naphthalene	934	968.9		ug/Kg		104	50 - 130	7	30
N-Propylbenzene	934	1172		ug/Kg		125	50 - 125	5	35
Styrene	934	1142		ug/Kg		122	60 - 125	3	35
1,1,1,2-Tetrachloroethane	934	1112		ug/Kg		119	65 - 125	6	30
1,1,2,2-Tetrachloroethane	934	1028		ug/Kg		110	60 - 125	6	35
Tetrachloroethene	934	1116		ug/Kg		119	55 - 125	5	40
Toluene	934	1193		ug/Kg		128	60 - 130	5	35
1,2,3-Trichlorobenzene	934	1007		ug/Kg		108	50 - 130	5	35
1,2,4-Trichlorobenzene	934	1062		ug/Kg		114	45 - 135	8	35
1,1,1-Trichloroethane	934	1226	*	ug/Kg		131	60 - 125	5	30
1,1,2-Trichloroethane	934	1099		ug/Kg		118	55 - 135	7	30
Trichloroethene	934	1262	*	ug/Kg		135	60 - 130	11	30
1,2,3-Trichloropropane	934	1019		ug/Kg		109	50 - 145	10	35
1,2,4-Trimethylbenzene	934	1046		ug/Kg		112	55 - 125	1	35
1,3,5-Trimethylbenzene	934	1061		ug/Kg		114	50 - 130	2	35
Xylenes, Total	1870	2277		ug/Kg		122	50 - 130	3	30

TestAmerica Cedar Falls

QC Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 310-109813/3-A

Matrix: Solid

Analysis Batch: 109833

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 109813

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	102		80 - 120
Dibromofluoromethane (Surr)	104		75 - 125
Toluene-d8 (Surr)	93		80 - 120

Lab Sample ID: MB 310-110240/6

Matrix: Water

Analysis Batch: 110240

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acetone	<10.0		10.0		ug/L			11/25/15 11:01	1
Benzene	<0.500		0.500		ug/L			11/25/15 11:01	1
Bromobenzene	<1.00		1.00		ug/L			11/25/15 11:01	1
Bromochloromethane	<5.00		5.00		ug/L			11/25/15 11:01	1
Bromodichloromethane	<1.00		1.00		ug/L			11/25/15 11:01	1
Bromoform	<5.00		5.00		ug/L			11/25/15 11:01	1
Bromomethane	<4.00		4.00		ug/L			11/25/15 11:01	1
2-Butanone (MEK)	<10.0		10.0		ug/L			11/25/15 11:01	1
n-Butylbenzene	<1.00		1.00		ug/L			11/25/15 11:01	1
sec-Butylbenzene	<1.00		1.00		ug/L			11/25/15 11:01	1
tert-Butylbenzene	<1.00		1.00		ug/L			11/25/15 11:01	1
Carbon disulfide	<1.00		1.00		ug/L			11/25/15 11:01	1
Carbon tetrachloride	<2.00		2.00		ug/L			11/25/15 11:01	1
Chlorobenzene	<1.00		1.00		ug/L			11/25/15 11:01	1
Chlorodibromomethane	<5.00		5.00		ug/L			11/25/15 11:01	1
Chloroethane	<4.00		4.00		ug/L			11/25/15 11:01	1
Chloroform	<1.00		1.00		ug/L			11/25/15 11:01	1
Chloromethane	<3.00		3.00		ug/L			11/25/15 11:01	1
2-Chlorotoluene	<1.00		1.00		ug/L			11/25/15 11:01	1
4-Chlorotoluene	<1.00		1.00		ug/L			11/25/15 11:01	1
1,2-Dibromo-3-Chloropropane	<10.0		10.0		ug/L			11/25/15 11:01	1
1,2-Dibromoethane (EDB)	<10.0		10.0		ug/L			11/25/15 11:01	1
Dibromomethane	<1.00		1.00		ug/L			11/25/15 11:01	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			11/25/15 11:01	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			11/25/15 11:01	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			11/25/15 11:01	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			11/25/15 11:01	1
1,1-Dichloroethane	<1.00		1.00		ug/L			11/25/15 11:01	1
1,2-Dichloroethane	<1.00		1.00		ug/L			11/25/15 11:01	1
1,1-Dichloroethene	<2.00		2.00		ug/L			11/25/15 11:01	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			11/25/15 11:01	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			11/25/15 11:01	1
1,2-Dichloropropane	<1.00		1.00		ug/L			11/25/15 11:01	1
1,3-Dichloropropane	<1.00		1.00		ug/L			11/25/15 11:01	1
2,2-Dichloropropane	<4.00		4.00		ug/L			11/25/15 11:01	1
1,1-Dichloropropene	<1.00		1.00		ug/L			11/25/15 11:01	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			11/25/15 11:01	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			11/25/15 11:01	1
Ethylbenzene	<1.00		1.00		ug/L			11/25/15 11:01	1

TestAmerica Cedar Falls

QC Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 310-110240/6

Matrix: Water

Analysis Batch: 110240

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	<5.00		5.00		ug/L			11/25/15 11:01	1
Hexane	<1.00		1.00		ug/L			11/25/15 11:01	1
Isopropylbenzene	<1.00		1.00		ug/L			11/25/15 11:01	1
p-Isopropyltoluene	<1.00		1.00		ug/L			11/25/15 11:01	1
Methylene Chloride	<5.00		5.00		ug/L			11/25/15 11:01	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			11/25/15 11:01	1
Naphthalene	<5.00		5.00		ug/L			11/25/15 11:01	1
N-Propylbenzene	<1.00		1.00		ug/L			11/25/15 11:01	1
Styrene	<1.00		1.00		ug/L			11/25/15 11:01	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			11/25/15 11:01	1
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			11/25/15 11:01	1
Tetrachloroethene	<1.00		1.00		ug/L			11/25/15 11:01	1
Toluene	<1.00		1.00		ug/L			11/25/15 11:01	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			11/25/15 11:01	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			11/25/15 11:01	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			11/25/15 11:01	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			11/25/15 11:01	1
Trichloroethene	<1.00		1.00		ug/L			11/25/15 11:01	1
Trichlorofluoromethane	<4.00		4.00		ug/L			11/25/15 11:01	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			11/25/15 11:01	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			11/25/15 11:01	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			11/25/15 11:01	1
Vinyl chloride	<1.00		1.00		ug/L			11/25/15 11:01	1
Xylenes, Total	<3.00		3.00		ug/L			11/25/15 11:01	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		75 - 120		11/25/15 11:01	1
Dibromofluoromethane (Surr)	94		75 - 120		11/25/15 11:01	1
Toluene-d8 (Surr)	98		80 - 120		11/25/15 11:01	1

Lab Sample ID: LCS 310-110240/7

Matrix: Water

Analysis Batch: 110240

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	40.0	44.63		ug/L		112	60 - 150
Benzene	20.0	20.09		ug/L		100	70 - 130
Bromobenzene	20.0	19.51		ug/L		98	75 - 130
Bromochloromethane	20.0	18.58		ug/L		93	65 - 145
Bromodichloromethane	20.0	18.62		ug/L		93	60 - 130
Bromoform	20.0	18.91		ug/L		95	30 - 125
2-Butanone (MEK)	40.0	42.29		ug/L		106	55 - 140
n-Butylbenzene	20.0	20.79		ug/L		104	55 - 135
sec-Butylbenzene	20.0	20.22		ug/L		101	65 - 135
tert-Butylbenzene	20.0	20.31		ug/L		102	60 - 135
Carbon disulfide	20.0	20.01		ug/L		100	40 - 130
Carbon tetrachloride	20.0	20.22		ug/L		101	55 - 130
Chlorobenzene	20.0	20.10		ug/L		100	75 - 125

TestAmerica Cedar Falls

QC Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 310-110240/7

Matrix: Water

Analysis Batch: 110240

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chlorodibromomethane	20.0	19.25		ug/L		96	45 - 125
Chloroform	20.0	19.33		ug/L		97	70 - 125
2-Chlorotoluene	20.0	20.31		ug/L		102	75 - 135
4-Chlorotoluene	20.0	20.02		ug/L		100	70 - 140
1,2-Dibromo-3-Chloropropane	20.0	20.43		ug/L		102	35 - 130
1,2-Dibromoethane (EDB)	20.0	20.13		ug/L		101	70 - 135
Dibromomethane	20.0	19.07		ug/L		95	75 - 130
1,2-Dichlorobenzene	20.0	19.69		ug/L		98	65 - 135
1,3-Dichlorobenzene	20.0	19.59		ug/L		98	70 - 130
1,4-Dichlorobenzene	20.0	19.84		ug/L		99	60 - 140
1,1-Dichloroethane	20.0	19.96		ug/L		100	60 - 130
1,2-Dichloroethane	20.0	18.65		ug/L		93	65 - 140
1,1-Dichloroethene	20.0	20.88		ug/L		104	60 - 135
cis-1,2-Dichloroethene	20.0	19.81		ug/L		99	70 - 135
trans-1,2-Dichloroethene	20.0	20.13		ug/L		101	60 - 145
1,2-Dichloropropane	20.0	20.39		ug/L		102	65 - 130
1,3-Dichloropropane	20.0	19.24		ug/L		96	75 - 125
2,2-Dichloropropane	20.0	20.98		ug/L		105	25 - 120
1,1-Dichloropropene	20.0	20.56		ug/L		103	60 - 140
cis-1,3-Dichloropropene	20.0	20.14		ug/L		101	30 - 120
trans-1,3-Dichloropropene	20.0	18.99		ug/L		95	35 - 120
Ethylbenzene	20.0	20.52		ug/L		103	70 - 130
Hexachlorobutadiene	20.0	18.95		ug/L		95	60 - 135
Hexane	20.0	21.03		ug/L		105	40 - 135
Isopropylbenzene	20.0	20.12		ug/L		101	70 - 125
p-Isopropyltoluene	20.0	19.73		ug/L		99	60 - 140
Methylene Chloride	20.0	19.89		ug/L		99	55 - 145
Methyl tert-butyl ether	20.0	20.22		ug/L		101	50 - 135
Naphthalene	20.0	18.63		ug/L		93	40 - 135
N-Propylbenzene	20.0	20.78		ug/L		104	70 - 135
Styrene	20.0	20.17		ug/L		101	70 - 130
1,1,1,2-Tetrachloroethane	20.0	20.53		ug/L		103	65 - 120
1,1,2,2-Tetrachloroethane	20.0	20.53		ug/L		103	65 - 130
Tetrachloroethene	20.0	18.60		ug/L		93	70 - 135
Toluene	20.0	20.51		ug/L		103	70 - 135
1,2,3-Trichlorobenzene	20.0	19.30		ug/L		96	55 - 130
1,2,4-Trichlorobenzene	20.0	18.32		ug/L		92	40 - 135
1,1,1-Trichloroethane	20.0	19.19		ug/L		96	60 - 125
1,1,2-Trichloroethane	20.0	19.87		ug/L		99	75 - 125
Trichloroethene	20.0	19.80		ug/L		99	70 - 130
1,2,3-Trichloropropane	20.0	20.25		ug/L		101	60 - 150
1,2,4-Trimethylbenzene	20.0	20.10		ug/L		101	70 - 140
1,3,5-Trimethylbenzene	20.0	20.38		ug/L		102	70 - 140
Xylenes, Total	40.0	40.58		ug/L		101	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	94		75 - 120
Dibromofluoromethane (Surr)	100		75 - 120

TestAmerica Cedar Falls

QC Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 310-110240/7

Matrix: Water

Analysis Batch: 110240

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	101		80 - 120

Lab Sample ID: LCS 310-110240/8

Matrix: Water

Analysis Batch: 110240

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromomethane	20.0	13.08		ug/L		65	35 - 130
Chloroethane	20.0	19.14		ug/L		96	55 - 135
Chloromethane	20.0	18.57		ug/L		93	30 - 125
Dichlorodifluoromethane	20.0	20.75		ug/L		104	35 - 130
Trichlorofluoromethane	20.0	19.39		ug/L		97	55 - 145
Vinyl chloride	20.0	20.04		ug/L		100	45 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	113		75 - 120
Dibromofluoromethane (Surr)	93		75 - 120
Toluene-d8 (Surr)	103		80 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 310-108557/1-A

Matrix: Solid

Analysis Batch: 108902

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 108557

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<200		200		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
Acenaphthylene	<200		200		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
Anthracene	<200		200		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
Benzidine	<3300		3300		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
Benzo[a]anthracene	<200		200		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
Benzo[a]pyrene	<200		200		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
Benzo[b]fluoranthene	<200		200		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
Benzo[g,h,i]perylene	<200		200		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
Benzoic acid	<660		660		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
Benzo[k]fluoranthene	<200		200		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
Benzyl alcohol	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
Bis(2-chloroethoxy)methane	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
Bis(2-chloroethyl)ether	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
bis (2-chloroisopropyl) ether	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
Bis(2-ethylhexyl) phthalate	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
4-Bromophenyl phenyl ether	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
Butyl benzyl phthalate	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
Carbazole	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
4-Chloroaniline	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
4-Chloro-3-methylphenol	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
2-Chloronaphthalene	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1

TestAmerica Cedar Falls

QC Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 310-108557/1-A

Matrix: Solid

Analysis Batch: 108902

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 108557

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorophenol	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
4-Chlorophenyl phenyl ether	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
Chrysene	<200		200		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
Dibenz(a,h)anthracene	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
Dibenzofuran	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
1,2-Dichlorobenzene	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
1,3-Dichlorobenzene	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
1,4-Dichlorobenzene	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
3,3'-Dichlorobenzidine	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
2,4-Dichlorophenol	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
Diethyl phthalate	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
2,4-Dimethylphenol	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
Dimethyl phthalate	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
Di-n-butyl phthalate	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
4,6-Dinitro-2-methylphenol	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
2,4-Dinitrophenol	<660		660		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
2,4-Dinitrotoluene	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
2,6-Dinitrotoluene	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
Di-n-octyl phthalate	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
Fluoranthene	<200		200		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
Fluorene	<200		200		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
Hexachlorobenzene	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
Hexachlorobutadiene	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
Hexachlorocyclopentadiene	<660		660		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
Hexachloroethane	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
Indeno[1,2,3-cd]pyrene	<200		200		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
Isophorone	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
2-Methylnaphthalene	<200		200		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
2-Methylphenol	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
Methylphenol, 3 & 4	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
Naphthalene	<200		200		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
2-Nitroaniline	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
3-Nitroaniline	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
4-Nitroaniline	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
Nitrobenzene	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
2-Nitrophenol	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
4-Nitrophenol	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
N-Nitrosodimethylamine	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
N-Nitrosodi-n-propylamine	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
N-Nitrosodiphenylamine	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
Pentachlorophenol	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
Phenanthrene	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
Phenol	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
Pyrene	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
Pyridine	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
Total Cresols	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
1,2,4-Trichlorobenzene	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
2,4,5-Trichlorophenol	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1

TestAmerica Cedar Falls

QC Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 310-108557/1-A

Matrix: Solid

Analysis Batch: 108902

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 108557

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	<330		330		ug/Kg		11/13/15 15:27	11/16/15 18:07	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	46		20 - 90				11/13/15 15:27	11/16/15 18:07	1
2-Fluorophenol (Surr)	44		15 - 90				11/13/15 15:27	11/16/15 18:07	1
Nitrobenzene-d5 (Surr)	49		15 - 90				11/13/15 15:27	11/16/15 18:07	1
Phenol-d6 (Surr)	49		20 - 90				11/13/15 15:27	11/16/15 18:07	1
Terphenyl-d14 (Surr)	79		35 - 110				11/13/15 15:27	11/16/15 18:07	1
2,4,6-Tribromophenol (Surr)	61		25 - 105				11/13/15 15:27	11/16/15 18:07	1

Lab Sample ID: LCS 310-108557/2-A

Matrix: Solid

Analysis Batch: 108902

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 108557

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	2000	882.6		ug/Kg		44	25 - 95
Acenaphthylene	2000	883.8		ug/Kg		44	25 - 95
Anthracene	2000	1058		ug/Kg		53	30 - 110
Benzo[a]anthracene	2000	1213		ug/Kg		61	40 - 105
Benzo[a]pyrene	2000	1229		ug/Kg		61	45 - 110
Benzo[b]fluoranthene	2000	1161		ug/Kg		58	40 - 110
Benzo[g,h,i]perylene	2000	1083		ug/Kg		54	40 - 105
Benzo[k]fluoranthene	2000	1162		ug/Kg		58	35 - 100
Benzyl alcohol	2000	839.1		ug/Kg		42	10 - 90
Bis(2-chloroethoxy)methane	2000	817.9		ug/Kg		41	15 - 95
Bis(2-chloroethyl)ether	2000	787.7		ug/Kg		39	10 - 85
bis (2-chloroisopropyl) ether	2000	789.0		ug/Kg		39	10 - 85
Bis(2-ethylhexyl) phthalate	2000	1361		ug/Kg		68	30 - 110
4-Bromophenyl phenyl ether	2000	1012		ug/Kg		51	25 - 110
Butyl benzyl phthalate	2000	1253		ug/Kg		63	30 - 115
Carbazole	2000	1180		ug/Kg		59	30 - 110
4-Chloroaniline	2000	799.8		ug/Kg		40	15 - 85
4-Chloro-3-methylphenol	2000	953.3		ug/Kg		48	20 - 105
2-Chloronaphthalene	2000	799.0		ug/Kg		40	20 - 95
2-Chlorophenol	2000	775.1		ug/Kg		39	10 - 95
4-Chlorophenyl phenyl ether	2000	973.3		ug/Kg		49	25 - 100
Chrysene	2000	1212		ug/Kg		61	40 - 105
Dibenz(a,h)anthracene	2000	1131		ug/Kg		57	40 - 105
Dibenzofuran	2000	918.1		ug/Kg		46	20 - 95
1,2-Dichlorobenzene	2000	744.1		ug/Kg		37	10 - 80
1,3-Dichlorobenzene	2000	744.7		ug/Kg		37	10 - 80
1,4-Dichlorobenzene	2000	754.9		ug/Kg		38	10 - 85
2,4-Dichlorophenol	2000	795.6		ug/Kg		40	15 - 100
Diethyl phthalate	2000	1160		ug/Kg		58	25 - 100
2,4-Dimethylphenol	2000	770.0		ug/Kg		38	15 - 90
Dimethyl phthalate	2000	1049		ug/Kg		52	25 - 105
Di-n-butyl phthalate	2000	1226		ug/Kg		61	30 - 125
4,6-Dinitro-2-methylphenol	4000	665.2		ug/Kg		17	10 - 100

TestAmerica Cedar Falls

QC Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 310-108557/2-A

Matrix: Solid

Analysis Batch: 108902

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 108557

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4-Dinitrophenol	4000	318.3	J *	ug/Kg		8	10 - 80
2,4-Dinitrotoluene	2000	1113		ug/Kg		56	25 - 100
2,6-Dinitrotoluene	2000	1047		ug/Kg		52	25 - 105
Di-n-octyl phthalate	2000	1448		ug/Kg		72	30 - 120
Fluoranthene	2000	1134		ug/Kg		57	35 - 110
Fluorene	2000	966.5		ug/Kg		48	30 - 110
Hexachlorobenzene	2000	988.5		ug/Kg		49	25 - 100
Hexachlorobutadiene	2000	729.7		ug/Kg		36	10 - 85
Hexachlorocyclopentadiene	2000	511.5	J	ug/Kg		26	10 - 95
Hexachloroethane	2000	757.8		ug/Kg		38	10 - 80
Indeno[1,2,3-cd]pyrene	2000	1095		ug/Kg		55	35 - 105
Isophorone	2000	918.4		ug/Kg		46	15 - 90
2-Methylnaphthalene	2000	832.0		ug/Kg		42	15 - 90
2-Methylphenol	2000	811.5		ug/Kg		41	10 - 95
Methylphenol, 3 & 4	2000	847.8		ug/Kg		42	15 - 100
Naphthalene	2000	771.5		ug/Kg		39	15 - 90
2-Nitroaniline	2000	1009		ug/Kg		50	20 - 100
3-Nitroaniline	2000	1085		ug/Kg		54	25 - 95
4-Nitroaniline	2000	1193		ug/Kg		60	25 - 100
Nitrobenzene	2000	803.4		ug/Kg		40	10 - 85
2-Nitrophenol	2000	829.0		ug/Kg		41	15 - 95
4-Nitrophenol	4000	2426		ug/Kg		61	30 - 105
N-Nitrosodimethylamine	2000	795.3		ug/Kg		40	10 - 85
N-Nitrosodi-n-propylamine	2000	939.4		ug/Kg		47	10 - 95
N-Nitrosodiphenylamine	4000	1960		ug/Kg		49	25 - 120
Pentachlorophenol	4000	2052		ug/Kg		51	25 - 90
Phenanthrene	2000	1030		ug/Kg		52	30 - 105
Phenol	2000	782.3		ug/Kg		39	10 - 95
Pyrene	2000	1090		ug/Kg		55	35 - 110
Pyridine	2000	709.8		ug/Kg		35	10 - 70
1,2,4-Trichlorobenzene	2000	761.8		ug/Kg		38	10 - 90
2,4,5-Trichlorophenol	2000	929.6		ug/Kg		46	25 - 105
2,4,6-Trichlorophenol	2000	903.7		ug/Kg		45	20 - 100

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl (Surr)	41		20 - 90
2-Fluorophenol (Surr)	37		15 - 90
Nitrobenzene-d5 (Surr)	40		15 - 90
Phenol-d6 (Surr)	40		20 - 90
Terphenyl-d14 (Surr)	59		35 - 110
2,4,6-Tribromophenol (Surr)	57		25 - 105

Lab Sample ID: 310-68805-15 MS

Matrix: Soil

Analysis Batch: 109084

Client Sample ID: SB1 0-2

Prep Type: Total/NA

Prep Batch: 108557

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	<2180	F2	2170	<2170		ug/Kg	☼	21	10 - 105

TestAmerica Cedar Falls

QC Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 310-68805-15 MS

Matrix: Soil

Analysis Batch: 109084

Client Sample ID: SB1 0-2

Prep Type: Total/NA

Prep Batch: 108557

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Acenaphthylene	<2180	F2	2170	<2170		ug/Kg	☼	19	10 - 105
Anthracene	<2180	F2	2170	<2170		ug/Kg	☼	20	10 - 110
Benzo[a]anthracene	<2180	F2	2170	<2170		ug/Kg	☼	22	10 - 105
Benzo[a]pyrene	<2180	F2	2170	<2170		ug/Kg	☼	29	15 - 110
Benzo[b]fluoranthene	<2180	F2	2170	<2170		ug/Kg	☼	41	10 - 110
Benzo[g,h,i]perylene	<2180	F1	2170	<2170	F1	ug/Kg	☼	0	15 - 110
Benzo[k]fluoranthene	<2180	F2	2170	<2170		ug/Kg	☼	18	10 - 105
Benzyl alcohol	<3590	F2	2170	<3590		ug/Kg	☼	16	10 - 90
Bis(2-chloroethoxy)methane	<3590		2170	<3590		ug/Kg	☼	20	10 - 95
Bis(2-chloroethyl)ether	<3590		2170	<3590		ug/Kg	☼	24	10 - 90
bis (2-chloroisopropyl) ether	<3590		2170	<3590		ug/Kg	☼	23	10 - 90
Bis(2-ethylhexyl) phthalate	<3590	F2	2170	<3590		ug/Kg	☼	19	15 - 110
4-Bromophenyl phenyl ether	<3590	F2	2170	<3590		ug/Kg	☼	25	15 - 110
Butyl benzyl phthalate	<3590	F2	2170	<3590		ug/Kg	☼	32	15 - 115
Carbazole	<3590	F2	2170	<3590		ug/Kg	☼	19	15 - 110
4-Chloroaniline	<3590	F2	2170	<3590		ug/Kg	☼	13	10 - 90
4-Chloro-3-methylphenol	<3590	F2	2170	<3590		ug/Kg	☼	15	10 - 105
2-Chloronaphthalene	<3590	F2	2170	<3590		ug/Kg	☼	19	10 - 100
2-Chlorophenol	<3590	F2 F1	2170	<3590	F1	ug/Kg	☼	8	10 - 95
4-Chlorophenyl phenyl ether	<3590	F2	2170	<3590		ug/Kg	☼	20	10 - 105
Chrysene	<2180	F2	2170	<2170		ug/Kg	☼	22	15 - 110
Dibenz(a,h)anthracene	<3590	F2	2170	<3590		ug/Kg	☼	25	15 - 110
Dibenzofuran	<3590	F2	2170	<3590		ug/Kg	☼	19	10 - 100
1,2-Dichlorobenzene	<3590		2170	<3590		ug/Kg	☼	22	10 - 85
1,3-Dichlorobenzene	<3590		2170	<3590		ug/Kg	☼	24	10 - 80
1,4-Dichlorobenzene	<3590		2170	<3590		ug/Kg	☼	24	10 - 85
2,4-Dichlorophenol	<3590	F1	2170	<3590	F1	ug/Kg	☼	0	10 - 100
Diethyl phthalate	<3590	F1	2170	<3590	F1	ug/Kg	☼	0	10 - 100
2,4-Dimethylphenol	<3590	F2	2170	<3590		ug/Kg	☼	10	10 - 100
Dimethyl phthalate	<3590	F2	2170	<3590		ug/Kg	☼	13	10 - 105
Di-n-butyl phthalate	<3590	F1	2170	<3590	F1	ug/Kg	☼	0	15 - 125
4,6-Dinitro-2-methylphenol	<3590	F1	4350	<3590	F1	ug/Kg	☼	0	10 - 100
2,4-Dinitrophenol	<7180	F1 *	4350	<7170	F1	ug/Kg	☼	0	10 - 80
2,4-Dinitrotoluene	<3590	F2	2170	<3590		ug/Kg	☼	19	10 - 100
2,6-Dinitrotoluene	<3590	F2	2170	<3590		ug/Kg	☼	19	10 - 105
Di-n-octyl phthalate	<3590	F2	2170	<3590		ug/Kg	☼	43	15 - 120
Fluoranthene	<2180	F2	2170	<2170		ug/Kg	☼	25	15 - 110
Fluorene	<2180	F2	2170	<2170		ug/Kg	☼	18	10 - 105
Hexachlorobenzene	<3590	F2	2170	<3590		ug/Kg	☼	22	10 - 105
Hexachlorobutadiene	<3590		2170	<3590		ug/Kg	☼	23	10 - 95
Hexachlorocyclopentadiene	<7180	F1	2170	<7170		ug/Kg	☼	29	10 - 95
Hexachloroethane	<3590		2170	<3590		ug/Kg	☼	18	10 - 95
Indeno[1,2,3-cd]pyrene	<2180	F2	2170	<2170		ug/Kg	☼	31	10 - 105
Isophorone	<3590	F2	2170	<3590		ug/Kg	☼	19	10 - 95
2-Methylnaphthalene	<2180		2170	<2170		ug/Kg	☼	22	10 - 95
2-Methylphenol	<3590	F2	2170	<3590		ug/Kg	☼	11	10 - 95
Methylphenol, 3 & 4	<3590	F2	2170	<3590		ug/Kg	☼	11	10 - 100
Naphthalene	<2180		2170	<2170		ug/Kg	☼	22	10 - 95

TestAmerica Cedar Falls

QC Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 310-68805-15 MS

Matrix: Soil

Analysis Batch: 109084

Client Sample ID: SB1 0-2

Prep Type: Total/NA

Prep Batch: 108557

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
2-Nitroaniline	<3590	F2	2170	<3590		ug/Kg	☼	18	10 - 100
3-Nitroaniline	<3590	F1	2170	<3590	F1	ug/Kg	☼	0	10 - 95
4-Nitroaniline	<3590	F2	2170	<3590		ug/Kg	☼	15	10 - 100
Nitrobenzene	<3590		2170	<3590		ug/Kg	☼	19	10 - 95
2-Nitrophenol	<3590	F1	2170	<3590	F1	ug/Kg	☼	0	10 - 95
4-Nitrophenol	<3590	F1	4350	<3590	F1	ug/Kg	☼	0	10 - 105
N-Nitrosodimethylamine	<3590		2170	<3590		ug/Kg	☼	20	10 - 90
N-Nitrosodi-n-propylamine	<3590		2170	<3590		ug/Kg	☼	24	10 - 95
N-Nitrosodiphenylamine	<3590	F2	4350	<3590		ug/Kg	☼	18	10 - 120
Pentachlorophenol	<3590	F1	4350	<3590	F1	ug/Kg	☼	0	10 - 95
Phenanthrene	<3590	F2	2170	<3590		ug/Kg	☼	21	15 - 110
Phenol	<3590	F2	2170	<3590		ug/Kg	☼	11	10 - 95
Pyrene	<3590	F2	2170	<3590		ug/Kg	☼	22	15 - 110
Pyridine	<3590	F1	2170	<3590	F1	ug/Kg	☼	0	10 - 70
1,2,4-Trichlorobenzene	<3590		2170	<3590		ug/Kg	☼	22	10 - 95
2,4,5-Trichlorophenol	<3590	F1	2170	<3590	F1	ug/Kg	☼	0	10 - 105
2,4,6-Trichlorophenol	<3590	F1	2170	<3590	F1	ug/Kg	☼	0	10 - 100

Surrogate	MS %Recovery	MS Qualifier	MS Limits
2-Fluorobiphenyl (Surr)	20		20 - 90
2-Fluorophenol (Surr)	5	X	15 - 90
Nitrobenzene-d5 (Surr)	20		15 - 90
Phenol-d6 (Surr)	11	X	20 - 90
Terphenyl-d14 (Surr)	22	X	35 - 110
2,4,6-Tribromophenol (Surr)	0	X	25 - 105

Lab Sample ID: 310-68805-15 MSD

Matrix: Soil

Analysis Batch: 109084

Client Sample ID: SB1 0-2

Prep Type: Total/NA

Prep Batch: 108557

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Acenaphthene	<2180	F2	2120	<2120	F2	ug/Kg	☼	35	10 - 105	48	40
Acenaphthylene	<2180	F2	2120	<2120	F2	ug/Kg	☼	33	10 - 105	52	40
Anthracene	<2180	F2	2120	<2120	F2	ug/Kg	☼	41	10 - 110	68	40
Benzo[a]anthracene	<2180	F2	2120	<2120	F2	ug/Kg	☼	47	10 - 105	69	40
Benzo[a]pyrene	<2180	F2	2120	<2120	F2	ug/Kg	☼	52	15 - 110	55	40
Benzo[b]fluoranthene	<2180	F2	2120	<2120	F2	ug/Kg	☼	64	10 - 110	43	40
Benzo[g,h,i]perylene	<2180	F1	2120	<2120		ug/Kg	☼	44	15 - 110	NC	40
Benzo[k]fluoranthene	<2180	F2	2120	<2120	F2	ug/Kg	☼	42	10 - 105	76	40
Benzyl alcohol	<3590	F2	2120	<3490	F2	ug/Kg	☼	28	10 - 90	51	40
Bis(2-chloroethoxy)methane	<3590		2120	<3490		ug/Kg	☼	30	10 - 95	35	40
Bis(2-chloroethyl)ether	<3590		2120	<3490		ug/Kg	☼	28	10 - 90	13	40
bis (2-chloroisopropyl) ether	<3590		2120	<3490		ug/Kg	☼	30	10 - 90	23	40
Bis(2-ethylhexyl) phthalate	<3590	F2	2120	<3490	F2	ug/Kg	☼	50	15 - 110	58	40
4-Bromophenyl phenyl ether	<3590	F2	2120	<3490	F2	ug/Kg	☼	41	15 - 110	48	40
Butyl benzyl phthalate	<3590	F2	2120	<3490	F2	ug/Kg	☼	59	15 - 115	58	40
Carbazole	<3590	F2	2120	<3490	F2	ug/Kg	☼	42	15 - 110	76	40
4-Chloroaniline	<3590	F2	2120	<3490	F2	ug/Kg	☼	24	10 - 90	53	40

TestAmerica Cedar Falls

QC Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 310-68805-15 MSD

Matrix: Soil

Analysis Batch: 109084

Client Sample ID: SB1 0-2

Prep Type: Total/NA

Prep Batch: 108557

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4-Chloro-3-methylphenol	<3590	F2	2120	<3490	F2	ug/Kg	✱	31	10 - 105	70	40
2-Chloronaphthalene	<3590	F2	2120	<3490	F2	ug/Kg	✱	32	10 - 100	48	40
2-Chlorophenol	<3590	F2 F1	2120	<3490	F2	ug/Kg	✱	15	10 - 95	57	40
4-Chlorophenyl phenyl ether	<3590	F2	2120	<3490	F2	ug/Kg	✱	38	10 - 105	57	40
Chrysene	<2180	F2	2120	<2120	F2	ug/Kg	✱	47	15 - 110	70	40
Dibenz(a,h)anthracene	<3590	F2	2120	<3490	F2	ug/Kg	✱	45	15 - 110	57	40
Dibenzofuran	<3590	F2	2120	<3490	F2	ug/Kg	✱	36	10 - 100	61	40
1,2-Dichlorobenzene	<3590		2120	<3490		ug/Kg	✱	28	10 - 85	20	40
1,3-Dichlorobenzene	<3590		2120	<3490		ug/Kg	✱	26	10 - 80	5	40
1,4-Dichlorobenzene	<3590		2120	<3490		ug/Kg	✱	27	10 - 85	6	40
2,4-Dichlorophenol	<3590	F1	2120	<3490		ug/Kg	✱	11	10 - 100	NC	40
Diethyl phthalate	<3590	F1	2120	<3490		ug/Kg	✱	40	10 - 100	NC	40
2,4-Dimethylphenol	<3590	F2	2120	<3490	F2	ug/Kg	✱	19	10 - 100	54	40
Dimethyl phthalate	<3590	F2	2120	<3490	F2	ug/Kg	✱	37	10 - 105	90	40
Di-n-butyl phthalate	<3590	F1	2120	<3490		ug/Kg	✱	55	15 - 125	NC	40
4,6-Dinitro-2-methylphenol	<3590	F1	4230	<3490	F1	ug/Kg	✱	0	10 - 100	NC	40
2,4-Dinitrophenol	<7180	F1 *	4230	<6980	F1	ug/Kg	✱	0	10 - 80	NC	40
2,4-Dinitrotoluene	<3590	F2	2120	<3490	F2	ug/Kg	✱	39	10 - 100	66	40
2,6-Dinitrotoluene	<3590	F2	2120	<3490	F2	ug/Kg	✱	37	10 - 105	61	40
Di-n-octyl phthalate	<3590	F2	2120	<3490	F2	ug/Kg	✱	75	15 - 120	52	40
Fluoranthene	<2180	F2	2120	<2120	F2	ug/Kg	✱	52	15 - 110	67	40
Fluorene	<2180	F2	2120	<2120	F2	ug/Kg	✱	36	10 - 105	66	40
Hexachlorobenzene	<3590	F2	2120	<3490	F2	ug/Kg	✱	38	10 - 105	51	40
Hexachlorobutadiene	<3590		2120	<3490		ug/Kg	✱	27	10 - 95	13	40
Hexachlorocyclopentadiene	<7180	F1	2120	<6980	F1	ug/Kg	✱	0	10 - 95	NC	40
Hexachloroethane	<3590		2120	<3490		ug/Kg	✱	16	10 - 95	14	40
Indeno[1,2,3-cd]pyrene	<2180	F2	2120	<2120	F2	ug/Kg	✱	51	10 - 105	47	40
Isophorone	<3590	F2	2120	<3490	F2	ug/Kg	✱	32	10 - 95	49	40
2-Methylnaphthalene	<2180		2120	<2120		ug/Kg	✱	30	10 - 95	28	40
2-Methylphenol	<3590	F2	2120	<3490	F2	ug/Kg	✱	23	10 - 95	65	40
Methylphenol, 3 & 4	<3590	F2	2120	<3490	F2	ug/Kg	✱	26	10 - 100	76	40
Naphthalene	<2180		2120	<2120		ug/Kg	✱	30	10 - 95	29	40
2-Nitroaniline	<3590	F2	2120	<3490	F2	ug/Kg	✱	41	10 - 100	77	40
3-Nitroaniline	<3590	F1	2120	<3490		ug/Kg	✱	42	10 - 95	NC	40
4-Nitroaniline	<3590	F2	2120	<3490	F2	ug/Kg	✱	35	10 - 100	80	40
Nitrobenzene	<3590		2120	<3490		ug/Kg	✱	28	10 - 95	34	40
2-Nitrophenol	<3590	F1	2120	<3490	F1	ug/Kg	✱	0	10 - 95	NC	40
4-Nitrophenol	<3590	F1	4230	<3490	F1	ug/Kg	✱	0	10 - 105	NC	40
N-Nitrosodimethylamine	<3590		2120	<3490		ug/Kg	✱	27	10 - 90	30	40
N-Nitrosodi-n-propylamine	<3590		2120	<3490		ug/Kg	✱	34	10 - 95	31	40
N-Nitrosodiphenylamine	<3590	F2	4230	<3490	F2	ug/Kg	✱	40	10 - 120	72	40
Pentachlorophenol	<3590	F1	4230	<3490	F1	ug/Kg	✱	0	10 - 95	NC	40
Phenanthrene	<3590	F2	2120	<3490	F2	ug/Kg	✱	45	15 - 110	71	40
Phenol	<3590	F2	2120	<3490	F2	ug/Kg	✱	25	10 - 95	73	40
Pyrene	<3590	F2	2120	<3490	F2	ug/Kg	✱	47	15 - 110	69	40
Pyridine	<3590	F1	2120	<3490	F1	ug/Kg	✱	0	10 - 70	NC	40
1,2,4-Trichlorobenzene	<3590		2120	<3490		ug/Kg	✱	28	10 - 95	21	40
2,4,5-Trichlorophenol	<3590	F1	2120	<3490	F1	ug/Kg	✱	0	10 - 105	NC	40

TestAmerica Cedar Falls

QC Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 310-68805-15 MSD

Matrix: Soil

Analysis Batch: 109084

Client Sample ID: SB1 0-2

Prep Type: Total/NA

Prep Batch: 108557

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,4,6-Trichlorophenol	<3590	F1	2120	<3490	F1	ug/Kg	✖	0	10 - 100	NC	40

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2-Fluorobiphenyl (Surr)	31		20 - 90
2-Fluorophenol (Surr)	9	X	15 - 90
Nitrobenzene-d5 (Surr)	29		15 - 90
Phenol-d6 (Surr)	23		20 - 90
Terphenyl-d14 (Surr)	46		35 - 110
2,4,6-Tribromophenol (Surr)	1	X	25 - 105

Lab Sample ID: MB 310-108995/1-A

Matrix: Water

Analysis Batch: 109475

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 108995

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
Acenaphthylene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
Anthracene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
Benzidine	<100		100		ug/L		11/17/15 14:48	11/19/15 12:01	1
Benzo[a]anthracene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
Benzo[a]pyrene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
Benzo[b]fluoranthene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
Benzo[g,h,i]perylene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
Benzoic acid	<100		100		ug/L		11/17/15 14:48	11/19/15 12:01	1
Benzo[k]fluoranthene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
Benzyl alcohol	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
Bis(2-chloroethoxy)methane	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
Bis(2-chloroethyl)ether	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
bis (2-chloroisopropyl) ether	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
Bis(2-ethylhexyl) phthalate	10.86		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
4-Bromophenyl phenyl ether	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
Butyl benzyl phthalate	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
Carbazole	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
4-Chloroaniline	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
4-Chloro-3-methylphenol	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
2-Chloronaphthalene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
2-Chlorophenol	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
4-Chlorophenyl phenyl ether	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
Chrysene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
Dibenz(a,h)anthracene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
Dibenzofuran	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
1,2-Dichlorobenzene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
1,3-Dichlorobenzene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
1,4-Dichlorobenzene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
3,3'-Dichlorobenzidine	<50.0		50.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
2,4-Dichlorophenol	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
Diethyl phthalate	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
2,4-Dimethylphenol	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1

TestAmerica Cedar Falls

QC Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 310-108995/1-A

Matrix: Water

Analysis Batch: 109475

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 108995

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethyl phthalate	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
Di-n-butyl phthalate	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
4,6-Dinitro-2-methylphenol	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
2,4-Dinitrophenol	<20.0		20.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
2,4-Dinitrotoluene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
2,6-Dinitrotoluene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
Di-n-octyl phthalate	<20.0		20.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
Fluoranthene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
Fluorene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
Hexachlorobenzene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
Hexachlorobutadiene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
Hexachlorocyclopentadiene	<20.0		20.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
Hexachloroethane	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
Indeno[1,2,3-cd]pyrene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
Isophorone	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
2-Methylnaphthalene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
2-Methylphenol	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
Methylphenol, 3 & 4	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
Naphthalene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
2-Nitroaniline	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
3-Nitroaniline	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
4-Nitroaniline	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
Nitrobenzene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
2-Nitrophenol	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
4-Nitrophenol	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
N-Nitrosodimethylamine	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
N-Nitrosodi-n-propylamine	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
N-Nitrosodiphenylamine	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
Pentachlorophenol	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
Phenanthrene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
Phenol	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
Pyrene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
Pyridine	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
Total Cresols	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
1,2,4-Trichlorobenzene	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
2,4,5-Trichlorophenol	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1
2,4,6-Trichlorophenol	<10.0		10.0		ug/L		11/17/15 14:48	11/19/15 12:01	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	36		25 - 80	11/17/15 14:48	11/19/15 12:01	1
2-Fluorophenol (Surr)	23		15 - 50	11/17/15 14:48	11/19/15 12:01	1
Nitrobenzene-d5 (Surr)	38		25 - 80	11/17/15 14:48	11/19/15 12:01	1
Phenol-d6 (Surr)	16		10 - 35	11/17/15 14:48	11/19/15 12:01	1
Terphenyl-d14 (Surr)	76		30 - 105	11/17/15 14:48	11/19/15 12:01	1
2,4,6-Tribromophenol (Surr)	46		25 - 100	11/17/15 14:48	11/19/15 12:01	1

TestAmerica Cedar Falls

QC Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 310-108995/2-A

Matrix: Water

Analysis Batch: 109475

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 108995

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Acenaphthene	50.0	26.08		ug/L		52	25 - 80
Acenaphthylene	50.0	26.55		ug/L		53	25 - 85
Anthracene	50.0	29.46		ug/L		59	35 - 95
Benzo[a]anthracene	50.0	32.39		ug/L		65	30 - 100
Benzo[a]pyrene	50.0	32.46		ug/L		65	35 - 105
Benzo[b]fluoranthene	50.0	29.72		ug/L		59	30 - 100
Benzo[g,h,i]perylene	50.0	30.31		ug/L		61	30 - 105
Benzo[k]fluoranthene	50.0	32.07		ug/L		64	30 - 95
Benzyl alcohol	50.0	23.67		ug/L		47	10 - 75
Bis(2-chloroethoxy)methane	50.0	27.02		ug/L		54	25 - 80
Bis(2-chloroethyl)ether	50.0	25.71		ug/L		51	20 - 75
bis (2-chloroisopropyl) ether	50.0	25.93		ug/L		52	15 - 75
Bis(2-ethylhexyl) phthalate	50.0	44.66		ug/L		89	35 - 95
4-Bromophenyl phenyl ether	50.0	28.84		ug/L		58	30 - 90
Butyl benzyl phthalate	50.0	34.81		ug/L		70	35 - 100
Carbazole	50.0	30.68		ug/L		61	30 - 95
4-Chloroaniline	50.0	25.41		ug/L		51	20 - 85
4-Chloro-3-methylphenol	50.0	28.56		ug/L		57	25 - 90
2-Chloronaphthalene	50.0	25.08		ug/L		50	25 - 80
2-Chlorophenol	50.0	23.25		ug/L		47	20 - 70
4-Chlorophenyl phenyl ether	50.0	27.19		ug/L		54	30 - 85
Chrysene	50.0	32.02		ug/L		64	30 - 95
Dibenz(a,h)anthracene	50.0	32.32		ug/L		65	30 - 100
Dibenzofuran	50.0	26.30		ug/L		53	30 - 85
1,2-Dichlorobenzene	50.0	20.64		ug/L		41	20 - 60
1,3-Dichlorobenzene	50.0	20.24		ug/L		40	20 - 60
1,4-Dichlorobenzene	50.0	20.28		ug/L		41	20 - 60
2,4-Dichlorophenol	50.0	25.04		ug/L		50	25 - 80
Diethyl phthalate	50.0	30.91		ug/L		62	30 - 90
2,4-Dimethylphenol	50.0	25.15		ug/L		50	20 - 80
Dimethyl phthalate	50.0	29.69		ug/L		59	25 - 95
Di-n-butyl phthalate	50.0	33.02		ug/L		66	30 - 100
4,6-Dinitro-2-methylphenol	100	62.09		ug/L		62	30 - 105
2,4-Dinitrophenol	100	54.08		ug/L		54	20 - 105
2,4-Dinitrotoluene	50.0	29.82		ug/L		60	35 - 90
2,6-Dinitrotoluene	50.0	27.33		ug/L		55	30 - 90
Di-n-octyl phthalate	50.0	37.92		ug/L		76	30 - 105
Fluoranthene	50.0	30.29		ug/L		61	25 - 100
Fluorene	50.0	26.95		ug/L		54	25 - 85
Hexachlorobenzene	50.0	28.03		ug/L		56	35 - 90
Hexachlorobutadiene	50.0	21.73		ug/L		43	15 - 65
Hexachlorocyclopentadiene	50.0	19.29	J	ug/L		39	10 - 75
Hexachloroethane	50.0	20.36		ug/L		41	15 - 60
Indeno[1,2,3-cd]pyrene	50.0	31.11		ug/L		62	30 - 100
Isophorone	50.0	28.62		ug/L		57	25 - 85
2-Methylnaphthalene	50.0	24.60		ug/L		49	20 - 75
2-Methylphenol	50.0	22.74		ug/L		45	20 - 65
Methylphenol, 3 & 4	50.0	21.49		ug/L		43	15 - 65

TestAmerica Cedar Falls

QC Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 310-108995/2-A

Matrix: Water

Analysis Batch: 109475

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 108995

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	50.0	23.44		ug/L		47	20 - 70
2-Nitroaniline	50.0	29.64		ug/L		59	30 - 85
3-Nitroaniline	50.0	29.25		ug/L		58	30 - 95
4-Nitroaniline	50.0	32.62		ug/L		65	30 - 90
Nitrobenzene	50.0	26.14		ug/L		52	20 - 75
2-Nitrophenol	50.0	25.79		ug/L		52	25 - 80
4-Nitrophenol	100	27.60		ug/L		28	10 - 45
N-Nitrosodimethylamine	50.0	17.84		ug/L		36	10 - 55
N-Nitrosodi-n-propylamine	50.0	28.85		ug/L		58	25 - 80
N-Nitrosodiphenylamine	100	56.19		ug/L		56	30 - 95
Pentachlorophenol	100	56.07		ug/L		56	25 - 85
Phenanthrene	50.0	29.21		ug/L		58	30 - 90
Phenol	50.0	12.61		ug/L		25	10 - 35
Pyrene	50.0	32.81		ug/L		66	25 - 100
Pyridine	50.0	14.38		ug/L		29	10 - 50
1,2,4-Trichlorobenzene	50.0	22.19		ug/L		44	20 - 65
2,4,5-Trichlorophenol	50.0	27.98		ug/L		56	30 - 85
2,4,6-Trichlorophenol	50.0	27.92		ug/L		56	30 - 85

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl (Surr)	50		25 - 80
2-Fluorophenol (Surr)	28		15 - 50
Nitrobenzene-d5 (Surr)	51		25 - 80
Phenol-d6 (Surr)	21		10 - 35
Terphenyl-d14 (Surr)	67		30 - 105
2,4,6-Tribromophenol (Surr)	55		25 - 100

Lab Sample ID: LCSD 310-108995/3-A

Matrix: Water

Analysis Batch: 109475

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 108995

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Acenaphthene	50.0	25.76		ug/L		52	25 - 80	1	35
Acenaphthylene	50.0	25.99		ug/L		52	25 - 85	2	35
Anthracene	50.0	31.31		ug/L		63	35 - 95	6	35
Benzo[a]anthracene	50.0	34.17		ug/L		68	30 - 100	5	35
Benzo[a]pyrene	50.0	34.32		ug/L		69	35 - 105	6	35
Benzo[b]fluoranthene	50.0	31.72		ug/L		63	30 - 100	7	35
Benzo[g,h,i]perylene	50.0	32.84		ug/L		66	30 - 105	8	35
Benzo[k]fluoranthene	50.0	33.51		ug/L		67	30 - 95	4	35
Benzyl alcohol	50.0	24.23		ug/L		48	10 - 75	2	35
Bis(2-chloroethoxy)methane	50.0	27.27		ug/L		55	25 - 80	1	35
Bis(2-chloroethyl)ether	50.0	26.33		ug/L		53	20 - 75	2	30
bis (2-chloroisopropyl) ether	50.0	26.31		ug/L		53	15 - 75	1	35
Bis(2-ethylhexyl) phthalate	50.0	47.25		ug/L		95	35 - 95	6	35
4-Bromophenyl phenyl ether	50.0	30.13		ug/L		60	30 - 90	4	30
Butyl benzyl phthalate	50.0	36.28		ug/L		73	35 - 100	4	35
Carbazole	50.0	32.49		ug/L		65	30 - 95	6	35

TestAmerica Cedar Falls

QC Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 310-108995/3-A

Matrix: Water

Analysis Batch: 109475

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 108995

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4-Chloroaniline	50.0	25.85		ug/L		52	20 - 85	2	35
4-Chloro-3-methylphenol	50.0	28.84		ug/L		58	25 - 90	1	35
2-Chloronaphthalene	50.0	24.19		ug/L		48	25 - 80	4	35
2-Chlorophenol	50.0	23.46		ug/L		47	20 - 70	1	35
4-Chlorophenyl phenyl ether	50.0	26.77		ug/L		54	30 - 85	2	35
Chrysene	50.0	33.87		ug/L		68	30 - 95	6	35
Dibenz(a,h)anthracene	50.0	34.35		ug/L		69	30 - 100	6	35
Dibenzofuran	50.0	26.26		ug/L		53	30 - 85	0	30
1,2-Dichlorobenzene	50.0	21.67		ug/L		43	20 - 60	5	30
1,3-Dichlorobenzene	50.0	20.63		ug/L		41	20 - 60	2	35
1,4-Dichlorobenzene	50.0	20.86		ug/L		42	20 - 60	3	30
2,4-Dichlorophenol	50.0	25.67		ug/L		51	25 - 80	3	35
Diethyl phthalate	50.0	31.94		ug/L		64	30 - 90	3	30
2,4-Dimethylphenol	50.0	25.91		ug/L		52	20 - 80	3	35
Dimethyl phthalate	50.0	30.31		ug/L		61	25 - 95	2	35
Di-n-butyl phthalate	50.0	36.20		ug/L		72	30 - 100	9	35
4,6-Dinitro-2-methylphenol	100	67.88		ug/L		68	30 - 105	9	35
2,4-Dinitrophenol	100	54.23		ug/L		54	20 - 105	0	35
2,4-Dinitrotoluene	50.0	30.95		ug/L		62	35 - 90	4	35
2,6-Dinitrotoluene	50.0	28.38		ug/L		57	30 - 90	4	35
Di-n-octyl phthalate	50.0	41.91		ug/L		84	30 - 105	10	35
Fluoranthene	50.0	31.14		ug/L		62	25 - 100	3	35
Fluorene	50.0	26.66		ug/L		53	25 - 85	1	35
Hexachlorobenzene	50.0	28.80		ug/L		58	35 - 90	3	35
Hexachlorobutadiene	50.0	22.40		ug/L		45	15 - 65	3	35
Hexachlorocyclopentadiene	50.0	19.82	J	ug/L		40	10 - 75	3	35
Hexachloroethane	50.0	21.70		ug/L		43	15 - 60	6	35
Indeno[1,2,3-cd]pyrene	50.0	33.38		ug/L		67	30 - 100	7	35
Isophorone	50.0	28.93		ug/L		58	25 - 85	1	35
2-Methylnaphthalene	50.0	25.02		ug/L		50	20 - 75	2	35
2-Methylphenol	50.0	22.61		ug/L		45	20 - 65	1	35
Methylphenol, 3 & 4	50.0	21.42		ug/L		43	15 - 65	0	35
Naphthalene	50.0	23.97		ug/L		48	20 - 70	2	35
2-Nitroaniline	50.0	30.29		ug/L		61	30 - 85	2	35
3-Nitroaniline	50.0	30.45		ug/L		61	30 - 95	4	35
4-Nitroaniline	50.0	35.40		ug/L		71	30 - 90	8	35
Nitrobenzene	50.0	26.08		ug/L		52	20 - 75	0	35
2-Nitrophenol	50.0	26.38		ug/L		53	25 - 80	2	35
4-Nitrophenol	100	28.29		ug/L		28	10 - 45	2	35
N-Nitrosodimethylamine	50.0	18.16		ug/L		36	10 - 55	2	30
N-Nitrosodi-n-propylamine	50.0	30.02		ug/L		60	25 - 80	4	30
N-Nitrosodiphenylamine	100	61.56		ug/L		62	30 - 95	9	35
Pentachlorophenol	100	57.69		ug/L		58	25 - 85	3	35
Phenanthrene	50.0	30.97		ug/L		62	30 - 90	6	35
Phenol	50.0	12.38		ug/L		25	10 - 35	2	35
Pyrene	50.0	32.23		ug/L		64	25 - 100	2	35
Pyridine	50.0	15.13		ug/L		30	10 - 50	5	35
1,2,4-Trichlorobenzene	50.0	22.57		ug/L		45	20 - 65	2	30

TestAmerica Cedar Falls

QC Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 310-108995/3-A

Matrix: Water

Analysis Batch: 109475

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 108995

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,4,5-Trichlorophenol	50.0	27.66		ug/L		55	30 - 85	1	35
2,4,6-Trichlorophenol	50.0	27.98		ug/L		56	30 - 85	0	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl (Surr)	49		25 - 80
2-Fluorophenol (Surr)	28		15 - 50
Nitrobenzene-d5 (Surr)	51		25 - 80
Phenol-d6 (Surr)	20		10 - 35
Terphenyl-d14 (Surr)	67		30 - 105
2,4,6-Tribromophenol (Surr)	54		25 - 100

Method: 8270D SIM - Semivolatile Organic Compound (GC/MS SIM LL)

Lab Sample ID: MB 310-108535/1-A

Matrix: Water

Analysis Batch: 108852

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 108535

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.100		0.100		ug/L		11/13/15 14:23	11/16/15 11:01	1
Acenaphthylene	<0.100		0.100		ug/L		11/13/15 14:23	11/16/15 11:01	1
Anthracene	<0.100		0.100		ug/L		11/13/15 14:23	11/16/15 11:01	1
Benzo[a]anthracene	<0.100		0.100		ug/L		11/13/15 14:23	11/16/15 11:01	1
Benzo[a]pyrene	<0.100		0.100		ug/L		11/13/15 14:23	11/16/15 11:01	1
Benzo[b]fluoranthene	<0.100		0.100		ug/L		11/13/15 14:23	11/16/15 11:01	1
Benzo[g,h,i]perylene	<0.100		0.100		ug/L		11/13/15 14:23	11/16/15 11:01	1
Benzo[k]fluoranthene	<0.100		0.100		ug/L		11/13/15 14:23	11/16/15 11:01	1
Chrysene	<0.100		0.100		ug/L		11/13/15 14:23	11/16/15 11:01	1
Dibenz(a,h)anthracene	<0.100		0.100		ug/L		11/13/15 14:23	11/16/15 11:01	1
Fluoranthene	<0.100		0.100		ug/L		11/13/15 14:23	11/16/15 11:01	1
Fluorene	<0.100		0.100		ug/L		11/13/15 14:23	11/16/15 11:01	1
Indeno[1,2,3-cd]pyrene	<0.100		0.100		ug/L		11/13/15 14:23	11/16/15 11:01	1
2-Methylnaphthalene	<0.500		0.500		ug/L		11/13/15 14:23	11/16/15 11:01	1
Naphthalene	<0.500		0.500		ug/L		11/13/15 14:23	11/16/15 11:01	1
Phenanthrene	<0.100		0.100		ug/L		11/13/15 14:23	11/16/15 11:01	1
Pyrene	<0.100		0.100		ug/L		11/13/15 14:23	11/16/15 11:01	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	52		10 - 110	11/13/15 14:23	11/16/15 11:01	1
Nitrobenzene-d5 (Surr)	52		10 - 110	11/13/15 14:23	11/16/15 11:01	1
Terphenyl-d14 (Surr)	61		20 - 110	11/13/15 14:23	11/16/15 11:01	1

Lab Sample ID: LCS 310-108535/2-A

Matrix: Water

Analysis Batch: 108852

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 108535

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	2.00	1.160		ug/L		58	20 - 110

TestAmerica Cedar Falls

QC Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: 8270D SIM - Semivolatile Organic Compound (GC/MS SIM LL) (Continued)

Lab Sample ID: LCS 310-108535/2-A

Matrix: Water

Analysis Batch: 108852

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 108535

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthylene	2.00	1.193		ug/L		60	15 - 110
Anthracene	2.00	1.392		ug/L		70	15 - 110
Benzo[a]anthracene	2.00	1.566		ug/L		78	25 - 115
Benzo[a]pyrene	2.00	1.623		ug/L		81	25 - 110
Benzo[b]fluoranthene	2.00	1.698		ug/L		85	25 - 110
Benzo[g,h,i]perylene	2.00	1.594		ug/L		80	10 - 110
Benzo[k]fluoranthene	2.00	1.680		ug/L		84	25 - 110
Chrysene	2.00	1.640		ug/L		82	25 - 110
Dibenz(a,h)anthracene	2.00	1.629		ug/L		81	10 - 110
Fluoranthene	2.00	1.710		ug/L		86	20 - 115
Fluorene	2.00	1.194		ug/L		60	20 - 110
Indeno[1,2,3-cd]pyrene	2.00	1.607		ug/L		80	20 - 110
2-Methylnaphthalene	2.00	1.076		ug/L		54	15 - 110
Naphthalene	2.00	1.028		ug/L		51	10 - 110
Phenanthrene	2.00	1.313		ug/L		66	15 - 110
Pyrene	2.00	1.552		ug/L		78	20 - 115

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl (Surr)	55		10 - 110
Nitrobenzene-d5 (Surr)	53		10 - 110
Terphenyl-d14 (Surr)	76		20 - 110

Lab Sample ID: LCSD 310-108535/3-A

Matrix: Water

Analysis Batch: 108852

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 108535

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Acenaphthene	2.00	1.331		ug/L		67	20 - 110	14	35
Acenaphthylene	2.00	1.384		ug/L		69	15 - 110	15	35
Anthracene	2.00	1.628		ug/L		81	15 - 110	16	35
Benzo[a]anthracene	2.00	1.595		ug/L		80	25 - 115	2	35
Benzo[a]pyrene	2.00	1.689		ug/L		84	25 - 110	4	35
Benzo[b]fluoranthene	2.00	1.697		ug/L		85	25 - 110	0	35
Benzo[g,h,i]perylene	2.00	1.581		ug/L		79	10 - 110	1	35
Benzo[k]fluoranthene	2.00	1.768		ug/L		88	25 - 110	5	35
Chrysene	2.00	1.667		ug/L		83	25 - 110	2	35
Dibenz(a,h)anthracene	2.00	1.718		ug/L		86	10 - 110	5	35
Fluoranthene	2.00	1.833		ug/L		92	20 - 115	7	35
Fluorene	2.00	1.448		ug/L		72	20 - 110	19	35
Indeno[1,2,3-cd]pyrene	2.00	1.696		ug/L		85	20 - 110	5	35
2-Methylnaphthalene	2.00	1.255		ug/L		63	15 - 110	15	35
Naphthalene	2.00	1.227		ug/L		61	10 - 110	18	35
Phenanthrene	2.00	1.553		ug/L		78	15 - 110	17	35
Pyrene	2.00	1.712		ug/L		86	20 - 115	10	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl (Surr)	62		10 - 110

TestAmerica Cedar Falls

QC Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: 8270D SIM - Semivolatile Organic Compound (GC/MS SIM LL) (Continued)

Lab Sample ID: LCSD 310-108535/3-A

Matrix: Water

Analysis Batch: 108852

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 108535

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
Nitrobenzene-d5 (Surr)	57		10 - 110
Terphenyl-d14 (Surr)	80		20 - 110

Lab Sample ID: MB 310-108556/1-A

Matrix: Solid

Analysis Batch: 108852

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 108556

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acenaphthene	<0.0100		0.0100		mg/Kg		11/13/15 15:25	11/16/15 15:48	1
Acenaphthylene	<0.0100		0.0100		mg/Kg		11/13/15 15:25	11/16/15 15:48	1
Anthracene	<0.0100		0.0100		mg/Kg		11/13/15 15:25	11/16/15 15:48	1
Benzo[a]anthracene	<0.0100		0.0100		mg/Kg		11/13/15 15:25	11/16/15 15:48	1
Benzo[a]pyrene	<0.0100		0.0100		mg/Kg		11/13/15 15:25	11/16/15 15:48	1
Benzo[b]fluoranthene	<0.0100		0.0100		mg/Kg		11/13/15 15:25	11/16/15 15:48	1
Benzo[g,h,i]perylene	0.03818		0.0100		mg/Kg		11/13/15 15:25	11/16/15 15:48	1
Benzo[k]fluoranthene	<0.0100		0.0100		mg/Kg		11/13/15 15:25	11/16/15 15:48	1
Chrysene	<0.0100		0.0100		mg/Kg		11/13/15 15:25	11/16/15 15:48	1
Dibenz(a,h)anthracene	0.05302		0.0100		mg/Kg		11/13/15 15:25	11/16/15 15:48	1
Fluoranthene	<0.0100		0.0100		mg/Kg		11/13/15 15:25	11/16/15 15:48	1
Fluorene	<0.0100		0.0100		mg/Kg		11/13/15 15:25	11/16/15 15:48	1
Indeno[1,2,3-cd]pyrene	0.03711		0.0100		mg/Kg		11/13/15 15:25	11/16/15 15:48	1
2-Methylnaphthalene	<0.0100		0.0100		mg/Kg		11/13/15 15:25	11/16/15 15:48	1
Naphthalene	<0.0100		0.0100		mg/Kg		11/13/15 15:25	11/16/15 15:48	1
Phenanthrene	<0.0100		0.0100		mg/Kg		11/13/15 15:25	11/16/15 15:48	1
Pyrene	<0.0100		0.0100		mg/Kg		11/13/15 15:25	11/16/15 15:48	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
2-Fluorobiphenyl (Surr)	41		10 - 110	11/13/15 15:25	11/16/15 15:48	1
Nitrobenzene-d5 (Surr)	40		10 - 110	11/13/15 15:25	11/16/15 15:48	1
Terphenyl-d14 (Surr)	54		20 - 110	11/13/15 15:25	11/16/15 15:48	1

Lab Sample ID: LCS 310-108556/2-A

Matrix: Solid

Analysis Batch: 108852

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 108556

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	Limits
		Result	Qualifier				
Acenaphthene	0.200	0.1062		mg/Kg		53	20 - 110
Acenaphthylene	0.200	0.1092		mg/Kg		55	20 - 110
Anthracene	0.200	0.1284		mg/Kg		64	30 - 110
Benzo[a]anthracene	0.200	0.1295		mg/Kg		65	50 - 110
Benzo[a]pyrene	0.200	0.1413		mg/Kg		71	45 - 110
Benzo[b]fluoranthene	0.200	0.1311		mg/Kg		66	40 - 110
Benzo[g,h,i]perylene	0.200	0.1305		mg/Kg		65	20 - 110
Benzo[k]fluoranthene	0.200	0.1395		mg/Kg		70	45 - 110
Chrysene	0.200	0.1401		mg/Kg		70	45 - 110
Dibenz(a,h)anthracene	0.200	0.1354		mg/Kg		68	10 - 110
Fluoranthene	0.200	0.1424		mg/Kg		71	40 - 110
Fluorene	0.200	0.1146		mg/Kg		57	25 - 110

TestAmerica Cedar Falls

QC Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: 8270D SIM - Semivolatile Organic Compound (GC/MS SIM LL) (Continued)

Lab Sample ID: LCS 310-108556/2-A

Matrix: Solid

Analysis Batch: 108852

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 108556

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Indeno[1,2,3-cd]pyrene	0.200	0.1344		mg/Kg		67	40 - 110
2-Methylnaphthalene	0.200	0.1063		mg/Kg		53	15 - 110
Naphthalene	0.200	0.1009		mg/Kg		50	15 - 110
Phenanthrene	0.200	0.1225		mg/Kg		61	25 - 110
Pyrene	0.200	0.1354		mg/Kg		68	40 - 110

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl (Surr)	60		10 - 110
Nitrobenzene-d5 (Surr)	56		10 - 110
Terphenyl-d14 (Surr)	72		20 - 110

Lab Sample ID: MB 310-109091/1-A

Matrix: Solid

Analysis Batch: 109246

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 109091

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.0100		0.0100		mg/Kg		11/17/15 08:54	11/18/15 14:02	1
Acenaphthylene	<0.0100		0.0100		mg/Kg		11/17/15 08:54	11/18/15 14:02	1
Anthracene	<0.0100		0.0100		mg/Kg		11/17/15 08:54	11/18/15 14:02	1
Benzo[a]anthracene	<0.0100		0.0100		mg/Kg		11/17/15 08:54	11/18/15 14:02	1
Benzo[a]pyrene	<0.0100		0.0100		mg/Kg		11/17/15 08:54	11/18/15 14:02	1
Benzo[b]fluoranthene	<0.0100		0.0100		mg/Kg		11/17/15 08:54	11/18/15 14:02	1
Benzo[g,h,i]perylene	<0.0100		0.0100		mg/Kg		11/17/15 08:54	11/18/15 14:02	1
Benzo[k]fluoranthene	<0.0100		0.0100		mg/Kg		11/17/15 08:54	11/18/15 14:02	1
Chrysene	<0.0100		0.0100		mg/Kg		11/17/15 08:54	11/18/15 14:02	1
Dibenz(a,h)anthracene	<0.0100		0.0100		mg/Kg		11/17/15 08:54	11/18/15 14:02	1
Fluoranthene	<0.0100		0.0100		mg/Kg		11/17/15 08:54	11/18/15 14:02	1
Fluorene	<0.0100		0.0100		mg/Kg		11/17/15 08:54	11/18/15 14:02	1
Indeno[1,2,3-cd]pyrene	<0.0100		0.0100		mg/Kg		11/17/15 08:54	11/18/15 14:02	1
2-Methylnaphthalene	<0.0100		0.0100		mg/Kg		11/17/15 08:54	11/18/15 14:02	1
Naphthalene	<0.0100		0.0100		mg/Kg		11/17/15 08:54	11/18/15 14:02	1
Phenanthrene	<0.0100		0.0100		mg/Kg		11/17/15 08:54	11/18/15 14:02	1
Pyrene	<0.0100		0.0100		mg/Kg		11/17/15 08:54	11/18/15 14:02	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	62		10 - 110	11/17/15 08:54	11/18/15 14:02	1
Nitrobenzene-d5 (Surr)	62		10 - 110	11/17/15 08:54	11/18/15 14:02	1
Terphenyl-d14 (Surr)	60		20 - 110	11/17/15 08:54	11/18/15 14:02	1

Lab Sample ID: LCS 310-109091/2-A

Matrix: Solid

Analysis Batch: 109246

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 109091

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	0.200	0.09870		mg/Kg		49	20 - 110
Acenaphthylene	0.200	0.1027		mg/Kg		51	20 - 110
Anthracene	0.200	0.1058		mg/Kg		53	30 - 110
Benzo[a]anthracene	0.200	0.1116		mg/Kg		56	50 - 110

TestAmerica Cedar Falls

QC Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: 8270D SIM - Semivolatile Organic Compound (GC/MS SIM LL) (Continued)

Lab Sample ID: LCS 310-109091/2-A

Matrix: Solid

Analysis Batch: 109246

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 109091

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[a]pyrene	0.200	0.1213		mg/Kg		61	45 - 110
Benzo[b]fluoranthene	0.200	0.1213		mg/Kg		61	40 - 110
Benzo[g,h,i]perylene	0.200	0.1263		mg/Kg		63	20 - 110
Benzo[k]fluoranthene	0.200	0.1234		mg/Kg		62	45 - 110
Chrysene	0.200	0.1164		mg/Kg		58	45 - 110
Dibenz(a,h)anthracene	0.200	0.1267		mg/Kg		63	10 - 110
Fluoranthene	0.200	0.1131		mg/Kg		57	40 - 110
Fluorene	0.200	0.1034		mg/Kg		52	25 - 110
Indeno[1,2,3-cd]pyrene	0.200	0.1247		mg/Kg		62	40 - 110
2-Methylnaphthalene	0.200	0.1036		mg/Kg		52	15 - 110
Naphthalene	0.200	0.09628		mg/Kg		48	15 - 110
Phenanthrene	0.200	0.09913		mg/Kg		50	25 - 110
Pyrene	0.200	0.1087		mg/Kg		54	40 - 110

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl (Surr)	56		10 - 110
Nitrobenzene-d5 (Surr)	55		10 - 110
Terphenyl-d14 (Surr)	58		20 - 110

Lab Sample ID: 310-68805-2 MS

Matrix: Soil

Analysis Batch: 109246

Client Sample ID: SB6 0-2

Prep Type: Total/NA

Prep Batch: 109091

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	<0.114		0.234	0.1411		mg/Kg	✱	60	20 - 110
Acenaphthylene	<0.114		0.234	0.1564		mg/Kg	✱	56	20 - 110
Anthracene	<0.114	F1	0.234	0.2423		mg/Kg	✱	104	30 - 110
Benzo[a]anthracene	0.134	F1	0.234	0.4579	F1	mg/Kg	✱	139	35 - 115
Benzo[a]pyrene	0.147	F1	0.234	0.4822	F1	mg/Kg	✱	143	30 - 110
Benzo[b]fluoranthene	0.229	F1	0.234	0.6177	F1	mg/Kg	✱	166	35 - 110
Benzo[g,h,i]perylene	0.124	F1	0.234	0.3809		mg/Kg	✱	110	15 - 110
Benzo[k]fluoranthene	<0.114	F1	0.234	0.3941	F1	mg/Kg	✱	134	35 - 110
Chrysene	0.172	F1	0.234	0.5430	F1	mg/Kg	✱	159	35 - 110
Dibenz(a,h)anthracene	<0.114		0.234	0.1795		mg/Kg	✱	64	10 - 110
Fluoranthene	0.246	F1	0.234	0.9392	F1	mg/Kg	✱	297	25 - 115
Fluorene	<0.114		0.234	0.1574		mg/Kg	✱	67	25 - 110
Indeno[1,2,3-cd]pyrene	<0.114	F1	0.234	0.3254		mg/Kg	✱	98	30 - 110
2-Methylnaphthalene	<0.114	F2	0.234	0.1285		mg/Kg	✱	55	15 - 110
Naphthalene	<0.114		0.234	0.1231		mg/Kg	✱	53	15 - 110
Phenanthrene	<0.114	F1	0.234	0.5608	F1	mg/Kg	✱	194	25 - 110
Pyrene	0.194	F1	0.234	0.7712	F1	mg/Kg	✱	247	25 - 115

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Fluorobiphenyl (Surr)	44		10 - 110
Nitrobenzene-d5 (Surr)	45		10 - 110
Terphenyl-d14 (Surr)	55		20 - 110

TestAmerica Cedar Falls

QC Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: 8270D SIM - Semivolatile Organic Compound (GC/MS SIM LL) (Continued)

Lab Sample ID: 310-68805-2 MSD

Matrix: Soil

Analysis Batch: 109246

Client Sample ID: SB6 0-2

Prep Type: Total/NA

Prep Batch: 109091

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Acenaphthene	<0.114		0.238	0.1642		mg/Kg	☼	69	20 - 110	15	40
Acenaphthylene	<0.114		0.238	0.1780		mg/Kg	☼	64	20 - 110	13	40
Anthracene	<0.114	F1	0.238	0.2740	F1	mg/Kg	☼	115	30 - 110	12	40
Benzo[a]anthracene	0.134	F1	0.238	0.5131	F1	mg/Kg	☼	159	35 - 115	11	40
Benzo[a]pyrene	0.147	F1	0.238	0.5386	F1	mg/Kg	☼	164	30 - 110	11	40
Benzo[b]fluoranthene	0.229	F1	0.238	0.6783	F1	mg/Kg	☼	188	35 - 110	9	40
Benzo[g,h,i]perylene	0.124	F1	0.238	0.4431	F1	mg/Kg	☼	134	15 - 110	15	40
Benzo[k]fluoranthene	<0.114	F1	0.238	0.4434	F1	mg/Kg	☼	152	35 - 110	12	40
Chrysene	0.172	F1	0.238	0.6310	F1	mg/Kg	☼	193	35 - 110	15	40
Dibenz(a,h)anthracene	<0.114		0.238	0.2123		mg/Kg	☼	77	10 - 110	17	40
Fluoranthene	0.246	F1	0.238	1.023	F1	mg/Kg	☼	326	25 - 115	9	40
Fluorene	<0.114		0.238	0.1789		mg/Kg	☼	75	25 - 110	13	40
Indeno[1,2,3-cd]pyrene	<0.114	F1	0.238	0.3887	F1	mg/Kg	☼	123	30 - 110	18	40
2-Methylnaphthalene	<0.114	F2	0.238	0.2007	F2	mg/Kg	☼	84	15 - 110	44	40
Naphthalene	<0.114		0.238	0.1851		mg/Kg	☼	78	15 - 110	40	40
Phenanthrene	<0.114	F1	0.238	0.6314	F1	mg/Kg	☼	220	25 - 110	12	40
Pyrene	0.194	F1	0.238	0.8100	F1	mg/Kg	☼	258	25 - 115	5	40

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2-Fluorobiphenyl (Surr)	62		10 - 110
Nitrobenzene-d5 (Surr)	58		10 - 110
Terphenyl-d14 (Surr)	58		20 - 110

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 310-108552/1-A

Matrix: Wipe

Analysis Batch: 108907

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 108552

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<1.00		1.00		ug/Wipe		11/13/15 15:21	11/16/15 18:16	1
PCB-1221	<1.00		1.00		ug/Wipe		11/13/15 15:21	11/16/15 18:16	1
PCB-1232	<1.00		1.00		ug/Wipe		11/13/15 15:21	11/16/15 18:16	1
PCB-1242	<1.00		1.00		ug/Wipe		11/13/15 15:21	11/16/15 18:16	1
PCB-1248	<1.00		1.00		ug/Wipe		11/13/15 15:21	11/16/15 18:16	1
PCB-1254	<1.00		1.00		ug/Wipe		11/13/15 15:21	11/16/15 18:16	1
PCB-1260	<1.00		1.00		ug/Wipe		11/13/15 15:21	11/16/15 18:16	1
PCB-1268	<1.00		1.00		ug/Wipe		11/13/15 15:21	11/16/15 18:16	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	70		56 - 146	11/13/15 15:21	11/16/15 18:16	1
Tetrachloro-m-xylene	73		42 - 132	11/13/15 15:21	11/16/15 18:16	1

TestAmerica Cedar Falls

QC Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: LCS 310-108552/2-A

Matrix: Wipe

Analysis Batch: 108907

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 108552

Analyte			Spike	LCS	LCS	Unit	D	%Rec	%Rec.		
			Added	Result	Qualifier				Limits		
PCB-1016			10.0	7.905		ug/Wipe		79	43 - 133		
PCB-1260			10.0	7.071		ug/Wipe		71	43 - 133		
Surrogate	LCS		Limits								
	%Recovery	Qualifier									
DCB Decachlorobiphenyl (Surr)	74		56 - 146								
Tetrachloro-m-xylene	73		42 - 132								

Lab Sample ID: LCSD 310-108552/3-A

Matrix: Wipe

Analysis Batch: 108907

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 108552

			Spike	LCSD	LCSD				%Rec.	RPD	
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
PCB-1016			10.0	4.424	*	ug/Wipe		44	43 - 133	56	20
PCB-1260			10.0	4.864	*	ug/Wipe		49	43 - 133	37	20
Surrogate	LCSD	LCSD									
	%Recovery	Qualifier	Limits								
DCB Decachlorobiphenyl (Surr)	77		56 - 146								
Tetrachloro-m-xylene	59		42 - 132								

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Lab Sample ID: MB 310-108558/1-A

Matrix: Solid

Analysis Batch: 109030

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 108558

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<10.0		10.0		mg/Kg		11/13/15 15:29	11/17/15 15:11	1
Diesel	<10.0		10.0		mg/Kg		11/13/15 15:29	11/17/15 15:11	1
Waste Oil	<10.0		10.0		mg/Kg		11/13/15 15:29	11/17/15 15:11	1
Total Extractable Hydrocarbons	<15.0		15.0		mg/Kg		11/13/15 15:29	11/17/15 15:11	1
	MB	MB							
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Octacosane	78		40 - 135				11/13/15 15:29	11/17/15 15:11	1

Lab Sample ID: LCS 310-108558/2-A

Matrix: Solid

Analysis Batch: 109030

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 108558

			Spike	LCS	LCS				%Rec.		
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits		
Diesel			133	114.2		mg/Kg		86	30 - 120		
			LCS	LCS							
Surrogate	%Recovery	Qualifier	Limits								
n-Octacosane	94		40 - 135								

TestAmerica Cedar Falls

QC Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC) (Continued)

Lab Sample ID: MB 310-108740/1-A

Matrix: Water

Analysis Batch: 109221

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 108740

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<300		300		ug/L		11/16/15 16:44	11/17/15 16:53	1
Diesel	<300		300		ug/L		11/16/15 16:44	11/17/15 16:53	1
Waste Oil	<300		300		ug/L		11/16/15 16:44	11/17/15 16:53	1
Total Extractable Hydrocarbons	<500		500		ug/L		11/16/15 16:44	11/17/15 16:53	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	92		45 - 140	11/16/15 16:44	11/17/15 16:53	1

Lab Sample ID: LCS 310-108740/2-A

Matrix: Water

Analysis Batch: 109221

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 108740

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Diesel	2000	1304		ug/L		65	30 - 125

Surrogate	LCS %Recovery	LCS Qualifier	Limits
n-Octacosane	91		45 - 140

Lab Sample ID: LCSD 310-108740/3-A

Matrix: Water

Analysis Batch: 109221

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 108740

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Diesel	2000	1602		ug/L		80	30 - 125	21	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
n-Octacosane	88		45 - 140

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 310-108570/1-A

Matrix: Solid

Analysis Batch: 108862

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 108570

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<3.62		3.62		mg/Kg		11/13/15 15:56	11/13/15 18:07	1
Barium	<0.452		0.452		mg/Kg		11/13/15 15:56	11/13/15 18:07	1
Cadmium	<0.904		0.904		mg/Kg		11/13/15 15:56	11/13/15 18:07	1
Chromium	<0.904		0.904		mg/Kg		11/13/15 15:56	11/13/15 18:07	1
Lead	<4.52		4.52		mg/Kg		11/13/15 15:56	11/13/15 18:07	1
Selenium	<6.78		6.78		mg/Kg		11/13/15 15:56	11/13/15 18:07	1
Silver	<0.904		0.904		mg/Kg		11/13/15 15:56	11/13/15 18:07	1

TestAmerica Cedar Falls

QC Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCS 310-108570/2-A

Matrix: Solid

Analysis Batch: 108862

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 108570

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Arsenic	191	196.6		mg/Kg		103	80 - 120
Barium	95.3	86.60		mg/Kg		91	80 - 120
Cadmium	95.3	97.06		mg/Kg		102	80 - 120
Chromium	95.3	98.15		mg/Kg		103	80 - 120
Lead	191	187.6		mg/Kg		98	80 - 120
Selenium	381	396.1		mg/Kg		104	80 - 120
Silver	95.3	92.08		mg/Kg		97	80 - 120

Lab Sample ID: 310-68805-2 MS

Matrix: Soil

Analysis Batch: 108862

Client Sample ID: SB6 0-2

Prep Type: Total/NA

Prep Batch: 108570

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Arsenic	10.3		213	203.4		mg/Kg	☼	91	75 - 125
Barium	115	F1	106	185.3	F1	mg/Kg	☼	66	75 - 125
Cadmium	<1.98		106	95.37		mg/Kg	☼	88	75 - 125
Chromium	21.6		106	114.2		mg/Kg	☼	87	75 - 125
Lead	263		213	424.6		mg/Kg	☼	76	75 - 125
Selenium	<14.8		425	395.2		mg/Kg	☼	93	75 - 125
Silver	<1.98		106	89.87		mg/Kg	☼	85	75 - 125

Lab Sample ID: 310-68805-2 MSD

Matrix: Soil

Analysis Batch: 108863

Client Sample ID: SB6 0-2

Prep Type: Total/NA

Prep Batch: 108570

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Arsenic	10.3		173	195.4		mg/Kg	☼	107	75 - 125	4	20
Barium	115	F1	86.7	182.9		mg/Kg	☼	78	75 - 125	1	20
Cadmium	<1.98		86.7	89.19		mg/Kg	☼	101	75 - 125	7	20
Chromium	21.6		86.7	106.8		mg/Kg	☼	98	75 - 125	7	20
Lead	263		173	423.5		mg/Kg	☼	93	75 - 125	0	20
Selenium	<14.8		347	376.8		mg/Kg	☼	109	75 - 125	5	20
Silver	<1.98		86.7	86.22		mg/Kg	☼	99	75 - 125	4	20

Lab Sample ID: 310-68805-A-23-D DU

Matrix: Soil

Analysis Batch: 108862

Client Sample ID: 310-68805-A-23-D DU

Prep Type: Total/NA

Prep Batch: 108570

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Arsenic	10.9		9.953		mg/Kg	☼	9	20
Barium	89.3		110.6	F3	mg/Kg	☼	21	20
Cadmium	<1.91		<1.85		mg/Kg	☼	NC	20
Chromium	23.3		18.94		mg/Kg	☼	20	20
Lead	94.1		101.7		mg/Kg	☼	8	20
Selenium	<14.4		<13.9		mg/Kg	☼	NC	20
Silver	<1.91		<1.85		mg/Kg	☼	NC	20

TestAmerica Cedar Falls

QC Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-108603/1-A
Matrix: Water
Analysis Batch: 109063

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 108603

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	<0.00200		0.00200		mg/L		11/13/15 07:52	11/16/15 16:42	1
Cadmium	<0.000500		0.000500		mg/L		11/13/15 07:52	11/16/15 16:42	1
Chromium	<0.00500		0.00500		mg/L		11/13/15 07:52	11/16/15 16:42	1
Lead	<0.000500		0.000500		mg/L		11/13/15 07:52	11/16/15 16:42	1
Selenium	<0.00500		0.00500		mg/L		11/13/15 07:52	11/16/15 16:42	1
Silver	<0.00100		0.00100		mg/L		11/13/15 07:52	11/16/15 16:42	1

Lab Sample ID: MB 310-108603/1-A
Matrix: Water
Analysis Batch: 109249

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 108603

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200		mg/L		11/13/15 07:52	11/17/15 15:23	1

Lab Sample ID: LCS 310-108603/2-A
Matrix: Water
Analysis Batch: 109063

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 108603

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	0.0400	0.04290		mg/L		107	80 - 120
Cadmium	0.0200	0.02116		mg/L		106	80 - 120
Chromium	0.0400	0.04120		mg/L		103	80 - 120
Lead	0.0200	0.02092		mg/L		105	80 - 120
Selenium	0.0400	0.03963		mg/L		99	80 - 120
Silver	0.0200	0.02340		mg/L		117	80 - 120

Lab Sample ID: LCS 310-108603/2-A
Matrix: Water
Analysis Batch: 109249

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 108603

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.0400	0.03930		mg/L		98	80 - 120

Lab Sample ID: 310-68805-5 DU
Matrix: Ground Water
Analysis Batch: 109063

Client Sample ID: SB4
Prep Type: Dissolved
Prep Batch: 108603

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Barium	0.119		0.1160		mg/L		3	20
Cadmium	<0.000500		<0.000500		mg/L		NC	20
Chromium	<0.00500		<0.00500		mg/L		NC	20
Lead	<0.000500		<0.000500		mg/L		NC	20
Selenium	0.00600		0.006163		mg/L		3	20
Silver	<0.00100		<0.00100		mg/L		NC	20

TestAmerica Cedar Falls

QC Sample Results

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 310-68805-5 DU
Matrix: Ground Water
Analysis Batch: 109249

Client Sample ID: SB4
Prep Type: Dissolved
Prep Batch: 108603

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Arsenic	<0.00200		<0.00200		mg/L		NC	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-108945/1-A
Matrix: Water
Analysis Batch: 109204

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 108945

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		11/16/15 12:31	11/17/15 12:42	1

Lab Sample ID: LCS 310-108945/2-A
Matrix: Water
Analysis Batch: 109204

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 108945

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00167	0.001400		mg/L		84	80 - 120

Lab Sample ID: 310-68805-1 MS
Matrix: Ground Water
Analysis Batch: 109204

Client Sample ID: SB6
Prep Type: Dissolved
Prep Batch: 108945

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Mercury	<0.000200		0.00167	0.001541		mg/L		92	80 - 120

Lab Sample ID: 310-68805-1 MSD
Matrix: Ground Water
Analysis Batch: 109204

Client Sample ID: SB6
Prep Type: Dissolved
Prep Batch: 108945

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	<0.000200		0.00167	0.001724		mg/L		103	80 - 120	11	20

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 310-108568/1-A
Matrix: Solid
Analysis Batch: 109328

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 108568

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0178		0.0178		mg/Kg		11/12/15 15:51	11/18/15 10:15	1

Lab Sample ID: LCS 310-108568/2-A
Matrix: Solid
Analysis Batch: 109328

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 108568

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.154	0.1441		mg/Kg		94	80 - 120

TestAmerica Cedar Falls

QC Association Summary

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

GC/MS VOA

Pre Prep Batch: 108925

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-68805-3	SB6 12-14	Total/NA	Soil	Frozen	
310-68805-12	SB2 12-14	Total/NA	Soil	Preserve	
310-68805-16	SB1 12-14	Total/NA	Soil	Frozen	
310-68805-17	Dupe 4	Total/NA	Soil	Preserve	
310-68805-24	SB3 12-14	Total/NA	Soil	Frozen	
				Preserve	

Analysis Batch: 109303

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-68805-1	SB6	Total/NA	Ground Water	8260C	
310-68805-4	Dupe 1	Total/NA	Ground Water	8260C	
LCS 310-109303/6	Lab Control Sample	Total/NA	Water	8260C	
MB 310-109303/8	Method Blank	Total/NA	Water	8260C	

Prep Batch: 109627

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-68805-3	SB6 12-14	Total/NA	Soil	5035	108925
310-68805-12	SB2 12-14	Total/NA	Soil	5035	108925
310-68805-16	SB1 12-14	Total/NA	Soil	5035	108925
310-68805-17	Dupe 4	Total/NA	Soil	5035	108925
310-68805-24	SB3 12-14	Total/NA	Soil	5035	108925
LCS 310-109627/2-A	Lab Control Sample	Total/NA	Solid	5035	
MB 310-109627/1-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 109631

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-68805-3	SB6 12-14	Total/NA	Soil	8260C	109627
310-68805-12	SB2 12-14	Total/NA	Soil	8260C	109627
310-68805-16	SB1 12-14	Total/NA	Soil	8260C	109627
310-68805-17	Dupe 4	Total/NA	Soil	8260C	109627
310-68805-24	SB3 12-14	Total/NA	Soil	8260C	109627
LCS 310-109627/2-A	Lab Control Sample	Total/NA	Solid	8260C	109627
MB 310-109627/1-A	Method Blank	Total/NA	Solid	8260C	109627

Analysis Batch: 109785

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-68805-5	SB4	Total/NA	Ground Water	8260C	
310-68805-9	SB2	Total/NA	Ground Water	8260C	
310-68805-13	SB1	Total/NA	Ground Water	8260C	
310-68805-22	SB3	Total/NA	Ground Water	8260C	
310-68805-25	FB	Total/NA	Ground Water	8260C	
310-68805-26	Trip Blank	Total/NA	Water	8260C	
LCS 310-109785/5	Lab Control Sample	Total/NA	Water	8260C	
MB 310-109785/7	Method Blank	Total/NA	Water	8260C	

Prep Batch: 109813

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-68805-7	SB4 12-14	Total/NA	Soil	5035	

TestAmerica Cedar Falls

QC Association Summary

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

GC/MS VOA (Continued)

Prep Batch: 109813 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 310-109813/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 310-109813/3-A	Lab Control Sample Dup	Total/NA	Solid	5035	
MB 310-109813/1-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 109833

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-68805-7	SB4 12-14	Total/NA	Soil	8260C	109813
LCS 310-109813/2-A	Lab Control Sample	Total/NA	Solid	8260C	109813
LCSD 310-109813/3-A	Lab Control Sample Dup	Total/NA	Solid	8260C	109813
MB 310-109813/1-A	Method Blank	Total/NA	Solid	8260C	109813

Analysis Batch: 110240

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-68805-5	SB4	Total/NA	Ground Water	8260C	
310-68805-9	SB2	Total/NA	Ground Water	8260C	
310-68805-13	SB1	Total/NA	Ground Water	8260C	
310-68805-22	SB3	Total/NA	Ground Water	8260C	
310-68805-25	FB	Total/NA	Ground Water	8260C	
310-68805-26	Trip Blank	Total/NA	Water	8260C	
LCS 310-110240/7	Lab Control Sample	Total/NA	Water	8260C	
LCS 310-110240/8	Lab Control Sample	Total/NA	Water	8260C	
MB 310-110240/6	Method Blank	Total/NA	Water	8260C	

GC/MS Semi VOA

Prep Batch: 108535

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-68805-1	SB6	Total/NA	Ground Water	3510C	
310-68805-4	Dupe 1	Total/NA	Ground Water	3510C	
310-68805-5	SB4	Total/NA	Ground Water	3510C	
310-68805-9	SB2	Total/NA	Ground Water	3510C	
310-68805-22	SB3	Total/NA	Ground Water	3510C	
310-68805-25	FB	Total/NA	Ground Water	3510C	
LCS 310-108535/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 310-108535/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
MB 310-108535/1-A	Method Blank	Total/NA	Water	3510C	

Prep Batch: 108556

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-68805-6	SB4 0-2	Total/NA	Soil	3546	
310-68805-11	SB2 0-2	Total/NA	Soil	3546	
LCS 310-108556/2-A	Lab Control Sample	Total/NA	Solid	3546	
MB 310-108556/1-A	Method Blank	Total/NA	Solid	3546	

Prep Batch: 108557

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-68805-15	SB1 0-2	Total/NA	Soil	3546	
310-68805-15 MS	SB1 0-2	Total/NA	Soil	3546	
310-68805-15 MSD	SB1 0-2	Total/NA	Soil	3546	
LCS 310-108557/2-A	Lab Control Sample	Total/NA	Solid	3546	

TestAmerica Cedar Falls

QC Association Summary

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

GC/MS Semi VOA (Continued)

Prep Batch: 108557 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 310-108557/1-A	Method Blank	Total/NA	Solid	3546	

Analysis Batch: 108852

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-68805-1	SB6	Total/NA	Ground Water	8270D SIM	108535
310-68805-4	Dupe 1	Total/NA	Ground Water	8270D SIM	108535
310-68805-5	SB4	Total/NA	Ground Water	8270D SIM	108535
310-68805-6	SB4 0-2	Total/NA	Soil	8270D SIM	108556
310-68805-9	SB2	Total/NA	Ground Water	8270D SIM	108535
310-68805-11	SB2 0-2	Total/NA	Soil	8270D SIM	108556
310-68805-22	SB3	Total/NA	Ground Water	8270D SIM	108535
310-68805-25	FB	Total/NA	Ground Water	8270D SIM	108535
LCS 310-108535/2-A	Lab Control Sample	Total/NA	Water	8270D SIM	108535
LCS 310-108556/2-A	Lab Control Sample	Total/NA	Solid	8270D SIM	108556
LCSD 310-108535/3-A	Lab Control Sample Dup	Total/NA	Water	8270D SIM	108535
MB 310-108535/1-A	Method Blank	Total/NA	Water	8270D SIM	108535
MB 310-108556/1-A	Method Blank	Total/NA	Solid	8270D SIM	108556

Analysis Batch: 108902

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 310-108557/2-A	Lab Control Sample	Total/NA	Solid	8270D	108557
MB 310-108557/1-A	Method Blank	Total/NA	Solid	8270D	108557

Prep Batch: 108995

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-68805-13	SB1	Total/NA	Ground Water	3510C	
310-68805-14	Dupe 3	Total/NA	Ground Water	3510C	
LCS 310-108995/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 310-108995/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
MB 310-108995/1-A	Method Blank	Total/NA	Water	3510C	

Analysis Batch: 109084

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-68805-15 MS	SB1 0-2	Total/NA	Soil	8270D	108557
310-68805-15 MSD	SB1 0-2	Total/NA	Soil	8270D	108557

Prep Batch: 109091

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-68805-2	SB6 0-2	Total/NA	Soil	3546	
310-68805-2 MS	SB6 0-2	Total/NA	Soil	3546	
310-68805-2 MSD	SB6 0-2	Total/NA	Soil	3546	
310-68805-8	SB5 0-1'	Total/NA	Soil	3546	
310-68805-10	Dupe 2	Total/NA	Soil	3546	
310-68805-23	SB3 0-2	Total/NA	Soil	3546	
LCS 310-109091/2-A	Lab Control Sample	Total/NA	Solid	3546	
MB 310-109091/1-A	Method Blank	Total/NA	Solid	3546	

Analysis Batch: 109246

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-68805-2	SB6 0-2	Total/NA	Soil	8270D SIM	109091
310-68805-2 MS	SB6 0-2	Total/NA	Soil	8270D SIM	109091

TestAmerica Cedar Falls

QC Association Summary

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

GC/MS Semi VOA (Continued)

Analysis Batch: 109246 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-68805-2 MSD	SB6 0-2	Total/NA	Soil	8270D SIM	109091
310-68805-8	SB5 0-1'	Total/NA	Soil	8270D SIM	109091
310-68805-10	Dupe 2	Total/NA	Soil	8270D SIM	109091
310-68805-23	SB3 0-2	Total/NA	Soil	8270D SIM	109091
LCS 310-109091/2-A	Lab Control Sample	Total/NA	Solid	8270D SIM	109091
MB 310-109091/1-A	Method Blank	Total/NA	Solid	8270D SIM	109091

Analysis Batch: 109286

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-68805-15	SB1 0-2	Total/NA	Soil	8270D	108557

Analysis Batch: 109475

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-68805-13	SB1	Total/NA	Ground Water	8270D	108995
310-68805-14	Dupe 3	Total/NA	Ground Water	8270D	108995
LCS 310-108995/2-A	Lab Control Sample	Total/NA	Water	8270D	108995
LCSD 310-108995/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	108995
MB 310-108995/1-A	Method Blank	Total/NA	Water	8270D	108995

Analysis Batch: 109665

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-68805-13	SB1	Total/NA	Ground Water	8270D	108995
310-68805-14	Dupe 3	Total/NA	Ground Water	8270D	108995

Analysis Batch: 110484

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-68805-25	FB	Total/NA	Ground Water	8270D SIM	108535

GC Semi VOA

Prep Batch: 108552

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-68805-18	PCB 1	Total/NA	Wipe	3550B	
310-68805-19	PCB 2	Total/NA	Wipe	3550B	
310-68805-20	PCB 3	Total/NA	Wipe	3550B	
310-68805-21	Dup 5	Total/NA	Wipe	3550B	
LCS 310-108552/2-A	Lab Control Sample	Total/NA	Wipe	3550B	
LCSD 310-108552/3-A	Lab Control Sample Dup	Total/NA	Wipe	3550B	
MB 310-108552/1-A	Method Blank	Total/NA	Wipe	3550B	

Prep Batch: 108558

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-68805-3	SB6 12-14	Total/NA	Soil	3546	
310-68805-7	SB4 12-14	Total/NA	Soil	3546	
310-68805-12	SB2 12-14	Total/NA	Soil	3546	
310-68805-16	SB1 12-14	Total/NA	Soil	3546	
310-68805-17	Dupe 4	Total/NA	Soil	3546	
310-68805-24	SB3 12-14	Total/NA	Soil	3546	
LCS 310-108558/2-A	Lab Control Sample	Total/NA	Solid	3546	
MB 310-108558/1-A	Method Blank	Total/NA	Solid	3546	

TestAmerica Cedar Falls

QC Association Summary

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

GC Semi VOA (Continued)

Prep Batch: 108740

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-68805-1	SB6	Total/NA	Ground Water	3510C	
310-68805-4	Dupe 1	Total/NA	Ground Water	3510C	
310-68805-5	SB4	Total/NA	Ground Water	3510C	
310-68805-9	SB2	Total/NA	Ground Water	3510C	
310-68805-13	SB1	Total/NA	Ground Water	3510C	
310-68805-22	SB3	Total/NA	Ground Water	3510C	
310-68805-25	FB	Total/NA	Ground Water	3510C	
LCS 310-108740/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 310-108740/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
MB 310-108740/1-A	Method Blank	Total/NA	Water	3510C	

Analysis Batch: 108907

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-68805-18	PCB 1	Total/NA	Wipe	8082A	108552
310-68805-19	PCB 2	Total/NA	Wipe	8082A	108552
310-68805-20	PCB 3	Total/NA	Wipe	8082A	108552
LCS 310-108552/2-A	Lab Control Sample	Total/NA	Wipe	8082A	108552
LCSD 310-108552/3-A	Lab Control Sample Dup	Total/NA	Wipe	8082A	108552
MB 310-108552/1-A	Method Blank	Total/NA	Wipe	8082A	108552

Analysis Batch: 109030

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-68805-3	SB6 12-14	Total/NA	Soil	OA-2	108558
310-68805-7	SB4 12-14	Total/NA	Soil	OA-2	108558
310-68805-12	SB2 12-14	Total/NA	Soil	OA-2	108558
310-68805-16	SB1 12-14	Total/NA	Soil	OA-2	108558
310-68805-17	Dupe 4	Total/NA	Soil	OA-2	108558
310-68805-24	SB3 12-14	Total/NA	Soil	OA-2	108558
LCS 310-108558/2-A	Lab Control Sample	Total/NA	Solid	OA-2	108558
MB 310-108558/1-A	Method Blank	Total/NA	Solid	OA-2	108558

Analysis Batch: 109112

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-68805-21	Dup 5	Total/NA	Wipe	8082A	108552

Analysis Batch: 109221

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-68805-1	SB6	Total/NA	Ground Water	OA-2	108740
310-68805-4	Dupe 1	Total/NA	Ground Water	OA-2	108740
310-68805-5	SB4	Total/NA	Ground Water	OA-2	108740
310-68805-9	SB2	Total/NA	Ground Water	OA-2	108740
310-68805-13	SB1	Total/NA	Ground Water	OA-2	108740
310-68805-22	SB3	Total/NA	Ground Water	OA-2	108740
310-68805-25	FB	Total/NA	Ground Water	OA-2	108740
LCS 310-108740/2-A	Lab Control Sample	Total/NA	Water	OA-2	108740
LCSD 310-108740/3-A	Lab Control Sample Dup	Total/NA	Water	OA-2	108740
MB 310-108740/1-A	Method Blank	Total/NA	Water	OA-2	108740

TestAmerica Cedar Falls

QC Association Summary

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Metals

Prep Batch: 108568

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-68805-2	SB6 0-2	Total/NA	Soil	7471B	
310-68805-6	SB4 0-2	Total/NA	Soil	7471B	
310-68805-8	SB5 0-1'	Total/NA	Soil	7471B	
310-68805-10	Dupe 2	Total/NA	Soil	7471B	
310-68805-11	SB2 0-2	Total/NA	Soil	7471B	
310-68805-15	SB1 0-2	Total/NA	Soil	7471B	
310-68805-23	SB3 0-2	Total/NA	Soil	7471B	
LCS 310-108568/2-A	Lab Control Sample	Total/NA	Solid	7471B	
MB 310-108568/1-A	Method Blank	Total/NA	Solid	7471B	

Prep Batch: 108570

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-68805-2	SB6 0-2	Total/NA	Soil	3050B	
310-68805-2 MS	SB6 0-2	Total/NA	Soil	3050B	
310-68805-2 MSD	SB6 0-2	Total/NA	Soil	3050B	
310-68805-6	SB4 0-2	Total/NA	Soil	3050B	
310-68805-8	SB5 0-1'	Total/NA	Soil	3050B	
310-68805-10	Dupe 2	Total/NA	Soil	3050B	
310-68805-11	SB2 0-2	Total/NA	Soil	3050B	
310-68805-15	SB1 0-2	Total/NA	Soil	3050B	
310-68805-23	SB3 0-2	Total/NA	Soil	3050B	
310-68805-A-23-D DU	310-68805-A-23-D DU	Total/NA	Soil	3050B	
LCS 310-108570/2-A	Lab Control Sample	Total/NA	Solid	3050B	
MB 310-108570/1-A	Method Blank	Total/NA	Solid	3050B	

Prep Batch: 108603

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-68805-1	SB6	Dissolved	Ground Water	3010A	
310-68805-4	Dupe 1	Dissolved	Ground Water	3010A	
310-68805-5	SB4	Dissolved	Ground Water	3010A	
310-68805-5 DU	SB4	Dissolved	Ground Water	3010A	
310-68805-9	SB2	Dissolved	Ground Water	3010A	
310-68805-13	SB1	Dissolved	Ground Water	3010A	
310-68805-22	SB3	Dissolved	Ground Water	3010A	
310-68805-25	FB	Dissolved	Ground Water	3010A	
LCS 310-108603/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 310-108603/1-A	Method Blank	Total/NA	Water	3010A	

Analysis Batch: 108862

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-68805-2	SB6 0-2	Total/NA	Soil	6010C	108570
310-68805-2 MS	SB6 0-2	Total/NA	Soil	6010C	108570
310-68805-6	SB4 0-2	Total/NA	Soil	6010C	108570
310-68805-23	SB3 0-2	Total/NA	Soil	6010C	108570
310-68805-A-23-D DU	310-68805-A-23-D DU	Total/NA	Soil	6010C	108570
LCS 310-108570/2-A	Lab Control Sample	Total/NA	Solid	6010C	108570
MB 310-108570/1-A	Method Blank	Total/NA	Solid	6010C	108570

Analysis Batch: 108863

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-68805-2 MSD	SB6 0-2	Total/NA	Soil	6010C	108570

TestAmerica Cedar Falls

QC Association Summary

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Metals (Continued)

Analysis Batch: 108863 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-68805-8	SB5 0-1'	Total/NA	Soil	6010C	108570
310-68805-10	Dupe 2	Total/NA	Soil	6010C	108570
310-68805-11	SB2 0-2	Total/NA	Soil	6010C	108570
310-68805-15	SB1 0-2	Total/NA	Soil	6010C	108570

Prep Batch: 108945

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-68805-1	SB6	Dissolved	Ground Water	7470A	
310-68805-1 MS	SB6	Dissolved	Ground Water	7470A	
310-68805-1 MSD	SB6	Dissolved	Ground Water	7470A	
310-68805-4	Dupe 1	Dissolved	Ground Water	7470A	
310-68805-5	SB4	Dissolved	Ground Water	7470A	
310-68805-9	SB2	Dissolved	Ground Water	7470A	
310-68805-13	SB1	Dissolved	Ground Water	7470A	
310-68805-22	SB3	Dissolved	Ground Water	7470A	
310-68805-25	FB	Dissolved	Ground Water	7470A	
LCS 310-108945/2-A	Lab Control Sample	Total/NA	Water	7470A	
MB 310-108945/1-A	Method Blank	Total/NA	Water	7470A	

Analysis Batch: 109063

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-68805-1	SB6	Dissolved	Ground Water	6020A	108603
310-68805-4	Dupe 1	Dissolved	Ground Water	6020A	108603
310-68805-5	SB4	Dissolved	Ground Water	6020A	108603
310-68805-5 DU	SB4	Dissolved	Ground Water	6020A	108603
310-68805-9	SB2	Dissolved	Ground Water	6020A	108603
310-68805-13	SB1	Dissolved	Ground Water	6020A	108603
310-68805-22	SB3	Dissolved	Ground Water	6020A	108603
310-68805-25	FB	Dissolved	Ground Water	6020A	108603
LCS 310-108603/2-A	Lab Control Sample	Total/NA	Water	6020A	108603
MB 310-108603/1-A	Method Blank	Total/NA	Water	6020A	108603

Analysis Batch: 109204

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-68805-1	SB6	Dissolved	Ground Water	7470A	108945
310-68805-1 MS	SB6	Dissolved	Ground Water	7470A	108945
310-68805-1 MSD	SB6	Dissolved	Ground Water	7470A	108945
310-68805-4	Dupe 1	Dissolved	Ground Water	7470A	108945
310-68805-5	SB4	Dissolved	Ground Water	7470A	108945
310-68805-9	SB2	Dissolved	Ground Water	7470A	108945
310-68805-13	SB1	Dissolved	Ground Water	7470A	108945
310-68805-22	SB3	Dissolved	Ground Water	7470A	108945
310-68805-25	FB	Dissolved	Ground Water	7470A	108945
LCS 310-108945/2-A	Lab Control Sample	Total/NA	Water	7470A	108945
MB 310-108945/1-A	Method Blank	Total/NA	Water	7470A	108945

Analysis Batch: 109249

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-68805-1	SB6	Dissolved	Ground Water	6020A	108603
310-68805-4	Dupe 1	Dissolved	Ground Water	6020A	108603
310-68805-5	SB4	Dissolved	Ground Water	6020A	108603

TestAmerica Cedar Falls

QC Association Summary

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Metals (Continued)

Analysis Batch: 109249 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-68805-5 DU	SB4	Dissolved	Ground Water	6020A	108603
310-68805-9	SB2	Dissolved	Ground Water	6020A	108603
310-68805-13	SB1	Dissolved	Ground Water	6020A	108603
310-68805-22	SB3	Dissolved	Ground Water	6020A	108603
310-68805-25	FB	Dissolved	Ground Water	6020A	108603
LCS 310-108603/2-A	Lab Control Sample	Total/NA	Water	6020A	108603
MB 310-108603/1-A	Method Blank	Total/NA	Water	6020A	108603

Analysis Batch: 109328

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-68805-2	SB6 0-2	Total/NA	Soil	7471B	108568
310-68805-6	SB4 0-2	Total/NA	Soil	7471B	108568
310-68805-8	SB5 0-1'	Total/NA	Soil	7471B	108568
310-68805-10	Dupe 2	Total/NA	Soil	7471B	108568
310-68805-11	SB2 0-2	Total/NA	Soil	7471B	108568
310-68805-15	SB1 0-2	Total/NA	Soil	7471B	108568
310-68805-23	SB3 0-2	Total/NA	Soil	7471B	108568
LCS 310-108568/2-A	Lab Control Sample	Total/NA	Solid	7471B	108568
MB 310-108568/1-A	Method Blank	Total/NA	Solid	7471B	108568

Lab Chronicle

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: SB6

Date Collected: 11/11/15 08:15

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-1

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	109303	11/19/15 13:12	SJN	TAL CF
Total/NA	Prep	3510C			108535	11/13/15 14:23	EEE	TAL CF
Total/NA	Analysis	8270D SIM		1	108852	11/16/15 13:25	TRM	TAL CF
Total/NA	Prep	3510C			108740	11/16/15 16:44	EEE	TAL CF
Total/NA	Analysis	OA-2		1	109221	11/17/15 17:36	LLS	TAL CF
Dissolved	Prep	3010A			108603	11/13/15 07:52	JNR	TAL CF
Dissolved	Analysis	6020A		1	109063	11/16/15 17:45	OAD	TAL CF
Dissolved	Prep	3010A			108603	11/13/15 07:52	JNR	TAL CF
Dissolved	Analysis	6020A		1	109249	11/17/15 16:12	OAD	TAL CF
Dissolved	Prep	7470A			108945	11/16/15 12:31	SAD	TAL CF
Dissolved	Analysis	7470A		1	109204	11/17/15 12:45	SAD	TAL CF

Client Sample ID: SB6 0-2

Date Collected: 11/11/15 08:17

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-2

Matrix: Soil

Percent Solids: 83.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			109091	11/17/15 08:54	EEE	TAL CF
Total/NA	Analysis	8270D SIM		10	109246	11/18/15 15:38	TRM	TAL CF
Total/NA	Prep	3050B			108570	11/13/15 15:56	JNR	TAL CF
Total/NA	Analysis	6010C		2	108862	11/13/15 18:11	OAD	TAL CF
Total/NA	Prep	7471B			108568	11/12/15 15:51	SAD	TAL CF
Total/NA	Analysis	7471B		1	109328	11/18/15 10:48	SAD	TAL CF

Client Sample ID: SB6 12-14

Date Collected: 11/11/15 08:20

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-3

Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			108558	11/13/15 15:29	EEE	TAL CF
Total/NA	Analysis	OA-2		1	109030	11/17/15 18:42	LLS	TAL CF

Client Sample ID: SB6 12-14

Date Collected: 11/11/15 08:20

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-3

Matrix: Soil

Percent Solids: 90.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Pre Prep	Frozen Preserve			108925	11/12/15 17:30	TCH	TAL CF
Total/NA	Prep	5035			109627	11/20/15 07:59	TCH	TAL CF
Total/NA	Analysis	8260C		1	109631	11/21/15 00:28	TCH	TAL CF

TestAmerica Cedar Falls

Lab Chronicle

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: Dupe 1

Date Collected: 11/11/15 00:00

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-4

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	109303	11/19/15 13:34	SJN	TAL CF
Total/NA	Prep	3510C			108535	11/13/15 14:23	EEE	TAL CF
Total/NA	Analysis	8270D SIM		1	108852	11/16/15 13:49	TRM	TAL CF
Total/NA	Prep	3510C			108740	11/16/15 16:44	EEE	TAL CF
Total/NA	Analysis	OA-2		1	109221	11/17/15 17:51	LLS	TAL CF
Dissolved	Prep	3010A			108603	11/13/15 07:52	JNR	TAL CF
Dissolved	Analysis	6020A		1	109063	11/16/15 17:48	OAD	TAL CF
Dissolved	Prep	3010A			108603	11/13/15 07:52	JNR	TAL CF
Dissolved	Analysis	6020A		1	109249	11/17/15 16:16	OAD	TAL CF
Dissolved	Prep	7470A			108945	11/16/15 12:31	SAD	TAL CF
Dissolved	Analysis	7470A		1	109204	11/17/15 12:58	SAD	TAL CF

Client Sample ID: SB4

Date Collected: 11/11/15 09:18

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-5

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	110240	11/25/15 15:42	DEM1	TAL CF
Total/NA	Analysis	8260C		1	109785	11/23/15 20:44	SJN	TAL CF
Total/NA	Prep	3510C			108535	11/13/15 14:23	EEE	TAL CF
Total/NA	Analysis	8270D SIM		1	108852	11/16/15 14:12	TRM	TAL CF
Total/NA	Prep	3510C			108740	11/16/15 16:44	EEE	TAL CF
Total/NA	Analysis	OA-2		1	109221	11/17/15 18:05	LLS	TAL CF
Dissolved	Prep	3010A			108603	11/13/15 07:52	JNR	TAL CF
Dissolved	Analysis	6020A		1	109063	11/16/15 17:51	OAD	TAL CF
Dissolved	Prep	3010A			108603	11/13/15 07:52	JNR	TAL CF
Dissolved	Analysis	6020A		1	109249	11/17/15 16:19	OAD	TAL CF
Dissolved	Prep	7470A			108945	11/16/15 12:31	SAD	TAL CF
Dissolved	Analysis	7470A		1	109204	11/17/15 12:59	SAD	TAL CF

Client Sample ID: SB4 0-2

Date Collected: 11/11/15 09:15

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-6

Matrix: Soil

Percent Solids: 86.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			108556	11/13/15 15:25	EEE	TAL CF
Total/NA	Analysis	8270D SIM		1	108852	11/16/15 17:48	TRM	TAL CF
Total/NA	Prep	3050B			108570	11/13/15 15:56	JNR	TAL CF
Total/NA	Analysis	6010C		2	108862	11/13/15 18:20	OAD	TAL CF
Total/NA	Prep	7471B			108568	11/12/15 15:51	SAD	TAL CF
Total/NA	Analysis	7471B		1	109328	11/18/15 10:50	SAD	TAL CF

TestAmerica Cedar Falls

Lab Chronicle

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: SB4 12-14

Date Collected: 11/11/15 09:20

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-7

Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			108558	11/13/15 15:29	EEE	TAL CF
Total/NA	Analysis	OA-2		1	109030	11/17/15 18:56	LLS	TAL CF

Client Sample ID: SB4 12-14

Date Collected: 11/11/15 09:20

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-7

Matrix: Soil

Percent Solids: 92.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			109813	11/23/15 08:59	TCH	TAL CF
Total/NA	Analysis	8260C		1	109833	11/23/15 13:30	TCH	TAL CF

Client Sample ID: SB5 0-1'

Date Collected: 11/11/15 09:25

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-8

Matrix: Soil

Percent Solids: 96.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			109091	11/17/15 08:54	EEE	TAL CF
Total/NA	Analysis	8270D SIM		10	109246	11/18/15 16:02	TRM	TAL CF
Total/NA	Prep	3050B			108570	11/13/15 15:56	JNR	TAL CF
Total/NA	Analysis	6010C		5	108863	11/13/15 19:00	OAD	TAL CF
Total/NA	Prep	7471B			108568	11/12/15 15:51	SAD	TAL CF
Total/NA	Analysis	7471B		1	109328	11/18/15 10:51	SAD	TAL CF

Client Sample ID: SB2

Date Collected: 11/11/15 10:20

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-9

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	110240	11/25/15 16:04	DEM1	TAL CF
Total/NA	Analysis	8260C		1	109785	11/23/15 21:05	SJN	TAL CF
Total/NA	Prep	3510C			108535	11/13/15 14:23	EEE	TAL CF
Total/NA	Analysis	8270D SIM		1	108852	11/16/15 14:36	TRM	TAL CF
Total/NA	Prep	3510C			108740	11/16/15 16:44	EEE	TAL CF
Total/NA	Analysis	OA-2		1	109221	11/17/15 18:20	LLS	TAL CF
Dissolved	Prep	3010A			108603	11/13/15 07:52	JNR	TAL CF
Dissolved	Analysis	6020A		1	109063	11/16/15 17:58	OAD	TAL CF
Dissolved	Prep	3010A			108603	11/13/15 07:52	JNR	TAL CF
Dissolved	Analysis	6020A		1	109249	11/17/15 16:26	OAD	TAL CF
Dissolved	Prep	7470A			108945	11/16/15 12:31	SAD	TAL CF
Dissolved	Analysis	7470A		1	109204	11/17/15 13:01	SAD	TAL CF

TestAmerica Cedar Falls

Lab Chronicle

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: Dupe 2

Date Collected: 11/11/15 00:00

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-10

Matrix: Soil

Percent Solids: 93.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			109091	11/17/15 08:54	EEE	TAL CF
Total/NA	Analysis	8270D SIM		10	109246	11/18/15 16:27	TRM	TAL CF
Total/NA	Prep	3050B			108570	11/13/15 15:56	JNR	TAL CF
Total/NA	Analysis	6010C		5	108863	11/13/15 19:02	OAD	TAL CF
Total/NA	Prep	7471B			108568	11/12/15 15:51	SAD	TAL CF
Total/NA	Analysis	7471B		5	109328	11/18/15 11:33	SAD	TAL CF

Client Sample ID: SB2 0-2

Date Collected: 11/11/15 10:23

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-11

Matrix: Soil

Percent Solids: 88.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			108556	11/13/15 15:25	EEE	TAL CF
Total/NA	Analysis	8270D SIM		10	108852	11/16/15 19:00	TRM	TAL CF
Total/NA	Prep	3050B			108570	11/13/15 15:56	JNR	TAL CF
Total/NA	Analysis	6010C		5	108863	11/13/15 19:05	OAD	TAL CF
Total/NA	Prep	7471B			108568	11/12/15 15:51	SAD	TAL CF
Total/NA	Analysis	7471B		5	109328	11/18/15 11:37	SAD	TAL CF

Client Sample ID: SB2 12-14

Date Collected: 11/11/15 10:27

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-12

Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			108558	11/13/15 15:29	EEE	TAL CF
Total/NA	Analysis	OA-2		1	109030	11/17/15 19:11	LLS	TAL CF

Client Sample ID: SB2 12-14

Date Collected: 11/11/15 10:27

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-12

Matrix: Soil

Percent Solids: 84.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Pre Prep	Frozen Preserve			108925	11/12/15 17:30	TCH	TAL CF
Total/NA	Prep	5035			109627	11/20/15 07:59	TCH	TAL CF
Total/NA	Analysis	8260C		1	109631	11/21/15 01:17	TCH	TAL CF

Client Sample ID: SB1

Date Collected: 11/11/15 11:32

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-13

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	110240	11/25/15 16:26	DEM1	TAL CF
Total/NA	Analysis	8260C		1	109785	11/23/15 21:27	SJN	TAL CF

TestAmerica Cedar Falls

Lab Chronicle

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: SB1

Date Collected: 11/11/15 11:32

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-13

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			108995	11/17/15 14:48	EEE	TAL CF
Total/NA	Analysis	8270D		1	109475	11/19/15 13:13	DMD	TAL CF
Total/NA	Prep	3510C			108995	11/17/15 14:48	EEE	TAL CF
Total/NA	Analysis	8270D		5	109665	11/20/15 11:21	DMD	TAL CF
Total/NA	Prep	3510C			108740	11/16/15 16:44	EEE	TAL CF
Total/NA	Analysis	OA-2		1	109221	11/17/15 18:34	LLS	TAL CF
Dissolved	Prep	3010A			108603	11/13/15 07:52	JNR	TAL CF
Dissolved	Analysis	6020A		1	109063	11/16/15 18:01	OAD	TAL CF
Dissolved	Prep	3010A			108603	11/13/15 07:52	JNR	TAL CF
Dissolved	Analysis	6020A		1	109249	11/17/15 16:29	OAD	TAL CF
Dissolved	Prep	7470A			108945	11/16/15 12:31	SAD	TAL CF
Dissolved	Analysis	7470A		1	109204	11/17/15 13:02	SAD	TAL CF

Client Sample ID: Dupe 3

Date Collected: 11/11/15 00:00

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-14

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			108995	11/17/15 14:48	EEE	TAL CF
Total/NA	Analysis	8270D		1	109475	11/19/15 13:37	DMD	TAL CF
Total/NA	Prep	3510C			108995	11/17/15 14:48	EEE	TAL CF
Total/NA	Analysis	8270D		5	109665	11/20/15 11:45	DMD	TAL CF

Client Sample ID: SB1 0-2

Date Collected: 11/11/15 11:18

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-15

**Matrix: Soil
Percent Solids: 91.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			108557	11/13/15 15:27	EEE	TAL CF
Total/NA	Analysis	8270D		10	109286	11/18/15 17:20	DMD	TAL CF
Total/NA	Prep	3050B			108570	11/13/15 15:56	JNR	TAL CF
Total/NA	Analysis	6010C		10	108863	11/13/15 19:07	OAD	TAL CF
Total/NA	Prep	7471B			108568	11/12/15 15:51	SAD	TAL CF
Total/NA	Analysis	7471B		1	109328	11/18/15 10:56	SAD	TAL CF

Client Sample ID: SB1 12-14

Date Collected: 11/11/15 11:27

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-16

Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			108558	11/13/15 15:29	EEE	TAL CF
Total/NA	Analysis	OA-2		1	109030	11/17/15 19:25	LLS	TAL CF

TestAmerica Cedar Falls

Lab Chronicle

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: SB1 12-14

Date Collected: 11/11/15 11:27

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-16

Matrix: Soil

Percent Solids: 92.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Pre Prep	Frozen Preserve			108925	11/12/15 17:30	TCH	TAL CF
Total/NA	Prep	5035			109627	11/20/15 07:59	TCH	TAL CF
Total/NA	Analysis	8260C		1	109631	11/21/15 01:42	TCH	TAL CF

Client Sample ID: Dupe 4

Date Collected: 11/11/15 00:00

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-17

Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			108558	11/13/15 15:29	EEE	TAL CF
Total/NA	Analysis	OA-2		1	109030	11/17/15 19:39	LLS	TAL CF

Client Sample ID: Dupe 4

Date Collected: 11/11/15 00:00

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-17

Matrix: Soil

Percent Solids: 92.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Pre Prep	Frozen Preserve			108925	11/12/15 17:30	TCH	TAL CF
Total/NA	Prep	5035			109627	11/20/15 07:59	TCH	TAL CF
Total/NA	Analysis	8260C		1	109631	11/21/15 02:07	TCH	TAL CF

Client Sample ID: PCB 1

Date Collected: 11/11/15 11:42

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-18

Matrix: Wipe

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			108552	11/13/15 15:21	EEE	TAL CF
Total/NA	Analysis	8082A		1	108907	11/16/15 18:48	BKT	TAL CF

Client Sample ID: PCB 2

Date Collected: 11/11/15 11:45

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-19

Matrix: Wipe

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			108552	11/13/15 15:21	EEE	TAL CF
Total/NA	Analysis	8082A		1	108907	11/16/15 18:59	BKT	TAL CF

Client Sample ID: PCB 3

Date Collected: 11/11/15 11:46

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-20

Matrix: Wipe

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			108552	11/13/15 15:21	EEE	TAL CF

TestAmerica Cedar Falls

Lab Chronicle

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: PCB 3

Date Collected: 11/11/15 11:46

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-20

Matrix: Wipe

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8082A		1	108907	11/16/15 19:10	BKT	TAL CF

Client Sample ID: Dup 5

Date Collected: 11/11/15 00:00

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-21

Matrix: Wipe

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			108552	11/13/15 15:21	EEE	TAL CF
Total/NA	Analysis	8082A		1	109112	11/17/15 10:54	BKT	TAL CF

Client Sample ID: SB3

Date Collected: 11/11/15 12:03

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-22

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	110240	11/25/15 16:47	DEM1	TAL CF
Total/NA	Analysis	8260C		1	109785	11/23/15 21:49	SJN	TAL CF
Total/NA	Prep	3510C			108535	11/13/15 14:23	EEE	TAL CF
Total/NA	Analysis	8270D SIM		1	108852	11/16/15 15:00	TRM	TAL CF
Total/NA	Prep	3510C			108740	11/16/15 16:44	EEE	TAL CF
Total/NA	Analysis	OA-2		1	109221	11/17/15 18:48	LLS	TAL CF
Dissolved	Prep	3010A			108603	11/13/15 07:52	JNR	TAL CF
Dissolved	Analysis	6020A		1	109063	11/16/15 18:05	OAD	TAL CF
Dissolved	Prep	3010A			108603	11/13/15 07:52	JNR	TAL CF
Dissolved	Analysis	6020A		1	109249	11/17/15 16:32	OAD	TAL CF
Dissolved	Prep	7470A			108945	11/16/15 12:31	SAD	TAL CF
Dissolved	Analysis	7470A		1	109204	11/17/15 13:04	SAD	TAL CF

Client Sample ID: SB3 0-2

Date Collected: 11/11/15 12:07

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-23

Matrix: Soil

Percent Solids: 85.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			109091	11/17/15 08:54	EEE	TAL CF
Total/NA	Analysis	8270D SIM		10	109246	11/18/15 16:51	TRM	TAL CF
Total/NA	Prep	3050B			108570	11/13/15 15:56	JNR	TAL CF
Total/NA	Analysis	6010C		2	108862	11/13/15 18:34	OAD	TAL CF
Total/NA	Prep	7471B			108568	11/12/15 15:51	SAD	TAL CF
Total/NA	Analysis	7471B		1	109328	11/18/15 10:57	SAD	TAL CF

TestAmerica Cedar Falls

Lab Chronicle

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Client Sample ID: SB3 12-14

Date Collected: 11/11/15 12:12

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-24

Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			108558	11/13/15 15:29	EEE	TAL CF
Total/NA	Analysis	OA-2		1	109030	11/17/15 19:53	LLS	TAL CF

Client Sample ID: SB3 12-14

Date Collected: 11/11/15 12:12

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-24

Matrix: Soil

Percent Solids: 90.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Pre Prep	Frozen Preserve			108925	11/12/15 17:30	TCH	TAL CF
Total/NA	Prep	5035			109627	11/20/15 07:59	TCH	TAL CF
Total/NA	Analysis	8260C		1	109631	11/21/15 02:31	TCH	TAL CF

Client Sample ID: FB

Date Collected: 11/11/15 00:00

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-25

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	110240	11/25/15 17:09	DEM1	TAL CF
Total/NA	Analysis	8260C		1	109785	11/23/15 22:10	SJN	TAL CF
Total/NA	Prep	3510C			108535	11/13/15 14:23	EEE	TAL CF
Total/NA	Analysis	8270D SIM		1	108852	11/16/15 15:24	TRM	TAL CF
Total/NA	Prep	3510C			108535	11/13/15 14:23	EEE	TAL CF
Total/NA	Analysis	8270D SIM		1	110484	11/30/15 14:12	TRM	TAL CF
Total/NA	Prep	3510C			108740	11/16/15 16:44	EEE	TAL CF
Total/NA	Analysis	OA-2		1	109221	11/17/15 19:03	LLS	TAL CF
Dissolved	Prep	3010A			108603	11/13/15 07:52	JNR	TAL CF
Dissolved	Analysis	6020A		1	109063	11/16/15 18:08	OAD	TAL CF
Dissolved	Prep	3010A			108603	11/13/15 07:52	JNR	TAL CF
Dissolved	Analysis	6020A		1	109249	11/17/15 16:36	OAD	TAL CF
Dissolved	Prep	7470A			108945	11/16/15 12:31	SAD	TAL CF
Dissolved	Analysis	7470A		1	109204	11/17/15 13:05	SAD	TAL CF

Client Sample ID: Trip Blank

Date Collected: 11/11/15 00:00

Date Received: 11/12/15 16:30

Lab Sample ID: 310-68805-26

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	110240	11/25/15 13:33	DEM1	TAL CF
Total/NA	Analysis	8260C		1	109785	11/23/15 22:32	SJN	TAL CF

Laboratory References:

TAL CF = TestAmerica Cedar Falls, 704 Enterprise Drive, Cedar Falls, IA 50613, TEL (319)277-2401

TestAmerica Cedar Falls

Certification Summary

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Laboratory: TestAmerica Cedar Falls

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
AIHA-LAP, LLC	IHLAP		101044	11-01-16
Georgia	State Program	4	N/A	09-29-16
Illinois	NELAP	5	200024	11-29-16
Iowa	State Program	7	007	12-01-15 *
Kansas	NELAP	7	E-10341	01-31-15 *
Minnesota	NELAP	5	019-999-319	12-31-15
Minnesota (Petrofund)	State Program	1	3349	08-22-16
North Dakota	State Program	8	R-186	09-29-16
Oregon	NELAP	10	IA100001	09-29-16
Wisconsin	State Program	5	999917270	08-31-16

* Certification renewal pending - certification considered valid.

TestAmerica Cedar Falls

Method Summary

Client: HR Green, Inc
Project/Site: East Side Blum - Dubuque, IA

TestAmerica Job ID: 310-68805-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL CF
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CF
8270D SIM	Semivolatile Organic Compound (GC/MS SIM LL)	SW846	TAL CF
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL CF
OA-2	Iowa - Extractable Petroleum Hydrocarbons (GC)	Iowa DNR	TAL CF
6010C	Metals (ICP)	SW846	TAL CF
6020A	Metals (ICP/MS)	SW846	TAL CF
7470A	Mercury (CVAA)	SW846	TAL CF
7471B	Mercury (CVAA)	SW846	TAL CF

Protocol References:

Iowa DNR = Iowa Department of Natural Resources

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CF = TestAmerica Cedar Falls, 704 Enterprise Drive, Cedar Falls, IA 50613, TEL (319)277-2401



Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>HR G</u>			
City/State:		Project: <u>East Side Blum</u>	
Receipt Information			
Date/Time Received: <u>11-11-15 16:30</u>		Received By: <u>CH</u>	
Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee ☒ TA Courier ☐ TA Field Services ☐ Client Drop-off ☐ Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?		If yes: Cooler ID: <u>N22</u>	
☒ Yes ☐ No			
Multiple Coolers?		If yes: Cooler # <u>1</u> of <u>2</u>	
☒ Yes ☐ No			
Cooler Custody Seals Present?		If yes: Cooler custody seals intact?	
☐ Yes ☒ No		☐ Yes ☒ No	
Sample Custody Seals Present?		If yes: Sample custody seals intact?	
☐ Yes ☒ No		☐ Yes ☒ No	
Trip Blank Present?		If yes: Which VOA samples are in cooler? ↓	
☐ Yes ☒ No			
Temperature Record			
Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other: _____ ☐ NONE			
Temperature Blank?		ID & Bottle Type:	
☒ Yes ☐ No			
NOTE: If yes, use temp blank for measurement. If no, specify sample ID(s) and bottle type used to take measurement.			
Thermometer ID: <u>H</u>		Correction Factor (°C): <u>-0.1°C</u>	
Uncorrected Temp (°C): <u>2.1°C</u>		Corrected Temp (°C): <u>2.0°C</u>	
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No			
a) If yes: Is there evidence that the chilling process began? ☐ Yes ☐ No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles?) ☐ Yes ☐ No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>HR G.</u>			
City/State:		Project: <u>East Side Blum</u>	
Receipt Information			
Date/Time Received: <u>11-11-15 16:30</u>		Received By: <u>CH</u>	
Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee ☒ TA Courier ☐ TA Field Services ☐ Client Drop-off ☐ Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?		If yes: Cooler ID:	
☒ Yes ☐ No		<u>C-7</u>	
Multiple Coolers?		If yes: Cooler # <u>2</u> of <u>3</u>	
☒ Yes ☐ No			
Cooler Custody Seals Present?		If yes: Cooler custody seals intact?	
☐ Yes ☒ No		☐ Yes ☒ No	
Sample Custody Seals Present?		If yes: Sample custody seals intact?	
☐ Yes ☒ No		☐ Yes ☒ No	
Trip Blank Present?		If yes: Which VOA samples are in cooler? ↓	
☒ Yes ☐ No			
<u>SB1</u> <u>FB</u>			
<u>SB3</u> <u>3TB vials</u>			
Temperature Record			
Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other: _____ ☐ NONE			
Temperature Blank?		ID & Bottle Type:	
☒ Yes ☐ No			
NOTE: If yes, use temp blank for measurement. If no, specify sample ID(s) and bottle type used to take measurement.			
Thermometer ID: <u>H</u>		Correction Factor (°C): <u>-0.1°C</u>	
Uncorrected Temp (°C): <u>2.8°C</u>		Corrected Temp (°C): <u>2.7°C</u>	
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No			
a) If yes: Is there evidence that the chilling process began? ☐ Yes ☐ No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles?) ☐ Yes ☐ No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			
<u>SB1</u> <u>Dupe 3 amber</u> <u>PCB-3</u>			
<u>SB3</u> <u>PCB-1</u> <u>PCB-Dupe 5</u>			
<u>FB</u> <u>PCB-2</u>			

**To assist us in using the proper analytical methods,
is this work being conducted for regulatory purposes?**
Compliance Monitoring

Client Name: HHS Client #: _____
Address: OR IA

Client #:

CR. I A

City/State/Zip Code: _____

Project Manager: Amilux Smart

Email Address: smart@wqz.cn

Telephone Number: _____ Fax: _____

Sample Name: (Print Name)

Sampler Signature: *du*

Project Name: Cast Size Burn

Project #:

State:

Report To: 9.5.

Invoice To: **Parsons**

Quote #: PO#:

[illegible]

Temperature readings: _____

<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container pH</u>	<u>Preservative Added (mls)</u>	<u>Lot #</u>
SB6	310-68805-C-1	Plastic 250ml - w/nitric - dis	<2	_____	_____
Dupe 1	310-68805-C-4	Plastic 250ml - w/nitric - dis	<2	_____	_____
SB4	310-68805-C-5	Plastic 250ml - w/nitric - dis	<2	_____	_____
SB2	310-68805-C-9	Plastic 250ml - w/nitric - dis	<2	_____	_____
SB1	310-68805-C-13	Plastic 250ml - w/nitric - dis	<2	_____	_____
SB3	310-68805-C-22	Plastic 250ml - w/nitric - dis	<2	_____	_____
FB	310-68805-C-25	Plastic 250ml - w/nitric - dis	<2	_____	_____

Login Sample Receipt Checklist

Client: HR Green, Inc

Job Number: 310-68805-1

Login Number: 68805

List Source: TestAmerica Cedar Falls

List Number: 1

Creator: Worthy, Ashley L

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Received extra samples not listed on COC.
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ASBESTOS INSPECTION REPORT

INSPECTION ADDRESS:

Commercial Building
501 East 15th St.
Dubuque, IA 52001
Project #: Y20715W



SUBMITTED TO:

HR Green
8710 Earhart Lane SW.
Cedar Rapids, IA 52404
Attn: Emily Smart

ASBESTOS INSPECTION

Prepared by:



Travis J. Haas, Inspector

7/30/2015
Date

15-3959I
Inspector #

1/9/16
License Expiration date

Advanced Environmental Testing and Abatement
803 Ricker Street
Waterloo, Iowa 50703

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SECTION 1

INTRODUCTION

For each area of the building, the inspector performing the inspection did the following:

1. Visually inspected the area(s) to identify the locations of all suspect Asbestos Containing Building Materials.
2. Identify all homogeneous areas of friable and non-friable suspected asbestos.
3. Assume, if necessary, that some or all of the homogeneous area(s) are Asbestos Containing Material (ACM), and for each homogeneous area that is not assumed to be ACM, collect and submit bulk samples for analysis.

SECTION 2

DEFINITIONS:

HOMOGENEOUS AREA

An area which appears similar throughout in terms of color, texture, and date of material application.

SURFACING MATERIAL

Material in a building that is sprayed-on, troweled-on, or otherwise applied to surfaces, such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, or other purposes.

THERMAL SYSTEM INSULATION

Means material applied to pipes, fittings, boilers breeching, tanks ducts, or other interior structural components to prevent heat loss or gain, or water condensation, or other purposes.

MISCELLANEOUS MATERIAL

Interior building material on structural components, structural members or fixtures, such as floor and ceiling tiles, and does not include surfacing material or thermal system insulation.

SAMPLING AND ANALYSIS

All samples to be analyzed by Polarized Light Microscopy (PLM). Analysis was performed in accordance with EPA 40 CFR, Part 763, Appendix A to Subpart F.

A homogeneous area was considered not to contain Asbestos Containing Material (ACM) only if the results of all samples collected from the area showed asbestos in the amounts of one (1) percent (%) or less ($\leq 1\%$). A homogeneous area contains ACM when one or more samples collected from that area shows greater than one (1) percent (%) asbestos ($>1\%$).

FRIABLE

Any material containing more than one (1) percent (%) asbestos that, when dry can be crumbled, pulverized, or reduced to a powder by hand pressure.

NON-FRIABLE (CATEGORY I)

Asbestos containing packings, gaskets, resilient floor covering, and asphalt roofing products, containing more than one (1) percent (%) asbestos.

NON-FRIABLE (CATEGORY II)

Any excluding Non-Friable (Category I) Asbestos Containing Material, containing more than one (1) percent (%) asbestos.

General Building Inspection Observations

The building inspection is conducted by a qualified and State of Iowa licensed Asbestos Inspector. The purpose of a building inspection is to identify existing building materials that are asbestos containing materials (ACM). If the inspection is conducted in an occupied building, the Inspector is sometimes denied accessibility to building areas and materials; i.e., the Inspector may not be allowed to cut through floor coverings or walls, remove quarry tiles, etc. There are many situations where ACM are concealed in wall cavities and other non-accessible areas, such as tunnels, crawl spaces, above ceilings, pipe chases, behind wall coverings, beneath debris piles, under various floor coverings, etc. When these situations occur in construction, renovation, and/or demolition, etc., materials in these areas shall be treated as ACM and handled as such by qualified and licensed asbestos personnel. If suspect asbestos containing material is discovered or damaged during the course of any activities, the material shall be considered and treated as ACM to diminish further fiber release. In addition, the Inspector uses an independent laboratory that analyzes the bulk building material samples using Polarized Light Microscopy (PLM). PLM analysis technique may not be as accurate as more expensive analysis techniques for certain building materials. It remains the Building Owner and/or Representative(s)' responsibility to address this issue and consider analyzing suspect building material using different analysis techniques prior to disturbing the material(s). The following are areas that may not be inspected.

1. **Tunnels and Crawl Spaces:** During the inspection process, the Inspector attempts to check tunnels and crawl spaces for ACM and the degree of damage to the materials. In most cases, quantification of ACM in these areas is impossible due to the inaccessibility to these areas. In addition, these areas may fall under: "Confined Space Regulations". Due to the congestion in tunnels and crawl spaces, obtaining an accurate quantification for mudded joints, pipe wrap, etc. is almost impossible. The Inspector will quantify ACM only in accessible tunnels and crawl spaces, and estimate the quantities in the inaccessible areas. Some reasons for inaccessibility are as follows: flooded areas, pipe congestion, asbestos and other debris, electrical hazards, confined spaces, unknown gas emissions, low ceilings, etc.
2. **Boilers and Thermal System Insulation:** Interior portions of boilers, heaters, storage tanks, etc. are not always accessible. Materials in these areas will be treated as ACM. Areas of concern are packing inside boiler doors and liners. Use extreme care and properly trained personnel when handling these types of materials. Some boilers have insulated metal jackets over fiberglass or ACM. Thermal system insulation can be found in many different forms; i.e., air cell, preformed magnesium block, millboard, etc. All fiberglass materials are excluded as suspect ACM.

3. **Debris:** In areas where damaged ACM may be found there may and usually will be ACM debris in the general area of the damaged material. These areas shall be treated with the utmost care even during the inspection and quantification process. The Inspector considers any exposure to this type of material as a health threat.
4. **State of Quantification:** As a general rule, individual rooms or areas of estimation contain inherently more probability of an error than those groups of rooms or areas or an entire building. In other words, the aggregate tends to be more accurate than the sums of the individual parts. Therefore, when designing response actions (measurements, air samples, etc.), the project designer and the asbestos abatement contractor's attention shall be given to ensure that quantification of materials and proper methods are followed through careful analysis of the site. If materials are quantified, the asbestos abatement contractor or owner, owner representatives or third parties are responsible for verifying the quantities.
5. **The Inspector** may take some latitude in the presentation of the Inspection Report. When the Inspector has found floor tiles, linoleum, and/or carpeting listed he/she may or may not have adhesives listed. Adhesives have been known to contain asbestos and therefore, although not mentioned, it may be presumed to be ACM, listed or not. Testing of the adhesive prior to disturbing is recommended. The same is true for adhesives or mastics used to adhere linoleum to floors or counter tops. All troweled-on and/or sprayed-on surfacing materials; i.e., floor mastics, wall and ceiling surfacings, etc. are either suspected or presumed ACM unless sampled and analyzed to indicate that they are not ACM.
6. **In the Inspection Report**, certain items such as mudded joints (MJ) or metal doors (MD), etc. are listed as units or number of units; i.e. 10 MJ, 3 Damaged, which is an indication of count rather than square feet or linear feet. Most materials listed in the assessment are either listed as square feet or linear feet with these noted exceptions.
7. **In the Assessment Process**, there are additional codes such as ME and MG; ME representing miscellaneous electrical and MG representing miscellaneous gasket materials. Both of these codes are used to indicate materials that are unusual to the normal course of an assessment of the building. Miscellaneous electrical materials include old electrical wiring, switchboards, transite panels, etc. Miscellaneous gasket materials can be found between (thermal) valves, on boiler doors, between fittings, between molds, etc. These codes give the Inspector the ability to qualify materials, which sometimes may not be considered as ACM.
8. **An Asbestos Code Sheet** is included with the Inspector's inspection report, which informs the client as to the Homogeneous Codes used during the inspection process.
9. **Caution-** Regarding Inspection results- Floor tiles, adhesives, and drywall (mud) found to not contain asbestos should be re-analyzed under the "Chatfield Method" of TEM analysis. Many times the results from having these materials analyzed under PLM results in false positives or false negatives. After reviewing your report, please notify the inspector if you want these samples analyzed under the "Chatfield Method".

10. Any sample less than 10% asbestos may be Point Counted. Point counting is a more accurate method of analyzing of bulk samples. The results of the point counting are the results that will determine if the material will be treated as asbestos.
11. Asbestos inspections are performed based on current understanding of the regulations. As new interpretations of the regulations are made aware of by the EPA, IDNR or IOSHA, Advanced Environmental Testing and Abatement Inc. will adapt their inspections to comply with these new procedures. If additional sampling is required by the different agencies, Advanced Environmental will do the additional sampling. The owner is responsible for the additional cost for these samples as well as labor.
12. Advanced Environmental shall not be responsible for any cost of abating any additional asbestos discovered in any renovation or demolition activities. Any additional items discovered shall be tested when they become accessible. For example, old adhesive may be under new floor tiles and adhesive. Additional materials may be concealed in walls, under multi layers of flooring, etc.
13. All amounts listed are estimates. It is up to other contractors to field verify any amounts that are listed within this report.
14. All material that looks similar should be treated as asbestos containing materials.
15. Asbestos Material containing <1%. Some material tested for asbestos may contain trace amounts of asbestos and be below the threshold for asbestos contain material according to both the Iowa Department of Natural Resources and the Iowa Division of Labor. However, both the State of Iowa Division of Labor (Occupational Safety and Health Administration) and the Federal Occupational Safety and Health Administration still have some regulations that contractors must follow under 29 CFR 1926.1101. Contractors working with asbestos material with <1% asbestos must still produce a negative and initial exposure assessment, completed by a "competent person". Contractors must follow 29 CFR 1926. 1101 (g)(1)(ii) and (iii) and 29 CFR 1926. 1101(g)(3)(i), (ii), and (iv). Please contact Advanced Environmental Testing and Abatement, Inc for consultation on how to handle material with <1% asbestos.
16. Flat roofs: If any layer of a flat roof tests positive for asbestos, all layers should be considered asbestos and removed as such. Advanced Environmental makes every effort to core roof samples through all layers.

ASBESTOS CODES

A = Assumed
ADH = Adhesive
APW = Air Cell Pipe Wrap
BP = Boiler Plaster
C = Ceiling
CAPS = Stair Treads
CQ = Can't Quantify
CT = Ceiling Tiles
CT/12 = 12" Ceiling Tiles
DAM. = Damaged
DEB = Debris
DW = Drywall
F = Friable
FE = Furnace Exhaust
FT = Floor Tiles
GASK = Gaskets
GYM = Gypsum
HOMO = Homogeneous
LINO = Linoleum
MISC = Miscellaneous Non Friable
MAC = Metal Asbestos Chimney
MATL DESC = Material Description
MD = Metal Door
ME = Miscellaneous Electrical
MF = Miscellaneous Friable

MJ = Mudded Joint
NC = Nose Cap
NF = Non Friable
NSM = Not Suspect Material
P or PH = Previous History
PP = Patched Plaster/Drywall
PSA = Sand Plaster
PSM = Smooth Plaster
S = Sample/Samples/Sampled
SCT = Suspended Ceiling Tile
SR = Sample Result
ST = Storage Tank
SUR = Surfacing
T = Thermal
Thermal Pipe Measurement = Linear Feet
TR = Transite
TSI = Thermal System Insulation
VC = Vibration Cloth
VDW = Vinyl Covered Drywall
W = Walls
WD = Wood Door
N = North
S = South
E = East
W = West

1. All Metal Doors are listed by quantities, example 3 = 3 metal doors.
2. All Mudded Joints are listed by quantities of MJ, not sizes.
3. All Pipe Wrap materials are listed in linear feet.
4. All other measurements are square feet unless stated elsewhere.
5. Sample Results: N = Not Considered Asbestos Containing Material
Y = Considered Asbestos Containing Material
P or PH = Previous History
N/A = Not Analyzed
<1% = Contains less than 1% Asbestos Containing Material
>1% = Contains more than 1% Asbestos Containing Material
6. All Adhesives are considered Asbestos Containing Material (ACM) which can't be quantified - Non Friable ACM.
7. All Seals and Gaskets are considered Asbestos Containing Material (ACM) which can't be quantified – Non Friable ACM.

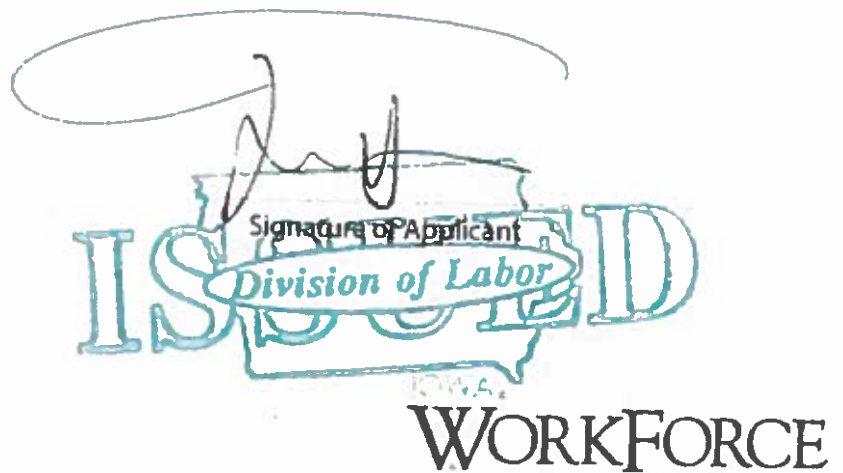
ASBESTOS LICENSE NO.: 15-39591



EXPIRATION DATE: 1/9/2016

NAME: TRAVIS HAAS
ADDRESS: 205 GENEVA CT
CITY STATE ZIP: FARLEY

IA 52046



2015



OCCUPATIONAL TRAINING & SUPPLY, INC.

7233 S. Adams Street ♦ Willowbrook, IL 60527 ♦ (630) 655-3900

Asbestos Building Inspector Refresher

Occupational Training & Supply, Inc. certifies that

Travis Haas

has successfully completed the Asbestos Building Inspector Refresher course and has passed the competency exam with a minimum score of 70%. The course is accredited by the Wisconsin Department of Health Services for purposes of accreditation in accordance with requirements listed under CH.DHS159, Wisconsin Administrative Code; EPA 40 CFR 763, Asbestos Hazard Emergency response Act (AHERA) and TSCA Title II.

Location: 12304 75th Street Kenosha, WI 53142

Certificate Number: BIRWI1501090066

Course Date: 1/9/2015

Exam Date: 1/9/2015

Expiration Date: 1/9/2016

Issue Date: 1/9/2015



Kathy DeSalvo, Director

SECTION 6

REPORT DATA

BUILDING NAME: Commercial Building

INSPECTION AREAS: Interior and exterior

CLIENT CONTRACT: Judd Taylor: 319-464-2514

METHOD:

All samples are sent to EMC LABS, INC in Phoenix, Arizona. EMC LABS is accredited by the National Institute for Standards and Technology for Polarized Light Microscopy analysis under their NVLAP accreditation (NVLAP #: 101926-0). Sampling was completed by a State of Iowa licensed asbestos inspector, licensed with the Iowa Division of Labor. Sampling methods were based on National Emission Standards for Hazardous Air Pollutants (NESHAPS) protocols. Bulk samples of suspect asbestos containing material were analyzed by Polarized Light Microscopy (PLM).

OVERVIEW:

An asbestos inspection was conducted on July 23, 2015 at the property located at the above address. The area of inspection was multiple commercial buildings. Building one is a converted residential house that had the second floor gutted. The second building was a metal warehouse. Building three was a house converted into a storage building with a second floor. Complete sampling was completed on the interior and exterior of the building. Any material that will be disturbed that was not tested should be tested prior to disturbing it. A total of nineteen samples were collected and twenty-eight samples were analyzed including layered material. Samples can be categorized by miscellaneous, surfacing, and thermal. The following samples were taken of each:

Miscellaneous samples tested include:

- Roofing
- Window glazing
- Transite
- Brick mortar
- Caulking

Surfacing samples included:

- Plaster

Thermal samples include:

- No samples tested

SECTION 7

PROJECT SUMMARY

POSITIVE SAMPLE RESULTS:

The following samples tested positive (>1%) for asbestos:

D-3: Transite on building one and three: 4,500 Sq. Ft.

D-10: Tar on vent, green building #2: 10 Sq. Ft.

D-13: Window glazing, building 3: 20 Each

D-17: Tar on flashing, by lean to by building 1 and 3: 50 Sq. Ft.

The purpose of this inspection was to identify asbestos containing materials prior to renovation. The inspection entailed a visual assessment of the property for suspect asbestos containing materials, collection, and submittal of bulk samples for analysis.

In Iowa, asbestos activities are controlled by the Iowa Department of Natural Resources and Iowa Workforce Development Division of Labor.

Questions about testing and removal can be answered by:

Tom Wuehr: Iowa Department of Natural Resources, Air Quality Division: 515-281-8212:

Jeff Ellis: Iowa Workforce Development Division of labor at 515-281-5557

NOTES:

#1: Transite is on both building one and three under metal. Appears to be only on the top half of the building.

This report is a summary of the materials assumed to contain asbestos & samples confirmed to contain 1% asbestos or greater, their quantities, and locations.

SEE NEXT PAGE

Advanced Environmental Testing and Abatement Inc.

803 Ricker St

Facility Name/Site Location					
			HR Green 501 E 15th St Dubuque, IA 52001		Inspected By: Travis Haas
Sample No	Material	Color	Location		
Building 1 (West building)					
D-1	Shingle	Black	Shingle on roof covered by tin.		Results
D-2	Glazing	White	Window glazing taken on rear of building, up high.		0%, 0%
D-3	Transite	Grey	Transite, exterior of building on upper half, under metal.		15%
D-4	Asphalt siding	Brown	Behind metal, siding on lower half of building.		0%, 0%
D-5	Plaster	Interior	Plaster interior building 1 Interior		0%, 0%
D-6	Plaster	Interior	Plaster interior building 1 interior		0%, 0%
D-7	Mortar	Grey	Brick mortar on chimney interior of shop.		0%
D-8	Liner	Black	Liner inside chimney.		0%
Green Building (North Building)					
D-9	Caulking	White	Caulking on West side roof seam.		0%
D-10	Tar	Black	Tar on vent, East side		2%
D-11	Caulking	Red	Caulking on front door on concrete.		0%
Building 3 (East building)					
D-12	Roofing	Black	Roofing under metal.		0%, 0%
D-13	Glazing	White	Window glazing, white taken from 1st floor.		3%
D-14	Plaster	Grey	Plaster interior.		0%, 0%, 0%
D-15	Plaster	Grey	Plaster interior.		0%, 0%
D-16	Plaster	Grey	Plaster interior, 2nd floor.		0%, 0%
Lean to between buildings					
D-17	Tar	Black	Tar on South lean to, flashing where building it meets building 1 and 3.		10%
D-18	Caulking	Clear	Caulking on aluminum melt vent on lean to, roof between building 3 and Green building.		0%
D-19	Tar	Black	Tar on lean to, roof between building 3 and green building ice stops.		0%

EMC LABS, INC.

9830 S. 51st Street, Suite B109, Phoenix, AZ 85044
Phone: 800-362-3373 or 480-940-5294 - Fax: (480) 893-1726

Laboratory Report
0158446

Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	ADVANCED ENVIRONMENTAL	Job# / P.O. #:	Y20715W
Address:	803 RICKER ST	Date Received:	07/28/2015
	WATERLOO IA 50703	Date Analyzed:	07/29/2015
Collected:	07/27/2015	Date Reported:	07/29/2015
Project Name:	HR GREEN PROPERTY	EPA Method:	EPA 600/R-93/116
Address:		Submitted By:	TRAVIS HAAS
		Collected By:	

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents
0158446-001 D-1	BLDG 1 (W. BLDG)- ON ROOF COVERED BY TIN	LAYER 1 Shingle, Black	No	None Detected	Cellulose Fiber 15% Synthetic Fiber 5%
		LAYER 2 Shingle, Red/ Black	No	None Detected	Gypsum 80% Quartz Binder/Filler Cellulose Fiber 15% Synthetic Fiber 5% Gypsum Carbonates Quartz Binder/Filler 80%
0158446-002 D-2	BLDG 1 (W. BLDG)- ON REAR OF BLDG, UP HIGH	Glazing, White	No	None Detected	Carbonates Quartz Binder/Filler 100%
0158446-003 D-3	BLDG 1 (W. BLDG)- EXT. OF BLDG ON UPPER HALF, UNDER METAL	Transite, Gray	Yes	Chrysotile 15%	Carbonates Gypsum Quartz Binder/Filler 85%
0158446-004 D-4	BLDG 1 (W. BLDG)- BEHIND METAL, SIDING ON LOWER HALF OF BLDG	LAYER 1 Asphalt Siding, Red/ Black	No	None Detected	Cellulose Fiber 15%
		LAYER 2 Asphalt Siding, Brown/ Black	No	None Detected	Gypsum 85% Carbonates Quartz Binder/Filler Cellulose Fiber 80% Gypsum Binder/Filler 20%

EMC LABS, INC.

9830 S. 51st Street, Suite B109, Phoenix, AZ 85044
Phone: 800-362-3373 or 480-940-5294 - Fax: (480) 893-1726

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0158446

Bulk Asbestos Analysis by Polarized Light Microscopy

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Collected:	07/27/2015	Date Reported:	07/29/2015
Project Name:	HR GREEN PROPERTY	EPA Method:	EPA 600/R-93/116
Address:		Submitted By:	TRAVIS HAAS
		Collected By:	

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents
0158446-005 D-5	BLDG 1 (W. BLDG)- INT. BLDG, 1 INTERIOR	LAYER 1 Plaster-Scratch Coat, Beige	No	None Detected	Hair Gypsum Quartz Mica Carbonates Binder/Filler 99%
		LAYER 2 Plaster-Finish Coat, White	No	None Detected	Carbonates Gypsum Mica Quartz Binder/Filler 100%
0158446-006 D-6	BLDG 1 (W. BLDG)- INT. BLDG, 1 INTERIOR	LAYER 1 Plaster-Scratch Coat, Beige	No	None Detected	Hair Gypsum Quartz Mica Carbonates Binder/Filler 99%
		LAYER 2 Plaster-Finish Coat, White	No	None Detected	Cellulose Fiber Carbonates Gypsum Quartz Mica Binder/Filler 99%
0158446-007 D-7	BLDG 1 (W. BLDG)- ON CHIMNEY INTERIOR OF SHOP	Mortar, Gray	No	None Detected	Carbonates Quartz Gypsum Mica Binder/Filler 100%

EMC LABS, INC.

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Phone: 800-362-3373 or 480-940-5294 - Fax: (480) 893-1726

Laboratory Report

0158446

Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	ADVANCED ENVIRONMENTAL	Job# / P.O. #:	Y20715W
Address:	803 RICKER ST	Date Received:	07/28/2015
	WATERLOO IA 50703	Date Analyzed:	07/29/2015
Collected:	07/27/2015	Date Reported:	07/29/2015
Project Name:	HR GREEN PROPERTY	EPA Method:	EPA 600/R-93/116
Address:		Submitted By:	TRAVIS HAAS
		Collected By:	

Lab ID	Sample	Layer Name /	Asbestos	Asbestos Type	Non-Asbestos
Client ID	Location	Sample Description	Detected	(%)	Constituents
0158446-008 D-8	BLDG 1 (W. BLDG)- INSIDE CHIMNEY	Liner, Black/ Brown	No	None Detected	Quartz Carbonates Gypsum Mica Binder/Filler 100%
0158446-009 D-9	GREEN BLDG (N. BLDG)-W. SIDE ROOF SEAM	Caulking, White	No	None Detected	Silicone Carbonates Binder/Filler 100%
0158446-010 D-10	GREEN BLDG (N. BLDG)-E. SIDE	Tar, Black	Yes	Chrysotile 2%	Cellulose Fiber 10% Carbonates Gypsum Quartz Binder/Filler 88%
0158446-011 D-11	GREEN BLDG (N. BLDG)-FRONT DOOR ON CONCRETE	Caulking, Red/ White	No	None Detected	Carbonates Quartz Binder/Filler 100%
0158446-012 D-12	BLDG 3 (E. BLDG)- UNDER METAL	LAYER 1 Roofing, Black	No	None Detected	Cellulose Fiber 15% Synthetic Fiber 5% Carbonates Quartz Binder/Filler 80%
		LAYER 2 Roofing, Black	No	None Detected	Cellulose Fiber 40% Synthetic Fiber 5% Carbonates Gypsum Quartz Binder/Filler 55%

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Laboratory Report
0158446

Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	ADVANCED ENVIRONMENTAL	Job# / P.O. #:	Y20715W
Address:	803 RICKER ST	Date Received:	07/28/2015
	WATERLOO IA 50703	Date Analyzed:	07/29/2015
Collected:	07/27/2015	Date Reported:	07/29/2015
Project Name:	HR GREEN PROPERTY	EPA Method:	EPA 600/R-93/116
Address:		Submitted By:	TRAVIS HAAS
		Collected By:	

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents
0158446-013 D-13	BLDG 3 (E. BLDG)- FROM 1ST FL	Glazing, White	Yes	Chrysotile 3%	Carbonates Quartz Binder/Filler 97%
0158446-014 D-14	BLDG 3 (E. BLDG)- INTERIOR	LAYER 1 Plaster-Scratch Coat, Gray	No	None Detected	Hair <1% Gypsum Quartz Mica Carbonates Binder/Filler 99%
		LAYER 2 Plaster-Finish Coat, White	No	None Detected	Carbonates Gypsum Quartz Mica Binder/Filler 100%
		LAYER 3 Wall Covering, White / Tan	No	None Detected	Cellulose Fiber 80% Carbonates Binder/Filler 20%
0158446-015 D-15	BLDG 3 (E. BLDG)- INTERIOR	LAYER 1 Plaster-Scratch Coat, Gray	No	None Detected	Hair <1% Carbonates Quartz Gypsum Mica Binder/Filler 99%
		LAYER 2 Plaster-Finish Coat, White	No	None Detected	Cellulose Fiber <1% Carbonates Gypsum Quartz Mica Binder/Filler 99%

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Laboratory Report
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Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	ADVANCED ENVIRONMENTAL	Job# / P.O. #:	Y20715W
Address:	803 RICKER ST	Date Received:	07/28/2015
	WATERLOO IA 50703	Date Analyzed:	07/29/2015
Collected:	07/27/2015	Date Reported:	07/29/2015
Project Name:	HR GREEN PROPERTY	EPA Method:	EPA 600/R-93/116
Address:		Submitted By:	TRAVIS HAAS
		Collected By:	

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents
0158446-016 D-16	BLDG 3 (E. BLDG)- INTERIOR-2ND FL	LAYER 1 Plaster-Scratch Coat, Gray	No	None Detected	Hair Carbonates Quartz Gypsum Mica Binder/Filler 99%
		LAYER 2 Plaster-Finish Coat, White	No	None Detected	Cellulose Fiber Carbonates Gypsum Mica Quartz Binder/Filler 99%
0158446-017 D-17	LEAN TO BTWN BLDGS-S. LEAN TO, FLASHING WHERE BLDG IT MEETS BLDG 1 & 3	Tar, Black	Yes	Chrysotile 10%	Carbonates Binder/Filler 90%
0158446-018 D-18	ON ALUM. MELT VENT ON LEAN TO, ROOF BTWN BLDG 3 & GREEN BLDG	Caulking, Clear	No	None Detected	Silicone Binder/Filler 100%
0158446-019 D-19	ON LEANT TO, ROOF BTWN BLDG 3 & GREEN BLDG ICE STOPS	Tar, Black	No	None Detected	Carbonates Quartz Binder/Filler 100%

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Laboratory Report
0158446

Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

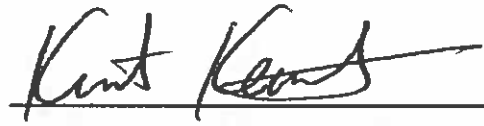
Client: ADVANCED ENVIRONMENTAL
Address: 803 RICKER ST
WATERLOO IA 50703
Collected: 07/27/2015
Project Name: HR GREEN PROPERTY
Address:

Job# / P.O. #: Y20715W
Date Received: 07/28/2015
Date Analyzed: 07/29/2015
Date Reported: 07/29/2015
EPA Method: EPA 600/R-93/116
Submitted By: TRAVIS HAAS
Collected By:

Lab ID	Sample	Layer Name /	Asbestos	Asbestos Type	Non-Asbestos
Client ID	Location	Sample Description	Detected	(%)	Constituents



Analyst - Kenneth Scheske



Signatory - Lab Director - Kurt Kettler

Distinctly stratified, easily separable layers of samples are analyzed as subsamples of the whole and are reported separately for each discernible layer. All analyses are derived from calibrated visual estimate and measured in area percent unless otherwise noted. The report applies to the standards or procedures identified and to the sample(s) tested. The test results are not necessarily indicative or representative of the qualities of the lot from which the sample was taken or of apparently identical or similar products, nor do they represent an ongoing quality assurance program unless so noted. These reports are for the exclusive use of the addressed client and that they will not be reproduced wholly or in part for advertising or other purposes over our signature or in connection with our name without special written permission. The report shall not be reproduced except in full, without written approval by our laboratory. The samples not destroyed in testing are retained a maximum of thirty days. The laboratory measurement of uncertainty for the test method is approximately less than 1 by area percent. Accredited by the National Institute of Standards and Technology, Voluntary Laboratory Accreditation Program for selected test method for asbestos. The accreditation or any reports generated by this laboratory in no way constitutes or implies product certification, approval, or endorsement by the National Institute of Standards and Technology. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government. Polarized Light Microscopy may not be consistently reliable in detecting asbestos in floor coverings and similar non-fibrous organically bound materials.

SECTION 8

JOB#:

Y20715W

NAME:

HR Green: Commercial Property



D-3: Transite siding under metal, top half of buildings.



D-13: Window glazing, building 3 (towards river)



D-17: Tar on lean to flashing to building one and three.



D-17: Tar on lean to flashing to building 3, on metal and transite

APPENDIX D

BORING LOGS

SOIL BORING LOG AND MONITORING WELL CONSTRUCTION DIAGRAM

Boring/Well Number: SB1		Facility: East Blum		Facility Street Address: 501 E 15th Street				
Boring Depth (ft) X Diameter (in): 18 X 3				Drilling Method: Geoprobe				
Well contractor Name: Soil Essentials, Inc.				Logged By: Emily Smart				
Registration Number:								
Ground Surface Elevation (ASL):				Top of Casing Elevation (ASL): NA				
Date: 11/11/2015 Date: 11/11/2015				UST Number: NA		LUST Number: NA		
Start Time: 1100 End Time: 1200								
Depth (feet)	Well Construction Details	Recovery (feet)	Sample No.	Type	PID/FID Reading	USCS Class.	Soil Classification	
0							0-4.5' Light brown silty CLAY, with sand and gravel, moist cinders @ 0-1'	
1			0-2'	X	0.5			
2		2.5/5						
3					0.7			
4								
5					0.5		4.5-5' Silty SAND, moist	
6							5-9' Silty SAND, moist	
7		3/5			0.9		Silty CLAY lenses	
8								
9					0.7		9-18' Silty SAND, moist	
10							wet at 14'	
11					1.1			
12		3/5						
13				12-14'	X	0.7		
14								
15								
16		2.5/3						
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
* SS (Split Spoon) HSA (Hollow Stem Auger) MC (Macrocore) X- Soil sample taken for analysis								
Observations	Date:							
Water Levels (ASL)	Level:							
Static Water Level v	Time:							

SOIL BORING LOG AND MONITORING WELL CONSTRUCTION DIAGRAM

Boring/Well Number: SB2		Facility: East Blum		Facility Street Address: 501 E 15th Street				
Boring Depth (ft) X Diameter (in): 18 X 3				Drilling Method: Geoprobe				
Well contractor Name: Soil Essentials, Inc.				Logged By: Emily Smart				
Registration Number:								
Ground Surface Elevation (ASL):				Top of Casing Elevation (ASL): NA				
Date: 11/11/2015 Date: 11/11/2015				UST Number: NA		LUST Number: NA		
Start Time: 1000 End Time: 1030								
Depth (feet)	Well Construction Details	Recovery (feet)	Sample No.	Type	PID/FID Reading	USCS Class.	Soil Classification	
0							0-9.5' Medium brown SILT, with sand and gravel, moist lenses of silt and clay	
1			0-2'	X	1.4			
2		1.5/5						
3					0.5			
4								
5					0.8			
6								
7		2/5			0.7			
8								
9					0.5			
10								
11					1.4			
12		3/5						
13				12-14'	X	0.8		9.5-18' Medium brown silty SAND, moist wet at 14'
14								
15								
16		2/3						
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
* SS (Split Spoon) HSA (Hollow Stem Auger) MC (Macrocore) X- Soil sample taken for analysis								
Observations	Date:							
Water Levels (ASL)	Level:							
Static Water Level v	Time:							

SOIL BORING LOG AND MONITORING WELL CONSTRUCTION DIAGRAM

Boring/Well Number: SB3	Facility: East Blum	Facility Street Address: 501 E 15th Street
Boring Depth (ft) X Diameter (in): 18 X 3		Drilling Method: Geoprobe
Well contractor Name: Soil Essentials, Inc. Registration Number:		Logged By: Emily Smart

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

Date: 11/11/2015 Date: 11/11/2015	UST Number: NA	LUST Number: NA
Start Time: 1200 End Time: 1230		

Depth (feet)	Well Construction Details	Recovery (feet)	Sample No.	Type	PID/FID Reading	USCS Class.	Soil Classification
0							0-9.5' Medium brown SILT, with sand and gravel, dry
1			0-2'	X	0.1		
2		2.5/5					
3					1.2		
4							
5					0.5		
6							
7		3/5			0.3		
8							
9					0.2		minor CLAY at 9.5', brick
10							9.5-18' Meduim brown silty SAND, moist
11					0.2		wet at 14'
12		4.5/5					
13			12-14'	X	0.1		
14							
15							
16		3/3					
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							

* SS (Split Spoon) HSA (Hollow Stem Auger) MC (Macrocore) X- Soil sample taken for analysis						
Observations	Date:					
Water Levels (ASL)	Level:					
Static Water Level v	Time:					

SOIL BORING LOG AND MONITORING WELL CONSTRUCTION DIAGRAM

Boring/Well Number: SB4		Facility: East Blum		Facility Street Address: 501 E 15th Street			
Boring Depth (ft) X Diameter (in): 18 X 3				Drilling Method: Geoprobe			
Well contractor Name: Soil Essentials, Inc.				Logged By: Emily Smart			
Registration Number:							
Ground Surface Elevation (ASL):				Top of Casing Elevation (ASL): NA			
Date: 11/11/2015 Date: 11/11/2015				UST Number: NA		LUST Number: NA	
Start Time: 845 End Time: 930							
Depth (feet)	Well Construction Details	Recovery (feet)	Sample No.	Type	PID/FID Reading	USCS Class.	Soil Classification
0			0-2'	X	0.6		0-8' Dark brown SILT, with sand and gravel, dry
1							
2			3.5/5				
3						0.3	
4							
5						0.4	
6							
7			3/5			0.3	
8							
9						0.5	
10							8-18' Medium brown silty SAND, moist wet at 14'
11					0.7		
12		3.5/5					
13			12-14'	X	0.2		
14							
15							
16		3/3					
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
* SS (Split Spoon) HSA (Hollow Stem Auger) MC (Macrocore) X- Soil sample taken for analysis							
Observations	Date:						
Water Levels (ASL)	Level:						
Static Water Level v	Time:						

SOIL BORING LOG AND MONITORING WELL CONSTRUCTION DIAGRAM

Boring/Well Number: SB5		Facility: East Blum		Facility Street Address: 501 E 15th Street		
Boring Depth (ft) X Diameter (in): 6" X 6"				Drilling Method: Trowel		
Well contractor Name: Registration Number:				Logged By: Emily Smart		
Ground Surface Elevation (ASL):				Top of Casing Elevation (ASL): NA		
Date: 11/11/2015 Date: 11/11/2015 Start Time: 835 End Time: 845				UST Number: NA		LUST Number: NA
Depth (feet)	Well Construction Details	Recovery (feet)	Sample No. Type	PID/FID Reading	USCS Class.	Soil Classification
0-6"	☐		0-6" X			0-6' Light brown SILT, dry
6"-1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
* SS (Split Spoon) HSA (Hollow Stem Auger) MC (Macrocore) X- Soil sample taken for analysis						
Observations	Date:					
Water Levels (ASL)	Level:					
Static Water Level v	Time:					

SOIL BORING LOG AND MONITORING WELL CONSTRUCTION DIAGRAM

Boring/Well Number: SB6		Facility: East Blum		Facility Street Address: 501 E 15th Street			
Boring Depth (ft) X Diameter (in): 18 X 3				Drilling Method: Geoprobe			
Well contractor Name: Soil Essentials, Inc.				Logged By: Emily Smart			
Registration Number:							
Ground Surface Elevation (ASL):				Top of Casing Elevation (ASL): NA			
Date: 11/11/2015 Date: 11/11/2015				UST Number: NA		LUST Number: NA	
Start Time: 800 End Time: 830							
Depth (feet)	Well Construction Details	Recovery (feet)	Sample No.	Type	PID/FID Reading	USCS Class.	Soil Classification
0			0-2'	X	0.0		0-6' Dark brown SILT, with sand and gravel, dry cobble in shoe, poor recovery
1							
2		0.5/5					
3							
4							
5							
6							
7		0.5/5					
8							
9						1.2	
10							
11						0.7	
12		3.5/5					
13				12-14'	X	0.9	
14							
15							
16		3/3					
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
* SS (Split Spoon) HSA (Hollow Stem Auger) MC (Macrocore) X- Soil sample taken for analysis							
Observations	Date:						
Water Levels (ASL)	Level:						
Static Water Level v	Time:						

APPENDIX E

CUMULATIVE RISK CALCULATIONS

DNR IOWA

DEPARTMENT OF NATURAL RESOURCES

CUMULATIVE RISK CALCULATOR

Calculator

Statewide Standards

Chemical Specific Info.

Related Links

Help

Sign In

Cumulative Risk Results

For:

East Blum
Range 1 Soil

Date:

12/2/2015

Cancer Risk Output			
Chemical Name	CASRN	Resident Soil	Site Worker Soil
Benzo[a]anthracene	000056-55-3	0.01	0
Benzo[a]pyrene	000050-32-8	0.13	0.04
Benzo[b]fluoranthene	000205-99-2	0.01	0
Benzo[k]fluoranthene	000207-08-9	0	0
Chrysene	000218-01-9	0	0
Dibenz[a,h]anthracene	000053-70-3	0.02	0.01
Indeno[1,2,3-cd]pyrene	000193-39-5	0	0
Arsenic, Inorganic	007440-38-2	0.96	0.21
Lead and Compounds	007439-92-1	NQ	NQ
TOTALS:		1.13	0.26
Cumulative Cancer Risk Site Resident: 1.13 (All cancer risk values are x 10 ⁻⁴)			
Cumulative Cancer Risk Site Worker: 0.26			

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
Benzo[a]anthracene	000056-55-3	Soil														
Benzo[a]pyrene	000050-32-8															
Benzo[b]fluoranthene	000205-99-2	Soil														
Benzo[g,h,i]perylene	191-24-2															
Benzo[k]fluoranthene	000207-08-9	Soil					0									
Chrysene	000218-01-9	Soil														
Dibenz[a,h]anthracene	000053-70-3															
Fluoranthene	000206-44-0	Soil														

		Soil		0	0	0											
Indeno[1,2,3-cd]pyrene	000193-39-5																
		Soil															
Phenanthrene	000085-01-8																
		Soil					0										
Pyrene	000129-00-0																
		Soil					0										
Arsenic, Inorganic	007440-38-2																
		Soil	1.73				1.73										1.73
Barium	007440-39-3																
		Soil	0.02				0.02										
Cadmium (soil)	007440-43-9																
		Soil					0.1				0.1		0.1				
Chromium VI (soil)	018540-29-9																
		Soil			0.85									0.85			0.85
Lead and Compounds	007439-92-1																
		Soil	100.47				100.47									100.47	
Mercury	007439-97-6																
		Soil					0.04										
		Sum:	102.22	0	0.85	100.63	1.73	0	0	0	0	0.1	0	0.95	100.47	2.58	

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
Benzo[a]anthracene	000056-55-3															
		Soil														
Benzo[a]pyrene	000050-32-8															
		Soil														
Benzo[b]fluoranthene	000205-99-2															
		Soil														
Benzo[g,h,i]perylene	191-24-2															
		Soil					0									
Benzo[k]fluoranthene	000207-08-9															
		Soil														
Chrysene	000218-01-9															
		Soil														
Dibenz[a,h]anthracene	000053-70-3															
		Soil														
Fluoranthene	000206-44-0															
		Soil		0	0	0										

Indeno[1,2,3-cd]pyrene	000193-39-5	Soil														
Phenanthrene	000085-01-8	Soil				0										
Pyrene	000129-00-0	Soil				0										
Arsenic, Inorganic	007440-38-2	Soil	0.34			0.34										0.34
Barium	007440-39-3	Soil	0			0										
Cadmium (soil)	007440-43-9	Soil				0.02				0.02		0.02				
Chromium VI (soil)	018540-29-9	Soil			0.17									0.17		0.17
Lead and Compounds	007439-92-1	Soil	36.504			36.504										36.504
Mercury	007439-97-6	Soil				0.01										
Sum:			36.844	0	0.17	36.534	0.34	0	0	0	0	0.02	0	0.19	36.504	0.51

[Interpretation of Results Summary²](#)
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.

Cumulative Risk Results

For:

East Blum
Range 1 Soil

Date:

12/2/2015

Cancer Risk Output		
Chemical Name	CASRN	Construction Worker Soil
Benzo[a]anthracene	000056-55-3	0
Benzo[a]pyrene	000050-32-8	0
Benzo[b]fluoranthene	000205-99-2	0
Benzo[k]fluoranthene	000207-08-9	0
Chrysene	000218-01-9	0
Dibenz[a,h]anthracene	000053-70-3	0
Indeno[1,2,3-cd]pyrene	000193-39-5	0
Arsenic, Inorganic	007440-38-2	0.02
Lead and Compounds	007439-92-1	NQ
TOTALS:		0.02
Cumulative Cancer Risk Construction Worker: 0.02 (All cancer risk values are x 10 ⁻⁴)		

Construction 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
Benzo[a]anthracene	000056-55-3	Soil														
Benzo[a]pyrene	000050-32-8															
		Soil														
Benzo[b]fluoranthene	000205-99-2															
		Soil														
Benzo[g,h,i]perylene	191-24-2															
		Soil					0									
Benzo[k]fluoranthene	000207-08-9															
		Soil														
Chrysene	000218-01-9															
		Soil														
Dibenz[a,h]anthracene	000053-70-3															

Fluoranthene	000206-44-0	Soil														
Indeno[1,2,3-cd]pyrene	000193-39-5	Soil		0	0	0										
Phenanthrene	000085-01-8	Soil														
Pyrene	000129-00-0	Soil				0										
Arsenic, Inorganic	007440-38-2	Soil				0										
Barium	007440-39-3	Soil	0.35				0.35								0.35	
Cadmium (soil)	007440-43-9	Soil	0			0										
Chromium VI (soil)	018540-29-9	Soil				0.02				0.02		0.02				
Lead and Compounds	007439-92-1	Soil			0.17									0.17		0.17
Mercury	007439-97-6	Soil	20.3			20.3								20.3		
		Soil				0.01										
		Sum:	20.65	0	0.17	20.33	0.35	0	0	0	0	0.02	0	0.19	20.3	0.52

[Interpretation of Results Summary²](#)
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.

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CUMULATIVE RISK CALCULATOR

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Cumulative Risk Results

For: East Blum
GW

Date: 12/2/2015

Cancer Risk Output

Chemical Name	CASRN	Resident Groundwater	Site Worker Groundwater
Benzo[a]anthracene	000056-55-3	0.02	0
Benzo[a]pyrene	000050-32-8	0.47	0.1
Benzo[b]fluoranthene	000205-99-2	0.05	0.01
Benzo[k]fluoranthene	000207-08-9	0.01	0
Chrysene	000218-01-9	0	0
Dibenz[a,h]anthracene	000053-70-3	1.2	0.24
Indeno[1,2,3-cd]pyrene	000193-39-5	0.12	0.03
Tetrachloroethylene	000127-18-4	0	0
TOTALS:		1.87	0.38
Cumulative Cancer Risk Site Resident: 1.87 (All cancer risk values are x 10 ⁻⁴)			
Cumulative Cancer Risk Site Worker: 0.38			

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
Benzo[a]anthracene	000056-55-3															
		Groundwater														
Benzo[a]pyrene	000050-32-8															
		Groundwater														
Benzo[b]fluoranthene	000205-99-2															
		Groundwater														
Benzo[g,h,i]perylene	191-24-2															
		Groundwater				0.02										
Benzo[k]fluoranthene	000207-08-9															
		Groundwater														
Chrysene	000218-01-9															
		Groundwater														
Dibenz[a,h]anthracene	000053-70-3															
		Groundwater														
Fluoranthene	000206-44-0															
		Groundwater		0	0	0										
Indeno[1,2,3-cd]pyrene	000193-39-5															

Pyrene	000129-00-0	Groundwater														
		Groundwater				0										
Barium	007440-39-3	Groundwater														
		Groundwater	0.08			0.08										
Tetrachloroethylene	000127-18-4	Groundwater		0.14							0.14				0.14	
		Sum:	0.08	0.14	0	0.1	0	0	0	0	0.14	0	0	0	0.14	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
Benzo[a]anthracene	000056-55-3															
		Groundwater														
Benzo[a]pyrene	000050-32-8															
		Groundwater														
Benzo[b]fluoranthene	000205-99-2															
		Groundwater														
Benzo[g,h,i]perylene	191-24-2															
		Groundwater				0										
Benzo[k]fluoranthene	000207-08-9															
		Groundwater														
Chrysene	000218-01-9															
		Groundwater														
Dibenz[a,h]anthracene	000053-70-3															
		Groundwater														
Fluoranthene	000206-44-0															
		Groundwater		0	0	0										
Indeno[1,2,3-cd]pyrene	000193-39-5															
		Groundwater														
Pyrene	000129-00-0															
		Groundwater				0										
Barium	007440-39-3															
		Groundwater	0.01			0.01										
Tetrachloroethylene	000127-18-4															
		Groundwater		0.02							0.02				0.02	
Sum:			0.01	0.02	0	0.01	0	0	0	0	0.02	0	0	0	0.02	0

Interpretation of Results Summary²
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.
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CUMULATIVE RISK CALCULATOR

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Sign In

Cumulative Risk Results

For: East Blum
GW

Date: 12/2/2015

Cancer Risk Output

Chemical Name	CASRN
Benzo[a]anthracene	000056-55-3
Benzo[a]pyrene	000050-32-8
Benzo[b]fluoranthene	000205-99-2
Benzo[k]fluoranthene	000207-08-9
Chrysene	000218-01-9
Dibenz[a,h]anthracene	000053-70-3
Indeno[1,2,3-cd]pyrene	000193-39-5
Tetrachloroethylene	000127-18-4
TOTALS:	
Cummulative Cancer Risk Construction Worker: 0 (All cancer risk values are x 10 ⁻⁴)	

Construction 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
Benzo[a]anthracene	000056-55-3															
Benzo[a]pyrene	000050-32-8															
Benzo[b]fluoranthene	000205-99-2															
Benzo[g,h,i]perylene	191-24-2															
Benzo[k]fluoranthene	000207-08-9															
Chrysene	000218-01-9															
Dibenz[a,h]anthracene	000053-70-3															
Fluoranthene	000206-44-0															
Indeno[1,2,3-cd]pyrene	000193-39-5															
Pyrene	000129-00-0															
Barium	007440-39-3															
Tetrachloroethylene	000127-18-4															

Sum:	0	0	0	0	0	0	0	0	0	0	0	0	0	0
------	---	---	---	---	---	---	---	---	---	---	---	---	---	---

[Interpretation of Results Summary²](#)
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.

Cumulative Risk Results

For:

East Blum

Date:

12/2/2015

Cancer Risk Output			
Chemical Name	CASRN	Resident Air	Site Worker Air
Benzo[b]fluoranthene	000205-99-2	0	0
Chrysene	000218-01-9	0	0
Tetrachloroethylene	000127-18-4	0	0
TOTALS:		0	0
Cumulative Cancer Risk Site Resident: 0 (All cancer risk values are x 10 ⁻⁴)			
Cumulative 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
Benzo[b]fluoranthene	000205-99-2	Air														
Chrysene	000218-01-9	Air														
Pyrene	000129-00-0	Air														
Tetrachloroethylene	000127-18-4	Air									0.09					
		Sum:	0	0	0	0	0	0	0	0	0.09	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
Benzo[b]fluoranthene	000205-99-2	Air														
Chrysene	000218-01-9	Air														
Pyrene	000129-00-0	Air														
Tetrachloroethylene	000127-18-4	Air									0.02					

Sum:	0	0	0	0	0	0	0	0	0	0.02	0	0	0	0	0
------	---	---	---	---	---	---	---	---	---	------	---	---	---	---	---

[Interpretation of Results Summary²](#)

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.

Cumulative Risk Results

For: East Blum

Date: 12/2/2015

Cancer Risk Output		
Chemical Name	CASRN	Construction Worker Air
Benzo[b]fluoranthene	000205-99-2	0
Chrysene	000218-01-9	0
Tetrachloroethylene	000127-18-4	0
TOTALS:		0
Cumulative Cancer Risk Construction Worker: 0 (All cancer risk values are x 10 ⁻⁴)		

Construction 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
Benzo[b]fluoranthene	000205-99-2															
		Air														
Chrysene	000218-01-9															
		Air														
Pyrene	000129-00-0															
		Air														
Tetrachloroethylene	000127-18-4															
		Air									0.02					
Sum:			0	0	0	0	0	0	0	0	0.02	0	0	0	0	0

Interpretation of Results Summary²
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.

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Screening Level Implementation of the Johnson and Ettinger Vapor Intrusion Model with two variable/uncertain parameters (source depth, moisture content)

Forward Calculation of Indoor Air Concentration

Backward Calculation full uncertainty analysis

Background

Migration of volatile chemicals from the subsurface into overlying buildings is called vapor intrusion (VI). Volatile organic chemicals in contaminated soils or groundwater can emit vapors, which may migrate through subsurface soils and may enter the indoor air of overlying buildings. Building depressurization may cause these vapors to enter the home through cracks in the foundation. Depressurization can be caused by a combination of wind effects and stack effects, which are the result of heating within the building and/or mechanical ventilation. In extreme cases, the vapors may accumulate in dwellings to levels that may pose near-term safety hazards, such as explosion. Typically, however, vapor concentrations are present at low levels, to which long-term exposure may pose increased risk for chronic health effects.

This on–line calculator implements the Johnson and Ettinger (J&E) (Johnson and Ettinger, 1991) simplified model to evaluate the vapor intrusion pathway into buildings. This J&E model replicates the implementation that the US EPA Office of Solid Waste and Emergency Response (OSWER) used in developing its [draft vapor intrusion guidance](#), but includes a number of enhancements that are facilitated by web implementation: temperature dependence of Henry's Law Constants and gaseous diffusivities, automatic sensitivity analysis of certain parameters, and others described [on the background page](#).

The results you obtain from this OnSite implementation of the Johnson and Ettinger model may differ from other versions of the Johnson & Ettinger Model. In addition to the OSWER implementation that was used for the draft vapor intrusion guidance, EPA Office of Emergency Response and Remediation (OERR) distributes a set of spreadsheet implementations of the model. The differences among these implementations is described in detail on the results [page](#). Beyond these differences the on–line version includes a simplified uncertainty analysis the other implementations lack.

Enter Site Name (optional):

Enter sample concentration, units and media type

µg/L

Ground Water

What is the depth of the soil gas sample or ground water table (for ground water contamination)?(LT)

feet

This value can change by +/-

feet

What is your contaminant of concern (COC)?

Benzo(b)fluoranthene

What type of building are you investigating at your site?

Slab–on–Grade

What type of soil is beneath the building?

Sand

What is the [average soil/ground water temperature?](#)

Fahrenheit

Chemical Properties

CAS Number

Molecular Weight (MW)

[g/mole]

	Henry's Law Constant at ground water temperature (H)		[unitless]		
	Free-Air Diffusion Coefficient (D _a)		[cm ² /s]		
	Diffusivity in Water (D _w)		[cm ² /s]		
	Unit Risk Factor (URF)		[(µg/m ³) ⁻¹]		
	Reference Concentration (RfC)		[mg/m ³]		
	Soil Properties	Total Porosity (n)		[unitless]	
Unsaturated Zone Moisture Content (θ _w)		Low	Best Estimate	High	[unitless]
Capillary Zone Moisture Content at Air-Entry Pressure (θ _{w,cap})		[unitless]			
Height of Capillary Zone (CZ _h)		[m]			
Soil-gas Flow Rate Into the Building (Q _{soil})		[L/min]			
Building Properties	Air Exchange Rate (E _B)		[hr ⁻¹]		
	Building Mixing Height (H _B)		[m]		
	Building Footprint Area (F _B)		[m ²]		
	Subsurface Foundation Area (A _B)		[m ²]		
	Building Crack Ratio (η)		[unitless]		
	Building Foundation Slab Thickness (L _{crack})		[m]		
Exposure Parameters	Exposure Duration for Carcinogens (ED _c)		[years]		
	Exposure Frequency for Carcinogens (EF _c)		[days/year]		
	Averaging Time for Carcinogens (AT _c)		[years]		
	Exposure Duration for Non-Carcinogens (ED _{nc})		[years]		
	Exposure Frequency for Non-Carcinogens (EF _{nc})		[days/year]		
	Averaging Time for Non-Carcinogens (AT _{nc})		[years]		

RESULTS

Unsaturated Zone Effective Diffusion Coefficient (D _{eff})	[cm ² /s]
Unsaturated + Capillary Zone Effective Diffusion Coefficient (D ^T _{eff})	[cm ² /s]
"A" Parameter	
"B" Parameter	
"C" Parameter	

Johnson & Ettinger Attenuation Factor (α)

	INDOOR AIR RESULTS FOR		SAMPLE DATA			
	Low Prediction ¹		Best Estimate		High Prediction ²	
Indoor Air Concentration	[µg/m ³]	[ppbv]	[µg/m ³]	[ppbv]	[µg/m ³]	[ppbv]
Cancer Risk						
Hazard Quotient						

¹ "Low Prediction" concentration produced with moisture content and depth to contamination.

² "High Prediction" concentration produced with moisture content and depth to contamination.

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Screening Level Implementation of the Johnson and Ettinger Vapor Intrusion Model with two variable/uncertain parameters (source depth, moisture content)

Forward Calculation of Indoor Air Concentration

Backward Calculation full uncertainty analysis

Background

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Enter Site Name (optional):

Enter sample concentration, units and media type

µg/L

Ground Water

What is the depth of the soil gas sample or ground water table (for ground water contamination)?(LT)

feet

This value can change by +/-

feet

What is your contaminant of concern (COC)?

Chrysene

What type of building are you investigating at your site?

Slab–on–Grade

What type of soil is beneath the building?

Sand

What is the [average soil/ground water temperature](#)?

Fahrenheit

Chemical Properties

CAS Number

Molecular Weight (MW)

[g/mole]

Soil Properties	Henry's Law Constant at ground water temperature (H)		[unitless]		
	Free-Air Diffusion Coefficient (Da)		[cm ² /s]		
	Diffusivity in Water (Dw)		[cm ² /s]		
	Unit Risk Factor (URF)		[(µg/m ³) ⁻¹]		
	Reference Concentration (RfC)		[mg/m ³]		
Soil Properties	Total Porosity (n)		[unitless]		
	Unsaturated Zone Moisture Content (θ _w)	Low	Best Estimate	High	[unitless]
	Capillary Zone Moisture Content at Air-Entry Pressure (θ _{w,cap})		[unitless]		
	Height of Capillary Zone (CZ _h)		[m]		
	Soil-gas Flow Rate Into the Building (Q _{soil})		[L/min]		
Building Properties	Air Exchange Rate (E _B)		[hr ⁻¹]		
	Building Mixing Height (H _B)		[m]		
	Building Footprint Area (F _B)		[m ²]		
	Subsurface Foundation Area (A _B)		[m ²]		
	Building Crack Ratio (η)		[unitless]		
Exposure Parameters	Building Foundation Slab Thickness (L _{crack})		[m]		
	Exposure Duration for Carcinogens (ED _c)		[years]		
	Exposure Frequency for Carcinogens (EF _c)		[days/year]		
	Averaging Time for Carcinogens (AT _c)		[years]		
	Exposure Duration for Non-Carcinogens (ED _{nc})		[years]		
	Exposure Frequency for Non-Carcinogens (EF _{nc})		[days/year]		
	Averaging Time for Non-Carcinogens (AT _{nc})		[years]		

RESULTS

Unsaturated Zone Effective Diffusion Coefficient (D _{eff})	[cm ² /s]
Unsaturated + Capillary Zone Effective Diffusion Coefficient (D ^T _{eff})	[cm ² /s]
"A" Parameter	
"B" Parameter	
"C" Parameter	

Johnson & Ettinger Attenuation Factor (α)

	INDOOR AIR RESULTS FOR				SAMPLE DATA	
	Low Prediction ¹		Best Estimate		High Prediction ²	
Indoor Air Concentration	[µg/m ³]	[ppbv]	[µg/m ³]	[ppbv]	[µg/m ³]	[ppbv]
Cancer Risk						
Hazard Quotient						

¹ "Low Prediction" concentration produced with moisture content and depth to contamination.

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Screening Level Implementation of the Johnson and Ettinger Vapor Intrusion Model with two variable/uncertain parameters (source depth, moisture content)

Forward Calculation of Indoor Air Concentration [Backward Calculation full uncertainty analysis](#)

Background
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Enter Site Name (optional):

Enter sample concentration, units and media type		µg/L	Ground Water
What is the depth of the soil gas sample or ground water table (for ground water contamination)?(LT)			feet
This value can change by +/-			feet
What is your contaminant of concern (COC)?	Tetrachloroethylene		
What type of building are you investigating at your site?			Slab-on-Grade
What type of soil is beneath the building?		Sand	
What is the average soil/ground water temperature?			Fahrenheit

Chemical Properties

CAS Number	
Molecular Weight (MW)	[g/mole]

Soil Properties	Henry's Law Constant at ground water temperature (H)		[unitless]		
	Free-Air Diffusion Coefficient (Da)		[cm ² /s]		
	Diffusivity in Water (Dw)		[cm ² /s]		
	Unit Risk Factor (URF)		[(µg/m ³) ⁻¹]		
	Reference Concentration (RfC)		[mg/m ³]		
Soil Properties	Total Porosity (n)		[unitless]		
	Unsaturated Zone Moisture Content (θ _w)	Low	Best Estimate	High	[unitless]
	Capillary Zone Moisture Content at Air-Entry Pressure (θ _{w,cap})		[unitless]		
	Height of Capillary Zone (CZ _h)		[m]		
	Soil-gas Flow Rate Into the Building (Q _{soil})		[L/min]		
Building Properties	Air Exchange Rate (E _B)		[hr ⁻¹]		
	Building Mixing Height (H _B)		[m]		
	Building Footprint Area (F _B)		[m ²]		
	Subsurface Foundation Area (A _B)		[m ²]		
	Building Crack Ratio (η)		[unitless]		
Exposure Parameters	Building Foundation Slab Thickness (L _{crack})		[m]		
	Exposure Duration for Carcinogens (ED _c)		[years]		
	Exposure Frequency for Carcinogens (EF _c)		[days/year]		
	Averaging Time for Carcinogens (AT _c)		[years]		
	Exposure Duration for Non-Carcinogens (ED _{nc})		[years]		
	Exposure Frequency for Non-Carcinogens (EF _{nc})		[days/year]		
	Averaging Time for Non-Carcinogens (AT _{nc})		[years]		

RESULTS

Unsaturated Zone Effective Diffusion Coefficient (D _{eff})	[cm ² /s]
Unsaturated + Capillary Zone Effective Diffusion Coefficient (D ^T _{eff})	[cm ² /s]
"A" Parameter	
"B" Parameter	
"C" Parameter	

Johnson & Ettinger Attenuation Factor (α)

	INDOOR AIR RESULTS FOR		SAMPLE DATA			
	Low Prediction ¹		Best Estimate		High Prediction ²	
Indoor Air Concentration	[µg/m ³]	[ppbv]	[µg/m ³]	[ppbv]	[µg/m ³]	[ppbv]
Cancer Risk						
Hazard Quotient						

¹ "Low Prediction" concentration produced with moisture content and depth to contamination.

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EPA On-line Tools for Site Assessment Calculation

48 of 67

Screening Level Implementation of the Johnson and Ettinger Vapor Intrusion Model with two variable/uncertain parameters (source depth, moisture content)

Forward Calculation of Indoor Air Concentration [Backward Calculation full uncertainty analysis](#)

Background
Migration of volatile chemicals from the subsurface into overlying buildings is called vapor intrusion (VI). Volatile organic chemicals in contaminated soils or groundwater can emit vapors, which may migrate through subsurface soils and may enter the indoor air of overlying buildings. Building depressurization may cause these vapors to enter the home through cracks in the foundation. Depressurization can be caused by a combination of wind effects and stack effects, which are the result of heating within the building and/or mechanical ventilation. In extreme cases, the vapors may accumulate in dwellings to levels that may pose near-term safety hazards, such as explosion. Typically, however, vapor concentrations are present at low levels, to which long-term exposure may pose increased risk for chronic health effects.

This on-line calculator implements the Johnson and Ettinger (J&E) (Johnson and Ettinger, 1991) simplified model to evaluate the vapor intrusion pathway into buildings. This J&E model replicates the implementation that the US EPA Office of Solid Waste and Emergency Response (OSWER) used in developing its [draft vapor intrusion guidance](#), but includes a number of enhancements that are facilitated by web implementation: temperature dependence of Henry's Law Constants and gaseous diffusivities, automatic sensitivity analysis of certain parameters, and others described [on the background page](#).

The results you obtain from this OnSite implementation of the Johnson and Ettinger model may differ from other versions of the Johnson & Ettinger Model. In addition to the OSWER implementation that was used for the draft vapor intrusion guidance, EPA Office of Emergency Response and Remediation (OERR) distributes a set of spreadsheet implementations of the model. The differences among these implementations is described in detail on the results [page](#). Beyond these differences the on-line version includes a simplified uncertainty analysis the other implementations lack.

Enter Site Name (optional):

Enter sample concentration, units and media type			
What is the depth of the soil gas sample or ground water table (for ground water contamination)?(LT)			
This value can change by +/-			
What is your contaminant of concern (COC)?			
What type of building are you investigating at your site?			
What type of soil is beneath the building?			
What is the average soil/ground water temperature?			

Chemical Properties

CAS Number	
Molecular Weight (MW)	

Soil Properties	Henry's Law Constant at ground water temperature (H)		[unitless]		
	Free-Air Diffusion Coefficient (Da)		[cm ² /s]		
	Diffusivity in Water (Dw)		[cm ² /s]		
	Unit Risk Factor (URF)		[(µg/m ³) ⁻¹]		
	Reference Concentration (RfC)		[mg/m ³]		
Soil Properties	Total Porosity (n)		[unitless]		
	Unsaturated Zone Moisture Content (θ _w)	Low	Best Estimate	High	[unitless]
	Capillary Zone Moisture Content at Air-Entry Pressure (θ _{w,cap})		[unitless]		
	Height of Capillary Zone (CZ _h)		[m]		
	Soil-gas Flow Rate Into the Building (Q _{soil})		[L/min]		
Building Properties	Air Exchange Rate (E _B)		[hr ⁻¹]		
	Building Mixing Height (H _B)		[m]		
	Building Footprint Area (F _B)		[m ²]		
	Subsurface Foundation Area (A _B)		[m ²]		
	Building Crack Ratio (η)		[unitless]		
Exposure Parameters	Building Foundation Slab Thickness (L _{crack})		[m]		
	Exposure Duration for Carcinogens (ED _c)		[years]		
	Exposure Frequency for Carcinogens (EF _c)		[days/year]		
	Averaging Time for Carcinogens (AT _c)		[years]		
	Exposure Duration for Non-Carcinogens (ED _{nc})		[years]		
	Exposure Frequency for Non-Carcinogens (EF _{nc})		[days/year]		
	Averaging Time for Non-Carcinogens (AT _{nc})		[years]		

RESULTS

Unsaturated Zone Effective Diffusion Coefficient (D _{eff})	[cm ² /s]
Unsaturated + Capillary Zone Effective Diffusion Coefficient (D ^T _{eff})	[cm ² /s]
"A" Parameter	
"B" Parameter	
"C" Parameter	

Johnson & Ettinger Attenuation Factor (α)

	INDOOR AIR RESULTS FOR		SAMPLE DATA			
	Low Prediction ¹		Best Estimate		High Prediction ²	
Indoor Air Concentration	[µg/m ³]	[ppbv]	[µg/m ³]	[ppbv]	[µg/m ³]	[ppbv]
Cancer Risk						
Hazard Quotient						

¹ "Low Prediction" concentration produced with moisture content and depth to contamination.

² "High Prediction" concentration produced with moisture content and depth to contamination.

What do these results mean?

[Comments or suggestions](#)

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DEPARTMENT OF NATURAL RESOURCES

CUMULATIVE RISK CALCULATOR

[Calculator](#)[Statewide Standards](#)[Chemical Specific Info.](#)[Related Links](#)[Help](#)

Concentration Input

For: East Blum
Range 1 Soil

Date: 12/2/2015

Chemical	CASRN	² Exposure Point Concentration for Soil (mg/kg) ²	² Site- Specific Background Soil Level* (mg/kg) ²
Benzo[a]anthracene	000056-55-3	.435	
Benzo[a]pyrene	000050-32-8	.824	
Benzo[b]fluoranthene	000205-99-2	.583	
Benzo[g,h,i]perylene	191-24-2	.660	
Benzo[k]fluoranthene	000207-08-9	.153	
Chrysene	000218-01-9	.865	
Dibenz[a,h]anthracene	000053-70-3	.141	
Fluoranthene	000206-44-0	.364	
Indeno[1,2,3-cd]pyrene	000193-39-5	.190	
Phenanthrene	000085-01-8	.197	
Pyrene	000129-00-0	.768	
Arsenic, Inorganic	007440-38-2	54.5	
Barium	007440-39-3	246	
Cadmium (soil)	007440-43-9	6.89	
Chromium VI (soil)	018540-29-9	179	
Lead and Compounds	007439-92-1	40200	
Mercury	007439-97-6	.995	

[Calculate Risk](#)

Concentration Input

For: East Blum
Range 1 Soil

Date: 12/2/2015

Chemical	CASRN	² Exposure Point Concentration for Soil (mg/kg) ²	² Site-Specific Background Soil Level* (mg/kg) ²
Benzo[a]anthracene	000056-55-3	.435	
Benzo[a]pyrene	000050-32-8	.824	
Benzo[b]fluoranthene	000205-99-2	.583	
Benzo[g,h,i]perylene	191-24-2	.660	
Benzo[k]fluoranthene	000207-08-9	.153	
Chrysene	000218-01-9	.865	
Dibenz[a,h]anthracene	000053-70-3	.141	
Fluoranthene	000206-44-0	.364	
Indeno[1,2,3-cd]pyrene	000193-39-5	.190	
Phenanthrene	000085-01-8	.197	
Pyrene	000129-00-0	.768	
Arsenic, Inorganic	007440-38-2	54.5	
Barium	007440-39-3	246	
Cadmium (soil)	007440-43-9	6.89	
Chromium VI (soil)	018540-29-9	179	
Lead and Compounds	007439-92-1	40200	
Mercury	007439-97-6	.995	

Concentration Input

For: East Blum
GW

Date: 12/2/2015

Chemical	CASRN	² Exposure Point Concentration for Groundwater (mg/l) ²	² Site-Specific Background Groundwater Level* (mg/l) ²
Benzo[a]anthracene	000056-55-3	000195	
Benzo[a]pyrene	000050-32-8	000416	
Benzo[b]fluoranthene	000205-99-2	000431	
Benzo[g,h,i]perylene	191-24-2	000107	
Benzo[k]fluoranthene	000207-08-9	000463	
Chrysene	000218-01-9	000197	
Dibenz[a,h]anthracene	000053-70-3	000106	
Fluoranthene	000206-44-0	000109	
Indeno[1,2,3-cd]pyrene	000193-39-5	000109	
Pyrene	000129-00-0	000933	
Barium	007440-39-3	0238	
Tetrachloroethylene	000127-18-4	000127	

Calculate Risk

* Input of site-specific background levels is optional. Blanks will be treated as zeros.
NOTE: Do not include site specific background levels for lead in soils.

Concentration Input

For: East Blum
GW

Date: 12/2/2015

Chemical	CASRN	² Exposure Point Concentration for Groundwater (mg/l) ²	² Site-Specific Background Groundwater Level* (mg/l) ²
Benzo[a]anthracene	000056-55-3	00195	
Benzo[a]pyrene	000050-32-8	00416	
Benzo[b]fluoranthene	000205-99-2	00431	
Benzo[g,h,i]perylene	191-24-2	00107	
Benzo[k]fluoranthene	000207-08-9	00463	
Chrysene	000218-01-9	00197	
Dibenz[a,h]anthracene	000053-70-3	00106	
Fluoranthene	000206-44-0	00109	
Indeno[1,2,3-cd]pyrene	000193-39-5	00109	
Pyrene	000129-00-0	00933	
Barium	007440-39-3	238	
Tetrachloroethylene	000127-18-4	0.0127	

Calculate Risk

* Input of site-specific background levels is optional. Blanks will be treated as zeros.

APPENDIX F

TECHNICAL MEMORANDUM ASSESSMENT OF ENVIRONMENTAL RISK RELATED TO DEMOLITION AT 411 AND 501 15TH ST

Technical Memorandum

Blum Junk Yard Properties

Assessment of Environmental Risk Related to Demolition of
Properties at 411 and 501 E. 15th Street

9/16/15

40140060.13

Prepared For:

Steven Sampson Brown



Prepared By:



Introduction and Scope of Services

At the request of the City of Dubuque, HR Green has conducted a site visit and limited hazardous materials inventory for the Blum properties located at 411 (west side) and 501 (east side) E. 15th Street in Dubuque, Iowa (PINs 1024283001 and 1024283901). The City of Dubuque plans to purchase these properties and to demolish the existing structures. The City would like to understand the environmental hazards which could present an obstacle to demolition and redevelopment activities. Therefore, the scope of this study was to identify major environmental concerns and potential major environmental concerns. The attached Photographs include equipment, building components, and ancillary occupant items which are not expressly discussed below. These photographs are included for the purpose of documentation of the current condition of the properties at the time of the site walk.

HR Green conducted a site walk on July 22, 2015. Mr. Al Blum accompanied HR Green for a portion of the site walk explaining that his family had owned and operated the properties as a junk yard since 1942. HR Green was able to access all floors in all buildings with the exception of the upstairs and basement of the converted house on the east side property; however, Mr. Blum stated that there was nothing upstairs, and the basement only had a couple of oxygen tanks and one acetylene tank used for oxy-acetylene welding and cutting. In addition, HR Green was unable to obtain access to four semi-trailers located on the west side property grounds. These semi-trailers are empty, according to one of Mr. Blum's workers. Based on the available information, HR Green does not believe that these exceptions represent major potential environmental concerns. A visual confirmation of actual contents of these areas is recommended at the time of demolition.

The conclusions and recommendations made in this report are drawn from a review of readily visible hazards at the Blum properties as well as from asbestos sampling completed to date.

Findings

Hazardous or potentially hazardous conditions noted during the site walk are discussed below and generally located on the attached map:

1. Seven to eight 76-pound steel flask shipping containers of liquid mercury were observed in the first-floor office space of the building on the 411 E. 15th St. property. One container was segregated from the others in the main office space, while the remaining six to seven containers were located in an adjacent storage room. The containers were observed to be corroded and rusty, and Mr. Blum reported that they are secured with a "finger-tight" seal. HR Green contacted the manufacturer of these containers (Bethlehem Apparatus) to obtain current storage and shipping specifications. According to the manufacturer, the containers should be free of external corrosion and rust with the bung screws securely fastened (see photos 1 and 2). The manufacturer indicated "finger-tight" bung screws and visible external container corrosion could indicate a dangerous situation where mercury vapor is off-gassing to the surrounding environment. Secondary containment and engineering controls to prevent personnel exposure were not present. Based on previous environmental site assessment records provided, interior mercury contamination has not been assessed on either property.
2. HR Green observed a large apparent chemical spill (likely petroleum-based hydraulic fluids) in the basement of the main office building located on the 411 E. 15th St. property. HR Green staff estimated the spill extent is at least 15' x 15', but the amount of other materials stored in the area prevented a more detailed assessment. According to Mr.

Blum, the on-going source of the spill is from the baler located on the first floor; this equipment has been in operation since 1968 until present day (see photos 6 and 7). It is not known if the hydraulic fluids used by this equipment contain hazardous components such as PCBs. Additionally, multiple suspected lead-acid batteries and at least one likely PCB transformer, all badly deteriorated, were located in the basement of the office building (see photos 5 and 8). No visible secondary containment was present. The owner commented that the basement had been flooded several times (the owner noted the flooding had reached the height of the 1st floor joists) and residual soil and other debris likely covered the entire basement cement floor. Based on previous environmental site assessment records provided, basement potential polychlorinated biphenyls (PCB), total petroleum hydrocarbon (TEH), semi-volatile organic compound (SVOC), and all RCRA metals contamination has not been assessed.

3. HR Green observed a large chemical spill (likely petroleum-based hydraulic fluids) on the fourth floor of the main office building located at 411 E. 15th Street (see photos 33 and 34). The spill appears to be connected with the abandoned compressor located nearby. It is not known if the hydraulic fluids used by this equipment contain hazardous components such as PCBs. Based on previous environmental site assessment records provided, this area has not been assessed for TEHs, RCRA Metals, or PCBs.
4. Throughout the site walk, HR Green observed several batteries. One large battery in particular was observed to be leaking onto the wood pallet it was placed on top of. This observation was located on the 501 E. 15th St. property (see photos 21 and 22). No visible secondary containment was present. Based on previous environmental site assessment records provided, this area has not been assessed for RCRA Metals or PCBs.
5. HR Green observed several areas of staining around the crusher and inside the control room located next to the crusher, as well as other equipment on the outside grounds located north of the main office building (see photos 10-13; 17-19). It is not known if the hydraulic fluids used by this equipment contain hazardous components such as PCBs. Based on previous environmental site assessment records provided, TEHs, arsenic, chromium, and lead have been assessed in several locations on the grounds. Based on previous environmental site assessment records provided, this area has not been assessed for other RCRA Metals or PCBs.
6. HR Green observed what appeared to be empty chemical drums located on the 411 E. 15th St. property (see photo 15). It is not known if residual chemicals remain in these drums or if any of the drums leaked. Based on previous environmental site assessment records provided, it appears likely that chemical contamination in this area has been assessed.
7. HR Green observed a smelter/incinerator located on the 501 E. 15th St. property. It is not known if residual contamination including lead, mercury, chromium, cadmium, or other heavy metals exists. Based on previous environmental site assessment records provided, it appears likely that residual contamination in this area has not been assessed.
8. A 500-1,000 gallon diesel fuel underground storage tank (UST) is present on the west side property. The area surrounding the UST is inaccessible due to piles of solid waste.

An asbestos survey was completed by Advanced Environmental Testing and Abatement on July 23, 2015 on the 501 E. 15th St. property. This included three buildings; building one is a converted residential house, the second building is a metal warehouse, and building three is a house converted into a storage building with a second floor. Nineteen (19) samples were collected and twenty-eight (28) samples were analyzed. Testing included roofing, window glazing, transite, brick mortar, caulking, and surfacing plaster.

The following samples tested positive (>1%) for asbestos:

- Transite on building one and three (4,500 square feet)
- Tar on vent on building two (10 square feet)
- Window glazing on building three (20 each)
- Tar on flashing, by lean to by building one and three (50 square feet)

The asbestos assessment report is attached. An additional asbestos study will be completed on the 411 E. 15th St. property in the summer of 2016 following the removal of materials and debris from the property.

Recommendations

- **Pre-demolition:**

- o Mercury vapor air monitoring of the entire facility and physical removal of liquid mercury containers from property.
- o Obtain samples from areas containing potential TEH, RCRA Metals, SVOC, and PCB contamination. These areas include, but are not limited to, the basement and the fourth floor of the main office building. Should exceedances of Iowa DNR Statewide Standards be identified, appropriate TCLP analyses will be conducted to determine appropriate disposal methods.
- o Removal (facilitated by current owner) of concealed piles of generic solid waste located around the grounds.
- o Abatement of asbestos on the east side and west side (west side not yet assessed) properties.
- o Confirm contents of upstairs and basement of the converted house on the east side property (compressed oxygen tanks and acetylene tank, respectively).
- o Confirm contents (empty) of four semi-trailers located on the west side property grounds.

- **Post-demolition:**

- o Removal and sampling of the underground storage tank located on the property.
- o Additional (as needed) soil and groundwater sampling and analysis to quantify the nature and extent of contamination on the property. Specifically underneath building slabs, around building footings, and at locations on the grounds originally obscured by solid waste piles once removed and original grade is visible.
- o Obtain samples from areas containing potential lead and other metal contamination. These areas include, but are not limited to, the soil surrounding the smelter/incinerator equipment and battery storage area of the 501 E. 15th St. property.

Sincerely,



Emily Smart, CGP, PG
Project Geologist
HR Green, Inc.



Scott Mattes, PE, CIH
Environmental Services Group Leader
HR Green, Inc.

Attachments:

Hazardous or Potentially Hazardous Conditions Maps
Photographs
East Side Asbestos Survey



Legend

-  Findings
-  West Side Property
-  East Side Property

THE CITY OF
DUBUQUE
Masterpiece on the Mississippi

Hazardous or Potentially Hazardous Conditions Map

Blum Properties

City of Dubuque
Dubuque County, Iowa



0 25 50 100 Feet


HRGreen



Photo 1 – View of mercury container in Mr. Blum's office.



Photo 2 –Close up view of mercury container.

Photographs

Blum Junk Yard Property
Dubuque, Iowa

Photographed:

07-22-2015





Photo 3 – Steam boiler wrapped in fiberglass insulation in basement in the main office building.



Photo 4 – View of physical state of basement in the main office building.

Photographs

Blum Junk Yard Property
Dubuque, Iowa

Photographed:

07-22-2015





Photo 5 – View of batteries located on the south side in basement of the main office building.



Photo 6 – View of large spill from the baler (main level) in basement of the main office building.

Photographs

Blum Junk Yard Property
Dubuque, Iowa

Photographed:

07-22-2015





Photo 7 – View of large spill from the baler (main level) in basement of the main office building.



Photo 8 – View of corroded transformer in basement of the main office building.

Photographs

Blum Junk Yard Property
Dubuque, Iowa

Photographed:

07-22-2015





Photo 9 – View of scale on the main level (north side) of the main office building.



Photo 10 – View of crusher and operator building located on the grounds of the west side property.

Photographs

Blum Junk Yard Property
Dubuque, Iowa

Photographed:

07-22-2015





Photo 11 – View of staining under equipment located on the grounds of the west side property.



Photo 12 – View of staining under equipment located on the grounds of the west side property.

Photographs

Blum Junk Yard Property
Dubuque, Iowa

Photographed:

07-22-2015





Photo 13 – View of staining under equipment located on the grounds of the west side property.



Photo 14 – View of sled full of unknown 55 gallon drums located on the grounds of the west side property.

Photographs

Blum Junk Yard Property
Dubuque, Iowa

Photographed:

07-22-2015





Photo 15 – View of diesel fuel tanks located on the northeast side of the grounds of the west side property.



Photo 16 – View of leaking used motors located on the north side of the grounds of the west side property.

Photographs

Blum Junk Yard Property
Dubuque, Iowa

Photographed:

07-22-2015





Photo 17 – View of inside the crusher control building located on the grounds of the west side property.



Photo 18 – View of staining under equipment located inside the control building on the grounds of the west side

Photographs

Blum Junk Yard Property
Dubuque, Iowa

Photographed:

07-22-2015





Photo 19 – View of two ASTs and staining located outside the control building on the grounds of the west side property.



Photo 20 – View of the general physical state of the grounds of the west side property.

Photographs

Blum Junk Yard Property
Dubuque, Iowa

Photographed:

07-22-2015





Photo 21 – View of staining under large battery located in the building on the east side property.



Photo 22 – View of pallet of batteries located in the building on the east side property.

Photographs

Blum Junk Yard Property
Dubuque, Iowa

Photographed:

07-22-2015





Photo 23 – View of 55-gallon drums labeled “contaminated Thermolyne” in the building on the east side property. Mr. Blum explained this as an industry term, rather than being indicative of environmental contamination



Photo 24 – View looking east-southeast at the west side property.

Photographs

Blum Junk Yard Property
Dubuque, Iowa

Photographed:

07-22-2015





Photo 25 –View looking east-southeast at the west side property.



Photo 26 – View of 55-gallon drums located on the second floor of the building on the west side property.

Photographs
Blum Junk Yard Property
 Dubuque, Iowa

Photographed:
 07-22-2015





Photo 27 – View of 55-gallon drums located on the second floor of the building on the west side property.



Photo 28 – View of the first floor of the building on the west side property.

Photographs
Blum Junk Yard Property
 Dubuque, Iowa

Photographed:
 07-22-2015





Photo 29 – View of staining located under a piece of equipment on the second floor of the building on the west side property.



Photo 30 – View of 5-gallon containers located in the building on the west side property (contents unknown).

Photographs
Blum Junk Yard Property
Dubuque, Iowa

Photographed:
07-22-2015





Photo 31 – View of colloidal silica located in several locations in the main office building on the subject property.



Photo 32 – View of steel slag located in several locations on the subject property.

Photographs
Blum Junk Yard Property
Dubuque, Iowa

Photographed:
07-22-2015





Photo 33 – Adjacent properties to the south of the subject property.



Photo 34 – Adjacent property to the west/southwest of the subject property.

Photographs
Blum Junk Yard Property
Dubuque, Iowa

Photographed:
07-22-2015

