Carlson McCain

ENVIRONMENTAL • ENGINEERING • LAND SURVEYING

September 27, 2016

DRAFT

Mr. Michael Collins
Northeast Bank
77 Broadway Street NE
Minneapolis, MN 55413

Mr. George Hark
Main Street Property Management
675 Stinson Boulevard
Minneapolis, MN 55413

Re: Phase II Investigation
Sinclair Gas Station
7733 Portland Avenue South
Richfield, Minnesota
Project No.: 6349-00

Dear Mr. Collins and Mr. Hark,

The purpose of this letter is to present the results of a Phase II Investigation conducted at the above referenced property (the Property). The scope of work for this project was completed by Carlson McCain, Inc. according to our proposal dated September 6, 2016, which was based on historical work conducted at since the early 1990's, and a Phase I Environmental Site Assessment (ESA) completed by Carlson McCain, Inc., dated August 31, 2016. The Phase I ESA identified several Recognized Environmental Conditions (RECs), including the potential for residual petroleum impacts to soil and groundwater in the areas of the former and current UST basins, the on-site automotive garage, and off–site sources. Figure 1 shows the Property location.

To evaluate the environmental risks, four direct push soil borings were advanced using a track mounted rig, and one temporary sub-slab vapor sampling point was installed and a vapor sample was collected. Soil and groundwater samples were also collected to determine current site conditions. This letter report discusses the results of the investigation.

Environmental History

The following Recognized Environmental Conditions (RECs) were identified during the previously completed Phase I Environmental Site Assessment:

- The Property has operated as a gasoline station since 1962 and had tanks removed and replaced in 1990. According to the tank records, there are listed citations and inconclusive tank testing information for the new tank system.
- The Property is listed as a reported leaksite (Leak ID#2572) that has been investigated and closed by the MPCA.
- The former hydraulic lifts located in the service garage do not appear to have been properly removed and sealed. Older subsurface hydraulic lifts have the potential to leak hydraulic fluids.

- The Elsen Brothers site is located in a hydraulically up-gradient position to the Property with a documented release of petroleum to groundwater. Vapor concerns have also not been addressed.
- Two drycleaners are located immediately to the south and have documented releases of chlorinated solvents in soil and groundwater.
- The substantial amount of staining observed in the building is considered a REC for the Property.

Field Investigation Summary

The Phase II Investigation field work was conducted on September 13, 2016 and entailed advancing four direct push soil borings for the collection of soil and groundwater samples, and one vapor sampling point for the collection of a sub-slab vapor sample. Soil boring SB-1 was advanced south of the current UST basin, south of the Site building. Soil boring SB-2 was advanced near the western property boundary to evaluate potential off-site sources. Soil boring SB-3 was advanced adjacent to and south of the existing dispenser islands. Soil boring SB-4 was advanced within the Site garage, between the two hydraulic hoists. A sub slab vapor point (SS-1) was also advanced in the southern portion of the garage concrete floor near the convenience store portion of the building to address potential vapor concerns. Figure 2 shows boring and sub-slab vapor point locations on the Property.

Soil Borings

Soil boring advancement was completed by Range Environmental Drilling Company, a licensed and registered well contractor in the State of Minnesota and in accordance with MDH Well Construction Code (Minnesota Rules 4725). Field screening, soil logging and sample collection were conducted by a Carlson McCain field geologist.

Prior to starting intrusive work, public underground utilities were cleared through the Gopher One-Call State System and a private utilities locator. Borings were advanced by direct push technology. This method utilizes a small drill rig which employs a hydraulically-powered probe that utilizes static force and percussion to advance sampling tools into the subsurface for the collection of soil and groundwater samples. Soil samples were collected continuously using a 1.5-inch inside diameter (ID) by 5-foot long stainless steel "Macro-Core® Sampler". Soil samples were manually and visually classified according to methods outlined in the American Society for Testing and Materials (ASTM) D2488 and entered onto a boring log. Soil cuttings were thin spread on-site. Boring locations are shown on the attached Figure 2 and boring logs are included as Appendix A.

To determine if contamination was present in soil, visual and olfactory observations, as well as vapor monitoring using a photoionization detector (PID) equipped with a 10.6 eV lamp, were conducted. Organic vapors were monitored in soils using Minnesota Pollution Control Agency (MPCA) bag headspace methods. Soils were placed into a polyethylene bag, which was then sealed. The sample was shaken, placed in a warm environment to allow organic vapors to develop and the highest reading observed within the first five seconds after insertion of the PID into the bag was then recorded on the boring log. Prior to the start of work, the PID was calibrated using an isobutylene standard.

Prior to drilling, between boreholes and prior to demobilization, drilling equipment was decontaminated to minimize the potential for any cross-contamination. While drilling, all soil sampling equipment (i.e. Macrocore Sampler) was thoroughly decontaminated between sampling intervals using an Alconox® wash, followed by a tap water rinse.

Upon completion, each direct push borehole was sealed by backfilling with granular bentonite, which was placed and hydrated in 2-foot lifts. Each borehole was then located for future reference with GPS-based survey equipment.

Soil Sampling

At the discretion of the field geologist and based on field screening and visual/olfactory characteristics, one soil sample was collected from each borehole at depths which corresponded with evidence of contamination from depths likely associated with previous underground apparatus (such as tanks, dispensers and hoists), were located in areas susceptible to surface soil contamination via run-off and/or spillage or from the terminus of the soil boring. The following details the sampling procedures used as part of this field investigation.

To minimize the potential for cross-contamination of soil samples, a clean and dry sheet of relatively inert plastic was placed on a clean working surface. If materials used in the sampling process were set down, they were placed on a clean portion of the plastic sheet. A clean pair of nitrile gloves was used at the onset of sampling activities at each new sampling point. Sampling personnel kept their hands as clean as practical and replaced gloves, as necessary. Furthermore, sampling personnel took care not to touch the inside of sampling containers, inside of bottle caps or the rim of sample containers. Care was also taken so as to minimize the potential for airborne contamination of samples during collection.

When sample containers were not pre-preserved, the preservative was added (if required) as soon as the sample had been placed into the sampling container. After the label had been affixed to each container, samples were then placed on ice and maintained at a temperature of 4°C. If preservatives were added to the jars or bottles before shipment to the field, care was taken not to overfill the containers.

As each sample was collected, an adhesive label was affixed to each sampling container. Each sample container was uniquely numbered and labeled using indelible ink. At a minimum, the information on the label included the analytical parameter(s), preservative(s), sampling personnel, date and time of sample collection, sample type (grab or composite) and the project name. The label was then directly affixed to the appropriate sample container.

A chain of custody (COC) accompanied each cooler containing samples that were to be submitted to the laboratory for chemical analysis. The COC was filled out progressively, as samples from each sampling point were collected. The completed COC was then placed into a sealed polyethylene bag. Field personnel were then required to sign, time and date the COC prior to relinquishing custody to the laboratory. One copy of the COC was retained by field personnel and the remaining copies were submitted to the laboratory. Until the samples had been relinquished to the courier or laboratory, custody was the responsibility of the field sampler.

Upon receipt of each cooler at the laboratory, the time of arrival was noted and the COC was signed by the person accepting the shipment. The laboratory sample custodian then checked the cooler temperature using the temperature blank, inventoried the samples and checked them against the COC. The COC was then signed by the sample custodian and samples became the responsibility of the laboratory.
Prior to being placed in a cooler, all glass containers were protected using bubble wrap. In addition, absorbent material was placed in the bottom of each cooler to minimize breakage. Ice was used to cool the samples. The COC was then placed on top of the samples and ice. If necessary, care was also taken so as to tape the drainage hole at the bottom of the cooler, in order to prevent leakage of melt water.

Groundwater Sampling

Groundwater samples collected from boreholes were obtained through a temporary 1-inch ID by 5-foot long polyvinyl chloride (PVC) screen attached to a PVC riser. Samples were collected using a manually operated check valve system in conjunction with disposable high density polyethylene (HDPE) tubing. Groundwater was purged until it was relatively sediment free and appeared to have low turbidity, at which time groundwater samples were collected. Sample handling procedures were conducted in the same manner as described above for soils. Purge water was discharged to the ground surface, away from each boring. Groundwater samples were collected and analyzed from SB-1 through SB-4.

Soil vapor Sampling

One soil vapor sample was collected from a borehole advanced through the concrete slab in the southern portion of the garage, adjacent to the convenience store building with a hammer drill. Before inserting a temporary, Cox-Colvin™, brass vapor sampling pin with polyethylene tubing into the hole, the hole was field screened for VOCs with a PID. The sub-slab vapor sample was collected by attaching the top end of the tubing to a Summa® Canister, which was instrumented with a flow regulator gauge. The gauge had a flow rate of 200 milliliters per minute, as per MPCA sampling guidelines. The initial and final vacuum gauge readings were recorded to identify when the canister was full. Soil vapor sampling was conducted in accordance with MPCA Document c-rem 3-01 "*Vapor Intrusion Technical Support Document*".

The summa canister was carefully labeled with the name of the sampler, date, time, and initial/final vacuum gauge readings. This information was also recorded on a COC form. The canister was then placed in a box, fitted with bubble wrap and delivered to a certified laboratory in accordance with COC procedures.

Laboratory Analysis

Three soil samples, four groundwater samples and one sub-slab vapor sample were collected and submitted to TestAmerica, Inc. (TestAmerica) for chemical analysis. TestAmerica is certified in the State of Minnesota and all samples were prepared and analyzed in accordance with MDH and/or Environmental Protection Agency (EPA) methods and procedures.

Samples collected from the soil borings were analyzed for diesel range organics (DRO), gasoline range organics (GRO), and volatile organic compounds (VOCs). The sub-slab vapor sample was submitted for method TO-15 analysis for VOCs in vapor.

Regulatory Thresholds/Screening Criteria

Soil

Analytical results for soil were compared to various screening limits developed by the MPCA. Soil Reference Values (SRVs) represent the concentration of a contaminant in soil, below which normal dermal contact, inhalation, and/or ingestion does not present a human health risk. Soil Leaching Values (SLVs) represent the concentration of a contaminant in soil above which it is able to leach into groundwater at levels in excess of drinking water standards. Soil analytical results were compared to Tier 1 SLVs, Tier 1 Residential SRVs, and Tier 2 Industrial SRVs. DRO results in soil were compared to the MPCA's "Best Management Practices (BMP) for the Off-Site Reuse of Unregulated Fill" (February 2012), which defines unregulated soil as soil that meets all of the following criteria:

- Free from solid waste, debris, asbestos-containing material (ACM), visual staining, and chemical odor;
- Organic vapors less than 10 parts per million (ppm), as measured by a PID;
- For petroleum-impacted soil, less than 100 mg/kg DRO and GRO; and,
- For contaminants detected in soil, less than the MPCA's Residential SRVs and Tier 1 SLVs

In addition, MPCA Petroleum Remediation Program Guidance Document 3-01 was consulted for cleanup standards relating to petroleum contamination of surficial soil. This Guidance Document indicates that corrective action is necessary at sites where contaminated surface soil exists. Contaminated surface soil poses an unacceptable risk because of the potential for dermal contact, ingestion and for contaminated runoff to surface waters. Surface soil, as defined for this policy, is the uppermost two feet of soil (0-2 feet), that is not covered by an impervious surface.

Groundwater

Groundwater analytical results were compared to Health Risk Limits (HRLs) or Health Based Values (HBVs) established by the MDH for drinking water. In the absence of a HRL for DRO or GRO, a screening limit of 1,000 milligrams per liter (mg/L) was used, as outlined in the MPCA Petroleum Remediation Program (PRP) Guidance Document 4.01 (September 2008).

Soil Vapor

The MPCA, in cooperation with the MDH, developed compound-specific inhalation risk screening values, referred to as Intrusion Screening Values (ISVs), for VOCs commonly evaluated during vapor investigations. The ISVs were developed using information from the MDH, the EPA IRIS database and other current toxicity data sources. The majority of the compounds have chronic ISVs that are based on lifetime chronic exposure. Some compounds also have acute ISVs that indicate the potential for adverse health effects from short term exposure to higher concentrations.

The ISVs were used for evaluating risks posed by VOCs identified in indoor air when those compounds are present due to vapor intrusion. Based on MPCA information, a site with representative soil gas

sampling results less than 10 times the ISVs is not considered to pose a risk to receptors and no additional action is generally necessary.

Summary of Results

The four soil borings (SB-1 through SB-4) which were advanced on the Property ranged in depth from 34 to 36 feet below ground surface (bgs). Soil borings generally encountered about 0.8 feet of asphalt and class V base, underlain by approximately four feet of brown sandy fill. Fill was typically underlain by several feet of native, brown, fine grained silty sand. In soil borings SB-1 and SB-3 a brown loose gravelly sand was encountered at approximately 29 feet bgs, which extended to the terminus of the boring. Groundwater in temporary wells stabilized between 28 to 31.7 feet bgs.

With the exception of petroleum odors and dark color noted in the groundwater collected from SB-4, there was no other field evidence of contamination. PID readings remained within background levels in soil borings. A summary of PID screening results is provided as Table 1.

Soil Results

Three soil samples were collected from soil borings and submitted for laboratory analysis of GRO, DRO, and VOCs. Results are summarized in Table 2 and included in Appendix B. Concentrations of VOCs, DRO and GRO were not reported above laboratory detection limits in soil samples collected at the Site.

Groundwater Results

Sample SB-4W was the only groundwater sample to report analytes above their reporting limits (Table 3). Four VOCs were detected above reporting limits in SB-4W (n-butylbenzene, p-iopropyltoluene, sec-butylbenzene and tert-butlybenzene). However, none of these constituents have a Minnesota Department of Health (MDH) established Health Risk Limit (HRL). DRO was detected at a concentration of 52,800 micrograms per liter (ug/L) in sample SB-4W exceeded its MPCA Petroleum Remediation Program (PRP) screening limit of 1,000 ug/L. GRO was also detected at a concentration of 666 ug/L in sample SB-4W, however it was below the MPCA PRP screening limit. All other analytes were under their screening limits and/or reporting limits. The full laboratory report is included in Appendix B.

Sub-Slab Vapor Results

Results of the soil vapor analysis identified five VOCs (acetone, ethanol, n-hexane, isopropyl alcohol and tetrachloroethene). Sub-slab vapor results are summarized in Table 4 and the full laboratory report is included in Appendix B. Tetrachloroethene was reported in soil vapor at a concentration of 702 micrograms per cubic meter ($\mu g/m^3$), which exceeds 10 times the Industrial ISV. With the exception of tetrachloroethene, none of the other analytes exceeded 10 times the Industrial ISV, which is the threshold needed for further action.

Conclusions and Recommendations

The environmental concerns identified above have been evaluated through field screening and the collection of three soil samples, four groundwater samples and one sub-slab vapor sample.

- Soil encountered during the investigation was generally sandy fill, and poorly graded sand outwash. Groundwater was encountered at approximately 28 to 32 feet bgs;
- Elevated PID readings were not encountered in samples field screened during drilling. However petroleum odors were observed in the groundwater sample collected from the soil boring SB-4 within the garage located at the Property;
- Groundwater sample SB-4W was the only sample with analytes detected exceeding their respective reporting limits. Low-level VOCs were detected in SB-4W, however they currently do not have established screening limits (MDH HRLs). DRO in SB-4W exceeded its MPCA PRP screening limit. GRO was also reported in SB-4W, however it did not exceed its MPCA PRP screening limit;
- The sub-slab vapor sample SS-1 detected five analytes. Tetrachloroethene concentrations exceeded 10 times its ISV (33µg/m^3). None of the remaining analytes these detected exceeded 10 times their ISVs;

Based on field evidence and laboratory results of this Phase II Investigation, Carlson McCain believes that additional investigation at the Site is warranted as it appears that a new release to groundwater has occurred since 1992 when the last groundwater quality samples were obtained. As previously discussed, a release notification (Report # 161299) was made on September 23, 2016. Impacts to groundwater and soil vapor were identified and should be further delineated at the Property. Further investigation at the Property can be completed through a non-standard Limited Site Investigation to further delineate groundwater and/or soil vapor impacts. Carlson McCain will prepare a Request For Proposal so as to solicit competitive bids to complete this investigation, as well as prepare a bid to complete this work at the Property.

We also recommend that the hydraulic lifts be further investigated or ideally removed to determine if impacts to soil and/or groundwater are related to the lifts.

Closing

If you have any questions or if you would like to discuss this project, please feel free to contact us at (763) 489-7900.

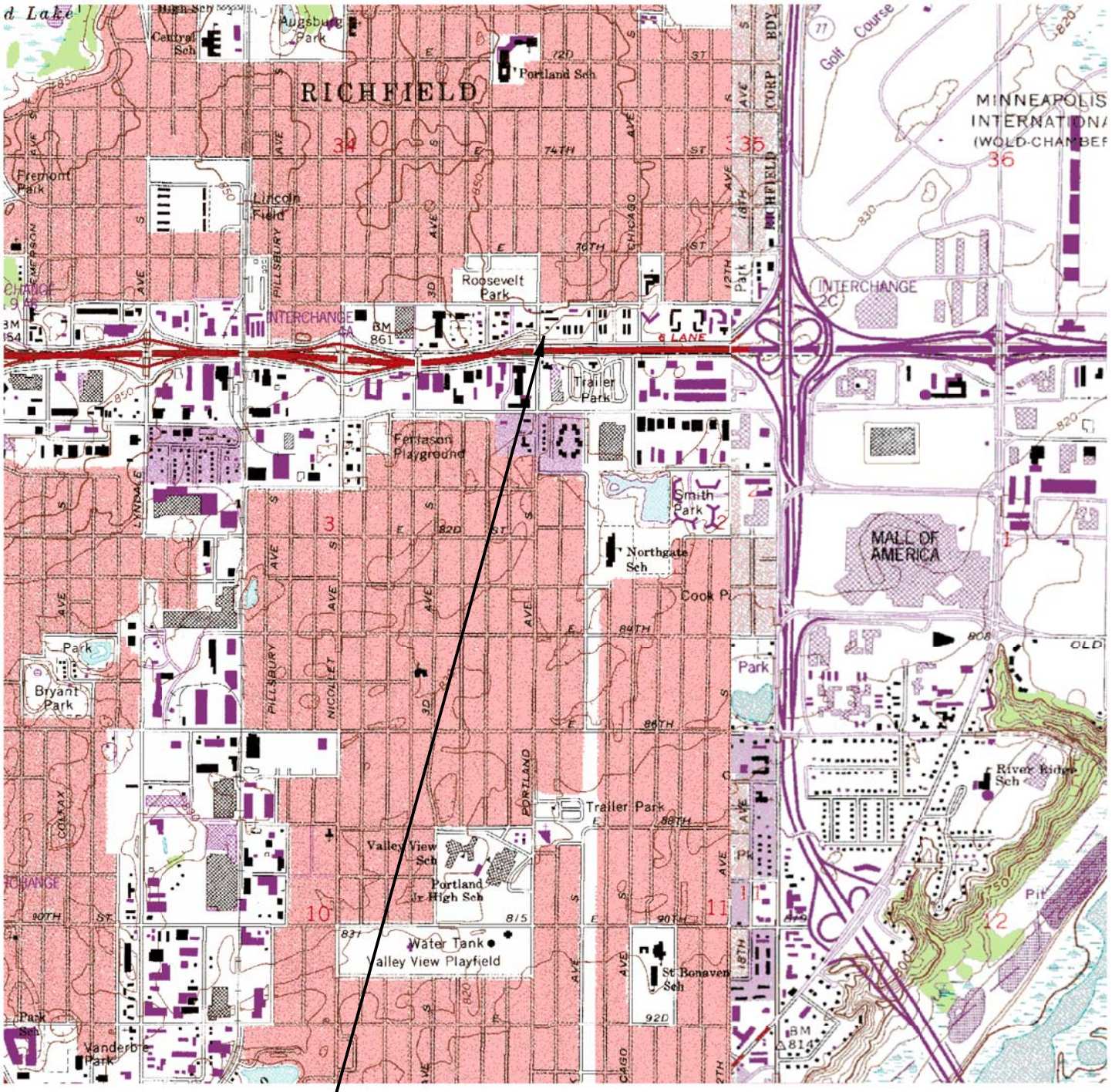
Sincerely,

Carlson McCain, Inc.

Wade A. Carlson, P.G.
President/Senior Project Manager

Jeff Neisse
Staff Hydrogeologist

Figures



SOURCE: USGS BLOOMINGTON & ST. PAUL SW 7.5 MIN. QUADRANGLE

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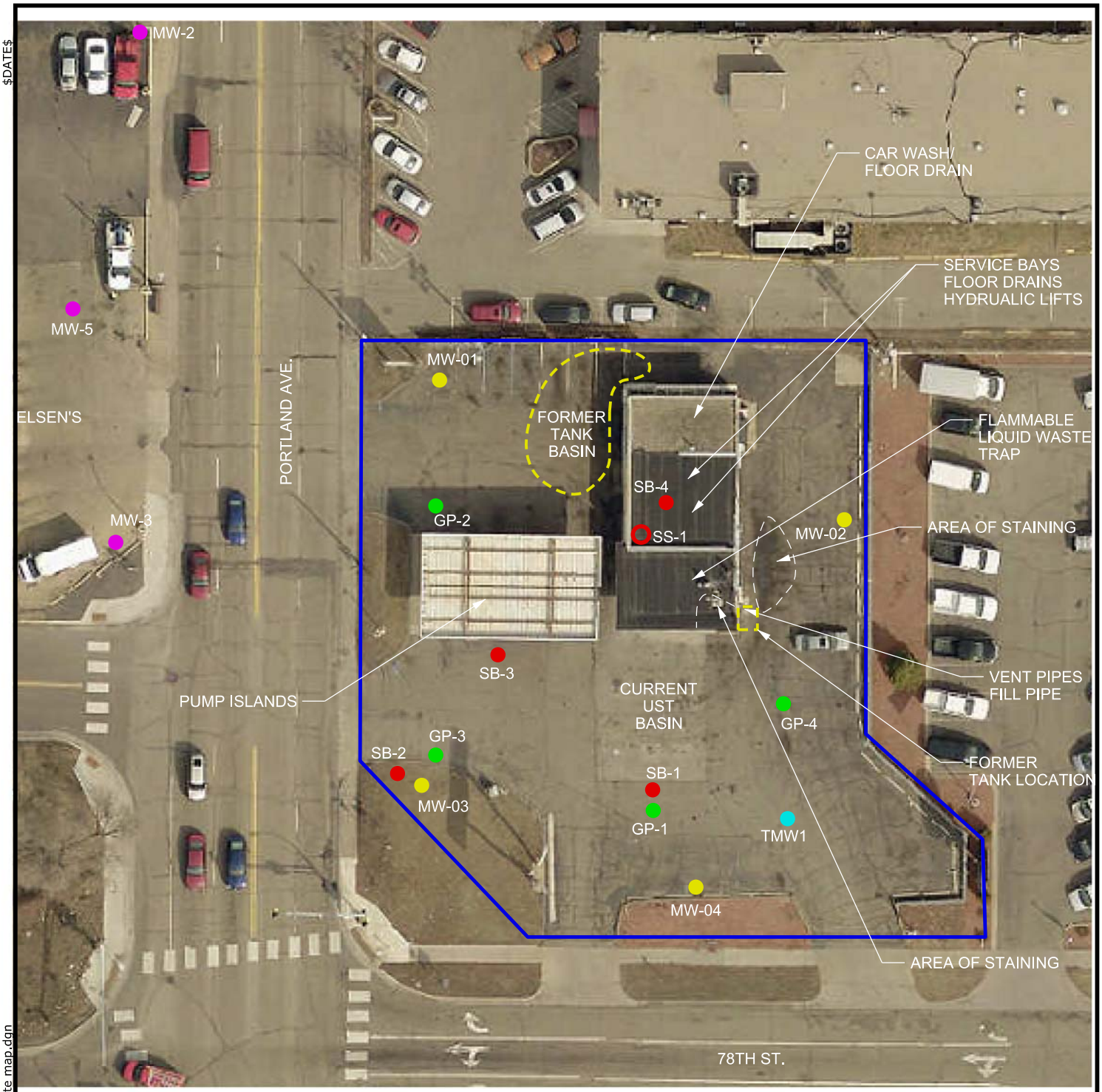
PHASE II INVESTIGATION
Richfield Sinclair
7733 Portland Avenue South
Richfield, Minnesota

FIGURE 1
SITE LOCATION MAP



- 2016 PHASE II SAMPLE LOCATIONS
- 2016 SUB SLAB SOIL VAPOR SAMPLE
- 2010 GROUNDWATER SAMPLE LOCATION
- 2010 SOIL SAMPLE LOCATION
- FORMER ON-SITE MONITORING WELLS (ENECOTECH 1991)
- FORMER ADJACENT MONITORING WELLS
- FORMER TANK BASINS/LIMITS OF EXCAVATIONS

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PHASE II INVESTIGATION
Richfield Sinclair
7733 Portland Avenue South
Richfield, Minnesota

FIGURE 2
SITE MAP

$DATE$

F:\jobs\6341 - 6360\6349 - Sinclair Richfield Phase I\Phase II site map.dgn

TABLES

TABLE 1
SUMMARY OF PID SCREENING RESULTS
Richfield Sinclair Property
Carlson McCain Project No. 6349-00

Sample Depth (feet)	Current UST Basin[(1)]	Current Dispenser Area[(1)]	Garage Area (Hoists)[(1)]
	SB-1	SB-3	SB-4
0-2.5	0.1	0.0	0.1
2.5-5	0.2	0.0	0.1
5-7.5	0.0	0.1	0.1
7.5-10	0.1	0.0	0.0
10-12.5	1.1	0.0	0.4
12.5-15	1.9	0.1	0.4
15-17.5	1.0	0.0	0.0
17.5-20	1.0	0.0	0.0
20-22.5	1.0	0.1	0.0
22.5-25	1.1	0.1	0.0
25-27.5	0.6	0.1	0.0
27.5-30	0.4	0.0	0.0
30-32.5	0.6	0.0	0.0
32.5-35	0.6	0.0	0.0
35-36	1.1	--	0.0

Notes:
-- = Not sampled
(1) = Results recorded in parts per million (ppm)
PID = Photoionization Detector
UST = Underground Storage Tank

TABLE 2
SUMMARY OF COMMON PETROLEUM CONSTITUENTS IN SOIL
Richfield Sinclair Property
Carlson McCain Project No. 6349-00

Compound/Parameter	CAS No.	SB-1 (12)	SB-3 (5)	SB-4 (12)	MN-MPCA_Tier1 Residential SRVs 2009	MN-MPCA_Tier2 Industrial SRVs 2009	MN-MPCA SLVs 2013
		09/13/2016	09/13/2016	09/13/2016			
Volatiles (mg/Kg)							
Benzene	71-43-2	<0.116	<0.109	<0.101	6	10	0.02
Ethylbenzene	100-41-4	<0.116	<0.109	<0.101	200	200	1
Toluene	108-88-3	<0.116	<0.109	<0.101	107	305	2.5
Xylenes, Total	1330-20-7	<0.174	<0.164	<0.151	45	130	5.4
GC Volatiles (mg/Kg)							
Wisconsin GRO	STL01887	<11.6	<10.9	<10.1	NE	NE	NE
GC Semivolatiles (mg/Kg)							
Diesel Range Organics (DRO)	STL00143	<7.19	<6.87	<6.45	NE	NE	NE

Notes:
< = Less than reporting limit
mg/kg = milligrams per kilogram or parts per million
MPCA = Minnesota Pollution Control Agency
NE = Not established
RES = Residential
SLV = Soil Leahing Value
SRV = Soil Reference Value

TABLE 3
ANALYTES DETECTED IN GROUNDWATER SAMPLES
Richfiled Sinclair Property
Carlson McCain Project No. 6349-00

Compound/Parameter	CAS No.	SB-1 W	SB-2W	SB-3W	SB-4W	Trip Blank	MDH HRL
		09/13/2016	09/13/2016	09/13/2016	09/13/2016	09/13/2016	
Volatiles (ug/L)							
n-Butylbenzene	104-51-8	<1.00	<1.00	<1.00	**9.6**	<1.00	NE
p-Isopropyltoluene	99-87-6	<1.00	<1.00	<1.00	**2.72**	<1.00	NE
sec-Butylbenzene	135-98-8	<1.00	<1.00	<1.00	**23.3**	<1.00	NE
tert-Butylbenzene	98-06-6	<1.00	<1.00	<1.00	**3.62**	<1.00	NE
GC Volatiles (ug/L)							
Wisconsin GRO	STL01887	<100	<100	<100	**666**	<100	1000[(1)]
GC Semivolatiles (ug/L)							
Diesel Range Organics (DRO)	STL00143	<125	<105	<105	**52800***	NS	1000[(1)]

Notes:
< = Less than the reporting limit
* = RPD of the LCS or LCSD exceeds the control limits.
[(1)] In the absence of a HRL for DRO, the MPCA PRP action limit of 1,000 µg/l was used for screening purposes
Bold = detected concentration
MDH HRL = Minnesota Department of Health, Health Risk Limit
micrograms per liter (µg/L) is roughly equivalent to parts per billion (ppb)
mg/L = milligrams per liter or parts per million (ppm)
NE = Not Established
NS = Not Sampled

TABLE 4
ANAYLTES DETECTED IN SOIL VAPOR SAMPLES
Richfield Sinclair Property
Carlson McCain Project No. 6349-00

Compound/Parameter	CAS No.	Sample SS-1 9/13/2016	Industrial Intrusion Screening Value (ISV) µg/m3	10X Industrial ISV µg/m3	100X Industrial ISV µg/m3
Volatile Organic Compounds[(1)] (ug/m^3)					
Acetone	67-64-1	836	87,000	870,000	8,700,000
Ethanol	64-17-5	542	42,000	420,000	4,200,000
Isopropyl alcohol	67-63-0	229	20,000	200,000	2,000,000
n-Hexane	110-54-3	135	6,000	60,000	600,000
Tetrachloroethene	127-18-4	**702**	33	330	3,300

Notes:

(1) = Minnesota Gas List for soil vapor method TO-15

BOLD = Result exceeded ISV

ISV = Intrusion Screening Value

NE = Not established

µg/m^3 = Micrograms per cubic meter

APPENDIX A

BORING NUMBER SB-1

CLIENT Richfield Sinclair
PROJECT NAME Phase II Investigation
PROJECT NUMBER 6349-00
PROJECT LOCATION Richfield, Minnesota
DATE STARTED 9/13/16 **COMPLETED** 9/13/16
GROUND ELEVATION _____ **HOLE SIZE** 2 inch
DRILLING CONTRACTOR Range Environmental Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
▽ **AT TIME OF DRILLING** 29.5 ft
LOGGED BY J. Neisse **CHECKED BY** W. Carlson
AT END OF DRILLING ---
NOTES South of tank basin.
AFTER DRILLING ---

FORMATION	DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	TIME	PID (ppm)
	0					0.3 ASPHALT.		
FILL		MAC 1	80	SP-SM		0.8 Class V. Brown (7.5YR 4/3) loose coarse SAND with some gravel, subangular, poorly graded, moist, FILL.	10:06	0.1
						3.6 Brown (7.5YR 3/3) loose fine-grained SILTY SAND, subrounded, poorly graded, moist, OUTWASH.	10:06	0.2
	5	MAC 2	80				10:12	0.0
	10	MAC 3	100				10:12	0.1
							10:17	1.1
	15	MAC 4	80				10:17	1.9
OUTWASH				SM		More silt from 17.8' to 18.2' bgs.	10:26	1.0
	20	MAC 5	100				10:26	1.0
	25	MAC 6	100				10:40	1.0
							10:40	1.1
	30					▽ 29.6	11:13	0.6

(Continued Next Page)

BORING NUMBER SB-1

CLIENT Richfield Sinclair **PROJECT NAME** Phase II Investigation

PROJECT NUMBER 6349-00 **PROJECT LOCATION** Richfield, Minnesota

FORMATION	DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	TIME	PID (ppm)
	30							
OUTWASH *(continued)*		MAC 7	100	GP		Brown (7.5YR 4/3) loose gravelly SAND, angular, moderately graded, moist to wet, OUTWASH. *(continued)*	11:13	0.6
				GP		33.7		
	35	MAC 8	100	GP		Brown (7.5YR 4/3) loose gravelly SAND, angular, moderately graded, large pieces of limestone, moist to wet, OUTWASH.	11:27	0.6
						36.0	11:40	0.0
						Soil sample collected from 12' bgs. Groundwater sample collected. End of boring at 36.0 feet.		

BORING NUMBER SB-2

CLIENT Richfield Sinclair
PROJECT NAME Phase II Investigation
PROJECT NUMBER 6349-00
PROJECT LOCATION Richfield, Minnesota
DATE STARTED 9/13/16 **COMPLETED** 9/13/16
GROUND ELEVATION _____ **HOLE SIZE** 2 inch
DRILLING CONTRACTOR Range Environmental Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
▽ **AT TIME OF DRILLING** 31.7 ft
LOGGED BY J. Neisse **CHECKED BY** W. Carlson
AT END OF DRILLING ---
NOTES Southwest corner of Property.
AFTER DRILLING ---

FORMATION	DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	GRAPHIC LOG	MATERIAL DESCRIPTION
	0				Blind drill to 35' bgs. to collect water sample.
	5				
	10				
	15	MAC	100		
	20				
	25				
	30				

(Continued Next Page)

BORING NUMBER SB-2

CLIENT Richfield Sinclair **PROJECT NAME** Phase II Investigation

PROJECT NUMBER 6349-00 **PROJECT LOCATION** Richfield, Minnesota

FORMATION	DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	GRAPHIC LOG	MATERIAL DESCRIPTION
	30				Blind drill to 35' bgs. to collect water sample. *(continued)*
					▽
	35				35.0
					Collect groundwater sample.
					End of boring at 35.0 feet.

BORING NUMBER SB-3

Carlson McCain

CLIENT Richfield Sinclair
PROJECT NAME Phase II Investigation
PROJECT NUMBER 6349-00
PROJECT LOCATION Richfield, Minnesota
DATE STARTED 9/13/16 **COMPLETED** 9/13/16
GROUND ELEVATION _____ **HOLE SIZE** 2 inch
DRILLING CONTRACTOR Range Environmental Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
▽ **AT TIME OF DRILLING** 28.0 ft
LOGGED BY J. Neisse **CHECKED BY** W. Carlson
AT END OF DRILLING ---
NOTES South off dispenser spill pad.
AFTER DRILLING ---

FORMATION	DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	TIME	PID (ppm)
	0					0.3 ASPHALT.		
				GP		0.7 Class V.		
						1.5 Peagravel.		
FILL		MAC 1	60	SP-SM		Brown (7.5YR 4/3) loose medium to coarse SAND with some gravel, subangular, poorly graded, moist, FILL.	12:03	0.0
						4.1		
OUTWASH	5					Brown (7.5YR 3/3) loose fine-grained SILTY SAND, subrounded, poorly graded, moist, OUTWASH.	12:03	0.0
		MAC 2	60				13:00	0.1
	10						13:00	0.0
		MAC 3	80				13:10	0.0
	15						13:10	0.1
		MAC 4	80	SM		More silt from 17.4' to 18.2' bgs.	13:18	0.0
	20						13:18	0.0
		MAC 5	80				13:24	0.1
	25						13:24	0.1
		MAC 6	80			▽	13:34	0.1
						28.9		
	30			GP		Brown (7.5YR 4/3) loose gravelly SAND, angular, moderately graded, moist to wet, OUTWASH.		

(Continued Next Page)

BORING NUMBER SB-3

CLIENT Richfield Sinclair **PROJECT NAME** Phase II Investigation

PROJECT NUMBER 6349-00 **PROJECT LOCATION** Richfield, Minnesota

FORMATION	DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	TIME	PID (ppm)
	30							
OUTWASH		MAC 7	100	GP		Brown (7.5YR 4/3) loose gravelly SAND, angular, moderately graded, moist to wet, OUTWASH. *(continued)*	13:34	0.0
							13:40	0.0
						34.0	13:40	0.0
						Soil sample collected from 5' bgs. Groundwater sample collected. End of boring at 34.0 feet.		

BORING NUMBER SB-4

CLIENT Richfield Sinclair
PROJECT NAME Phase II Investigation
PROJECT NUMBER 6349-00
PROJECT LOCATION Richfield, Minnesota
DATE STARTED 9/13/16 **COMPLETED** 9/13/16
GROUND ELEVATION _____ **HOLE SIZE** 2 inch
DRILLING CONTRACTOR Range Environmental Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
▽ **AT TIME OF DRILLING** 32.1 ft
LOGGED BY J. Neisse **CHECKED BY** W. Carlson
AT END OF DRILLING ---
NOTES Inside garage between hoists.
AFTER DRILLING ---

FORMATION	DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	TIME	PID (ppm)
	0					0.5 CONCRETE.		
OUTWASH	5	MAC 1	80	SP-SM		Brown (7.5YR 4/3) loose fine-grained SAND some silt, subrounded, poorly graded, moist, OUTWASH.	15:05	0.1
	10	MAC 2	80				15:11	0.1
	15	MAC 3	80				15:15	0.4
	20	MAC 4	100			Same as above with silt from 16.8' to 17.6' bgs.	15:21	0.0
	25	MAC 5	80				15:29	0.0
	30	MAC 6	80				15:33	0.0

(Continued Next Page)

BORING NUMBER SB-4

CLIENT Richfield Sinclair **PROJECT NAME** Phase II Investigation

PROJECT NUMBER 6349-00 **PROJECT LOCATION** Richfield, Minnesota

FORMATION	DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	TIME	PID (ppm)
	30							
OUTWASH *(continued)*		MAC 7	100	SP-SM		Brown (7.5YR 4/3) loose fine-grained SAND some silt, subrounded, poorly graded, moist, OUTWASH. *(continued)*	15:33	0.0
							15:39	0.0
	35							
		MAC 8	100				15:39	0.0
						36.0		
						Soil sample collected from 12' bgs. Groundwater sample collected-petroleum odor in groundwater. End of boring at 36.0 feet.		

APPENDIX B

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: 310-89278-1
TestAmerica Sample Delivery Group: 6349-00
Client Project/Site: Richfield Sinclair Phase II

For:
Carlson McCain, Inc.
3890 Pheasant Ridge Drive NE, #100
Blaine, Minnesota 55449

Attn: Wade Carlson

Authorized for release by:
9/21/2016 2:08:34 PM

Derrick Klinkenberg, Project Manager I
(319)277-2401
derrick.klinkenberg@testamericainc.com

Table of Contents

Job ID: 310-89278-1

Laboratory: TestAmerica Cedar Falls

Narrative

Job Narrative
310-89278-1

Comments
No additional comments.

Receipt
The samples were received on 9/14/2016 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.1º C.

GC/MS VOA
Method(s) 8260B: The continuing calibration verification (CCV) analyzed in batch 310-141233 was outside the method criteria for the following analyte: 1,2,4-Trichlorobenzene (-23.2 %D). A LCS standard was analyzed with the affected samples and found to be acceptable using CCV criteria.

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 310-141521 recovered above the upper control limit for Carbon Tetrachloride(24.5%D), 3-Chloro-1-propene(69.1%D), Dichlorobromomethane(23.4%D), Benzene(22.1%D), 1,1-Dichloropropene(21.5%D), cis-1,2-Dichloroethene(22.0%D), 1,1-Dichloroethene(22.2%D), 1,1,1-Trichloroethane(20.4%D), 1,1,2-Trichloro-1,2,2-trifluoroethane(28.6%D), Bromoform(24.5%D), 1,2-Dichloropropane(21.0%D), trans-1,2-Dichloroethene(20.6%D), and 1,1-Dichloroethane(22.6%D). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCV 310-141521/3).

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 310-141521 recovered above the upper control limit for Vinyl chloride(21.0%D). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8260B: The initial calibration verification (ICV) result for batch 310-141521 was above the upper control limit for Bromoform(35.5%). Sample results were non-detects, and have been reported as qualified data.

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

GC Semi VOA
Method(s) WI-DRO: The laboratory control sample (LCS) and the laboratory control sample duplicate (LCSD) for preparation batch 310-141319 and analytical batch 310-141440 recovered outside control limits for the following analytes: Diesel Range Organics (DRO). These analytes were biased low in the LCS and all associated samples have been rerun for confirmation; therefore, the data have been reported.

Method(s) WI-DRO: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 310-141319 and analytical batch 310-141544 recovered outside control limits for the following analytes: Diesel Range Organics (DRO). These analytes were biased low in the LCS and all associated samples have been rerun for confirmation; therefore, the data have been reported.

Method(s) WI-DRO: The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 310-141319 recovered outside control limits for the following analytes: Diesel Range Organics (DRO).

Method(s) WI-DRO: Significant peaks, readily distinguished from background, were detected in the following sample before the analytical window defined by the first component eluting in the Diesel Range Organics (DRO) mix (i.e., n-Decane): SB-3W (310-89278-4).

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.

Job ID: 310-89278-1 (Continued)

Laboratory: TestAmerica Cedar Falls (Continued)

VOA Prep

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

Sample Summary

Client: Carlson McCain, Inc.
Project/Site: Richfield Sinclair Phase II

TestAmerica Job ID: 310-89278-1
SDG: 6349-00

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-89278-1	SB-1 W	Ground Water	09/13/16 11:45	09/14/16 09:00
310-89278-2	SB-1 (12)	Solid	09/13/16 12:07	09/14/16 09:00
310-89278-3	SB-2W	Ground Water	09/13/16 12:53	09/14/16 09:00
310-89278-4	SB-3W	Ground Water	09/13/16 14:44	09/14/16 09:00
310-89278-5	SB-3 (5)	Solid	09/13/16 14:52	09/14/16 09:00
310-89278-6	SB-4W	Ground Water	09/13/16 15:49	09/14/16 09:00
310-89278-7	SB-4 (12)	Solid	09/13/16 15:54	09/14/16 09:00
310-89278-8	MeOH Blank	Solid	09/13/16 00:00	09/14/16 09:00
310-89278-9	Trip Blank	Water	09/13/16 00:00	09/14/16 09:00

Detection Summary

Client: Carlson McCain, Inc.
Project/Site: Richfield Sinclair Phase II

TestAmerica Job ID: 310-89278-1
SDG: 6349-00

Client Sample ID: SB-1 W — Lab Sample ID: 310-89278-1

No Detections.

Client Sample ID: SB-1 (12) — Lab Sample ID: 310-89278-2

No Detections.

Client Sample ID: SB-2W — Lab Sample ID: 310-89278-3

No Detections.

Client Sample ID: SB-3W — Lab Sample ID: 310-89278-4

No Detections.

Client Sample ID: SB-3 (5) — Lab Sample ID: 310-89278-5

No Detections.

Client Sample ID: SB-4W — Lab Sample ID: 310-89278-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
n-Butylbenzene	9.60		1.00		ug/L	1		8260B	Total/NA
sec-Butylbenzene	23.3		1.00		ug/L	1		8260B	Total/NA
tert-Butylbenzene	3.62		1.00		ug/L	1		8260B	Total/NA
p-Isopropyltoluene	2.72		1.00		ug/L	1		8260B	Total/NA
Wisconsin GRO	666		100		ug/L	1		WI-GRO	Total/NA
Diesel Range Organics (DRO)	52800	*	538		ug/L	5		WI-DRO	Total/NA

Client Sample ID: SB-4 (12) — Lab Sample ID: 310-89278-7

No Detections.

Client Sample ID: MeOH Blank — Lab Sample ID: 310-89278-8

No Detections.

Client Sample ID: Trip Blank — Lab Sample ID: 310-89278-9

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Carlson McCain, Inc.
Project/Site: Richfield Sinclair Phase II

TestAmerica Job ID: 310-89278-1
SDG: 6349-00

Client Sample ID: SB-1 W
Date Collected: 09/13/16 11:45
Date Received: 09/14/16 09:00

Lab Sample ID: 310-89278-1
Matrix: Ground Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			09/15/16 11:25	1
Allyl chloride	<2.00		2.00		ug/L			09/15/16 11:25	1
Benzene	<0.500		0.500		ug/L			09/15/16 11:25	1
Bromobenzene	<1.00		1.00		ug/L			09/15/16 11:25	1
Bromochloromethane	<5.00		5.00		ug/L			09/15/16 11:25	1
Bromodichloromethane	<1.00		1.00		ug/L			09/15/16 11:25	1
Bromoform	<5.00		5.00		ug/L			09/15/16 11:25	1
Bromomethane	<4.00		4.00		ug/L			09/15/16 11:25	1
2-Butanone (MEK)	<10.0		10.0		ug/L			09/15/16 11:25	1
n-Butylbenzene	<1.00		1.00		ug/L			09/15/16 11:25	1
sec-Butylbenzene	<1.00		1.00		ug/L			09/15/16 11:25	1
tert-Butylbenzene	<1.00		1.00		ug/L			09/15/16 11:25	1
Carbon tetrachloride	<2.00		2.00		ug/L			09/15/16 11:25	1
Chlorobenzene	<1.00		1.00		ug/L			09/15/16 11:25	1
Chlorodibromomethane	<5.00		5.00		ug/L			09/15/16 11:25	1
Dichlorofluoromethane	<1.00		1.00		ug/L			09/15/16 11:25	1
Chloroethane	<4.00		4.00		ug/L			09/15/16 11:25	1
Chloroform	<1.00		1.00		ug/L			09/15/16 11:25	1
Chloromethane	<3.00		3.00		ug/L			09/15/16 11:25	1
4-Chlorotoluene	<1.00		1.00		ug/L			09/15/16 11:25	1
2-Chlorotoluene	<1.00		1.00		ug/L			09/15/16 11:25	1
1,2-Dibromo-3-Chloropropane	<5.00		5.00		ug/L			09/15/16 11:25	1
1,2-Dibromoethane (EDB)	<1.00		1.00		ug/L			09/15/16 11:25	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			09/15/16 11:25	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			09/15/16 11:25	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			09/15/16 11:25	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			09/15/16 11:25	1
1,2-Dichloroethane	<1.00		1.00		ug/L			09/15/16 11:25	1
1,1-Dichloroethane	<1.00		1.00		ug/L			09/15/16 11:25	1
1,1-Dichloroethene	<2.00		2.00		ug/L			09/15/16 11:25	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			09/15/16 11:25	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			09/15/16 11:25	1
1,2-Dichloropropane	<1.00		1.00		ug/L			09/15/16 11:25	1
1,3-Dichloropropane	<1.00		1.00		ug/L			09/15/16 11:25	1
2,2-Dichloropropane	<4.00		4.00		ug/L			09/15/16 11:25	1
1,1-Dichloropropene	<1.00		1.00		ug/L			09/15/16 11:25	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			09/15/16 11:25	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			09/15/16 11:25	1
Diethyl ether	<2.00		2.00		ug/L			09/15/16 11:25	1
Ethylbenzene	<1.00		1.00		ug/L			09/15/16 11:25	1
Hexachlorobutadiene	<5.00		5.00		ug/L			09/15/16 11:25	1
Isopropylbenzene	<1.00		1.00		ug/L			09/15/16 11:25	1
p-Isopropyltoluene	<1.00		1.00		ug/L			09/15/16 11:25	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			09/15/16 11:25	1
Methylene Chloride	<5.00		5.00		ug/L			09/15/16 11:25	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			09/15/16 11:25	1
Naphthalene	<5.00		5.00		ug/L			09/15/16 11:25	1
N-Propylbenzene	<1.00		1.00		ug/L			09/15/16 11:25	1
Styrene	<1.00		1.00		ug/L			09/15/16 11:25	1

Client Sample ID: SB-1 W
Date Collected: 09/13/16 11:45
Date Received: 09/14/16 09:00

Lab Sample ID: 310-89278-1
Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			09/15/16 11:25	1
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			09/15/16 11:25	1
Tetrachloroethene	<1.00		1.00		ug/L			09/15/16 11:25	1
Tetrahydrofuran	<10.0		10.0		ug/L			09/15/16 11:25	1
Toluene	<1.00		1.00		ug/L			09/15/16 11:25	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			09/15/16 11:25	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			09/15/16 11:25	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			09/15/16 11:25	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			09/15/16 11:25	1
Trichloroethene	<1.00		1.00		ug/L			09/15/16 11:25	1
Trichlorofluoromethane	<4.00		4.00		ug/L			09/15/16 11:25	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			09/15/16 11:25	1
1,1,2-Trichlorotrifluoroethane	<2.00		2.00		ug/L			09/15/16 11:25	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			09/15/16 11:25	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			09/15/16 11:25	1
Vinyl chloride	<1.00		1.00		ug/L			09/15/16 11:25	1
Xylenes, Total	<3.00		3.00		ug/L			09/15/16 11:25	1
Dibromomethane	<1.00		1.00		ug/L			09/15/16 11:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*80 - 120*		*09/15/16 11:25*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*09/15/16 11:25*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*09/15/16 11:25*	*1*

Method: WI-GRO - Wisconsin - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Wisconsin GRO	<100		100		ug/L			09/16/16 23:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*09/16/16 23:31*	*1*

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO)	<125	*	125		ug/L		09/14/16 16:10	09/15/16 13:48	1

Client Sample ID: SB-1 (12)

Date Collected: 09/13/16 12:07
Date Received: 09/14/16 09:00

Lab Sample ID: 310-89278-2

Matrix: Solid
Percent Solids: 83.0

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.579		0.579		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
Allyl chloride	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
Benzene	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
Bromobenzene	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
Bromochloromethane	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
Bromodichloromethane	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
Bromoform	<0.116	^	0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
Bromomethane	<0.579		0.579		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
2-Butanone (MEK)	<0.290		0.290		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
n-Butylbenzene	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
sec-Butylbenzene	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
tert-Butylbenzene	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
Carbon tetrachloride	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
Chlorobenzene	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
Chlorodibromomethane	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
Dichlorofluoromethane	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
Chloroethane	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
Chloroform	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
Chloromethane	<0.290		0.290		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
4-Chlorotoluene	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
2-Chlorotoluene	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
1,2-Dibromo-3-Chloropropane	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
1,2-Dibromoethane (EDB)	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
1,2-Dichlorobenzene	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
1,3-Dichlorobenzene	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
1,4-Dichlorobenzene	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
Dichlorodifluoromethane	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
1,2-Dichloroethane	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
1,1-Dichloroethane	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
1,1-Dichloroethene	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
cis-1,2-Dichloroethene	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
trans-1,2-Dichloroethene	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
1,2-Dichloropropane	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
1,3-Dichloropropane	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
2,2-Dichloropropane	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
1,1-Dichloropropene	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
cis-1,3-Dichloropropene	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
trans-1,3-Dichloropropene	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
Diethyl ether	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
Ethylbenzene	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
Hexachlorobutadiene	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
Isopropylbenzene	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
p-Isopropyltoluene	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
4-Methyl-2-pentanone (MIBK)	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
Methylene Chloride	<0.290		0.290		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
Methyl tert-butyl ether	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
Naphthalene	<0.290		0.290		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
N-Propylbenzene	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
Styrene	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1

Client Sample ID: SB-1 (12)
Date Collected: 09/13/16 12:07
Date Received: 09/14/16 09:00

Lab Sample ID: 310-89278-2
Matrix: Solid
Percent Solids: 83.0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
1,1,2,2-Tetrachloroethane	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
Tetrachloroethene	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
Tetrahydrofuran	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
Toluene	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
1,2,3-Trichlorobenzene	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
1,2,4-Trichlorobenzene	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
1,1,1-Trichloroethane	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
1,1,2-Trichloroethane	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
Trichloroethene	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
Trichlorofluoromethane	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
1,2,3-Trichloropropane	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
1,1,2-Trichlorotrifluoroethane	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
1,2,4-Trimethylbenzene	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
1,3,5-Trimethylbenzene	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
Vinyl chloride	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
Xylenes, Total	<0.174		0.174		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1
Dibromomethane	<0.116		0.116		mg/Kg	☼	09/16/16 06:44	09/16/16 14:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 135*	*09/16/16 06:44*	*09/16/16 14:59*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*	*09/16/16 06:44*	*09/16/16 14:59*	*1*
Toluene-d8 (Surr)	*91*		*80 - 120*	*09/16/16 06:44*	*09/16/16 14:59*	*1*

Method: WI-GRO - Wisconsin - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Wisconsin GRO	<11.6		11.6		mg/Kg	☼	09/15/16 09:56	09/15/16 22:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*	*09/15/16 09:56*	*09/15/16 22:00*	*1*

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO)	<7.19		7.19		mg/Kg	☼	09/14/16 14:36	09/15/16 21:17	1

Client: Carlson McCain, Inc.
Project/Site: Richfield Sinclair Phase II

TestAmerica Job ID: 310-89278-1
SDG: 6349-00

Client Sample ID: SB-2W
Date Collected: 09/13/16 12:53
Date Received: 09/14/16 09:00

Lab Sample ID: 310-89278-3
Matrix: Ground Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			09/15/16 11:49	1
Allyl chloride	<2.00		2.00		ug/L			09/15/16 11:49	1
Benzene	<0.500		0.500		ug/L			09/15/16 11:49	1
Bromobenzene	<1.00		1.00		ug/L			09/15/16 11:49	1
Bromochloromethane	<5.00		5.00		ug/L			09/15/16 11:49	1
Bromodichloromethane	<1.00		1.00		ug/L			09/15/16 11:49	1
Bromoform	<5.00		5.00		ug/L			09/15/16 11:49	1
Bromomethane	<4.00		4.00		ug/L			09/15/16 11:49	1
2-Butanone (MEK)	<10.0		10.0		ug/L			09/15/16 11:49	1
n-Butylbenzene	<1.00		1.00		ug/L			09/15/16 11:49	1
sec-Butylbenzene	<1.00		1.00		ug/L			09/15/16 11:49	1
tert-Butylbenzene	<1.00		1.00		ug/L			09/15/16 11:49	1
Carbon tetrachloride	<2.00		2.00		ug/L			09/15/16 11:49	1
Chlorobenzene	<1.00		1.00		ug/L			09/15/16 11:49	1
Chlorodibromomethane	<5.00		5.00		ug/L			09/15/16 11:49	1
Dichlorofluoromethane	<1.00		1.00		ug/L			09/15/16 11:49	1
Chloroethane	<4.00		4.00		ug/L			09/15/16 11:49	1
Chloroform	<1.00		1.00		ug/L			09/15/16 11:49	1
Chloromethane	<3.00		3.00		ug/L			09/15/16 11:49	1
4-Chlorotoluene	<1.00		1.00		ug/L			09/15/16 11:49	1
2-Chlorotoluene	<1.00		1.00		ug/L			09/15/16 11:49	1
1,2-Dibromo-3-Chloropropane	<5.00		5.00		ug/L			09/15/16 11:49	1
1,2-Dibromoethane (EDB)	<1.00		1.00		ug/L			09/15/16 11:49	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			09/15/16 11:49	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			09/15/16 11:49	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			09/15/16 11:49	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			09/15/16 11:49	1
1,2-Dichloroethane	<1.00		1.00		ug/L			09/15/16 11:49	1
1,1-Dichloroethane	<1.00		1.00		ug/L			09/15/16 11:49	1
1,1-Dichloroethene	<2.00		2.00		ug/L			09/15/16 11:49	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			09/15/16 11:49	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			09/15/16 11:49	1
1,2-Dichloropropane	<1.00		1.00		ug/L			09/15/16 11:49	1
1,3-Dichloropropane	<1.00		1.00		ug/L			09/15/16 11:49	1
2,2-Dichloropropane	<4.00		4.00		ug/L			09/15/16 11:49	1
1,1-Dichloropropene	<1.00		1.00		ug/L			09/15/16 11:49	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			09/15/16 11:49	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			09/15/16 11:49	1
Diethyl ether	<2.00		2.00		ug/L			09/15/16 11:49	1
Ethylbenzene	<1.00		1.00		ug/L			09/15/16 11:49	1
Hexachlorobutadiene	<5.00		5.00		ug/L			09/15/16 11:49	1
Isopropylbenzene	<1.00		1.00		ug/L			09/15/16 11:49	1
p-Isopropyltoluene	<1.00		1.00		ug/L			09/15/16 11:49	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			09/15/16 11:49	1
Methylene Chloride	<5.00		5.00		ug/L			09/15/16 11:49	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			09/15/16 11:49	1
Naphthalene	<5.00		5.00		ug/L			09/15/16 11:49	1
N-Propylbenzene	<1.00		1.00		ug/L			09/15/16 11:49	1
Styrene	<1.00		1.00		ug/L			09/15/16 11:49	1

Client Sample ID: SB-2W
Date Collected: 09/13/16 12:53
Date Received: 09/14/16 09:00

Lab Sample ID: 310-89278-3
Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			09/15/16 11:49	1
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			09/15/16 11:49	1
Tetrachloroethene	<1.00		1.00		ug/L			09/15/16 11:49	1
Tetrahydrofuran	<10.0		10.0		ug/L			09/15/16 11:49	1
Toluene	<1.00		1.00		ug/L			09/15/16 11:49	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			09/15/16 11:49	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			09/15/16 11:49	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			09/15/16 11:49	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			09/15/16 11:49	1
Trichloroethene	<1.00		1.00		ug/L			09/15/16 11:49	1
Trichlorofluoromethane	<4.00		4.00		ug/L			09/15/16 11:49	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			09/15/16 11:49	1
1,1,2-Trichlorotrifluoroethane	<2.00		2.00		ug/L			09/15/16 11:49	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			09/15/16 11:49	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			09/15/16 11:49	1
Vinyl chloride	<1.00		1.00		ug/L			09/15/16 11:49	1
Xylenes, Total	<3.00		3.00		ug/L			09/15/16 11:49	1
Dibromomethane	<1.00		1.00		ug/L			09/15/16 11:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*09/15/16 11:49*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*09/15/16 11:49*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*09/15/16 11:49*	*1*

Method: WI-GRO - Wisconsin - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Wisconsin GRO	<100		100		ug/L			09/16/16 23:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*09/16/16 23:02*	*1*

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO)	<105	*	105		ug/L		09/14/16 16:10	09/15/16 14:25	1

Client: Carlson McCain, Inc.
Project/Site: Richfield Sinclair Phase II

TestAmerica Job ID: 310-89278-1
SDG: 6349-00

Client Sample ID: SB-3W
Date Collected: 09/13/16 14:44
Date Received: 09/14/16 09:00

Lab Sample ID: 310-89278-4
Matrix: Ground Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			09/15/16 12:12	1
Allyl chloride	<2.00		2.00		ug/L			09/15/16 12:12	1
Benzene	<0.500		0.500		ug/L			09/15/16 12:12	1
Bromobenzene	<1.00		1.00		ug/L			09/15/16 12:12	1
Bromochloromethane	<5.00		5.00		ug/L			09/15/16 12:12	1
Bromodichloromethane	<1.00		1.00		ug/L			09/15/16 12:12	1
Bromoform	<5.00		5.00		ug/L			09/15/16 12:12	1
Bromomethane	<4.00		4.00		ug/L			09/15/16 12:12	1
2-Butanone (MEK)	<10.0		10.0		ug/L			09/15/16 12:12	1
n-Butylbenzene	<1.00		1.00		ug/L			09/15/16 12:12	1
sec-Butylbenzene	<1.00		1.00		ug/L			09/15/16 12:12	1
tert-Butylbenzene	<1.00		1.00		ug/L			09/15/16 12:12	1
Carbon tetrachloride	<2.00		2.00		ug/L			09/15/16 12:12	1
Chlorobenzene	<1.00		1.00		ug/L			09/15/16 12:12	1
Chlorodibromomethane	<5.00		5.00		ug/L			09/15/16 12:12	1
Dichlorofluoromethane	<1.00		1.00		ug/L			09/15/16 12:12	1
Chloroethane	<4.00		4.00		ug/L			09/15/16 12:12	1
Chloroform	<1.00		1.00		ug/L			09/15/16 12:12	1
Chloromethane	<3.00		3.00		ug/L			09/15/16 12:12	1
4-Chlorotoluene	<1.00		1.00		ug/L			09/15/16 12:12	1
2-Chlorotoluene	<1.00		1.00		ug/L			09/15/16 12:12	1
1,2-Dibromo-3-Chloropropane	<5.00		5.00		ug/L			09/15/16 12:12	1
1,2-Dibromoethane (EDB)	<1.00		1.00		ug/L			09/15/16 12:12	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			09/15/16 12:12	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			09/15/16 12:12	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			09/15/16 12:12	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			09/15/16 12:12	1
1,2-Dichloroethane	<1.00		1.00		ug/L			09/15/16 12:12	1
1,1-Dichloroethane	<1.00		1.00		ug/L			09/15/16 12:12	1
1,1-Dichloroethene	<2.00		2.00		ug/L			09/15/16 12:12	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			09/15/16 12:12	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			09/15/16 12:12	1
1,2-Dichloropropane	<1.00		1.00		ug/L			09/15/16 12:12	1
1,3-Dichloropropane	<1.00		1.00		ug/L			09/15/16 12:12	1
2,2-Dichloropropane	<4.00		4.00		ug/L			09/15/16 12:12	1
1,1-Dichloropropene	<1.00		1.00		ug/L			09/15/16 12:12	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			09/15/16 12:12	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			09/15/16 12:12	1
Diethyl ether	<2.00		2.00		ug/L			09/15/16 12:12	1
Ethylbenzene	<1.00		1.00		ug/L			09/15/16 12:12	1
Hexachlorobutadiene	<5.00		5.00		ug/L			09/15/16 12:12	1
Isopropylbenzene	<1.00		1.00		ug/L			09/15/16 12:12	1
p-Isopropyltoluene	<1.00		1.00		ug/L			09/15/16 12:12	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			09/15/16 12:12	1
Methylene Chloride	<5.00		5.00		ug/L			09/15/16 12:12	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			09/15/16 12:12	1
Naphthalene	<5.00		5.00		ug/L			09/15/16 12:12	1
N-Propylbenzene	<1.00		1.00		ug/L			09/15/16 12:12	1
Styrene	<1.00		1.00		ug/L			09/15/16 12:12	1

Client Sample ID: SB-3W
Date Collected: 09/13/16 14:44
Date Received: 09/14/16 09:00

Lab Sample ID: 310-89278-4
Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			09/15/16 12:12	1
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			09/15/16 12:12	1
Tetrachloroethene	<1.00		1.00		ug/L			09/15/16 12:12	1
Tetrahydrofuran	<10.0		10.0		ug/L			09/15/16 12:12	1
Toluene	<1.00		1.00		ug/L			09/15/16 12:12	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			09/15/16 12:12	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			09/15/16 12:12	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			09/15/16 12:12	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			09/15/16 12:12	1
Trichloroethene	<1.00		1.00		ug/L			09/15/16 12:12	1
Trichlorofluoromethane	<4.00		4.00		ug/L			09/15/16 12:12	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			09/15/16 12:12	1
1,1,2-Trichlorotrifluoroethane	<2.00		2.00		ug/L			09/15/16 12:12	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			09/15/16 12:12	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			09/15/16 12:12	1
Vinyl chloride	<1.00		1.00		ug/L			09/15/16 12:12	1
Xylenes, Total	<3.00		3.00		ug/L			09/15/16 12:12	1
Dibromomethane	<1.00		1.00		ug/L			09/15/16 12:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*09/15/16 12:12*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*09/15/16 12:12*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*09/15/16 12:12*	*1*

Method: WI-GRO - Wisconsin - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Wisconsin GRO	<100		100		ug/L			09/16/16 22:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*09/16/16 22:33*	*1*

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO)	<105	*	105		ug/L		09/14/16 16:10	09/15/16 15:03	1

Client Sample ID: SB-3 (5)
Date Collected: 09/13/16 14:52
Date Received: 09/14/16 09:00

Lab Sample ID: 310-89278-5
Matrix: Solid
Percent Solids: 86.8

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.547		0.547		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
Allyl chloride	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
Benzene	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
Bromobenzene	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
Bromochloromethane	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
Bromodichloromethane	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
Bromoform	<0.109	^	0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
Bromomethane	<0.547		0.547		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
2-Butanone (MEK)	<0.273		0.273		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
n-Butylbenzene	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
sec-Butylbenzene	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
tert-Butylbenzene	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
Carbon tetrachloride	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
Chlorobenzene	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
Chlorodibromomethane	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
Dichlorofluoromethane	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
Chloroethane	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
Chloroform	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
Chloromethane	<0.273		0.273		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
4-Chlorotoluene	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
2-Chlorotoluene	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
1,2-Dibromo-3-Chloropropane	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
1,2-Dibromoethane (EDB)	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
1,2-Dichlorobenzene	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
1,3-Dichlorobenzene	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
1,4-Dichlorobenzene	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
Dichlorodifluoromethane	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
1,2-Dichloroethane	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
1,1-Dichloroethane	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
1,1-Dichloroethene	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
cis-1,2-Dichloroethene	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
trans-1,2-Dichloroethene	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
1,2-Dichloropropane	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
1,3-Dichloropropane	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
2,2-Dichloropropane	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
1,1-Dichloropropene	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
cis-1,3-Dichloropropene	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
trans-1,3-Dichloropropene	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
Diethyl ether	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
Ethylbenzene	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
Hexachlorobutadiene	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
Isopropylbenzene	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
p-Isopropyltoluene	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
4-Methyl-2-pentanone (MIBK)	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
Methylene Chloride	<0.273		0.273		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
Methyl tert-butyl ether	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
Naphthalene	<0.273		0.273		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
N-Propylbenzene	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
Styrene	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1

Client Sample ID: SB-3 (5)
Date Collected: 09/13/16 14:52
Date Received: 09/14/16 09:00

Lab Sample ID: 310-89278-5
Matrix: Solid
Percent Solids: 86.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
1,1,2,2-Tetrachloroethane	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
Tetrachloroethene	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
Tetrahydrofuran	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
Toluene	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
1,2,3-Trichlorobenzene	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
1,2,4-Trichlorobenzene	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
1,1,1-Trichloroethane	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
1,1,2-Trichloroethane	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
Trichloroethene	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
Trichlorofluoromethane	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
1,2,3-Trichloropropane	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
1,1,2-Trichlorotrifluoroethane	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
1,2,4-Trimethylbenzene	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
1,3,5-Trimethylbenzene	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
Vinyl chloride	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
Xylenes, Total	<0.164		0.164		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1
Dibromomethane	<0.109		0.109		mg/Kg	☼	09/16/16 06:44	09/16/16 15:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 135*	*09/16/16 06:44*	*09/16/16 15:23*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*	*09/16/16 06:44*	*09/16/16 15:23*	*1*
Toluene-d8 (Surr)	*92*		*80 - 120*	*09/16/16 06:44*	*09/16/16 15:23*	*1*

Method: WI-GRO - Wisconsin - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Wisconsin GRO	<10.9		10.9		mg/Kg	☼	09/15/16 09:56	09/15/16 22:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*	*09/15/16 09:56*	*09/15/16 22:29*	*1*

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO)	<6.87		6.87		mg/Kg	☼	09/14/16 14:36	09/15/16 21:54	1

Client: Carlson McCain, Inc.
Project/Site: Richfield Sinclair Phase II

TestAmerica Job ID: 310-89278-1
SDG: 6349-00

Client Sample ID: SB-4W
Date Collected: 09/13/16 15:49
Date Received: 09/14/16 09:00

Lab Sample ID: 310-89278-6
Matrix: Ground Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			09/15/16 12:36	1
Allyl chloride	<2.00		2.00		ug/L			09/15/16 12:36	1
Benzene	<0.500		0.500		ug/L			09/15/16 12:36	1
Bromobenzene	<1.00		1.00		ug/L			09/15/16 12:36	1
Bromochloromethane	<5.00		5.00		ug/L			09/15/16 12:36	1
Bromodichloromethane	<1.00		1.00		ug/L			09/15/16 12:36	1
Bromoform	<5.00		5.00		ug/L			09/15/16 12:36	1
Bromomethane	<4.00		4.00		ug/L			09/15/16 12:36	1
2-Butanone (MEK)	<10.0		10.0		ug/L			09/15/16 12:36	1
n-Butylbenzene	**9.60**		1.00		ug/L			09/15/16 12:36	1
sec-Butylbenzene	**23.3**		1.00		ug/L			09/15/16 12:36	1
tert-Butylbenzene	**3.62**		1.00		ug/L			09/15/16 12:36	1
Carbon tetrachloride	<2.00		2.00		ug/L			09/15/16 12:36	1
Chlorobenzene	<1.00		1.00		ug/L			09/15/16 12:36	1
Chlorodibromomethane	<5.00		5.00		ug/L			09/15/16 12:36	1
Dichlorofluoromethane	<1.00		1.00		ug/L			09/15/16 12:36	1
Chloroethane	<4.00		4.00		ug/L			09/15/16 12:36	1
Chloroform	<1.00		1.00		ug/L			09/15/16 12:36	1
Chloromethane	<3.00		3.00		ug/L			09/15/16 12:36	1
4-Chlorotoluene	<1.00		1.00		ug/L			09/15/16 12:36	1
2-Chlorotoluene	<1.00		1.00		ug/L			09/15/16 12:36	1
1,2-Dibromo-3-Chloropropane	<5.00		5.00		ug/L			09/15/16 12:36	1
1,2-Dibromoethane (EDB)	<1.00		1.00		ug/L			09/15/16 12:36	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			09/15/16 12:36	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			09/15/16 12:36	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			09/15/16 12:36	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			09/15/16 12:36	1
1,2-Dichloroethane	<1.00		1.00		ug/L			09/15/16 12:36	1
1,1-Dichloroethane	<1.00		1.00		ug/L			09/15/16 12:36	1
1,1-Dichloroethene	<2.00		2.00		ug/L			09/15/16 12:36	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			09/15/16 12:36	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			09/15/16 12:36	1
1,2-Dichloropropane	<1.00		1.00		ug/L			09/15/16 12:36	1
1,3-Dichloropropane	<1.00		1.00		ug/L			09/15/16 12:36	1
2,2-Dichloropropane	<4.00		4.00		ug/L			09/15/16 12:36	1
1,1-Dichloropropene	<1.00		1.00		ug/L			09/15/16 12:36	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			09/15/16 12:36	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			09/15/16 12:36	1
Diethyl ether	<2.00		2.00		ug/L			09/15/16 12:36	1
Ethylbenzene	<1.00		1.00		ug/L			09/15/16 12:36	1
Hexachlorobutadiene	<5.00		5.00		ug/L			09/15/16 12:36	1
Isopropylbenzene	<1.00		1.00		ug/L			09/15/16 12:36	1
p-Isopropyltoluene	**2.72**		1.00		ug/L			09/15/16 12:36	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			09/15/16 12:36	1
Methylene Chloride	<5.00		5.00		ug/L			09/15/16 12:36	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			09/15/16 12:36	1
Naphthalene	<5.00		5.00		ug/L			09/15/16 12:36	1
N-Propylbenzene	<1.00		1.00		ug/L			09/15/16 12:36	1
Styrene	<1.00		1.00		ug/L			09/15/16 12:36	1

Client Sample ID: SB-4W
Date Collected: 09/13/16 15:49
Date Received: 09/14/16 09:00

Lab Sample ID: 310-89278-6
Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			09/15/16 12:36	1
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			09/15/16 12:36	1
Tetrachloroethene	<1.00		1.00		ug/L			09/15/16 12:36	1
Tetrahydrofuran	<10.0		10.0		ug/L			09/15/16 12:36	1
Toluene	<1.00		1.00		ug/L			09/15/16 12:36	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			09/15/16 12:36	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			09/15/16 12:36	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			09/15/16 12:36	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			09/15/16 12:36	1
Trichloroethene	<1.00		1.00		ug/L			09/15/16 12:36	1
Trichlorofluoromethane	<4.00		4.00		ug/L			09/15/16 12:36	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			09/15/16 12:36	1
1,1,2-Trichlorotrifluoroethane	<2.00		2.00		ug/L			09/15/16 12:36	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			09/15/16 12:36	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			09/15/16 12:36	1
Vinyl chloride	<1.00		1.00		ug/L			09/15/16 12:36	1
Xylenes, Total	<3.00		3.00		ug/L			09/15/16 12:36	1
Dibromomethane	<1.00		1.00		ug/L			09/15/16 12:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*80 - 120*		*09/15/16 12:36*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*09/15/16 12:36*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*09/15/16 12:36*	*1*

Method: WI-GRO - Wisconsin - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Wisconsin GRO	**666**		100		ug/L			09/20/16 04:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*09/20/16 04:05*	*1*

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO)	**52800**	*	538		ug/L		09/14/16 16:10	09/17/16 04:04	5

Client Sample ID: SB-4 (12)
Date Collected: 09/13/16 15:54
Date Received: 09/14/16 09:00

Lab Sample ID: 310-89278-7
Matrix: Solid
Percent Solids: 92.8

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.504		0.504		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
Allyl chloride	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
Benzene	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
Bromobenzene	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
Bromochloromethane	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
Bromodichloromethane	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
Bromoform	<0.101	^	0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
Bromomethane	<0.504		0.504		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
2-Butanone (MEK)	<0.252		0.252		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
n-Butylbenzene	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
sec-Butylbenzene	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
tert-Butylbenzene	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
Carbon tetrachloride	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
Chlorobenzene	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
Chlorodibromomethane	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
Dichlorofluoromethane	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
Chloroethane	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
Chloroform	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
Chloromethane	<0.252		0.252		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
4-Chlorotoluene	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
2-Chlorotoluene	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
1,2-Dibromo-3-Chloropropane	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
1,2-Dibromoethane (EDB)	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
1,2-Dichlorobenzene	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
1,3-Dichlorobenzene	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
1,4-Dichlorobenzene	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
Dichlorodifluoromethane	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
1,2-Dichloroethane	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
1,1-Dichloroethane	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
1,1-Dichloroethene	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
cis-1,2-Dichloroethene	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
trans-1,2-Dichloroethene	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
1,2-Dichloropropane	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
1,3-Dichloropropane	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
2,2-Dichloropropane	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
1,1-Dichloropropene	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
cis-1,3-Dichloropropene	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
trans-1,3-Dichloropropene	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
Diethyl ether	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
Ethylbenzene	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
Hexachlorobutadiene	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
Isopropylbenzene	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
p-Isopropyltoluene	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
4-Methyl-2-pentanone (MIBK)	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
Methylene Chloride	<0.252		0.252		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
Methyl tert-butyl ether	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
Naphthalene	<0.252		0.252		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
N-Propylbenzene	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
Styrene	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1

Client Sample ID: SB-4 (12)
Date Collected: 09/13/16 15:54
Date Received: 09/14/16 09:00

Lab Sample ID: 310-89278-7
Matrix: Solid
Percent Solids: 92.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
1,1,2,2-Tetrachloroethane	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
Tetrachloroethene	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
Tetrahydrofuran	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
Toluene	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
1,2,3-Trichlorobenzene	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
1,2,4-Trichlorobenzene	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
1,1,1-Trichloroethane	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
1,1,2-Trichloroethane	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
Trichloroethene	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
Trichlorofluoromethane	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
1,2,3-Trichloropropane	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
1,1,2-Trichlorotrifluoroethane	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
1,2,4-Trimethylbenzene	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
1,3,5-Trimethylbenzene	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
Vinyl chloride	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
Xylenes, Total	<0.151		0.151		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1
Dibromomethane	<0.101		0.101		mg/Kg	☼	09/16/16 06:44	09/16/16 15:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 135*	*09/16/16 06:44*	*09/16/16 15:48*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*	*09/16/16 06:44*	*09/16/16 15:48*	*1*
Toluene-d8 (Surr)	*91*		*80 - 120*	*09/16/16 06:44*	*09/16/16 15:48*	*1*

Method: WI-GRO - Wisconsin - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Wisconsin GRO	<10.1		10.1		mg/Kg	☼	09/15/16 09:56	09/15/16 22:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*	*09/15/16 09:56*	*09/15/16 22:58*	*1*

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO)	<6.45		6.45		mg/Kg	☼	09/14/16 14:36	09/15/16 22:31	1

Client Sample ID: MeOH Blank

Date Collected: 09/13/16 00:00
Date Received: 09/14/16 09:00

Lab Sample ID: 310-89278-8

Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.500		0.500		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
Allyl chloride	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
Benzene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
Bromobenzene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
Bromochloromethane	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
Bromodichloromethane	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
Bromoform	<0.100	^	0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
Bromomethane	<0.500		0.500		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
2-Butanone (MEK)	<0.250		0.250		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
n-Butylbenzene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
sec-Butylbenzene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
tert-Butylbenzene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
Carbon tetrachloride	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
Chlorobenzene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
Chlorodibromomethane	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
Dichlorofluoromethane	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
Chloroethane	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
Chloroform	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
Chloromethane	<0.250		0.250		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
4-Chlorotoluene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
2-Chlorotoluene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
1,2-Dibromo-3-Chloropropane	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
1,2-Dibromoethane (EDB)	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
1,2-Dichlorobenzene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
1,3-Dichlorobenzene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
1,4-Dichlorobenzene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
Dichlorodifluoromethane	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
1,2-Dichloroethane	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
1,1-Dichloroethane	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
1,1-Dichloroethene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
cis-1,2-Dichloroethene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
trans-1,2-Dichloroethene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
1,2-Dichloropropane	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
1,3-Dichloropropane	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
2,2-Dichloropropane	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
1,1-Dichloropropene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
cis-1,3-Dichloropropene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
trans-1,3-Dichloropropene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
Diethyl ether	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
Ethylbenzene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
Hexachlorobutadiene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
Isopropylbenzene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
p-Isopropyltoluene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
4-Methyl-2-pentanone (MIBK)	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
Methylene Chloride	<0.250		0.250		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
Methyl tert-butyl ether	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
Naphthalene	<0.250		0.250		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
N-Propylbenzene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
Styrene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1

Client Sample ID: MeOH Blank
Date Collected: 09/13/16 00:00
Date Received: 09/14/16 09:00

Lab Sample ID: 310-89278-8
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
1,1,2,2-Tetrachloroethane	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
Tetrachloroethene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
Tetrahydrofuran	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
Toluene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
1,2,3-Trichlorobenzene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
1,2,4-Trichlorobenzene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
1,1,1-Trichloroethane	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
1,1,2-Trichloroethane	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
Trichloroethene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
Trichlorofluoromethane	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
1,2,3-Trichloropropane	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
1,1,2-Trichlorotrifluoroethane	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
1,2,4-Trimethylbenzene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
1,3,5-Trimethylbenzene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
Vinyl chloride	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
Xylenes, Total	<0.150		0.150		mg/Kg		09/16/16 06:44	09/16/16 16:12	1
Dibromomethane	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 16:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 135*	*09/16/16 06:44*	*09/16/16 16:12*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*	*09/16/16 06:44*	*09/16/16 16:12*	*1*
Toluene-d8 (Surr)	*91*		*80 - 120*	*09/16/16 06:44*	*09/16/16 16:12*	*1*

Method: WI-GRO - Wisconsin - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Wisconsin GRO	<10.0		10.0		mg/Kg		09/15/16 09:56	09/16/16 00:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*	*09/15/16 09:56*	*09/16/16 00:24*	*1*

Client: Carlson McCain, Inc.
Project/Site: Richfield Sinclair Phase II

TestAmerica Job ID: 310-89278-1
SDG: 6349-00

Client Sample ID: Trip Blank
Date Collected: 09/13/16 00:00
Date Received: 09/14/16 09:00

Lab Sample ID: 310-89278-9
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			09/15/16 08:02	1
Allyl chloride	<2.00		2.00		ug/L			09/15/16 08:02	1
Benzene	<0.500		0.500		ug/L			09/15/16 08:02	1
Bromobenzene	<1.00		1.00		ug/L			09/15/16 08:02	1
Bromochloromethane	<5.00		5.00		ug/L			09/15/16 08:02	1
Bromodichloromethane	<1.00		1.00		ug/L			09/15/16 08:02	1
Bromoform	<5.00		5.00		ug/L			09/15/16 08:02	1
Bromomethane	<4.00		4.00		ug/L			09/15/16 08:02	1
2-Butanone (MEK)	<10.0		10.0		ug/L			09/15/16 08:02	1
n-Butylbenzene	<1.00		1.00		ug/L			09/15/16 08:02	1
sec-Butylbenzene	<1.00		1.00		ug/L			09/15/16 08:02	1
tert-Butylbenzene	<1.00		1.00		ug/L			09/15/16 08:02	1
Carbon tetrachloride	<2.00		2.00		ug/L			09/15/16 08:02	1
Chlorobenzene	<1.00		1.00		ug/L			09/15/16 08:02	1
Chlorodibromomethane	<5.00		5.00		ug/L			09/15/16 08:02	1
Dichlorofluoromethane	<1.00		1.00		ug/L			09/15/16 08:02	1
Chloroethane	<4.00		4.00		ug/L			09/15/16 08:02	1
Chloroform	<1.00		1.00		ug/L			09/15/16 08:02	1
Chloromethane	<3.00		3.00		ug/L			09/15/16 08:02	1
4-Chlorotoluene	<1.00		1.00		ug/L			09/15/16 08:02	1
2-Chlorotoluene	<1.00		1.00		ug/L			09/15/16 08:02	1
1,2-Dibromo-3-Chloropropane	<5.00		5.00		ug/L			09/15/16 08:02	1
1,2-Dibromoethane (EDB)	<1.00		1.00		ug/L			09/15/16 08:02	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			09/15/16 08:02	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			09/15/16 08:02	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			09/15/16 08:02	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			09/15/16 08:02	1
1,2-Dichloroethane	<1.00		1.00		ug/L			09/15/16 08:02	1
1,1-Dichloroethane	<1.00		1.00		ug/L			09/15/16 08:02	1
1,1-Dichloroethene	<2.00		2.00		ug/L			09/15/16 08:02	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			09/15/16 08:02	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			09/15/16 08:02	1
1,2-Dichloropropane	<1.00		1.00		ug/L			09/15/16 08:02	1
1,3-Dichloropropane	<1.00		1.00		ug/L			09/15/16 08:02	1
2,2-Dichloropropane	<4.00		4.00		ug/L			09/15/16 08:02	1
1,1-Dichloropropene	<1.00		1.00		ug/L			09/15/16 08:02	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			09/15/16 08:02	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			09/15/16 08:02	1
Diethyl ether	<2.00		2.00		ug/L			09/15/16 08:02	1
Ethylbenzene	<1.00		1.00		ug/L			09/15/16 08:02	1
Hexachlorobutadiene	<5.00		5.00		ug/L			09/15/16 08:02	1
Isopropylbenzene	<1.00		1.00		ug/L			09/15/16 08:02	1
p-Isopropyltoluene	<1.00		1.00		ug/L			09/15/16 08:02	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			09/15/16 08:02	1
Methylene Chloride	<5.00		5.00		ug/L			09/15/16 08:02	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			09/15/16 08:02	1
Naphthalene	<5.00		5.00		ug/L			09/15/16 08:02	1
N-Propylbenzene	<1.00		1.00		ug/L			09/15/16 08:02	1
Styrene	<1.00		1.00		ug/L			09/15/16 08:02	1

Client: Carlson McCain, Inc.
Project/Site: Richfield Sinclair Phase II

TestAmerica Job ID: 310-89278-1
SDG: 6349-00

Client Sample ID: Trip Blank
Date Collected: 09/13/16 00:00
Date Received: 09/14/16 09:00

Lab Sample ID: 310-89278-9
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			09/15/16 08:02	1
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			09/15/16 08:02	1
Tetrachloroethene	<1.00		1.00		ug/L			09/15/16 08:02	1
Tetrahydrofuran	<10.0		10.0		ug/L			09/15/16 08:02	1
Toluene	<1.00		1.00		ug/L			09/15/16 08:02	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			09/15/16 08:02	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			09/15/16 08:02	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			09/15/16 08:02	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			09/15/16 08:02	1
Trichloroethene	<1.00		1.00		ug/L			09/15/16 08:02	1
Trichlorofluoromethane	<4.00		4.00		ug/L			09/15/16 08:02	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			09/15/16 08:02	1
1,1,2-Trichlorotrifluoroethane	<2.00		2.00		ug/L			09/15/16 08:02	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			09/15/16 08:02	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			09/15/16 08:02	1
Vinyl chloride	<1.00		1.00		ug/L			09/15/16 08:02	1
Xylenes, Total	<3.00		3.00		ug/L			09/15/16 08:02	1
Dibromomethane	<1.00		1.00		ug/L			09/15/16 08:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*09/15/16 08:02*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*09/15/16 08:02*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*09/15/16 08:02*	*1*

Method: WI-GRO - Wisconsin - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<2.00		2.00		ug/L			09/17/16 04:20	1
Toluene	<2.00		2.00		ug/L			09/17/16 04:20	1
Ethylbenzene	<2.00		2.00		ug/L			09/17/16 04:20	1
Xylenes, Total	<6.00		6.00		ug/L			09/17/16 04:20	1
Methyl tert-butyl ether	<2.00		2.00		ug/L			09/17/16 04:20	1
Wisconsin GRO	<100		100		ug/L			09/17/16 04:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*09/17/16 04:20*	*1*

Definitions/Glossary

Client: Carlson McCain, Inc.
Project/Site: Richfield Sinclair Phase II

TestAmerica Job ID: 310-89278-1
SDG: 6349-00

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

GC Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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: Carlson McCain, Inc.
Project/Site: Richfield Sinclair Phase II

TestAmerica Job ID: 310-89278-1
SDG: 6349-00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Ground Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(80-120)	(80-120)	(80-120)
310-89278-1	SB-1 W	111	104	98
310-89278-3	SB-2W	103	101	97
310-89278-4	SB-3W	104	103	99
310-89278-6	SB-4W	86	102	97

Surrogate Legend

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

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(70-135)	(80-120)	(80-120)
310-89114-A-1-C MS	Matrix Spike	102	102	94
310-89114-A-1-D MSD	Matrix Spike Duplicate	101	105	93
310-89278-2	SB-1 (12)	104	100	91
310-89278-5	SB-3 (5)	101	99	92
310-89278-7	SB-4 (12)	100	100	91
310-89278-8	MeOH Blank	101	98	91
LCS 310-141519/2-A	Lab Control Sample	102	102	94
MB 310-141519/1-A	Method Blank	101	99	91

Surrogate Legend

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

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(80-120)	(80-120)	(80-120)
310-89278-9	Trip Blank	96	100	97
310-89241-AF-1 MS	Matrix Spike	99	102	101
310-89241-AF-1 MSD	Matrix Spike Duplicate	101	103	100
LCS 310-141185/5	Lab Control Sample	99	101	100
LCS 310-141185/6	Lab Control Sample	103	101	95
LCS 310-141233/5	Lab Control Sample	97	104	99
LCS 310-141233/6	Lab Control Sample	98	102	96
MB 310-141185/7	Method Blank	109	104	98
MB 310-141233/7	Method Blank	98	104	96

Surrogate Legend

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

Surrogate Summary

Client: Carlson McCain, Inc.
Project/Site: Richfield Sinclair Phase II

TestAmerica Job ID: 310-89278-1
SDG: 6349-00

Method: WI-GRO - Wisconsin - Gasoline Range Organics (GC)

Matrix: Ground Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	BFB (80-120)
310-89278-1	SB-1 W	98
310-89278-3	SB-2W	100
310-89278-4	SB-3W	100
310-89278-6	SB-4W	101

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

Method: WI-GRO - Wisconsin - Gasoline Range Organics (GC)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	BFB (80-120)
310-89278-2	SB-1 (12)	94
310-89278-5	SB-3 (5)	96
310-89278-7	SB-4 (12)	94
310-89278-8	MeOH Blank	95
LCS 310-141412/2-A	Lab Control Sample	102
LCSD 310-141412/25-A	Lab Control Sample Dup	98
MB 310-141412/1-A	Method Blank	96

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

Method: WI-GRO - Wisconsin - Gasoline Range Organics (GC)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	BFB (80-120)
310-89278-9	Trip Blank	92
LCS 310-141639/5	Lab Control Sample	101
LCS 310-141809/4	Lab Control Sample	102
LCSD 310-141639/29	Lab Control Sample Dup	98
LCSD 310-141809/28	Lab Control Sample Dup	104
MB 310-141639/4	Method Blank	100
MB 310-141809/3	Method Blank	97

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 310-141185/7
Matrix: Water
Analysis Batch: 141185

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			09/15/16 07:54	1
Allyl chloride	<2.00		2.00		ug/L			09/15/16 07:54	1
Benzene	<0.500		0.500		ug/L			09/15/16 07:54	1
Bromobenzene	<1.00		1.00		ug/L			09/15/16 07:54	1
Bromochloromethane	<5.00		5.00		ug/L			09/15/16 07:54	1
Bromodichloromethane	<1.00		1.00		ug/L			09/15/16 07:54	1
Bromoform	<5.00		5.00		ug/L			09/15/16 07:54	1
Bromomethane	<4.00		4.00		ug/L			09/15/16 07:54	1
2-Butanone (MEK)	<10.0		10.0		ug/L			09/15/16 07:54	1
n-Butylbenzene	<1.00		1.00		ug/L			09/15/16 07:54	1
sec-Butylbenzene	<1.00		1.00		ug/L			09/15/16 07:54	1
tert-Butylbenzene	<1.00		1.00		ug/L			09/15/16 07:54	1
Carbon tetrachloride	<2.00		2.00		ug/L			09/15/16 07:54	1
Chlorobenzene	<1.00		1.00		ug/L			09/15/16 07:54	1
Chlorodibromomethane	<5.00		5.00		ug/L			09/15/16 07:54	1
Dichlorofluoromethane	<1.00		1.00		ug/L			09/15/16 07:54	1
Chloroethane	<4.00		4.00		ug/L			09/15/16 07:54	1
Chloroform	<1.00		1.00		ug/L			09/15/16 07:54	1
Chloromethane	<3.00		3.00		ug/L			09/15/16 07:54	1
4-Chlorotoluene	<1.00		1.00		ug/L			09/15/16 07:54	1
2-Chlorotoluene	<1.00		1.00		ug/L			09/15/16 07:54	1
1,2-Dibromo-3-Chloropropane	<5.00		5.00		ug/L			09/15/16 07:54	1
1,2-Dibromoethane (EDB)	<1.00		1.00		ug/L			09/15/16 07:54	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			09/15/16 07:54	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			09/15/16 07:54	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			09/15/16 07:54	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			09/15/16 07:54	1
1,2-Dichloroethane	<1.00		1.00		ug/L			09/15/16 07:54	1
1,1-Dichloroethane	<1.00		1.00		ug/L			09/15/16 07:54	1
1,1-Dichloroethene	<2.00		2.00		ug/L			09/15/16 07:54	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			09/15/16 07:54	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			09/15/16 07:54	1
1,2-Dichloropropane	<1.00		1.00		ug/L			09/15/16 07:54	1
1,3-Dichloropropane	<1.00		1.00		ug/L			09/15/16 07:54	1
2,2-Dichloropropane	<4.00		4.00		ug/L			09/15/16 07:54	1
1,1-Dichloropropene	<1.00		1.00		ug/L			09/15/16 07:54	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			09/15/16 07:54	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			09/15/16 07:54	1
Diethyl ether	<2.00		2.00		ug/L			09/15/16 07:54	1
Ethylbenzene	<1.00		1.00		ug/L			09/15/16 07:54	1
Hexachlorobutadiene	<5.00		5.00		ug/L			09/15/16 07:54	1
Isopropylbenzene	<1.00		1.00		ug/L			09/15/16 07:54	1
p-Isopropyltoluene	<1.00		1.00		ug/L			09/15/16 07:54	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			09/15/16 07:54	1
Methylene Chloride	<5.00		5.00		ug/L			09/15/16 07:54	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			09/15/16 07:54	1
Naphthalene	<5.00		5.00		ug/L			09/15/16 07:54	1
N-Propylbenzene	<1.00		1.00		ug/L			09/15/16 07:54	1

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

Lab Sample ID: MB 310-141185/7
Matrix: Water
Analysis Batch: 141185

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	<1.00		1.00		ug/L			09/15/16 07:54	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			09/15/16 07:54	1
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			09/15/16 07:54	1
Tetrachloroethene	<1.00		1.00		ug/L			09/15/16 07:54	1
Tetrahydrofuran	<10.0		10.0		ug/L			09/15/16 07:54	1
Toluene	<1.00		1.00		ug/L			09/15/16 07:54	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			09/15/16 07:54	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			09/15/16 07:54	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			09/15/16 07:54	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			09/15/16 07:54	1
Trichloroethene	<1.00		1.00		ug/L			09/15/16 07:54	1
Trichlorofluoromethane	<4.00		4.00		ug/L			09/15/16 07:54	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			09/15/16 07:54	1
1,1,2-Trichlorotrifluoroethane	<2.00		2.00		ug/L			09/15/16 07:54	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			09/15/16 07:54	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			09/15/16 07:54	1
Vinyl chloride	<1.00		1.00		ug/L			09/15/16 07:54	1
Xylenes, Total	<3.00		3.00		ug/L			09/15/16 07:54	1
Dibromomethane	<1.00		1.00		ug/L			09/15/16 07:54	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*80 - 120*		*09/15/16 07:54*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*09/15/16 07:54*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*09/15/16 07:54*	*1*

Lab Sample ID: LCS 310-141185/5
Matrix: Water
Analysis Batch: 141185

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	45.17		ug/L		113	55 - 150
Allyl chloride	20.0	19.17		ug/L		96	60 - 145
Benzene	20.0	19.94		ug/L		100	70 - 125
Bromobenzene	20.0	18.69		ug/L		93	70 - 120
Bromochloromethane	20.0	21.40		ug/L		107	65 - 145
Bromodichloromethane	20.0	18.93		ug/L		95	65 - 125
Bromoform	20.0	17.61		ug/L		88	45 - 120
2-Butanone (MEK)	40.0	38.51		ug/L		96	60 - 135
n-Butylbenzene	20.0	17.33		ug/L		87	60 - 135
sec-Butylbenzene	20.0	17.45		ug/L		87	70 - 125
tert-Butylbenzene	20.0	17.55		ug/L		88	70 - 125
Carbon tetrachloride	20.0	19.69		ug/L		98	60 - 135
Chlorobenzene	20.0	19.74		ug/L		99	70 - 125
Chlorodibromomethane	20.0	18.31		ug/L		92	65 - 125
Chloroform	20.0	18.60		ug/L		93	70 - 130
4-Chlorotoluene	20.0	18.52		ug/L		93	70 - 120
2-Chlorotoluene	20.0	19.00		ug/L		95	70 - 120
1,2-Dibromo-3-Chloropropane	20.0	18.00		ug/L		90	40 - 135

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

Lab Sample ID: LCS 310-141185/5
Matrix: Water
Analysis Batch: 141185

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dibromoethane (EDB)	20.0	20.02		ug/L		100	75 - 125
1,2-Dichlorobenzene	20.0	18.34		ug/L		92	70 - 120
1,3-Dichlorobenzene	20.0	19.66		ug/L		98	70 - 125
1,4-Dichlorobenzene	20.0	18.57		ug/L		93	70 - 125
1,2-Dichloroethane	20.0	18.90		ug/L		95	70 - 130
1,1-Dichloroethane	20.0	19.98		ug/L		100	70 - 130
1,1-Dichloroethene	20.0	19.91		ug/L		100	65 - 140
cis-1,2-Dichloroethene	20.0	19.39		ug/L		97	70 - 130
trans-1,2-Dichloroethene	20.0	20.46		ug/L		102	65 - 135
1,2-Dichloropropane	20.0	20.50		ug/L		102	70 - 125
1,3-Dichloropropane	20.0	19.53		ug/L		98	75 - 125
2,2-Dichloropropane	20.0	20.27		ug/L		101	55 - 140
1,1-Dichloropropene	20.0	18.74		ug/L		94	70 - 130
cis-1,3-Dichloropropene	20.0	18.46		ug/L		92	60 - 130
trans-1,3-Dichloropropene	20.0	18.91		ug/L		95	65 - 120
Diethyl ether	20.0	20.09		ug/L		100	65 - 130
Ethylbenzene	20.0	19.26		ug/L		96	70 - 125
Hexachlorobutadiene	20.0	20.79		ug/L		104	60 - 125
Isopropylbenzene	20.0	17.05		ug/L		85	75 - 125
p-Isopropyltoluene	20.0	18.46		ug/L		92	70 - 125
4-Methyl-2-pentanone (MIBK)	40.0	39.00		ug/L		97	60 - 140
Methylene Chloride	20.0	19.35		ug/L		97	50 - 140
Methyl tert-butyl ether	20.0	19.73		ug/L		99	70 - 125
Naphthalene	20.0	16.51		ug/L		83	45 - 130
N-Propylbenzene	20.0	18.62		ug/L		93	75 - 125
Styrene	20.0	19.69		ug/L		98	70 - 120
1,1,1,2-Tetrachloroethane	20.0	19.82		ug/L		99	70 - 120
1,1,2,2-Tetrachloroethane	20.0	18.15		ug/L		91	65 - 125
Tetrachloroethene	20.0	21.35		ug/L		107	55 - 150
Tetrahydrofuran	40.0	40.24		ug/L		101	60 - 130
Toluene	20.0	20.24		ug/L		101	75 - 125
1,2,3-Trichlorobenzene	20.0	17.82		ug/L		89	60 - 125
1,2,4-Trichlorobenzene	20.0	18.43		ug/L		92	60 - 125
1,1,1-Trichloroethane	20.0	20.24		ug/L		101	70 - 130
1,1,2-Trichloroethane	20.0	19.89		ug/L		99	70 - 130
Trichloroethene	20.0	20.38		ug/L		102	70 - 130
1,2,3-Trichloropropane	20.0	19.52		ug/L		98	65 - 130
1,1,2-Trichlorotrifluoroethane	20.0	21.10		ug/L		105	55 - 150
1,2,4-Trimethylbenzene	20.0	18.56		ug/L		93	70 - 125
1,3,5-Trimethylbenzene	20.0	18.21		ug/L		91	75 - 125
Xylenes, Total	40.0	37.98		ug/L		95	75 - 120
Dibromomethane	20.0	19.57		ug/L		98	75 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*80 - 120*
Toluene-d8 (Surr)	*100*		*80 - 120*

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

Lab Sample ID: LCS 310-141185/6
Matrix: Water
Analysis Batch: 141185

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	14.00		ug/L		70	35 - 130
Dichlorofluoromethane	20.0	18.43		ug/L		92	60 - 140
Chloroethane	20.0	17.16		ug/L		86	55 - 140
Chloromethane	20.0	18.26		ug/L		91	40 - 135
Dichlorodifluoromethane	20.0	18.37		ug/L		92	35 - 130
Trichlorofluoromethane	20.0	18.39		ug/L		92	50 - 145
Vinyl chloride	20.0	18.13		ug/L		91	50 - 145

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*80 - 120*
Toluene-d8 (Surr)	*95*		*80 - 120*

Lab Sample ID: 310-89241-AF-1 MS
Matrix: Water
Analysis Batch: 141185

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	63.1		40.0	109.2		ug/L		115	50 - 150
Allyl chloride	<2.00		20.0	21.03		ug/L		105	45 - 145
Benzene	<0.500		20.0	21.12		ug/L		106	50 - 135
Bromobenzene	<1.00		20.0	19.47		ug/L		97	50 - 140
Bromochloromethane	<5.00		20.0	22.04		ug/L		110	50 - 145
Bromodichloromethane	3.27		20.0	23.15		ug/L		99	50 - 130
Bromoform	<5.00		20.0	18.32		ug/L		92	35 - 125
2-Butanone (MEK)	<10.0		40.0	53.25		ug/L		113	50 - 145
n-Butylbenzene	<1.00		20.0	18.63		ug/L		93	35 - 135
sec-Butylbenzene	<1.00		20.0	18.07		ug/L		90	40 - 125
tert-Butylbenzene	<1.00		20.0	18.85		ug/L		94	45 - 130
Carbon tetrachloride	<2.00		20.0	20.74		ug/L		104	45 - 135
Chlorobenzene	<1.00		20.0	21.54		ug/L		108	50 - 135
Chlorodibromomethane	<5.00		20.0	19.23		ug/L		96	45 - 130
Chloroform	13.2		20.0	31.70		ug/L		92	50 - 130
4-Chlorotoluene	<1.00		20.0	19.49		ug/L		97	45 - 130
2-Chlorotoluene	<1.00		20.0	19.33		ug/L		97	45 - 130
1,2-Dibromo-3-Chloropropane	<5.00		20.0	21.59		ug/L		108	40 - 135
1,2-Dibromoethane (EDB)	<1.00		20.0	20.43		ug/L		102	50 - 140
1,2-Dichlorobenzene	<1.00		20.0	18.89		ug/L		94	45 - 135
1,3-Dichlorobenzene	<1.00		20.0	19.88		ug/L		99	45 - 140
1,4-Dichlorobenzene	<1.00		20.0	19.27		ug/L		96	45 - 135
1,2-Dichloroethane	<1.00		20.0	19.72		ug/L		99	60 - 130
1,1-Dichloroethane	<1.00		20.0	21.00		ug/L		105	45 - 140
1,1-Dichloroethene	<2.00		20.0	20.58		ug/L		103	45 - 140
cis-1,2-Dichloroethene	<1.00		20.0	20.35		ug/L		102	50 - 135
trans-1,2-Dichloroethene	<1.00		20.0	22.20		ug/L		111	45 - 135
1,2-Dichloropropane	<1.00		20.0	21.14		ug/L		106	55 - 135
1,3-Dichloropropane	<1.00		20.0	20.34		ug/L		102	55 - 135
2,2-Dichloropropane	<4.00		20.0	20.08		ug/L		100	40 - 140

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

Lab Sample ID: 310-89241-AF-1 MS
Matrix: Water
Analysis Batch: 141185

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloropropene	<1.00		20.0	18.82		ug/L		94	50 - 130
cis-1,3-Dichloropropene	<5.00		20.0	17.47		ug/L		87	50 - 130
trans-1,3-Dichloropropene	<5.00		20.0	16.86		ug/L		84	45 - 125
Diethyl ether	<2.00		20.0	19.89		ug/L		99	45 - 140
Ethylbenzene	<1.00		20.0	19.77		ug/L		99	45 - 125
Hexachlorobutadiene	<5.00		20.0	20.04		ug/L		100	35 - 130
Isopropylbenzene	<1.00		20.0	18.68		ug/L		93	45 - 125
p-Isopropyltoluene	<1.00		20.0	19.17		ug/L		96	45 - 125
4-Methyl-2-pentanone (MIBK)	<10.0		40.0	44.35		ug/L		111	45 - 140
Methylene Chloride	<5.00		20.0	19.03		ug/L		95	45 - 140
Methyl tert-butyl ether	<1.00		20.0	20.77		ug/L		104	55 - 130
Naphthalene	<5.00		20.0	17.04		ug/L		85	40 - 135
N-Propylbenzene	<1.00		20.0	19.72		ug/L		99	45 - 125
Styrene	<1.00		20.0	20.38		ug/L		102	45 - 130
1,1,1,2-Tetrachloroethane	<1.00		20.0	20.63		ug/L		103	50 - 130
1,1,2,2-Tetrachloroethane	<1.00		20.0	22.03		ug/L		110	45 - 140
Tetrachloroethene	<1.00		20.0	21.61		ug/L		108	35 - 150
Tetrahydrofuran	21.7		40.0	62.81		ug/L		103	45 - 140
Toluene	<1.00		20.0	21.16		ug/L		106	45 - 130
1,2,3-Trichlorobenzene	<5.00		20.0	16.59		ug/L		83	45 - 140
1,2,4-Trichlorobenzene	<5.00		20.0	17.30		ug/L		86	40 - 135
1,1,1-Trichloroethane	<1.00		20.0	21.90		ug/L		110	50 - 130
1,1,2-Trichloroethane	<1.00		20.0	20.02		ug/L		100	50 - 145
Trichloroethene	<1.00		20.0	20.86		ug/L		104	50 - 130
1,2,3-Trichloropropane	<1.00		20.0	22.19		ug/L		111	45 - 140
1,1,2-Trichlorotrifluoroethane	<2.00		20.0	20.55		ug/L		103	40 - 150
1,2,4-Trimethylbenzene	<1.00		20.0	18.61		ug/L		93	45 - 130
1,3,5-Trimethylbenzene	<1.00		20.0	18.72		ug/L		94	10 - 125
Xylenes, Total	<3.00		40.0	40.58		ug/L		101	45 - 130
Dibromomethane	<1.00		20.0	20.64		ug/L		103	55 - 140

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*80 - 120*
Toluene-d8 (Surr)	*101*		*80 - 120*

Lab Sample ID: 310-89241-AF-1 MSD
Matrix: Water
Analysis Batch: 141185

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	63.1		40.0	100.7		ug/L		94	50 - 150	8	30
Allyl chloride	<2.00		20.0	19.06		ug/L		95	45 - 145	10	35
Benzene	<0.500		20.0	18.57		ug/L		93	50 - 135	13	15
Bromobenzene	<1.00		20.0	17.73		ug/L		89	50 - 140	9	15
Bromochloromethane	<5.00		20.0	20.74		ug/L		104	50 - 145	6	20
Bromodichloromethane	3.27		20.0	20.15		ug/L		84	50 - 130	14	15
Bromoform	<5.00		20.0	16.48		ug/L		82	35 - 125	11	20

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

Lab Sample ID: 310-89241-AF-1 MSD
Matrix: Water
Analysis Batch: 141185

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2-Butanone (MEK)	<10.0		40.0	49.40		ug/L		104	50 - 145	7	35
n-Butylbenzene	<1.00		20.0	18.51		ug/L		93	35 - 135	1	25
sec-Butylbenzene	<1.00		20.0	17.58		ug/L		88	40 - 125	3	25
tert-Butylbenzene	<1.00		20.0	17.46		ug/L		87	45 - 130	8	25
Carbon tetrachloride	<2.00		20.0	18.02		ug/L		90	45 - 135	14	20
Chlorobenzene	<1.00		20.0	18.91		ug/L		95	50 - 135	13	20
Chlorodibromomethane	<5.00		20.0	17.03		ug/L		85	45 - 130	12	15
Chloroform	13.2		20.0	29.16		ug/L		80	50 - 130	8	15
4-Chlorotoluene	<1.00		20.0	17.79		ug/L		89	45 - 130	9	20
2-Chlorotoluene	<1.00		20.0	17.63		ug/L		88	45 - 130	9	20
1,2-Dibromo-3-Chloropropane	<5.00		20.0	20.46		ug/L		102	40 - 135	5	35
1,2-Dibromoethane (EDB)	<1.00		20.0	18.52		ug/L		93	50 - 140	10	15
1,2-Dichlorobenzene	<1.00		20.0	18.52		ug/L		93	45 - 135	2	15
1,3-Dichlorobenzene	<1.00		20.0	18.07		ug/L		90	45 - 140	10	20
1,4-Dichlorobenzene	<1.00		20.0	18.81		ug/L		94	45 - 135	2	20
1,2-Dichloroethane	<1.00		20.0	17.34		ug/L		87	60 - 130	13	15
1,1-Dichloroethane	<1.00		20.0	18.66		ug/L		93	45 - 140	12	15
1,1-Dichloroethene	<2.00		20.0	19.31		ug/L		97	45 - 140	6	20
cis-1,2-Dichloroethene	<1.00		20.0	18.78		ug/L		94	50 - 135	8	15
trans-1,2-Dichloroethene	<1.00		20.0	19.76		ug/L		99	45 - 135	12	20
1,2-Dichloropropane	<1.00		20.0	18.91		ug/L		95	55 - 135	11	15
1,3-Dichloropropane	<1.00		20.0	18.20		ug/L		91	55 - 135	11	20
2,2-Dichloropropane	<4.00		20.0	17.71		ug/L		89	40 - 140	13	20
1,1-Dichloropropene	<1.00		20.0	17.03		ug/L		85	50 - 130	10	20
cis-1,3-Dichloropropene	<5.00		20.0	16.00		ug/L		80	50 - 130	9	15
trans-1,3-Dichloropropene	<5.00		20.0	15.99		ug/L		80	45 - 125	5	20
Diethyl ether	<2.00		20.0	18.77		ug/L		94	45 - 140	6	15
Ethylbenzene	<1.00		20.0	17.91		ug/L		90	45 - 125	10	20
Hexachlorobutadiene	<5.00		20.0	20.01		ug/L		100	35 - 130	0	35
Isopropylbenzene	<1.00		20.0	16.84		ug/L		84	45 - 125	10	20
p-Isopropyltoluene	<1.00		20.0	19.10		ug/L		95	45 - 125	0	20
4-Methyl-2-pentanone (MIBK)	<10.0		40.0	39.91		ug/L		100	45 - 140	11	25
Methylene Chloride	<5.00		20.0	18.28		ug/L		91	45 - 140	4	15
Methyl tert-butyl ether	<1.00		20.0	18.16		ug/L		91	55 - 130	13	15
Naphthalene	<5.00		20.0	15.77		ug/L		79	40 - 135	8	25
N-Propylbenzene	<1.00		20.0	17.68		ug/L		88	45 - 125	11	20
Styrene	<1.00		20.0	18.06		ug/L		90	45 - 130	12	20
1,1,1,2-Tetrachloroethane	<1.00		20.0	18.02		ug/L		90	50 - 130	13	15
1,1,2,2-Tetrachloroethane	<1.00		20.0	19.52		ug/L		98	45 - 140	12	20
Tetrachloroethene	<1.00		20.0	18.97		ug/L		95	35 - 150	13	20
Tetrahydrofuran	21.7		40.0	67.62		ug/L		115	45 - 140	7	35
Toluene	<1.00		20.0	19.20		ug/L		96	45 - 130	10	15
1,2,3-Trichlorobenzene	<5.00		20.0	16.76		ug/L		84	45 - 140	1	25
1,2,4-Trichlorobenzene	<5.00		20.0	16.24		ug/L		81	40 - 135	6	25
1,1,1-Trichloroethane	<1.00		20.0	19.09		ug/L		95	50 - 130	14	15
1,1,2-Trichloroethane	<1.00		20.0	18.31		ug/L		92	50 - 145	9	20
Trichloroethene	<1.00		20.0	18.69		ug/L		93	50 - 130	11	15
1,2,3-Trichloropropane	<1.00		20.0	19.28		ug/L		96	45 - 140	14	25

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

Lab Sample ID: 310-89241-AF-1 MSD
Matrix: Water
Analysis Batch: 141185

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,2-Trichlorotrifluoroethane	<2.00		20.0	17.75		ug/L		89	40 - 150	15	25
1,2,4-Trimethylbenzene	<1.00		20.0	17.12		ug/L		86	45 - 130	8	20
1,3,5-Trimethylbenzene	<1.00		20.0	17.55		ug/L		88	10 - 125	6	35
Xylenes, Total	<3.00		40.0	36.43		ug/L		91	45 - 130	11	20
Dibromomethane	<1.00		20.0	19.14		ug/L		96	55 - 140	8	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*80 - 120*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: MB 310-141233/7
Matrix: Water
Analysis Batch: 141233

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			09/15/16 07:41	1
Allyl chloride	<2.00		2.00		ug/L			09/15/16 07:41	1
Benzene	<0.500		0.500		ug/L			09/15/16 07:41	1
Bromobenzene	<1.00		1.00		ug/L			09/15/16 07:41	1
Bromochloromethane	<5.00		5.00		ug/L			09/15/16 07:41	1
Bromodichloromethane	<1.00		1.00		ug/L			09/15/16 07:41	1
Bromoform	<5.00		5.00		ug/L			09/15/16 07:41	1
Bromomethane	<4.00		4.00		ug/L			09/15/16 07:41	1
2-Butanone (MEK)	<10.0		10.0		ug/L			09/15/16 07:41	1
n-Butylbenzene	<1.00		1.00		ug/L			09/15/16 07:41	1
sec-Butylbenzene	<1.00		1.00		ug/L			09/15/16 07:41	1
tert-Butylbenzene	<1.00		1.00		ug/L			09/15/16 07:41	1
Carbon tetrachloride	<2.00		2.00		ug/L			09/15/16 07:41	1
Chlorobenzene	<1.00		1.00		ug/L			09/15/16 07:41	1
Chlorodibromomethane	<5.00		5.00		ug/L			09/15/16 07:41	1
Dichlorofluoromethane	<1.00		1.00		ug/L			09/15/16 07:41	1
Chloroethane	<4.00		4.00		ug/L			09/15/16 07:41	1
Chloroform	<1.00		1.00		ug/L			09/15/16 07:41	1
Chloromethane	<3.00		3.00		ug/L			09/15/16 07:41	1
4-Chlorotoluene	<1.00		1.00		ug/L			09/15/16 07:41	1
2-Chlorotoluene	<1.00		1.00		ug/L			09/15/16 07:41	1
1,2-Dibromo-3-Chloropropane	<5.00		5.00		ug/L			09/15/16 07:41	1
1,2-Dibromoethane (EDB)	<1.00		1.00		ug/L			09/15/16 07:41	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			09/15/16 07:41	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			09/15/16 07:41	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			09/15/16 07:41	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			09/15/16 07:41	1
1,2-Dichloroethane	<1.00		1.00		ug/L			09/15/16 07:41	1
1,1-Dichloroethane	<1.00		1.00		ug/L			09/15/16 07:41	1
1,1-Dichloroethene	<2.00		2.00		ug/L			09/15/16 07:41	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			09/15/16 07:41	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			09/15/16 07:41	1

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

Lab Sample ID: MB 310-141233/7
Matrix: Water
Analysis Batch: 141233

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	<1.00		1.00		ug/L			09/15/16 07:41	1
1,3-Dichloropropane	<1.00		1.00		ug/L			09/15/16 07:41	1
2,2-Dichloropropane	<4.00		4.00		ug/L			09/15/16 07:41	1
1,1-Dichloropropene	<1.00		1.00		ug/L			09/15/16 07:41	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			09/15/16 07:41	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			09/15/16 07:41	1
Diethyl ether	<2.00		2.00		ug/L			09/15/16 07:41	1
Ethylbenzene	<1.00		1.00		ug/L			09/15/16 07:41	1
Hexachlorobutadiene	<5.00		5.00		ug/L			09/15/16 07:41	1
Isopropylbenzene	<1.00		1.00		ug/L			09/15/16 07:41	1
p-Isopropyltoluene	<1.00		1.00		ug/L			09/15/16 07:41	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			09/15/16 07:41	1
Methylene Chloride	<5.00		5.00		ug/L			09/15/16 07:41	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			09/15/16 07:41	1
Naphthalene	<5.00		5.00		ug/L			09/15/16 07:41	1
N-Propylbenzene	<1.00		1.00		ug/L			09/15/16 07:41	1
Styrene	<1.00		1.00		ug/L			09/15/16 07:41	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			09/15/16 07:41	1
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			09/15/16 07:41	1
Tetrachloroethene	<1.00		1.00		ug/L			09/15/16 07:41	1
Tetrahydrofuran	<10.0		10.0		ug/L			09/15/16 07:41	1
Toluene	<1.00		1.00		ug/L			09/15/16 07:41	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			09/15/16 07:41	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			09/15/16 07:41	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			09/15/16 07:41	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			09/15/16 07:41	1
Trichloroethene	<1.00		1.00		ug/L			09/15/16 07:41	1
Trichlorofluoromethane	<4.00		4.00		ug/L			09/15/16 07:41	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			09/15/16 07:41	1
1,1,2-Trichlorotrifluoroethane	<2.00		2.00		ug/L			09/15/16 07:41	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			09/15/16 07:41	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			09/15/16 07:41	1
Vinyl chloride	<1.00		1.00		ug/L			09/15/16 07:41	1
Xylenes, Total	<3.00		3.00		ug/L			09/15/16 07:41	1
Dibromomethane	<1.00		1.00		ug/L			09/15/16 07:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*09/15/16 07:41*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*09/15/16 07:41*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*09/15/16 07:41*	*1*

Lab Sample ID: LCS 310-141233/5
Matrix: Water
Analysis Batch: 141233

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	45.38		ug/L		113	55 - 150
Allyl chloride	20.0	19.45		ug/L		97	60 - 145

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

Lab Sample ID: LCS 310-141233/5
Matrix: Water
Analysis Batch: 141233

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	20.0	19.23		ug/L		96	70 - 125
Bromobenzene	20.0	18.33		ug/L		92	70 - 120
Bromochloromethane	20.0	20.05		ug/L		100	65 - 145
Bromodichloromethane	20.0	18.14		ug/L		91	65 - 125
Bromoform	20.0	16.53		ug/L		83	45 - 120
2-Butanone (MEK)	40.0	38.02		ug/L		95	60 - 135
n-Butylbenzene	20.0	19.10		ug/L		95	60 - 135
sec-Butylbenzene	20.0	19.70		ug/L		98	70 - 125
tert-Butylbenzene	20.0	19.41		ug/L		97	70 - 125
Carbon tetrachloride	20.0	19.76		ug/L		99	60 - 135
Chlorobenzene	20.0	18.19		ug/L		91	70 - 125
Chlorodibromomethane	20.0	17.61		ug/L		88	65 - 125
Chloroform	20.0	19.47		ug/L		97	70 - 130
4-Chlorotoluene	20.0	19.31		ug/L		97	70 - 120
2-Chlorotoluene	20.0	19.24		ug/L		96	70 - 120
1,2-Dibromo-3-Chloropropane	20.0	16.87		ug/L		84	40 - 135
1,2-Dibromoethane (EDB)	20.0	18.30		ug/L		91	75 - 125
1,2-Dichlorobenzene	20.0	18.30		ug/L		92	70 - 120
1,3-Dichlorobenzene	20.0	18.90		ug/L		94	70 - 125
1,4-Dichlorobenzene	20.0	18.55		ug/L		93	70 - 125
1,2-Dichloroethane	20.0	18.58		ug/L		93	70 - 130
1,1-Dichloroethane	20.0	19.56		ug/L		98	70 - 130
1,1-Dichloroethene	20.0	19.82		ug/L		99	65 - 140
cis-1,2-Dichloroethene	20.0	19.02		ug/L		95	70 - 130
trans-1,2-Dichloroethene	20.0	19.68		ug/L		98	65 - 135
1,2-Dichloropropane	20.0	18.35		ug/L		92	70 - 125
1,3-Dichloropropane	20.0	18.45		ug/L		92	75 - 125
2,2-Dichloropropane	20.0	19.43		ug/L		97	55 - 140
1,1-Dichloropropene	20.0	19.38		ug/L		97	70 - 130
cis-1,3-Dichloropropene	20.0	18.10		ug/L		90	60 - 130
trans-1,3-Dichloropropene	20.0	16.82		ug/L		84	65 - 120
Diethyl ether	20.0	19.82		ug/L		99	65 - 130
Ethylbenzene	20.0	18.72		ug/L		94	70 - 125
Hexachlorobutadiene	20.0	18.25		ug/L		91	60 - 125
Isopropylbenzene	20.0	18.53		ug/L		93	75 - 125
p-Isopropyltoluene	20.0	19.67		ug/L		98	70 - 125
4-Methyl-2-pentanone (MIBK)	40.0	34.67		ug/L		87	60 - 140
Methylene Chloride	20.0	19.38		ug/L		97	50 - 140
Methyl tert-butyl ether	20.0	17.92		ug/L		90	70 - 125
Naphthalene	20.0	15.53		ug/L		78	45 - 130
N-Propylbenzene	20.0	19.15		ug/L		96	75 - 125
Styrene	20.0	18.62		ug/L		93	70 - 120
1,1,1,2-Tetrachloroethane	20.0	18.06		ug/L		90	70 - 120
1,1,2,2-Tetrachloroethane	20.0	17.84		ug/L		89	65 - 125
Tetrachloroethene	20.0	19.68		ug/L		98	55 - 150
Tetrahydrofuran	40.0	33.85		ug/L		85	60 - 130
Toluene	20.0	18.95		ug/L		95	75 - 125
1,2,3-Trichlorobenzene	20.0	16.59		ug/L		83	60 - 125

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

Lab Sample ID: LCS 310-141233/5
Matrix: Water
Analysis Batch: 141233

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	20.0	16.77		ug/L		84	60 - 125
1,1,1-Trichloroethane	20.0	19.64		ug/L		98	70 - 130
1,1,2-Trichloroethane	20.0	18.55		ug/L		93	70 - 130
Trichloroethene	20.0	18.71		ug/L		94	70 - 130
1,2,3-Trichloropropane	20.0	17.98		ug/L		90	65 - 130
1,1,2-Trichlorotrifluoroethane	20.0	21.25		ug/L		106	55 - 150
1,2,4-Trimethylbenzene	20.0	19.95		ug/L		100	70 - 125
1,3,5-Trimethylbenzene	20.0	19.75		ug/L		99	75 - 125
Xylenes, Total	40.0	37.24		ug/L		93	75 - 120
Dibromomethane	20.0	18.45		ug/L		92	75 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*
Dibromofluoromethane (Surr)	*104*		*80 - 120*
Toluene-d8 (Surr)	*99*		*80 - 120*

Lab Sample ID: LCS 310-141233/6
Matrix: Water
Analysis Batch: 141233

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	13.53		ug/L		68	35 - 130
Dichlorofluoromethane	20.0	18.38		ug/L		92	60 - 140
Chloroethane	20.0	18.87		ug/L		94	55 - 140
Chloromethane	20.0	18.47		ug/L		92	40 - 135
Dichlorodifluoromethane	20.0	19.14		ug/L		96	35 - 130
Trichlorofluoromethane	20.0	19.03		ug/L		95	50 - 145
Vinyl chloride	20.0	18.86		ug/L		94	50 - 145

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*80 - 120*
Toluene-d8 (Surr)	*96*		*80 - 120*

Lab Sample ID: MB 310-141519/1-A
Matrix: Solid
Analysis Batch: 141521

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 141519

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.500		0.500		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
Allyl chloride	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
Benzene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
Bromobenzene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
Bromochloromethane	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
Bromodichloromethane	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
Bromoform	<0.100	^	0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
Bromomethane	<0.500		0.500		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
2-Butanone (MEK)	<0.250		0.250		mg/Kg		09/16/16 06:44	09/16/16 08:07	1

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

Lab Sample ID: MB 310-141519/1-A
Matrix: Solid
Analysis Batch: 141521

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 141519

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
sec-Butylbenzene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
tert-Butylbenzene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
Carbon tetrachloride	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
Chlorobenzene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
Chlorodibromomethane	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
Dichlorofluoromethane	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
Chloroethane	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
Chloroform	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
Chloromethane	<0.250		0.250		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
4-Chlorotoluene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
2-Chlorotoluene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
1,2-Dibromo-3-Chloropropane	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
1,2-Dibromoethane (EDB)	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
1,2-Dichlorobenzene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
1,3-Dichlorobenzene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
1,4-Dichlorobenzene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
Dichlorodifluoromethane	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
1,2-Dichloroethane	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
1,1-Dichloroethane	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
1,1-Dichloroethene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
cis-1,2-Dichloroethene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
trans-1,2-Dichloroethene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
1,2-Dichloropropane	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
1,3-Dichloropropane	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
2,2-Dichloropropane	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
1,1-Dichloropropene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
cis-1,3-Dichloropropene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
trans-1,3-Dichloropropene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
Diethyl ether	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
Ethylbenzene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
Hexachlorobutadiene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
Isopropylbenzene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
p-Isopropyltoluene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
4-Methyl-2-pentanone (MIBK)	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
Methylene Chloride	<0.250		0.250		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
Methyl tert-butyl ether	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
Naphthalene	<0.250		0.250		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
N-Propylbenzene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
Styrene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
1,1,1,2-Tetrachloroethane	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
1,1,2,2-Tetrachloroethane	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
Tetrachloroethene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
Tetrahydrofuran	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
Toluene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
1,2,3-Trichlorobenzene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
1,2,4-Trichlorobenzene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
1,1,1-Trichloroethane	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1

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

Lab Sample ID: MB 310-141519/1-A
Matrix: Solid
Analysis Batch: 141521

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 141519

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
Trichloroethene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
Trichlorofluoromethane	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
1,2,3-Trichloropropane	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
1,1,2-Trichlorotrifluoroethane	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
1,2,4-Trimethylbenzene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
1,3,5-Trimethylbenzene	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
Vinyl chloride	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
Xylenes, Total	<0.150		0.150		mg/Kg		09/16/16 06:44	09/16/16 08:07	1
Dibromomethane	<0.100		0.100		mg/Kg		09/16/16 06:44	09/16/16 08:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 135*	*09/16/16 06:44*	*09/16/16 08:07*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*	*09/16/16 06:44*	*09/16/16 08:07*	*1*
Toluene-d8 (Surr)	*91*		*80 - 120*	*09/16/16 06:44*	*09/16/16 08:07*	*1*

Lab Sample ID: LCS 310-141519/2-A
Matrix: Solid
Analysis Batch: 141521

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 141519

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	1.93	2.199		mg/Kg		114	70 - 150
Allyl chloride	0.965	1.355		mg/Kg		140	65 - 150
Benzene	0.965	1.048		mg/Kg		109	65 - 145
Bromobenzene	0.965	0.9151		mg/Kg		95	65 - 135
Bromochloromethane	0.965	1.022		mg/Kg		106	65 - 150
Bromodichloromethane	0.965	1.009		mg/Kg		105	55 - 150
Bromoform	0.965	0.9723	^	mg/Kg		101	55 - 135
2-Butanone (MEK)	1.93	1.790		mg/Kg		93	55 - 150
n-Butylbenzene	0.965	0.8778		mg/Kg		91	65 - 135
sec-Butylbenzene	0.965	0.8858		mg/Kg		92	65 - 130
tert-Butylbenzene	0.965	0.8782		mg/Kg		91	65 - 135
Carbon tetrachloride	0.965	1.023		mg/Kg		106	60 - 145
Chlorobenzene	0.965	0.9319		mg/Kg		97	70 - 135
Chlorodibromomethane	0.965	0.8977		mg/Kg		93	55 - 135
Chloroform	0.965	0.9836		mg/Kg		102	65 - 145
4-Chlorotoluene	0.965	0.8759		mg/Kg		91	70 - 130
2-Chlorotoluene	0.965	0.8623		mg/Kg		89	70 - 130
1,2-Dibromo-3-Chloropropane	0.965	0.8301		mg/Kg		86	45 - 140
1,2-Dibromoethane (EDB)	0.965	0.8967		mg/Kg		93	65 - 140
1,2-Dichlorobenzene	0.965	0.8589		mg/Kg		89	65 - 135
1,3-Dichlorobenzene	0.965	0.8626		mg/Kg		89	65 - 135
1,4-Dichlorobenzene	0.965	0.8659		mg/Kg		90	65 - 135
1,2-Dichloroethane	0.965	0.9907		mg/Kg		103	60 - 150
1,1-Dichloroethane	0.965	1.049		mg/Kg		109	65 - 150
1,1-Dichloroethene	0.965	1.006		mg/Kg		104	65 - 145
cis-1,2-Dichloroethene	0.965	1.043		mg/Kg		108	65 - 145
trans-1,2-Dichloroethene	0.965	1.022		mg/Kg		106	65 - 145

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

Lab Sample ID: LCS 310-141519/2-A
Matrix: Solid
Analysis Batch: 141521

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 141519

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloropropane	0.965	1.016		mg/Kg		105	65 - 150
1,3-Dichloropropane	0.965	0.9210		mg/Kg		95	65 - 140
2,2-Dichloropropane	0.965	1.138		mg/Kg		118	65 - 150
1,1-Dichloropropene	0.965	1.012		mg/Kg		105	70 - 140
cis-1,3-Dichloropropene	0.965	0.9300		mg/Kg		96	65 - 140
trans-1,3-Dichloropropene	0.965	0.9265		mg/Kg		96	65 - 140
Diethyl ether	0.965	0.9948		mg/Kg		103	60 - 150
Ethylbenzene	0.965	0.9676		mg/Kg		100	70 - 135
Hexachlorobutadiene	0.965	0.9270		mg/Kg		96	50 - 145
Isopropylbenzene	0.965	0.9411		mg/Kg		98	70 - 135
p-Isopropyltoluene	0.965	0.8815		mg/Kg		91	65 - 135
4-Methyl-2-pentanone (MIBK)	1.93	1.690		mg/Kg		88	50 - 145
Methylene Chloride	0.965	1.090		mg/Kg		113	55 - 150
Methyl tert-butyl ether	0.965	0.9843		mg/Kg		102	65 - 150
Naphthalene	0.965	0.8326		mg/Kg		86	50 - 145
N-Propylbenzene	0.965	0.9258		mg/Kg		96	70 - 135
Styrene	0.965	0.9309		mg/Kg		96	70 - 135
1,1,1,2-Tetrachloroethane	0.965	0.9230		mg/Kg		96	65 - 130
1,1,2,2-Tetrachloroethane	0.965	0.8848		mg/Kg		92	60 - 140
Tetrachloroethene	0.965	0.9500		mg/Kg		98	65 - 140
Tetrahydrofuran	1.93	1.822		mg/Kg		94	55 - 150
Toluene	0.965	0.9514		mg/Kg		99	70 - 135
1,2,3-Trichlorobenzene	0.965	0.8685		mg/Kg		90	55 - 140
1,2,4-Trichlorobenzene	0.965	0.8618		mg/Kg		89	50 - 140
1,1,1-Trichloroethane	0.965	1.017		mg/Kg		105	65 - 145
1,1,2-Trichloroethane	0.965	0.9272		mg/Kg		96	65 - 140
Trichloroethene	0.965	1.011		mg/Kg		105	65 - 145
1,2,3-Trichloropropane	0.965	0.8688		mg/Kg		90	60 - 140
1,1,2-Trichlorotrifluoroethane	0.965	1.022		mg/Kg		106	60 - 150
1,2,4-Trimethylbenzene	0.965	0.8949		mg/Kg		93	65 - 130
1,3,5-Trimethylbenzene	0.965	0.9030		mg/Kg		94	70 - 130
Xylenes, Total	1.93	1.890		mg/Kg		98	70 - 135
Dibromomethane	0.965	0.9901		mg/Kg		103	65 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 135*
Dibromofluoromethane (Surr)	*102*		*80 - 120*
Toluene-d8 (Surr)	*94*		*80 - 120*

Lab Sample ID: 310-89114-A-1-C MS
Matrix: Solid
Analysis Batch: 141521

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 141519

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	<0.546		2.15	2.423		mg/Kg	☼	113	70 - 150
Allyl chloride	<0.109		1.07	1.594		mg/Kg	☼	148	65 - 150
Benzene	<0.109		1.07	1.232		mg/Kg	☼	115	65 - 145
Bromobenzene	<0.109		1.07	1.089		mg/Kg	☼	101	65 - 135

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

Lab Sample ID: 310-89114-A-1-C MS
Matrix: Solid
Analysis Batch: 141521

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 141519

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromochloromethane	<0.109		1.07	1.203		mg/Kg	☼	112	65 - 150
Bromodichloromethane	<0.109	F1	1.07	1.195	F1	mg/Kg	☼	111	55 - 105
Bromoform	<0.109	^	1.07	1.120	^	mg/Kg	☼	104	55 - 135
2-Butanone (MEK)	<0.273		2.15	2.227		mg/Kg	☼	104	55 - 150
n-Butylbenzene	<0.109		1.07	1.035		mg/Kg	☼	96	65 - 135
sec-Butylbenzene	<0.109		1.07	1.054		mg/Kg	☼	98	65 - 130
tert-Butylbenzene	<0.109		1.07	1.065		mg/Kg	☼	99	65 - 135
Carbon tetrachloride	<0.109		1.07	1.195		mg/Kg	☼	111	60 - 145
Chlorobenzene	<0.109		1.07	1.096		mg/Kg	☼	102	70 - 135
Chlorodibromomethane	<0.109		1.07	1.067		mg/Kg	☼	99	55 - 135
Chloroform	<0.109		1.07	1.166		mg/Kg	☼	109	65 - 145
4-Chlorotoluene	<0.109		1.07	1.035		mg/Kg	☼	96	70 - 130
2-Chlorotoluene	<0.109		1.07	1.041		mg/Kg	☼	97	70 - 130
1,2-Dibromo-3-Chloropropane	<0.109		1.07	1.031		mg/Kg	☼	96	45 - 140
1,2-Dibromoethane (EDB)	<0.109		1.07	1.083		mg/Kg	☼	101	65 - 140
1,2-Dichlorobenzene	<0.109		1.07	1.045		mg/Kg	☼	97	65 - 135
1,3-Dichlorobenzene	<0.109		1.07	1.039		mg/Kg	☼	97	65 - 135
1,4-Dichlorobenzene	<0.109		1.07	1.036		mg/Kg	☼	96	65 - 135
1,2-Dichloroethane	<0.109		1.07	1.195		mg/Kg	☼	111	60 - 150
1,1-Dichloroethane	<0.109		1.07	1.224		mg/Kg	☼	114	65 - 150
1,1-Dichloroethene	<0.109		1.07	1.191		mg/Kg	☼	111	65 - 145
cis-1,2-Dichloroethene	<0.109		1.07	1.219		mg/Kg	☼	113	65 - 145
trans-1,2-Dichloroethene	<0.109		1.07	1.168		mg/Kg	☼	109	65 - 145
1,2-Dichloropropane	<0.109		1.07	1.198		mg/Kg	☼	111	65 - 150
1,3-Dichloropropane	<0.109		1.07	1.090		mg/Kg	☼	101	65 - 140
2,2-Dichloropropane	<0.109		1.07	1.145		mg/Kg	☼	107	65 - 150
1,1-Dichloropropene	<0.109		1.07	1.184		mg/Kg	☼	110	70 - 140
cis-1,3-Dichloropropene	<0.109		1.07	1.065		mg/Kg	☼	99	65 - 140
trans-1,3-Dichloropropene	<0.109		1.07	1.057		mg/Kg	☼	98	65 - 140
Diethyl ether	<0.109		1.07	1.194		mg/Kg	☼	111	60 - 150
Ethylbenzene	<0.109		1.07	1.131		mg/Kg	☼	105	70 - 135
Hexachlorobutadiene	<0.109		1.07	1.051		mg/Kg	☼	98	50 - 145
Isopropylbenzene	<0.109		1.07	1.111		mg/Kg	☼	103	70 - 135
p-Isopropyltoluene	<0.109		1.07	1.047		mg/Kg	☼	97	65 - 135
4-Methyl-2-pentanone (MIBK)	<0.109		2.15	2.143		mg/Kg	☼	100	50 - 145
Methylene Chloride	<0.273		1.07	1.381		mg/Kg	☼	115	55 - 150
Methyl tert-butyl ether	<0.109		1.07	1.192		mg/Kg	☼	111	65 - 150
Naphthalene	<0.273		1.07	1.014		mg/Kg	☼	91	50 - 145
N-Propylbenzene	<0.109		1.07	1.099		mg/Kg	☼	102	70 - 135
Styrene	<0.109		1.07	1.105		mg/Kg	☼	103	70 - 135
1,1,1,2-Tetrachloroethane	<0.109		1.07	1.099		mg/Kg	☼	102	65 - 130
1,1,2,2-Tetrachloroethane	<0.109		1.07	1.045		mg/Kg	☼	97	60 - 140
Tetrachloroethene	<0.109		1.07	1.086		mg/Kg	☼	101	65 - 140
Tetrahydrofuran	<0.109		2.15	2.366		mg/Kg	☼	110	55 - 150
Toluene	<0.109		1.07	1.115		mg/Kg	☼	104	70 - 135
1,2,3-Trichlorobenzene	<0.109		1.07	1.024		mg/Kg	☼	95	55 - 140
1,2,4-Trichlorobenzene	<0.109		1.07	1.038		mg/Kg	☼	97	50 - 140
1,1,1-Trichloroethane	<0.109		1.07	1.179		mg/Kg	☼	110	65 - 145

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

Lab Sample ID: 310-89114-A-1-C MS
Matrix: Solid
Analysis Batch: 141521

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 141519

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2-Trichloroethane	<0.109		1.07	1.063		mg/Kg	☼	99	65 - 140
Trichloroethene	<0.109		1.07	1.185		mg/Kg	☼	110	65 - 145
1,2,3-Trichloropropane	<0.109		1.07	1.069		mg/Kg	☼	99	60 - 140
1,1,2-Trichlorotrifluoroethane	<0.109		1.07	1.103		mg/Kg	☼	103	60 - 150
1,2,4-Trimethylbenzene	<0.109		1.07	1.036		mg/Kg	☼	96	65 - 130
1,3,5-Trimethylbenzene	<0.109		1.07	1.069		mg/Kg	☼	99	70 - 130
Xylenes, Total	<0.164		2.15	2.196		mg/Kg	☼	102	70 - 135
Dibromomethane	<0.109		1.07	1.196		mg/Kg	☼	111	65 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 135*
Dibromofluoromethane (Surr)	*102*		*80 - 120*
Toluene-d8 (Surr)	*94*		*80 - 120*

Lab Sample ID: 310-89114-A-1-D MSD
Matrix: Solid
Analysis Batch: 141521

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 141519

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	<0.546		2.10	2.171		mg/Kg	☼	103	70 - 150	11	40
Allyl chloride	<0.109		1.05	1.403		mg/Kg	☼	133	65 - 150	13	35
Benzene	<0.109		1.05	1.170		mg/Kg	☼	111	65 - 145	5	15
Bromobenzene	<0.109		1.05	1.028		mg/Kg	☼	98	65 - 135	6	20
Bromochloromethane	<0.109		1.05	1.131		mg/Kg	☼	108	65 - 150	6	20
Bromodichloromethane	<0.109	F1	1.05	1.124	F1	mg/Kg	☼	107	55 - 105	6	20
Bromoform	<0.109	^	1.05	1.121	^	mg/Kg	☼	107	55 - 135	0	25
2-Butanone (MEK)	<0.273		2.10	2.091		mg/Kg	☼	99	55 - 150	6	30
n-Butylbenzene	<0.109		1.05	0.9508		mg/Kg	☼	90	65 - 135	9	20
sec-Butylbenzene	<0.109		1.05	0.9939		mg/Kg	☼	95	65 - 130	6	20
tert-Butylbenzene	<0.109		1.05	1.002		mg/Kg	☼	95	65 - 135	6	20
Carbon tetrachloride	<0.109		1.05	1.151		mg/Kg	☼	109	60 - 145	4	30
Chlorobenzene	<0.109		1.05	1.040		mg/Kg	☼	99	70 - 135	5	15
Chlorodibromomethane	<0.109		1.05	1.005		mg/Kg	☼	96	55 - 135	6	20
Chloroform	<0.109		1.05	1.114		mg/Kg	☼	106	65 - 145	5	20
4-Chlorotoluene	<0.109		1.05	0.9877		mg/Kg	☼	94	70 - 130	5	20
2-Chlorotoluene	<0.109		1.05	0.9782		mg/Kg	☼	93	70 - 130	6	15
1,2-Dibromo-3-Chloropropane	<0.109		1.05	0.9642		mg/Kg	☼	92	45 - 140	7	40
1,2-Dibromoethane (EDB)	<0.109		1.05	1.023		mg/Kg	☼	97	65 - 140	6	20
1,2-Dichlorobenzene	<0.109		1.05	0.9679		mg/Kg	☼	92	65 - 135	8	20
1,3-Dichlorobenzene	<0.109		1.05	0.9688		mg/Kg	☼	92	65 - 135	7	20
1,4-Dichlorobenzene	<0.109		1.05	0.9757		mg/Kg	☼	93	65 - 135	6	20
1,2-Dichloroethane	<0.109		1.05	1.132		mg/Kg	☼	108	60 - 150	5	20
1,1-Dichloroethane	<0.109		1.05	1.164		mg/Kg	☼	111	65 - 150	5	20
1,1-Dichloroethene	<0.109		1.05	1.150		mg/Kg	☼	109	65 - 145	4	20
cis-1,2-Dichloroethene	<0.109		1.05	1.166		mg/Kg	☼	111	65 - 145	4	20
trans-1,2-Dichloroethene	<0.109		1.05	1.137		mg/Kg	☼	108	65 - 145	3	20
1,2-Dichloropropane	<0.109		1.05	1.152		mg/Kg	☼	110	65 - 150	4	15
1,3-Dichloropropane	<0.109		1.05	1.036		mg/Kg	☼	99	65 - 140	5	20

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

Lab Sample ID: 310-89114-A-1-D MSD
Matrix: Solid
Analysis Batch: 141521

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 141519

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,2-Dichloropropane	<0.109		1.05	1.106		mg/Kg	☼	105	65 - 150	3	20
1,1-Dichloropropene	<0.109		1.05	1.138		mg/Kg	☼	108	70 - 140	4	20
cis-1,3-Dichloropropene	<0.109		1.05	1.028		mg/Kg	☼	98	65 - 140	4	20
trans-1,3-Dichloropropene	<0.109		1.05	0.9963		mg/Kg	☼	95	65 - 140	6	20
Diethyl ether	<0.109		1.05	1.115		mg/Kg	☼	106	60 - 150	7	25
Ethylbenzene	<0.109		1.05	1.064		mg/Kg	☼	101	70 - 135	6	20
Hexachlorobutadiene	<0.109		1.05	0.9789		mg/Kg	☼	93	50 - 145	7	25
Isopropylbenzene	<0.109		1.05	1.064		mg/Kg	☼	101	70 - 135	4	20
p-Isopropyltoluene	<0.109		1.05	0.9769		mg/Kg	☼	93	65 - 135	7	20
4-Methyl-2-pentanone (MIBK)	<0.109		2.10	1.977		mg/Kg	☼	94	50 - 145	8	40
Methylene Chloride	<0.273		1.05	1.216		mg/Kg	☼	102	55 - 150	13	25
Methyl tert-butyl ether	<0.109		1.05	1.133		mg/Kg	☼	108	65 - 150	5	20
Naphthalene	<0.273		1.05	0.9602		mg/Kg	☼	88	50 - 145	5	30
N-Propylbenzene	<0.109		1.05	1.053		mg/Kg	☼	100	70 - 135	4	20
Styrene	<0.109		1.05	1.053		mg/Kg	☼	100	70 - 135	5	20
1,1,1,2-Tetrachloroethane	<0.109		1.05	1.020		mg/Kg	☼	97	65 - 130	7	20
1,1,2,2-Tetrachloroethane	<0.109		1.05	1.021		mg/Kg	☼	97	60 - 140	2	25
Tetrachloroethene	<0.109		1.05	1.031		mg/Kg	☼	98	65 - 140	5	25
Tetrahydrofuran	<0.109		2.10	2.236		mg/Kg	☼	106	55 - 150	6	30
Toluene	<0.109		1.05	1.041		mg/Kg	☼	99	70 - 135	7	20
1,2,3-Trichlorobenzene	<0.109		1.05	0.9645		mg/Kg	☼	92	55 - 140	6	25
1,2,4-Trichlorobenzene	<0.109		1.05	0.9516		mg/Kg	☼	91	50 - 140	9	25
1,1,1-Trichloroethane	<0.109		1.05	1.146		mg/Kg	☼	109	65 - 145	3	20
1,1,2-Trichloroethane	<0.109		1.05	1.034		mg/Kg	☼	98	65 - 140	3	20
Trichloroethene	<0.109		1.05	1.154		mg/Kg	☼	110	65 - 145	3	20
1,2,3-Trichloropropane	<0.109		1.05	1.022		mg/Kg	☼	97	60 - 140	4	30
1,1,2-Trichlorotrifluoroethane	<0.109		1.05	1.176		mg/Kg	☼	112	60 - 150	6	40
1,2,4-Trimethylbenzene	<0.109		1.05	0.9915		mg/Kg	☼	94	65 - 130	4	20
1,3,5-Trimethylbenzene	<0.109		1.05	0.9915		mg/Kg	☼	94	70 - 130	8	20
Xylenes, Total	<0.164		2.10	2.073		mg/Kg	☼	99	70 - 135	6	20
Dibromomethane	<0.109		1.05	1.132		mg/Kg	☼	108	65 - 150	6	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*70 - 135*
Dibromofluoromethane (Surr)	*105*		*80 - 120*
Toluene-d8 (Surr)	*93*		*80 - 120*

Method: WI-GRO - Wisconsin - Gasoline Range Organics (GC)

Lab Sample ID: MB 310-141412/1-A
Matrix: Solid
Analysis Batch: 141393

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 141412

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Wisconsin GRO	<9.75		9.75		mg/Kg		09/15/16 09:56	09/15/16 11:46	1

Method: WI-GRO - Wisconsin - Gasoline Range Organics (GC) (Continued)

Lab Sample ID: MB 310-141412/1-A
Matrix: Solid
Analysis Batch: 141393

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 141412

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		80 - 120	09/15/16 09:56	09/15/16 11:46	1

Lab Sample ID: LCS 310-141412/2-A
Matrix: Solid
Analysis Batch: 141393

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 141412

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Wisconsin GRO	37.5	35.74		mg/Kg		95	80 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		80 - 120

Lab Sample ID: LCSD 310-141412/25-A
Matrix: Solid
Analysis Batch: 141393

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 141412

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Wisconsin GRO	38.7	39.13		mg/Kg		101	80 - 120	9	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		80 - 120

Lab Sample ID: MB 310-141639/4
Matrix: Water
Analysis Batch: 141639

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<2.00		2.00		ug/L			09/16/16 17:15	1
Toluene	<2.00		2.00		ug/L			09/16/16 17:15	1
Ethylbenzene	<2.00		2.00		ug/L			09/16/16 17:15	1
Xylenes, Total	<6.00		6.00		ug/L			09/16/16 17:15	1
Methyl tert-butyl ether	<2.00		2.00		ug/L			09/16/16 17:15	1
Wisconsin GRO	<100		100		ug/L			09/16/16 17:15	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		80 - 120		09/16/16 17:15	1

Lab Sample ID: LCS 310-141639/5
Matrix: Water
Analysis Batch: 141639

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	80.0	79.02		ug/L		99	80 - 120
Toluene	80.0	77.56		ug/L		97	80 - 120
Ethylbenzene	80.0	73.84		ug/L		92	80 - 120
Xylenes, Total	240	224.3		ug/L		93	80 - 120
Methyl tert-butyl ether	80.0	81.83		ug/L		102	80 - 120

Method: WI-GRO - Wisconsin - Gasoline Range Organics (GC) (Continued)

Lab Sample ID: LCS 310-141639/5
Matrix: Water
Analysis Batch: 141639

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Wisconsin GRO			800	793.5		ug/L		99	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*

Lab Sample ID: LCSD 310-141639/29
Matrix: Water
Analysis Batch: 141639

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			80.0	78.25		ug/L		98	80 - 120	1	20
Toluene			80.0	74.76		ug/L		93	80 - 120	4	20
Ethylbenzene			80.0	72.51		ug/L		91	80 - 120	2	20
Xylenes, Total			240	219.9		ug/L		92	80 - 120	2	20
Methyl tert-butyl ether			80.0	79.24		ug/L		99	80 - 120	3	20
Wisconsin GRO			800	731.9		ug/L		91	80 - 120	8	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*

Lab Sample ID: MB 310-141809/3
Matrix: Water
Analysis Batch: 141809

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Wisconsin GRO	<100		100		ug/L			09/20/16 02:38	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*09/20/16 02:38*	*1*

Lab Sample ID: LCS 310-141809/4
Matrix: Water
Analysis Batch: 141809

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Wisconsin GRO			800	803.8		ug/L		100	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*

Lab Sample ID: LCSD 310-141809/28
Matrix: Water
Analysis Batch: 141809

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Wisconsin GRO			800	808.3		ug/L		101	80 - 120	1	20

Method: WI-GRO - Wisconsin - Gasoline Range Organics (GC) (Continued)

Lab Sample ID: LCSD 310-141809/28
Matrix: Water
Analysis Batch: 141809

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Lab Sample ID: MB 310-141284/1-A
Matrix: Solid
Analysis Batch: 141440

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 141284

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO)	<6.84		6.84		mg/Kg		09/14/16 13:16	09/15/16 17:32	1

Lab Sample ID: LCS 310-141284/2-A
Matrix: Solid
Analysis Batch: 141440

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 141284

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics (DRO)	96.7	73.78		mg/Kg		76	70 - 120

Lab Sample ID: LCSD 310-141284/3-A
Matrix: Solid
Analysis Batch: 141440

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 141284

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics (DRO)	97.8	70.98		mg/Kg		73	70 - 120	4	20

Lab Sample ID: MB 310-141319/1-A
Matrix: Water
Analysis Batch: 141440

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 141319

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO)	<100		100		ug/L		09/14/16 16:10	09/15/16 12:32	1

Lab Sample ID: MB 310-141319/1-A
Matrix: Water
Analysis Batch: 141544

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 141319

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO)	<100		100		ug/L		09/14/16 16:10	09/17/16 00:57	1

Lab Sample ID: LCS 310-141319/2-A
Matrix: Water
Analysis Batch: 141440

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 141319

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics (DRO)	2500	1570	*	ug/L		63	75 - 115

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC) (Continued)

Lab Sample ID: LCS 310-141319/2-A
Matrix: Water
Analysis Batch: 141544

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 141319

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Organics (DRO)			2500	1263	*	ug/L		51	75 - 115		

Lab Sample ID: LCSD 310-141319/3-A
Matrix: Water
Analysis Batch: 141440

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 141319

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics (DRO)			2500	1259	*	ug/L		50	75 - 115	22	20

Lab Sample ID: LCSD 310-141319/3-A
Matrix: Water
Analysis Batch: 141544

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 141319

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics (DRO)			2500	958.8	*	ug/L		38	75 - 115	27	20

GC/MS VOA

Analysis Batch: 141185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-89278-1	SB-1 W	Total/NA	Ground Water	8260B	
310-89278-3	SB-2W	Total/NA	Ground Water	8260B	
310-89278-4	SB-3W	Total/NA	Ground Water	8260B	
310-89278-6	SB-4W	Total/NA	Ground Water	8260B	
MB 310-141185/7	Method Blank	Total/NA	Water	8260B	
LCS 310-141185/5	Lab Control Sample	Total/NA	Water	8260B	
LCS 310-141185/6	Lab Control Sample	Total/NA	Water	8260B	
310-89241-AF-1 MS	Matrix Spike	Total/NA	Water	8260B	
310-89241-AF-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 141233

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-89278-9	Trip Blank	Total/NA	Water	8260B	
MB 310-141233/7	Method Blank	Total/NA	Water	8260B	
LCS 310-141233/5	Lab Control Sample	Total/NA	Water	8260B	
LCS 310-141233/6	Lab Control Sample	Total/NA	Water	8260B	

Prep Batch: 141519

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-89278-2	SB-1 (12)	Total/NA	Solid	5035	
310-89278-5	SB-3 (5)	Total/NA	Solid	5035	
310-89278-7	SB-4 (12)	Total/NA	Solid	5035	
310-89278-8	MeOH Blank	Total/NA	Solid	5035	
MB 310-141519/1-A	Method Blank	Total/NA	Solid	5035	
LCS 310-141519/2-A	Lab Control Sample	Total/NA	Solid	5035	
310-89114-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
310-89114-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 141521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-89278-2	SB-1 (12)	Total/NA	Solid	8260B	141519
310-89278-5	SB-3 (5)	Total/NA	Solid	8260B	141519
310-89278-7	SB-4 (12)	Total/NA	Solid	8260B	141519
310-89278-8	MeOH Blank	Total/NA	Solid	8260B	141519
MB 310-141519/1-A	Method Blank	Total/NA	Solid	8260B	141519
LCS 310-141519/2-A	Lab Control Sample	Total/NA	Solid	8260B	141519
310-89114-A-1-C MS	Matrix Spike	Total/NA	Solid	8260B	141519
310-89114-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8260B	141519

GC VOA

Analysis Batch: 141393

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-89278-2	SB-1 (12)	Total/NA	Solid	WI-GRO	141412
310-89278-5	SB-3 (5)	Total/NA	Solid	WI-GRO	141412
310-89278-7	SB-4 (12)	Total/NA	Solid	WI-GRO	141412
310-89278-8	MeOH Blank	Total/NA	Solid	WI-GRO	141412
MB 310-141412/1-A	Method Blank	Total/NA	Solid	WI-GRO	141412
LCS 310-141412/2-A	Lab Control Sample	Total/NA	Solid	WI-GRO	141412
LCSD 310-141412/25-A	Lab Control Sample Dup	Total/NA	Solid	WI-GRO	141412

GC VOA (Continued)

Prep Batch: 141412

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-89278-2	SB-1 (12)	Total/NA	Solid	WI GRO	
310-89278-5	SB-3 (5)	Total/NA	Solid	WI GRO	
310-89278-7	SB-4 (12)	Total/NA	Solid	WI GRO	
310-89278-8	MeOH Blank	Total/NA	Solid	WI GRO	
MB 310-141412/1-A	Method Blank	Total/NA	Solid	5035	
LCS 310-141412/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 310-141412/25-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 141639

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-89278-1	SB-1 W	Total/NA	Ground Water	WI-GRO	
310-89278-3	SB-2W	Total/NA	Ground Water	WI-GRO	
310-89278-4	SB-3W	Total/NA	Ground Water	WI-GRO	
310-89278-9	Trip Blank	Total/NA	Water	WI-GRO	
MB 310-141639/4	Method Blank	Total/NA	Water	WI-GRO	
LCS 310-141639/5	Lab Control Sample	Total/NA	Water	WI-GRO	
LCSD 310-141639/29	Lab Control Sample Dup	Total/NA	Water	WI-GRO	

Analysis Batch: 141809

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-89278-6	SB-4W	Total/NA	Ground Water	WI-GRO	
MB 310-141809/3	Method Blank	Total/NA	Water	WI-GRO	
LCS 310-141809/4	Lab Control Sample	Total/NA	Water	WI-GRO	
LCSD 310-141809/28	Lab Control Sample Dup	Total/NA	Water	WI-GRO	

GC Semi VOA

Prep Batch: 141284

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-89278-2	SB-1 (12)	Total/NA	Solid	3550B	
310-89278-5	SB-3 (5)	Total/NA	Solid	3550B	
310-89278-7	SB-4 (12)	Total/NA	Solid	3550B	
MB 310-141284/1-A	Method Blank	Total/NA	Solid	3550B	
LCS 310-141284/2-A	Lab Control Sample	Total/NA	Solid	3550B	
LCSD 310-141284/3-A	Lab Control Sample Dup	Total/NA	Solid	3550B	

Prep Batch: 141319

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-89278-1	SB-1 W	Total/NA	Ground Water	3510C	
310-89278-3	SB-2W	Total/NA	Ground Water	3510C	
310-89278-4	SB-3W	Total/NA	Ground Water	3510C	
310-89278-6	SB-4W	Total/NA	Ground Water	3510C	
MB 310-141319/1-A	Method Blank	Total/NA	Water	3510C	
LCS 310-141319/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 310-141319/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 141440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-89278-1	SB-1 W	Total/NA	Ground Water	WI-DRO	141319
310-89278-2	SB-1 (12)	Total/NA	Solid	WI-DRO	141284

GC Semi VOA (Continued)

Analysis Batch: 141440 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-89278-3	SB-2W	Total/NA	Ground Water	WI-DRO	141319
310-89278-4	SB-3W	Total/NA	Ground Water	WI-DRO	141319
310-89278-5	SB-3 (5)	Total/NA	Solid	WI-DRO	141284
310-89278-7	SB-4 (12)	Total/NA	Solid	WI-DRO	141284
MB 310-141284/1-A	Method Blank	Total/NA	Solid	WI-DRO	141284
MB 310-141319/1-A	Method Blank	Total/NA	Water	WI-DRO	141319
LCS 310-141284/2-A	Lab Control Sample	Total/NA	Solid	WI-DRO	141284
LCS 310-141319/2-A	Lab Control Sample	Total/NA	Water	WI-DRO	141319
LCSD 310-141284/3-A	Lab Control Sample Dup	Total/NA	Solid	WI-DRO	141284
LCSD 310-141319/3-A	Lab Control Sample Dup	Total/NA	Water	WI-DRO	141319

Analysis Batch: 141544

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-89278-6	SB-4W	Total/NA	Ground Water	WI-DRO	141319
MB 310-141319/1-A	Method Blank	Total/NA	Water	WI-DRO	141319
LCS 310-141319/2-A	Lab Control Sample	Total/NA	Water	WI-DRO	141319
LCSD 310-141319/3-A	Lab Control Sample Dup	Total/NA	Water	WI-DRO	141319

Lab Chronicle

Client: Carlson McCain, Inc.
Project/Site: Richfield Sinclair Phase II

TestAmerica Job ID: 310-89278-1
SDG: 6349-00

Client Sample ID: SB-1 W

Lab Sample ID: 310-89278-1
Date Collected: 09/13/16 11:45
Matrix: Ground Water
Date Received: 09/14/16 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	141185	09/15/16 11:25	SJN	TAL CF
Total/NA	Analysis	WI-GRO		1	141639	09/16/16 23:31	CMM	TAL CF
Total/NA	Prep	3510C			141319	09/14/16 16:10	HTM	TAL CF
Total/NA	Analysis	WI-DRO		1	141440	09/15/16 13:48	LLS	TAL CF

Client Sample ID: SB-1 (12)

Lab Sample ID: 310-89278-2
Date Collected: 09/13/16 12:07
Matrix: Solid
Date Received: 09/14/16 09:00
Percent Solids: 83.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			141519	09/16/16 06:44	TCH	TAL CF
Total/NA	Analysis	8260B		1	141521	09/16/16 14:59	TCH	TAL CF
Total/NA	Prep	WI GRO			141412	09/15/16 09:56	CMM	TAL CF
Total/NA	Analysis	WI-GRO		1	141393	09/15/16 22:00	CMM	TAL CF
Total/NA	Prep	3550B			141284	09/14/16 14:36	AJM	TAL CF
Total/NA	Analysis	WI-DRO		1	141440	09/15/16 21:17	LLS	TAL CF

Client Sample ID: SB-2W

Lab Sample ID: 310-89278-3
Date Collected: 09/13/16 12:53
Matrix: Ground Water
Date Received: 09/14/16 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	141185	09/15/16 11:49	SJN	TAL CF
Total/NA	Analysis	WI-GRO		1	141639	09/16/16 23:02	CMM	TAL CF
Total/NA	Prep	3510C			141319	09/14/16 16:10	HTM	TAL CF
Total/NA	Analysis	WI-DRO		1	141440	09/15/16 14:25	LLS	TAL CF

Client Sample ID: SB-3W

Lab Sample ID: 310-89278-4
Date Collected: 09/13/16 14:44
Matrix: Ground Water
Date Received: 09/14/16 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	141185	09/15/16 12:12	SJN	TAL CF
Total/NA	Analysis	WI-GRO		1	141639	09/16/16 22:33	CMM	TAL CF
Total/NA	Prep	3510C			141319	09/14/16 16:10	HTM	TAL CF
Total/NA	Analysis	WI-DRO		1	141440	09/15/16 15:03	LLS	TAL CF

Client Sample ID: SB-3 (5)

Lab Sample ID: 310-89278-5
Date Collected: 09/13/16 14:52
Matrix: Solid
Date Received: 09/14/16 09:00
Percent Solids: 86.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			141519	09/16/16 06:44	TCH	TAL CF
Total/NA	Analysis	8260B		1	141521	09/16/16 15:23	TCH	TAL CF
Total/NA	Prep	WI GRO			141412	09/15/16 09:56	CMM	TAL CF
Total/NA	Analysis	WI-GRO		1	141393	09/15/16 22:29	CMM	TAL CF
Total/NA	Prep	3550B			141284	09/14/16 14:36	AJM	TAL CF
Total/NA	Analysis	WI-DRO		1	141440	09/15/16 21:54	LLS	TAL CF

Client Sample ID: SB-4W

Lab Sample ID: 310-89278-6
Date Collected: 09/13/16 15:49
Matrix: Ground Water
Date Received: 09/14/16 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	141185	09/15/16 12:36	SJN	TAL CF
Total/NA	Analysis	WI-GRO		1	141809	09/20/16 04:05	CMM	TAL CF
Total/NA	Prep	3510C			141319	09/14/16 16:10	HTM	TAL CF
Total/NA	Analysis	WI-DRO		5	141544	09/17/16 04:04	LLS	TAL CF

Client Sample ID: SB-4 (12)

Lab Sample ID: 310-89278-7
Date Collected: 09/13/16 15:54
Matrix: Solid
Date Received: 09/14/16 09:00
Percent Solids: 92.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			141519	09/16/16 06:44	TCH	TAL CF
Total/NA	Analysis	8260B		1	141521	09/16/16 15:48	TCH	TAL CF
Total/NA	Prep	WI GRO			141412	09/15/16 09:56	CMM	TAL CF
Total/NA	Analysis	WI-GRO		1	141393	09/15/16 22:58	CMM	TAL CF
Total/NA	Prep	3550B			141284	09/14/16 14:36	AJM	TAL CF
Total/NA	Analysis	WI-DRO		1	141440	09/15/16 22:31	LLS	TAL CF

Client Sample ID: MeOH Blank

Lab Sample ID: 310-89278-8
Date Collected: 09/13/16 00:00
Matrix: Solid
Date Received: 09/14/16 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			141519	09/16/16 06:44	TCH	TAL CF
Total/NA	Analysis	8260B		1	141521	09/16/16 16:12	TCH	TAL CF
Total/NA	Prep	WI GRO			141412	09/15/16 09:56	CMM	TAL CF
Total/NA	Analysis	WI-GRO		1	141393	09/16/16 00:24	CMM	TAL CF

Lab Chronicle

Client: Carlson McCain, Inc.
Project/Site: Richfield Sinclair Phase II

TestAmerica Job ID: 310-89278-1
SDG: 6349-00

Client Sample ID: Trip Blank

Date Collected: 09/13/16 00:00
Date Received: 09/14/16 09:00

Lab Sample ID: 310-89278-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	141233	09/15/16 08:02	SJN	TAL CF
Total/NA	Analysis	WI-GRO		1	141639	09/17/16 04:20	CMM	TAL CF

Laboratory References:

TAL CF = TestAmerica Cedar Falls, 704 Enterprise Drive, Cedar Falls, IA 50613, TEL (319)277-2401

Certification Summary

Client: Carlson McCain, Inc.
Project/Site: Richfield Sinclair Phase II

TestAmerica Job ID: 310-89278-1
SDG: 6349-00

Laboratory: TestAmerica Cedar Falls

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Minnesota	NELAP	5	019-999-319	12-31-16

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
8260B		Ground Water	Dichlorofluoromethane
8260B		Water	Dichlorofluoromethane
8260B	5035	Solid	Dichlorofluoromethane

Method Summary

Client: Carlson McCain, Inc.
Project/Site: Richfield Sinclair Phase II

TestAmerica Job ID: 310-89278-1
SDG: 6349-00

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CF
WI-GRO	Wisconsin - Gasoline Range Organics (GC)	WI-GRO	TAL CF
WI-DRO	Wisconsin - Diesel Range Organics (GC)	WI-DRO	TAL CF

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
WI-DRO = "Modified DRO: Method For Determining Diesel Range Organics", Wisconsin DNR, Publ-SW-141, September, 1995.
WI-GRO = "Modified GRO: Method For Determining Gasoline Range Organics", Wisconsin DNR, Publ-SW-140, September, 1995.

Laboratory References:

TAL CF = TestAmerica Cedar Falls, 704 Enterprise Drive, Cedar Falls, IA 50613, TEL (319)277-2401

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Cooler/Sample Receipt and Temperature Log Fo...

Client Information

Client: CARLSON McCAIN

City/State: BLAINE MN | Project: 6349-00 RICHFIELD SINCLAIR

Receipt Information

Date/Time Received: 9/14/16 0900 | Received By: BM

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? ☑ Yes ☐ No *If yes:* Cooler ID: MPLS

Multiple Coolers? ☐ Yes ☑ No *If yes:* Cooler # ____ of ____

Cooler Custody Seals Present? ☑ Yes ☐ No *If yes:* Cooler custody seals intact? ☐ Yes ☐ No

Sample Custody Seals Present? ☐ Yes ☑ No *If yes:* Sample custody seals intact? ☐ Yes ☐ No

Trip Blank Present? ☑ Yes ☐ No *If yes:* Which VOA samples are in cooler? ↓

SB-1W, SB-2W, SB3W, SB4W, TB

Temperature Record

Coolant: ☑ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Temperature Blank? ☑ Yes ☐ No ID & Bottle Type:

NOTE: If yes, use temp blank for measurement. If no, specify sample ID(s) and bottle type used to take measurement.

Thermometer ID: H | Correction Factor (°C): -0-

Uncorrected Temp (°C): 3.1 | Corrected Temp (°C):

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

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Cedar Falls Division
704 Enterprise Drive
Cedar Falls, IA 50613

Phone 319-277-2401 or 800-750-2401
Fax 319-277-2425

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?
Compliance Monitoring _____

Client Name: Carlson McCain Client #: _____
Address: 3890 Pheasant Ridge Dr NE
City/State/Zip Code: Blaine MN 55449
Project Manager: WADE CARLSON
Email Address: WCARLSON@CARLSONMCCAIN.COM
Telephone Number: 763-489-7900 Fax: _____
Sampler Name: (Print Name) JEFF NEESSE
Sampler Signature:

Project Name: Richfield Sinclair Phase II
Project #: 6349-00
Site/Location ID: Richfield State: MN
Report To: WADE
Invoice To: AP
Quote #: _____ PO#: _____

TAT
X Standard
___ Rush (surcharges may apply)
Date Needed: 5 day turn
Fax Results: Y (N)
Email Results: (Y) N

SAMPLE ID	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix: SL - Sludge, DW - Drinking Water, GW - Groundwater, S - Soil/Solid, WW - Wastewater, Specify, Other	Preservation & # of Containers: HNO_3	HCl	NaOH	H_2SO_4	Methanol	None	Other (Specify)	Analyze For: MRO	GRO	VOCs	Drywt	QC Deliverables: None / Level 2 (Batch QC) / Level 3 / Level 4 / Other:	REMARKS
SB-1W	9/13/16	1145	G	N	GW		X						X	X	X			
SB-1 (12)	9/13/16	1207	G	N	S					X	X		X	X	X	X		
SB-2W	9/13/16	1253	G	N	GW		X						X	X	X			
SB-3W	9/13/16	1444	G	N	GW		X						X	X	X			
SB-3 (5)	9/13/16	1452	G	N	S					X	X		X	X	X	X		
SB-4W	9/13/16	1549	G	N	GW		X						X	X	X			
SB-4 (12)	9/13/16	1554	G	N	S					X	X		X	X	X	X		
MEOH Blank														X	X			
Trip Blank														X	X			

Special Instructions:

LABORATORY COMMENTS:

	Date	Time		Date	Time
Relinquished By:	9/13/16	1600	Received By:	9-13-16	1600
Relinquished By:	9-13-16	1900	Received By:	9.14.16	900
Relinquished By:			Received By:		

TAL-0033 (0708)

Page _____ of _____

Rutten, Barb

From: Jill Keefe [jkeefe@carlsonmccain.com]
Sent: Thursday, September 08, 2016 2:38 PM
To: Becker, Gary; Rutten, Barb
Cc: Jeff Neisse
Subject: bottle order 6349-00

Hi Gary,
I need to order bottles for a project Richfield Sinclair (6349-00) that we have going next week. Can you please deliver the bottle order to the Blaine office by noon on Monday? I will need the following:

5 DRO Soil
5 DRO water
5 GRO soil
5 GRO water
5 VOC water
5 VOC soil and
✓One summa canister for vapors

SOIL
✓DRO
✓GRO
✓VOC

WATER
✓DRO
✓GRO
✓VOC

Thanks!

Jill Keefe
Staff Hydrogeologist

Carlson McCain, Inc.
3890 Pheasant Ridge Drive | Blaine, MN 55449
Cell 763-458-8339 | Fax 952-898-2787
www.carlsonmccain.com

✓TRIP BLANKS INCLUDED:
1 - MEOH
3 - HCL

TR
9-9-16

9/8/2016

Login Sample Receipt Checklist

Client: Carlson McCain, Inc.

Job Number: 310-89278-1
SDG Number: 6349-00

Login Number: 89278
List Number: 1
Creator: Worthy, Ashley L

List Source: TestAmerica Cedar Falls

Question	Answer	Comment
Radioactivity wasn't checked or is </= 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.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	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 <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 05403
Tel: (802)660-1990

TestAmerica Job ID: 200-35280-1
TestAmerica Sample Delivery Group: 200-35280-1
Client Project/Site: Richfield Sinclair Ph II

For:
Carlson McCain, Inc.
3890 Pheasant Ridge Drive NE, #100
Blaine, Minnesota 55449

Attn: Wade Carlson

Authorized for release by:
9/22/2016 2:52:08 PM

Kathryn Kelly, Project Manager I
(802)660-1990
kathryn.kelly@testamericainc.com

Table of Contents

Qualifiers

Air - GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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)

Job ID: 200-35280-1

Laboratory: TestAmerica Burlington

Narrative

CASE NARRATIVE

Client: Carlson McCain, Inc.

Project: Richfield Sinclair Ph II

Report Number: 200-35280-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The sample was received on 09/15/2016; the samples arrived in good condition.

VOLATILE ORGANIC COMPOUNDS
Sample SS-1 was analyzed for Volatile Organic Compounds in accordance with EPA Method TO-15. The sample was analyzed on 09/19/2016.

Sample SS-1[16.7X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

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

Detection Summary

Client: Carlson McCain, Inc.
Project/Site: Richfield Sinclair Ph II

TestAmerica Job ID: 200-35280-1
SDG: 200-35280-1

Client Sample ID: SS-1 — Lab Sample ID: 200-35280-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Ethanol	542		157		ug/m3	16.7		TO-15	Total/NA
Acetone	836		198		ug/m3	16.7		TO-15	Total/NA
Isopropyl alcohol	229		205		ug/m3	16.7		TO-15	Total/NA
n-Hexane	135		11.8		ug/m3	16.7		TO-15	Total/NA
Tetrachloroethene	702		22.7		ug/m3	16.7		TO-15	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: SS-1
Date Collected: 09/13/16 10:00
Date Received: 09/15/16 10:30
Sample Container: Summa Canister 6L

Lab Sample ID: 200-35280-1
Matrix: Air

Method: TO-15 - Volatile Organic Compounds in Ambient Air

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Propylene	<144		144		ug/m3			09/19/16 21:35	16.7
Dichlorodifluoromethane	<41.3		41.3		ug/m3			09/19/16 21:35	16.7
1,2-Dichlorotetrafluoroethane	<23.3		23.3		ug/m3			09/19/16 21:35	16.7
Chloromethane	<17.2		17.2		ug/m3			09/19/16 21:35	16.7
Vinyl chloride	<8.54		8.54		ug/m3			09/19/16 21:35	16.7
1,3-Butadiene	<7.39		7.39		ug/m3			09/19/16 21:35	16.7
Bromomethane	<13.0		13.0		ug/m3			09/19/16 21:35	16.7
Chloroethane	<22.0		22.0		ug/m3			09/19/16 21:35	16.7
Trichlorofluoromethane	<18.8		18.8		ug/m3			09/19/16 21:35	16.7
Ethanol	**542**		157		ug/m3			09/19/16 21:35	16.7
Freon TF	<25.6		25.6		ug/m3			09/19/16 21:35	16.7
1,1-Dichloroethene	<13.2		13.2		ug/m3			09/19/16 21:35	16.7
Acetone	**836**		198		ug/m3			09/19/16 21:35	16.7
Isopropyl alcohol	**229**		205		ug/m3			09/19/16 21:35	16.7
Carbon disulfide	<26.0		26.0		ug/m3			09/19/16 21:35	16.7
Methylene Chloride	<29.0		29.0		ug/m3			09/19/16 21:35	16.7
Methyl tert-butyl ether	<12.0		12.0		ug/m3			09/19/16 21:35	16.7
trans-1,2-Dichloroethene	<13.2		13.2		ug/m3			09/19/16 21:35	16.7
n-Hexane	**135**		11.8		ug/m3			09/19/16 21:35	16.7
1,1-Dichloroethane	<13.5		13.5		ug/m3			09/19/16 21:35	16.7
Vinyl acetate	<294		294		ug/m3			09/19/16 21:35	16.7
Ethyl acetate	<301		301		ug/m3			09/19/16 21:35	16.7
Methyl Ethyl Ketone	<24.6		24.6		ug/m3			09/19/16 21:35	16.7
cis-1,2-Dichloroethene	<13.2		13.2		ug/m3			09/19/16 21:35	16.7
Chloroform	<16.3		16.3		ug/m3			09/19/16 21:35	16.7
Tetrahydrofuran	<246		246		ug/m3			09/19/16 21:35	16.7
1,1,1-Trichloroethane	<18.2		18.2		ug/m3			09/19/16 21:35	16.7
Cyclohexane	<11.5		11.5		ug/m3			09/19/16 21:35	16.7
Carbon tetrachloride	<21.0		21.0		ug/m3			09/19/16 21:35	16.7
Benzene	<10.7		10.7		ug/m3			09/19/16 21:35	16.7
1,2-Dichloroethane	<13.5		13.5		ug/m3			09/19/16 21:35	16.7
n-Heptane	<13.7		13.7		ug/m3			09/19/16 21:35	16.7
Trichloroethene	<17.9		17.9		ug/m3			09/19/16 21:35	16.7
1,2-Dichloropropane	<15.4		15.4		ug/m3			09/19/16 21:35	16.7
Bromodichloromethane	<22.4		22.4		ug/m3			09/19/16 21:35	16.7
cis-1,3-Dichloropropene	<15.2		15.2		ug/m3			09/19/16 21:35	16.7
Methyl isobutyl ketone	<34.2		34.2		ug/m3			09/19/16 21:35	16.7
Toluene	<12.6		12.6		ug/m3			09/19/16 21:35	16.7
trans-1,3-Dichloropropene	<15.2		15.2		ug/m3			09/19/16 21:35	16.7
1,1,2-Trichloroethane	<18.2		18.2		ug/m3			09/19/16 21:35	16.7
Tetrachloroethene	**702**		22.7		ug/m3			09/19/16 21:35	16.7
Methyl Butyl Ketone (2-Hexanone)	<34.2		34.2		ug/m3			09/19/16 21:35	16.7
1,2-Dibromoethane	<25.7		25.7		ug/m3			09/19/16 21:35	16.7
Chlorobenzene	<15.4		15.4		ug/m3			09/19/16 21:35	16.7
Ethylbenzene	<14.5		14.5		ug/m3			09/19/16 21:35	16.7
m,p-Xylene	<36.3		36.3		ug/m3			09/19/16 21:35	16.7
Xylene, o-	<14.5		14.5		ug/m3			09/19/16 21:35	16.7
Styrene	<14.2		14.2		ug/m3			09/19/16 21:35	16.7

Client: Carlson McCain, Inc.
Project/Site: Richfield Sinclair Ph II

TestAmerica Job ID: 200-35280-1
SDG: 200-35280-1

Client Sample ID: SS-1
Date Collected: 09/13/16 10:00
Date Received: 09/15/16 10:30
Sample Container: Summa Canister 6L

Lab Sample ID: 200-35280-1
Matrix: Air

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Bromoform	<34.5		34.5		ug/m3			09/19/16 21:35	16.7
1,1,2,2-Tetrachloroethane	<22.9		22.9		ug/m3			09/19/16 21:35	16.7
4-Ethyltoluene	<16.4		16.4		ug/m3			09/19/16 21:35	16.7
1,3,5-Trimethylbenzene	<16.4		16.4		ug/m3			09/19/16 21:35	16.7
1,2,4-Trimethylbenzene	<16.4		16.4		ug/m3			09/19/16 21:35	16.7
1,3-Dichlorobenzene	<20.1		20.1		ug/m3			09/19/16 21:35	16.7
1,4-Dichlorobenzene	<20.1		20.1		ug/m3			09/19/16 21:35	16.7
Benzyl chloride	<17.3		17.3		ug/m3			09/19/16 21:35	16.7
1,2-Dichlorobenzene	<20.1		20.1		ug/m3			09/19/16 21:35	16.7
1,2,4-Trichlorobenzene	<62.0		62.0		ug/m3			09/19/16 21:35	16.7
Hexachlorobutadiene	<35.6		35.6		ug/m3			09/19/16 21:35	16.7
Naphthalene	<43.8		43.8		ug/m3			09/19/16 21:35	16.7
Dibromochloromethane	<28.5		28.5		ug/m3			09/19/16 21:35	16.7

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*33.4*	*T J*	*ppb v/v*		*5.27*			*09/19/16 21:35*	*16.7*
Unknown	*48.7*	*T J*	*ppb v/v*		*6.26*			*09/19/16 21:35*	*16.7*
Unknown	*19.9*	*T J*	*ppb v/v*		*6.72*			*09/19/16 21:35*	*16.7*
1-Butanol	*37.3*	*T J N*	*ppb v/v*		*14.61*	*71-36-3*		*09/19/16 21:35*	*16.7*
Cyclotrisiloxane, hexamethyl-	*47.7*	*T J N*	*ppb v/v*		*17.56*	*541-05-9*		*09/19/16 21:35*	*16.7*

Method: TO-15 - Volatile Organic Compounds in Ambient Air

Lab Sample ID: MB 200-109233/6
Matrix: Air
Analysis Batch: 109233

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Propylene	<8.61		8.61		ug/m3			09/19/16 14:38	1
Dichlorodifluoromethane	<2.47		2.47		ug/m3			09/19/16 14:38	1
1,2-Dichlorotetrafluoroethane	<1.40		1.40		ug/m3			09/19/16 14:38	1
Chloromethane	<1.03		1.03		ug/m3			09/19/16 14:38	1
Vinyl chloride	<0.511		0.511		ug/m3			09/19/16 14:38	1
1,3-Butadiene	<0.442		0.442		ug/m3			09/19/16 14:38	1
Bromomethane	<0.777		0.777		ug/m3			09/19/16 14:38	1
Chloroethane	<1.32		1.32		ug/m3			09/19/16 14:38	1
Trichlorofluoromethane	<1.12		1.12		ug/m3			09/19/16 14:38	1
Ethanol	<9.42		9.42		ug/m3			09/19/16 14:38	1
Freon TF	<1.53		1.53		ug/m3			09/19/16 14:38	1
1,1-Dichloroethene	<0.793		0.793		ug/m3			09/19/16 14:38	1
Acetone	<11.9		11.9		ug/m3			09/19/16 14:38	1
Isopropyl alcohol	<12.3		12.3		ug/m3			09/19/16 14:38	1
Carbon disulfide	<1.56		1.56		ug/m3			09/19/16 14:38	1
Methylene Chloride	<1.74		1.74		ug/m3			09/19/16 14:38	1
Methyl tert-butyl ether	<0.721		0.721		ug/m3			09/19/16 14:38	1
trans-1,2-Dichloroethene	<0.793		0.793		ug/m3			09/19/16 14:38	1
n-Hexane	<0.705		0.705		ug/m3			09/19/16 14:38	1
1,1-Dichloroethane	<0.809		0.809		ug/m3			09/19/16 14:38	1
Vinyl acetate	<17.6		17.6		ug/m3			09/19/16 14:38	1
Ethyl acetate	<18.0		18.0		ug/m3			09/19/16 14:38	1
Methyl Ethyl Ketone	<1.47		1.47		ug/m3			09/19/16 14:38	1
cis-1,2-Dichloroethene	<0.793		0.793		ug/m3			09/19/16 14:38	1
Chloroform	<0.977		0.977		ug/m3			09/19/16 14:38	1
Tetrahydrofuran	<14.7		14.7		ug/m3			09/19/16 14:38	1
1,1,1-Trichloroethane	<1.09		1.09		ug/m3			09/19/16 14:38	1
Cyclohexane	<0.688		0.688		ug/m3			09/19/16 14:38	1
Carbon tetrachloride	<1.26		1.26		ug/m3			09/19/16 14:38	1
Benzene	<0.639		0.639		ug/m3			09/19/16 14:38	1
1,2-Dichloroethane	<0.809		0.809		ug/m3			09/19/16 14:38	1
n-Heptane	<0.820		0.820		ug/m3			09/19/16 14:38	1
Trichloroethene	<1.07		1.07		ug/m3			09/19/16 14:38	1
1,2-Dichloropropane	<0.924		0.924		ug/m3			09/19/16 14:38	1
Bromodichloromethane	<1.34		1.34		ug/m3			09/19/16 14:38	1
cis-1,3-Dichloropropene	<0.908		0.908		ug/m3			09/19/16 14:38	1
Methyl isobutyl ketone	<2.05		2.05		ug/m3			09/19/16 14:38	1
Toluene	<0.754		0.754		ug/m3			09/19/16 14:38	1
trans-1,3-Dichloropropene	<0.908		0.908		ug/m3			09/19/16 14:38	1
1,1,2-Trichloroethane	<1.09		1.09		ug/m3			09/19/16 14:38	1
Tetrachloroethene	<1.36		1.36		ug/m3			09/19/16 14:38	1
Methyl Butyl Ketone (2-Hexanone)	<2.05		2.05		ug/m3			09/19/16 14:38	1
1,2-Dibromoethane	<1.54		1.54		ug/m3			09/19/16 14:38	1
Chlorobenzene	<0.921		0.921		ug/m3			09/19/16 14:38	1
Ethylbenzene	<0.868		0.868		ug/m3			09/19/16 14:38	1
m,p-Xylene	<2.17		2.17		ug/m3			09/19/16 14:38	1
Xylene, o-	<0.868		0.868		ug/m3			09/19/16 14:38	1
Styrene	<0.852		0.852		ug/m3			09/19/16 14:38	1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: MB 200-109233/6
Matrix: Air
Analysis Batch: 109233

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Bromoform	<2.07		2.07		ug/m3			09/19/16 14:38	1
1,1,2,2-Tetrachloroethane	<1.37		1.37		ug/m3			09/19/16 14:38	1
4-Ethyltoluene	<0.983		0.983		ug/m3			09/19/16 14:38	1
1,3,5-Trimethylbenzene	<0.983		0.983		ug/m3			09/19/16 14:38	1
1,2,4-Trimethylbenzene	<0.983		0.983		ug/m3			09/19/16 14:38	1
1,3-Dichlorobenzene	<1.20		1.20		ug/m3			09/19/16 14:38	1
1,4-Dichlorobenzene	<1.20		1.20		ug/m3			09/19/16 14:38	1
Benzyl chloride	<1.04		1.04		ug/m3			09/19/16 14:38	1
1,2-Dichlorobenzene	<1.20		1.20		ug/m3			09/19/16 14:38	1
1,2,4-Trichlorobenzene	<3.71		3.71		ug/m3			09/19/16 14:38	1
Hexachlorobutadiene	<2.13		2.13		ug/m3			09/19/16 14:38	1
Naphthalene	<2.62		2.62		ug/m3			09/19/16 14:38	1
Dibromochloromethane	<1.70		1.70		ug/m3			09/19/16 14:38	1

Tentatively Identified Compound	*Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ppb v/v*					*09/19/16 14:38*	*1*

Lab Sample ID: LCS 200-109233/5
Matrix: Air
Analysis Batch: 109233

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Propylene	17.2	19.71		ug/m3		115	58 - 129
Dichlorodifluoromethane	49.4	49.25		ug/m3		100	68 - 128
1,2-Dichlorotetrafluoroethane	69.9	83.35		ug/m3		119	78 - 138
Chloromethane	20.6	23.88		ug/m3		116	57 - 126
Vinyl chloride	25.6	28.72		ug/m3		112	62 - 125
1,3-Butadiene	22.1	22.53		ug/m3		102	59 - 125
Bromomethane	38.8	39.83		ug/m3		103	68 - 128
Chloroethane	26.4	27.58		ug/m3		105	65 - 125
Trichlorofluoromethane	56.2	50.20		ug/m3		89	67 - 127
Ethanol	28.3	23.06		ug/m3		82	28 - 168
Freon TF	76.6	71.19		ug/m3		93	68 - 128
1,1-Dichloroethene	39.6	36.54		ug/m3		92	67 - 127
Acetone	23.7	20.30		ug/m3		85	64 - 136
Isopropyl alcohol	24.6	18.35		ug/m3		75	55 - 124
Carbon disulfide	31.1	32.14		ug/m3		103	81 - 141
Methylene Chloride	34.7	29.61		ug/m3		85	62 - 122
Methyl tert-butyl ether	36.0	30.46		ug/m3		84	67 - 127
trans-1,2-Dichloroethene	39.6	36.27		ug/m3		91	72 - 132
n-Hexane	35.2	31.15		ug/m3		88	71 - 131
1,1-Dichloroethane	40.5	36.08		ug/m3		89	66 - 126
Vinyl acetate	35.2	28.16		ug/m3		80	62 - 130
Ethyl acetate	36.0	34.22		ug/m3		95	75 - 135
Methyl Ethyl Ketone	29.5	24.98		ug/m3		85	62 - 122
cis-1,2-Dichloroethene	39.6	34.79		ug/m3		88	67 - 127
Chloroform	48.8	43.32		ug/m3		89	69 - 129
Tetrahydrofuran	29.5	25.58		ug/m3		87	61 - 136

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: LCS 200-109233/5
Matrix: Air
Analysis Batch: 109233

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	54.6	50.78		ug/m3		93	70 - 130
Cyclohexane	34.4	32.16		ug/m3		93	69 - 129
Carbon tetrachloride	62.9	63.56		ug/m3		101	62 - 143
Benzene	31.9	29.01		ug/m3		91	67 - 127
1,2-Dichloroethane	40.5	37.07		ug/m3		92	67 - 132
n-Heptane	41.0	34.97		ug/m3		85	62 - 130
Trichloroethene	53.7	51.08		ug/m3		95	68 - 128
1,2-Dichloropropane	46.2	42.02		ug/m3		91	67 - 127
Bromodichloromethane	67.0	60.81		ug/m3		91	69 - 129
cis-1,3-Dichloropropene	45.4	42.00		ug/m3		93	70 - 130
Methyl isobutyl ketone	41.0	33.93		ug/m3		83	62 - 130
Toluene	37.7	34.92		ug/m3		93	67 - 127
trans-1,3-Dichloropropene	45.4	41.48		ug/m3		91	69 - 129
1,1,2-Trichloroethane	54.6	51.92		ug/m3		95	69 - 129
Tetrachloroethene	67.8	71.22		ug/m3		105	70 - 130
Methyl Butyl Ketone (2-Hexanone)	41.0	35.38		ug/m3		86	61 - 127
1,2-Dibromoethane	76.8	74.67		ug/m3		97	70 - 130
Chlorobenzene	46.0	45.17		ug/m3		98	68 - 128
Ethylbenzene	43.4	40.16		ug/m3		93	68 - 128
m,p-Xylene	86.8	82.02		ug/m3		94	68 - 128
Xylene, o-	43.4	40.35		ug/m3		93	67 - 127
Styrene	42.6	39.21		ug/m3		92	68 - 128
Bromoform	103	88.06		ug/m3		85	34 - 170
1,1,2,2-Tetrachloroethane	68.6	65.12		ug/m3		95	69 - 129
4-Ethyltoluene	49.2	47.39		ug/m3		96	69 - 129
1,3,5-Trimethylbenzene	49.2	45.56		ug/m3		93	65 - 125
1,2,4-Trimethylbenzene	49.2	45.14		ug/m3		92	65 - 125
1,3-Dichlorobenzene	60.1	58.61		ug/m3		98	67 - 127
1,4-Dichlorobenzene	60.1	57.88		ug/m3		96	66 - 126
Benzyl chloride	51.8	40.49		ug/m3		78	54 - 135
1,2-Dichlorobenzene	60.1	57.83		ug/m3		96	67 - 127
1,2,4-Trichlorobenzene	74.2	60.44		ug/m3		81	59 - 126
Hexachlorobutadiene	107	95.88		ug/m3		90	62 - 130
Naphthalene	52.4	32.80		ug/m3		63	50 - 121
Dibromochloromethane	85.2	79.23		ug/m3		93	66 - 130

Lab Sample ID: 200-35280-1 DU
Matrix: Air
Analysis Batch: 109233

Client Sample ID: SS-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Propylene	<144		<144		ug/m3		NC	25
Dichlorodifluoromethane	<41.3		<41.3		ug/m3		NC	25
1,2-Dichlorotetrafluoroethane	<23.3		<23.3		ug/m3		NC	25
Chloromethane	<17.2		<17.2		ug/m3		NC	25
Vinyl chloride	<8.54		<8.54		ug/m3		NC	25
1,3-Butadiene	<7.39		<7.39		ug/m3		NC	25
Bromomethane	<13.0		<13.0		ug/m3		NC	25

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: 200-35280-1 DU
Matrix: Air
Analysis Batch: 109233

Client Sample ID: SS-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Chloroethane	<22.0			<22.0		ug/m3				NC	25
Trichlorofluoromethane	<18.8			<18.8		ug/m3				NC	25
Ethanol	542			545.4		ug/m3				0.6	25
Freon TF	<25.6			<25.6		ug/m3				NC	25
1,1-Dichloroethene	<13.2			<13.2		ug/m3				NC	25
Acetone	836			826.7		ug/m3				1	25
Isopropyl alcohol	229			224.9		ug/m3				2	25
Carbon disulfide	<26.0			<26.0		ug/m3				NC	25
Methylene Chloride	<29.0			<29.0		ug/m3				NC	25
Methyl tert-butyl ether	<12.0			<12.0		ug/m3				NC	25
trans-1,2-Dichloroethene	<13.2			<13.2		ug/m3				NC	25
n-Hexane	135			133.3		ug/m3				1	25
1,1-Dichloroethane	<13.5			<13.5		ug/m3				NC	25
Vinyl acetate	<294			<294		ug/m3				NC	25
Ethyl acetate	<301			<301		ug/m3				NC	25
Methyl Ethyl Ketone	<24.6			<24.6		ug/m3				NC	25
cis-1,2-Dichloroethene	<13.2			<13.2		ug/m3				NC	25
Chloroform	<16.3			<16.3		ug/m3				NC	25
Tetrahydrofuran	<246			<246		ug/m3				NC	25
1,1,1-Trichloroethane	<18.2			<18.2		ug/m3				NC	25
Cyclohexane	<11.5			<11.5		ug/m3				NC	25
Carbon tetrachloride	<21.0			<21.0		ug/m3				NC	25
Benzene	<10.7			<10.7		ug/m3				NC	25
1,2-Dichloroethane	<13.5			<13.5		ug/m3				NC	25
n-Heptane	<13.7			<13.7		ug/m3				NC	25
Trichloroethene	<17.9			<17.9		ug/m3				NC	25
1,2-Dichloropropane	<15.4			<15.4		ug/m3				NC	25
Bromodichloromethane	<22.4			<22.4		ug/m3				NC	25
cis-1,3-Dichloropropene	<15.2			<15.2		ug/m3				NC	25
Methyl isobutyl ketone	<34.2			<34.2		ug/m3				NC	25
Toluene	<12.6			<12.6		ug/m3				NC	25
trans-1,3-Dichloropropene	<15.2			<15.2		ug/m3				NC	25
1,1,2-Trichloroethane	<18.2			<18.2		ug/m3				NC	25
Tetrachloroethene	702			661.6		ug/m3				6	25
Methyl Butyl Ketone (2-Hexanone)	<34.2			<34.2		ug/m3				NC	25
1,2-Dibromoethane	<25.7			<25.7		ug/m3				NC	25
Chlorobenzene	<15.4			<15.4		ug/m3				NC	25
Ethylbenzene	<14.5			<14.5		ug/m3				NC	25
m,p-Xylene	<36.3			<36.3		ug/m3				NC	25
Xylene, o-	<14.5			<14.5		ug/m3				NC	25
Styrene	<14.2			<14.2		ug/m3				NC	25
Bromoform	<34.5			<34.5		ug/m3				NC	25
1,1,2,2-Tetrachloroethane	<22.9			<22.9		ug/m3				NC	25
4-Ethyltoluene	<16.4			<16.4		ug/m3				NC	25
1,3,5-Trimethylbenzene	<16.4			<16.4		ug/m3				NC	25
1,2,4-Trimethylbenzene	<16.4			<16.4		ug/m3				NC	25
1,3-Dichlorobenzene	<20.1			<20.1		ug/m3				NC	25

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: 200-35280-1 DU
Matrix: Air
Analysis Batch: 109233

Client Sample ID: SS-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
1,4-Dichlorobenzene	<20.1			<20.1		ug/m3				NC	25
Benzyl chloride	<17.3			<17.3		ug/m3				NC	25
1,2-Dichlorobenzene	<20.1			<20.1		ug/m3				NC	25
1,2,4-Trichlorobenzene	<62.0			<62.0		ug/m3				NC	25
Hexachlorobutadiene	<35.6			<35.6		ug/m3				NC	25
Naphthalene	<43.8			<43.8		ug/m3				NC	25
Dibromochloromethane	<28.5			<28.5		ug/m3				NC	25

QC Association Summary

Client: Carlson McCain, Inc.
Project/Site: Richfield Sinclair Ph II

TestAmerica Job ID: 200-35280-1
SDG: 200-35280-1

Air - GC/MS VOA

Analysis Batch: 109233

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-35280-1	SS-1	Total/NA	Air	TO-15	
MB 200-109233/6	Method Blank	Total/NA	Air	TO-15	
LCS 200-109233/5	Lab Control Sample	Total/NA	Air	TO-15	
200-35280-1 DU	SS-1	Total/NA	Air	TO-15	

Lab Chronicle

Client: Carlson McCain, Inc.
Project/Site: Richfield Sinclair Ph II

TestAmerica Job ID: 200-35280-1
SDG: 200-35280-1

Client Sample ID: SS-1
Date Collected: 09/13/16 10:00
Date Received: 09/15/16 10:30

Lab Sample ID: 200-35280-1
Matrix: Air

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		16.7	109233	09/19/16 21:35	WRD	TAL BUR

Laboratory References:

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Certification Summary

Client: Carlson McCain, Inc.
Project/Site: Richfield Sinclair Ph II

TestAmerica Job ID: 200-35280-1
SDG: 200-35280-1

Laboratory: TestAmerica Burlington

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Minnesota	NELAP	5	050-999-436	12-31-16

The following analytes are included in this report, but are not certified under this certification:

Analysis Method	Prep Method	Matrix	Analyte
TO-15		Air	Vinyl acetate

Method Summary

Client: Carlson McCain, Inc.
Project/Site: Richfield Sinclair Ph II

TestAmerica Job ID: 200-35280-1
SDG: 200-35280-1

Method	Method Description	Protocol	Laboratory
TO-15	Volatile Organic Compounds in Ambient Air	EPA	TAL BUR

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Sample Summary

Client: Carlson McCain, Inc.
Project/Site: Richfield Sinclair Ph II

TestAmerica Job ID: 200-35280-1
SDG: 200-35280-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
200-35280-1	SS-1	Air	09/13/16 10:00	09/15/16 10:30

TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 05403
phone 802-660-1990 fax 802-660-1919

Canister Samples Chain of Custody Record

TestAmerica Analytical Testing Corp. assumes no liability with respect to the collection and shipment of these samples.

Client Contact Information	Project Manager: WADE CARLSON	**Samples Collected By:** JMV	1 of 1 COCs
Company: Carlson McLean	Phone:		
Address: 3890 Pheasant Ridge Dr NE	Email: WCARLSON@CARLSONMCLEAN.COM		
City/State/Zip Blaine MN 55449			
Phone: 763-489-7900	Site Contact:		
FAX:	TA Contact:		
Project Name: Richfield Sinclair Ph II	**Analysis Turnaround Time**		
Site:	Standard (Specify)		
PO #	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	MA-APH	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
SS-1	9/13/16		1000					X											

	Temperature (Fahrenheit)		
	Interior	Ambient	
Start			
Stop			

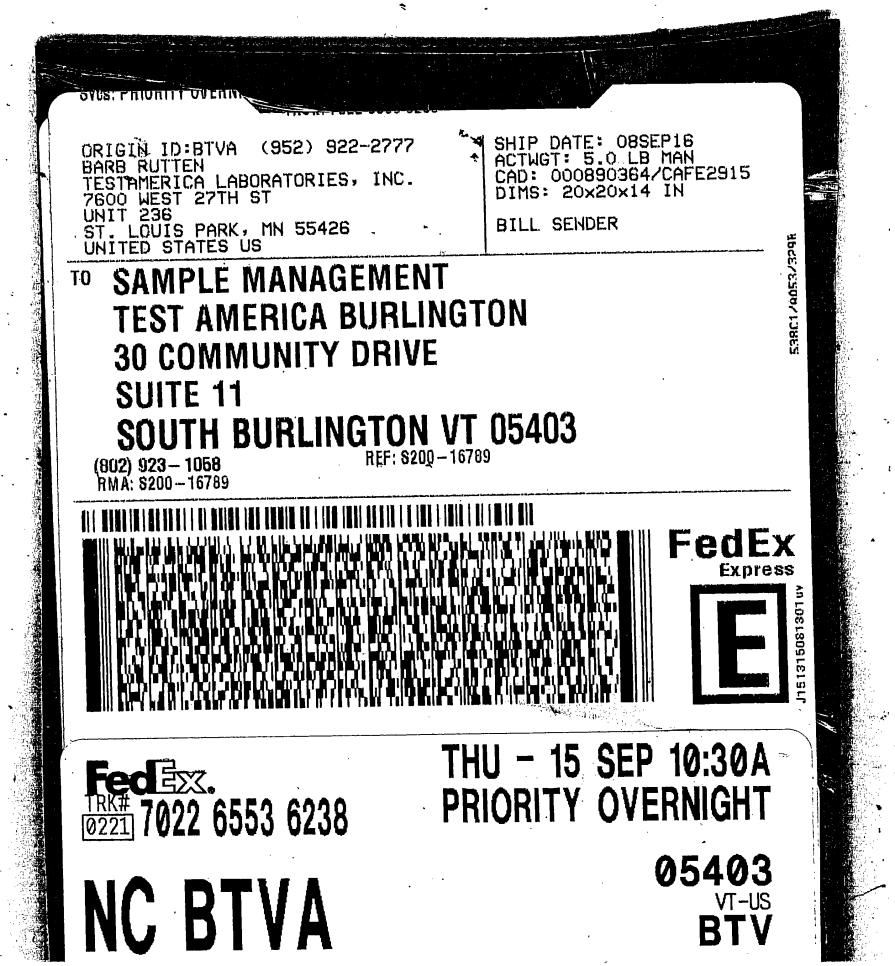
	Pressure (inches of Hg)		
	Interior	Ambient	
Start			
Stop			

200-35280 Chain of Custody

Special Instructions/QC Requirements & Comments:

Samples Shipped by:	Date/Time: 9/13/16 1600	Samples Received by:	9-13-16 1610
Samples Relinquished by:	Date/Time: 9-13-16 1900	Received by:	9/15/16 1030
Relinquished by:	Date/Time:	Received by:	

Lab Use Only Shipper Name: Opened by: Condition:



ORIGIN ID:BTVA (952) 922-2777
BARB RUTTEN
TESTAMERICA LABORATORIES, INC.
7600 WEST 27TH ST
UNIT 236
ST. LOUIS PARK, MN 55426
UNITED STATES US

SHIP DATE: 08SEP16
ACTWGT: 5.0 LB MAN
CAD: 0008890364/CAFE2915
DIMS: 20x20x14 IN

BILL SENDER

TO SAMPLE MANAGEMENT
TEST AMERICA BURLINGTON
30 COMMUNITY DRIVE
SUITE 11
SOUTH BURLINGTON VT 05403
(802) 923-1058
RMA: S200-16789

REF: S200-16789

FedEx Express

FedEx
TRK# 0221 7022 6553 6238

THU - 15 SEP 10:30A
PRIORITY OVERNIGHT

NC BTVA

05403
VT-US
BTV

Login Sample Receipt Checklist

Client: Carlson McCain, Inc.

Job Number: 200-35280-1
SDG Number: 200-35280-1

Login Number: 35280
List Number: 1
Creator: Lavigne III, Scott M

List Source: TestAmerica Burlington

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	Not present
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	Thermal preservation not required.
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	N/A	Thermal preservation not required.
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.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	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.	N/A	
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 <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Pre-Shipment Clean Canister Certification Report

Canister Cleaning & Pre-Shipment Leak Test

System ID	# Cycles	Cleaning Date	Technician	Canister Size	Certification Type:
Top Rack	50	8/6/2016	MLT	1L (6L)	(Batch) Individual

Port	Can ID	Initial[1] ("Hg)	Final ("Hg)	Adj. Initial[2] ("Hg)	Diff.[3]	Initial Reading Gauge:	Initial Reading Date:	Initial Reading Time:	Initial Reading Tech:	Initial Reading BP:	Initial Reading Temp:	Final Reading Gauge:	Final Reading Date:	Final Reading Time:	Final Reading Tech:	Final Reading BP:	Final Reading Temp:
1	3283	-29.7	-29.9	-29.7	-0.2	G9	8/8/2016	900	MLT	29.5	22	↑	8/17/16	1421	ME	29.5	22
2	5980	↓	-29.9	↓	-0.2	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
3	5904	↓	-29.9	↓	-0.2	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
4	3341	↓	-29.8	↓	-0.1	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
5	2862	↓	-29.9	↓	-0.2	↓	↓	↓	↓	↓	↓	↓	↓	↓	—	↓	↓
6	**5044**	↓	-29.8	↓	-0.1	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	—	↓
7	**3514**	-29.7	-29.8	-29.7	-0.1	↓	8/10/16	1300	↓	29.5	22	69	8/11/16	1215	ME	29.5	22
8	3267	-29.7	-29.6	-29.6	0	↓	8/18/16 ↑	900 ↑	↓	29.5	22	↓	8/17/16 ↑	1400 ↑	↓	↓	↓
9	5717	↓	-29.5	↓	+0.1	↓	8/17/16	1600	↓	↓	↓	↓	8/18/16	1700	↓	29.4	↓
10	3282	↓	-29.9	↓	-0.2	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
11	5692	↓	-29.9	↓	-0.2	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
12	4907	↓	-29.8	↓	-0.1	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓

[1] Batch Certification: The reading is taken on the "batch" canister and this value is used as the initial pressure for all canisters in the batch.

[2] Adjusted Initial Pressure = Initial Pressure + (Initial BP - Final BP).

[3] Difference = Final Pressure - Adjusted Initial Pressure . Acceptance Criteria: (1) The difference must be less than or equal to + 0.5. (2) Pressure readings must be at least 24 hours apart.

If time frame was not met, the PM must authorize shipment of canister **PM Authorization Signature:** **Date:**

Clean Canister Certification Analysis & Authorization of Release to Inventory

Test Method: (TO15 Routine) TO15 LL NJDEP-LL TO15

Can ID	Date	Sequence	Analyst	Inventory Level 1	2	3	4	Limited	Secondary Review: Review Date	Rev
3514	8/09/16	21231	PAD		XXXXX				8/10/16	ANJ

Inventory Level 1: Individual Canister Certification (TO15LL 0.01).

Inventory Level 2: Individual or Batch Certification (TO15 0.04 ppbv).

Inventory Level 3: Individual or Batch Certification (TO15 0.2 ppbv).

Inventory Level 4: Individual or Batch Certification (TO15LLNJ 0.08 ppbv).

Inventory Level Limited: Canisters may only be used for certain projects.

Comments:

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-34725-1

SDG No.:

Client Sample ID: 3514 Lab Sample ID: 200-34725-7

Matrix: Air Lab File ID: 21231_20.D

Analysis Method: TO-15 Date Collected: 08/06/2016 00:00

Sample wt/vol: 1000(mL) Date Analyzed: 08/09/2016 02:16

Soil Aliquot Vol: Dilution Factor: 0.2

Soil Extract Vol.: GC Column: RTX-624 ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 107883 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL	RL
115-07-1	Propylene	1.0	U	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.10	U	0.10	0.10
75-45-6	Freon 22	0.10	U	0.10	0.10
76-14-2	1,2-Dichlorotetrafluoroethane	0.040	U	0.040	0.040
74-87-3	Chloromethane	0.10	U	0.10	0.10
106-97-8	n-Butane	0.10	U	0.10	0.10
75-01-4	Vinyl chloride	0.040	U	0.040	0.040
106-99-0	1,3-Butadiene	0.040	U	0.040	0.040
74-83-9	Bromomethane	0.040	U	0.040	0.040
75-00-3	Chloroethane	0.10	U	0.10	0.10
593-60-2	Bromoethene(Vinyl Bromide)	0.040	U	0.040	0.040
75-69-4	Trichlorofluoromethane	0.040	U	0.040	0.040
64-17-5	Ethanol	1.0	U	1.0	1.0
76-13-1	Freon TF	0.040	U	0.040	0.040
75-35-4	1,1-Dichloroethene	0.040	U	0.040	0.040
67-64-1	Acetone	1.0	U	1.0	1.0
67-63-0	Isopropyl alcohol	1.0	U	1.0	1.0
75-15-0	Carbon disulfide	0.10	U	0.10	0.10
107-05-1	3-Chloropropene	0.10	U	0.10	0.10
75-09-2	Methylene Chloride	0.10	U	0.10	0.10
75-65-0	tert-Butyl alcohol	1.0	U	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.040	U	0.040	0.040
156-60-5	trans-1,2-Dichloroethene	0.040	U	0.040	0.040
110-54-3	n-Hexane	0.040	U	0.040	0.040
75-34-3	1,1-Dichloroethane	0.040	U	0.040	0.040
108-05-4	Vinyl acetate	1.0	U	1.0	1.0
141-78-6	Ethyl acetate	1.0	U	1.0	1.0
78-93-3	Methyl Ethyl Ketone	0.10	U	0.10	0.10
156-59-2	cis-1,2-Dichloroethene	0.040	U	0.040	0.040
540-59-0	1,2-Dichloroethene, Total	0.080	U	0.080	0.080
67-66-3	Chloroform	0.040	U	0.040	0.040
109-99-9	Tetrahydrofuran	1.0	U	1.0	1.0
71-55-6	1,1,1-Trichloroethane	0.040	U	0.040	0.040
110-82-7	Cyclohexane	0.040	U	0.040	0.040
56-23-5	Carbon tetrachloride	0.040	U	0.040	0.040
540-84-1	2,2,4-Trimethylpentane	0.040	U	0.040	0.040

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-34725-1

SDG No.:

Client Sample ID: 3514 Lab Sample ID: 200-34725-7

Matrix: Air Lab File ID: 21231_20.D

Analysis Method: TO-15 Date Collected: 08/06/2016 00:00

Sample wt/vol: 1000(mL) Date Analyzed: 08/09/2016 02:16

Soil Aliquot Vol: Dilution Factor: 0.2

Soil Extract Vol.: GC Column: RTX-624 ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 107883 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL	RL
71-43-2	Benzene	0.040	U	0.040	0.040
107-06-2	1,2-Dichloroethane	0.040	U	0.040	0.040
142-82-5	n-Heptane	0.040	U	0.040	0.040
79-01-6	Trichloroethene	0.040	U	0.040	0.040
80-62-6	Methyl methacrylate	0.10	U	0.10	0.10
78-87-5	1,2-Dichloropropane	0.040	U	0.040	0.040
123-91-1	1,4-Dioxane	1.0	U	1.0	1.0
75-27-4	Bromodichloromethane	0.040	U	0.040	0.040
10061-01-5	cis-1,3-Dichloropropene	0.040	U	0.040	0.040
108-10-1	methyl isobutyl ketone	0.10	U	0.10	0.10
108-88-3	Toluene	0.040	U	0.040	0.040
10061-02-6	trans-1,3-Dichloropropene	0.040	U	0.040	0.040
79-00-5	1,1,2-Trichloroethane	0.040	U	0.040	0.040
127-18-4	Tetrachloroethene	0.040	U	0.040	0.040
591-78-6	Methyl Butyl Ketone (2-Hexanone)	0.10	U	0.10	0.10
124-48-1	Dibromochloromethane	0.040	U	0.040	0.040
106-93-4	1,2-Dibromoethane	0.040	U	0.040	0.040
108-90-7	Chlorobenzene	0.040	U	0.040	0.040
100-41-4	Ethylbenzene	0.040	U	0.040	0.040
179601-23-1	m,p-Xylene	0.10	U	0.10	0.10
95-47-6	Xylene, o-	0.040	U	0.040	0.040
1330-20-7	Xylene (total)	0.14	U	0.14	0.14
100-42-5	Styrene	0.040	U	0.040	0.040
75-25-2	Bromoform	0.040	U	0.040	0.040
98-82-8	Cumene	0.040	U	0.040	0.040
79-34-5	1,1,2,2-Tetrachloroethane	0.040	U	0.040	0.040
103-65-1	n-Propylbenzene	0.040	U	0.040	0.040
622-96-8	4-Ethyltoluene	0.040	U	0.040	0.040
108-67-8	1,3,5-Trimethylbenzene	0.040	U	0.040	0.040
95-49-8	2-Chlorotoluene	0.040	U	0.040	0.040
98-06-6	tert-Butylbenzene	0.040	U	0.040	0.040
95-63-6	1,2,4-Trimethylbenzene	0.040	U	0.040	0.040
135-98-8	sec-Butylbenzene	0.040	U	0.040	0.040
99-87-6	4-Isopropyltoluene	0.040	U	0.040	0.040
541-73-1	1,3-Dichlorobenzene	0.040	U	0.040	0.040
106-46-7	1,4-Dichlorobenzene	0.040	U	0.040	0.040

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-34725-1

SDG No.:

Client Sample ID: 3514 Lab Sample ID: 200-34725-7

Matrix: Air Lab File ID: 21231_20.D

Analysis Method: TO-15 Date Collected: 08/06/2016 00:00

Sample wt/vol: 1000(mL) Date Analyzed: 08/09/2016 02:16

Soil Aliquot Vol: Dilution Factor: 0.2

Soil Extract Vol.: GC Column: RTX-624 ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 107883 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL	RL
100-44-7	Benzyl chloride	0.040	U	0.040	0.040
104-51-8	n-Butylbenzene	0.040	U	0.040	0.040
95-50-1	1,2-Dichlorobenzene	0.040	U	0.040	0.040
120-82-1	1,2,4-Trichlorobenzene	0.10	U	0.10	0.10
87-68-3	Hexachlorobutadiene	0.040	U	0.040	0.040
91-20-3	Naphthalene	0.10	U	0.10	0.10

TestAmerica Burlington
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\CHC.i\20160808-21231.b\21231_20.D
Lims ID: 200-34725-A-7 Lab Sample ID: 200-34725-7
Client ID: 3514
Sample Type: Client
Inject. Date: 09-Aug-2016 02:16:30 ALS Bottle#: 21 Worklist Smp#: 20
Purge Vol: 200.000 mL Dil. Factor: 0.2000
Sample Info: 200-0021231-020
Misc. Info.: 34725-07
Operator ID: pad Instrument ID: CHC.i

Method: \\ChromNA\Burlington\ChromData\CHC.i\20160808-21231.b\TO15_MasterMethod_(v1)_CHC.i.m
Limit Group: AI_TO15_ICAL
Last Update: 09-Aug-2016 10:20:44 Calib Date: 30-Jun-2016 22:11:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Burlington\ChromData\CHC.i\20160630-20687.b\20687_10.D

Column 1 : RTX-624 (0.32 mm) Det: MS SCAN
Process Host: XAWRK007

First Level Reviewer: daiglep Date: 09-Aug-2016 09:57:11

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ppb v/v	Flags
1 Propene	41		2.983				ND	
2 Dichlorodifluoromethane	85		3.053				ND	
3 Chlorodifluoromethane	51		3.106				ND	
4 1,2-Dichloro-1,1,2,2-tetra	85		3.319				ND	
5 Chloromethane	50	3.464	3.458	0.006	6	723	0.0392	
6 Butane	43		3.661				ND	
7 Vinyl chloride	62		3.704				ND	
8 Butadiene	54		3.784				ND	
10 Bromomethane	94		4.472				ND	
11 Chloroethane	64		4.718				ND	
13 Vinyl bromide	106		5.118				ND	
14 Trichlorofluoromethane	101		5.219				ND	
17 Ethanol	45		5.828				ND	
20 1,1,2-Trichloro-1,2,2-trif	101		6.335				ND	
21 1,1-Dichloroethene	96		6.367				ND	
22 Acetone	43		6.612				ND	
23 Carbon disulfide	76		6.746				ND	
24 Isopropyl alcohol	45		6.933				ND	
25 3-Chloro-1-propene	41		7.173				ND	
27 Methylene Chloride	49		7.477				ND	
28 2-Methyl-2-propanol	59		7.722				ND	
29 Methyl tert-butyl ether	73		7.883				ND	
31 trans-1,2-Dichloroethene	61		7.920				ND	
33 Hexane	57		8.320				ND	
34 1,1-Dichloroethane	63		8.811				ND	
35 Vinyl acetate	43		8.897				ND	
37 cis-1,2-Dichloroethene	96		9.937				ND	
38 2-Butanone (MEK)	72		9.991				ND	
39 Ethyl acetate	88		10.044				ND	
S 30 1,2-Dichloroethene, Total	61		10.200				ND	
* 40 Chlorobromomethane	128	10.407	10.412	-0.005	89	238512	10.0	

	Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ppb v/v	Flags
	41 Tetrahydrofuran	42		10.412				ND	
	42 Chloroform	83		10.551				ND	
	43 Cyclohexane	84		10.786				ND	
	44 1,1,1-Trichloroethane	97		10.818				ND	
	45 Carbon tetrachloride	117		11.069				ND	
	46 Isooctane	57		11.517				ND	
	47 Benzene	78		11.538				ND	
	48 1,2-Dichloroethane	62		11.730				ND	
	49 n-Heptane	43		11.923				ND	
*	50 1,4-Difluorobenzene	114	12.408	12.408	0.000	98	1349186		10.0
	53 Trichloroethene	95		12.873				ND	
	54 1,2-Dichloropropane	63		13.438				ND	
	55 Methyl methacrylate	69		13.625				ND	
	56 1,4-Dioxane	88		13.673				ND	
	57 Dibromomethane	174		13.705				ND	
	58 Dichlorobromomethane	83		14.015				ND	
	60 cis-1,3-Dichloropropene	75		14.959				ND	
	61 4-Methyl-2-pentanone (MIBK	43		15.247				ND	
	65 Toluene	92		15.546				ND	
	66 trans-1,3-Dichloropropene	75		16.160				ND	
	67 1,1,2-Trichloroethane	83		16.534				ND	
	68 Tetrachloroethene	166		16.630				ND	
	69 2-Hexanone	43		16.982				ND	
	71 Chlorodibromomethane	129		17.291				ND	
	72 Ethylene Dibromide	107		17.553				ND	
*	74 Chlorobenzene-d5	117	18.450	18.455	-0.005	98	1284387		10.0
	75 Chlorobenzene	112		18.514				ND	
	76 Ethylbenzene	91		18.663				ND	
	78 m-Xylene & p-Xylene	106		18.914				ND	
	79 o-Xylene	106		19.757				ND	
	80 Styrene	104		19.810				ND	
S	73 Xylenes, Total	106		20.100				ND	
	81 Bromoform	173		20.232				ND	
	82 Isopropylbenzene	105		20.446				ND	
	84 1,1,2,2-Tetrachloroethane	83		21.107				ND	
	85 N-Propylbenzene	91		21.166				ND	
	88 4-Ethyltoluene	105		21.358				ND	
	89 2-Chlorotoluene	91		21.369				ND	
	90 1,3,5-Trimethylbenzene	105		21.465				ND	
	92 tert-Butylbenzene	119		21.956				ND	
	93 1,2,4-Trimethylbenzene	105		22.052				ND	
	94 sec-Butylbenzene	105		22.281				ND	
	95 4-Isopropyltoluene	119		22.484				ND	
	96 1,3-Dichlorobenzene	146		22.511				ND	
	97 1,4-Dichlorobenzene	146		22.650				ND	
	98 Benzyl chloride	91		22.842				ND	
	100 n-Butylbenzene	91		23.050				ND	
	101 1,2-Dichlorobenzene	146		23.173				ND	
	103 1,2,4-Trichlorobenzene	180		25.628				ND	
	104 Hexachlorobutadiene	225		25.809				ND	
	105 Naphthalene	128		26.097				ND	

Reagents:

ATTO15CISs_00010 Amount Added: 20.00 Units: mL Run Reagent

Report Date: 09-Aug-2016 10:21:50 Chrom Revision: 2.2 04-Mar-2016 14:36:24

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\CHC.i\20160808-21231.b\21231_20.D

Injection Date:	09-Aug-2016 02:16:30	Instrument ID:	CHC.i	Operator ID:	pad
Lims ID:	200-34725-A-7	Lab Sample ID:	200-34725-7	Worklist Smp#:	20
Client ID:	3514				
Purge Vol:	200.000 mL	Dil. Factor:	0.2000	ALS Bottle#:	21
Method:	TO15_MasterMethod_(v1)_CHC.i	Limit Group:	AI_TO15_ICAL		

Column: RTX-624 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1