

2017 FIELD INVESTIGATION AND ANNUAL MONITORING REPORT

Former Dealers Manufacturing Site (Reviva)
Fridley, Minnesota
Project #0101-17

Prepared for:

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1.0 INTRODUCTION

This 2017 Field Investigation and Annual Monitoring Report has been prepared by Carlson McCain, Inc. (Carlson McCain), on behalf of Reviva (formerly Dealers Manufacturing), for the facility located in Fridley, Minnesota. A site location map is provided as Figure 1.

1.1 Purpose and Objectives

The purpose of this report is two-fold; it is intended to present the results of the field activities completed in 2017 in accordance with the Minnesota Pollution Control Agency (MPCA) approved 2016 Remedial Action Plan Work Plan (Revision No. 4) (Carlson McCain, 2016) and it is also intended to present the 2017 Annual Report. The objectives of this report are to provide the field investigation data including monitoring well installation, sub-slab vapor sampling, and vapor mitigation system installation, to evaluate trends in the field monitoring and laboratory analytical results over the monitoring period, evaluate overall groundwater quality and remediation effectiveness, evaluate off-site influences, and provide recommendations for future actions at the Reviva facility (Site).

1.2 Site Description

The Site is located in the southwest $\frac{1}{4}$ of the northeast $\frac{1}{4}$ of Section 27, Township 30 North, Range 24 West in the extreme southern portion of Anoka County, Minnesota (Figure 1). The Site occupies approximately 5.25 acres of property consisting of paved parking area, some open grassy areas and a single-story, 58,500 square foot office/warehouse/manufacturing building (Figure 2). The properties adjacent to the Reviva site include warehouse/manufacturing facilities to the north and south, a Burlington Northern Santa Fe (BNSF) rail yard to the west and a residential subdivision to the east. Reviva is located about two-thirds of a mile east of the Mississippi River, about one-quarter mile northeast of the United States Naval Industrial Reserve Ordnance Plant (NIROP), and one-quarter mile south of Kurt Manufacturing. Both NIROP and Kurt Manufacturing have documented releases of chlorinated solvents and both facilities have long-term ground water extraction and remediation systems in place.

1.3 Site Geologic and Hydrogeologic Setting

This section presents a brief summary of the hydrogeology at the Site which has been adapted from previous annual reports. The geology of the Site is characterized by two river terrace deposits separated by thin, discontinuous fine alluvium above glacial outwash. The outwash is approximately 20 to 40 feet thick and is underlain by a thick deposit of glacial till (40 to 72 feet thick), which is in turn, underlain by Ordovician bedrock formations.

The area surrounding the Site consists of similar Quaternary deposits overlying St. Peter Sandstone and the Prairie du Chien Group. The St. Peter Sandstone generally tapers out to the west towards the Mississippi River, where the river has cut down through the sandstone to expose the Prairie du Chien Group.

Groundwater flow in the lower terrace/outwash deposit has historically been to the southwest within the western portion of the Site with a relatively flat gradient (0.0003 to 0.0005 ft/ft). Hydraulic conductivities based on field tests range from 10^{-1} to 10^{-5} cm/sec. For a more thorough discussion of Site hydrology, please refer to the *2014 Annual Monitoring Report* (Carlson McCain, 2015).

2.0 SUMMARY OF FIELD INVESTIGATION ACTIVITIES

The following sections discuss the field tasks associated with soil boring advancement, monitoring well installation, and sub-slab vapor sampling. Drilling and monitoring well installation services were performed by Traut Companies, of Waite Park, Minnesota, a licensed and registered well contractor in the State of Minnesota. Drilling and well construction was conducted in accordance with Minnesota Administrative Rules (Rules), Chapter 4725, *Wells and Borings*.

In general, the nomenclature for monitoring wells installed on the Reviva property is as follows: water table - MW-XXXXA, deep drift or lower portion of outwash aquifer - MW-XXXB, and bedrock (Prairie du Chien) - MW-XXXPC. Off-site monitoring wells were initially installed by others and utilize a different system. Well designations include the property owners' name (BNSF or REEP) and end in "S" for shallow or water table wells, "D" for the deep outwash aquifer and PC for Prairie de Chien bedrock. Some wells were initially installed without a depth designation including REEP-1 which is completed in a sandy formation below the glacial till and above the bedrock and REEP-2 which is completed in the deep drift aquifer.

2.1 2017 Borings and Well Construction

A total of five borings were drilled as part of the 2017 monitoring well installation activities. Two borings were drilled to the south of the Reviva Site on the adjacent REEP property, one to a depth of 30 feet below ground surface (bgs), REEP-2S, and one to a depth of 135 feet bgs, REEP-2PC; two soil borings were drilled to the northwest of the Site on the BNSF Railway property, one to a depth of 27 feet bgs, BNSF-3S, and one to a depth of 60 feet bgs, BNSF-3D; and one soil boring was drilled on the western portion of the Site, MW-108PC, to a depth of 150 feet bgs. A map showing the locations of the soil borings/monitoring wells is provided as Figure 2 and construction details for the new wells are provided in Table 1. Field boring logs are presented in Appendix A.

The borings for REEP-2S, REEP-2PC, and MW-108PC were completed in May 2017 using rota-sonic drilling methods in general accordance with American Society for Testing Materials (ASTM) 6914-04 "Standard Practice for Sonic Drilling for Site Characterization and the Installation of Subsurface Monitoring Devices". Rota-Sonic drilling methods allowed for continuously collecting soil samples by advancing a four-inch diameter steel core barrel and then extruding the soil from the core into a polyethylene sleeve. Core runs were, on average, 10-foot intervals; in some circumstances, shorter than 10-foot core runs were used, depending on the predicted depth of the borehole and amount of soil recovery. A six-inch diameter outer casing was then advanced to keep the borehole open during drilling, and to accommodate the installation of the monitoring wells. In the instance of MW-108PC, which was double-cased to 65 feet below ground surface (bgs), a 10-inch outer casing was advanced to facilitate the double casing of the well.

Due to the close proximity of BNSF-3S and BNSF-3D to buried, high voltage electric lines utilities located on the BNSF Railroad property, this well nest location required a utility variance (included in Appendix A) from the Minnesota Department of Health (MDH) and the soil borings were therefore not drilled until August 2017. Soil samples from these borings were collected continuously using direct push technology which uses a 1.5-inch inner diameter by 5-foot long, stainless steel "Macro

Core® Sampler”, fit with an acetate sleeve. To facilitate well installation, the 1.5-inch inner diameter borehole was over-drilled using 4.25-inch inner diameter hollow stem auger (HSA) drilling methods in general accordance with the ASTM D1452 “Standard Practice for Soil Exploration and Sampling by Auger Borings”.

Extruded soil samples were placed either on the ground or a table for logging and stratigraphic characterization. Soil samples were logged, classified, and geologically interpreted in the field in general accordance with the procedure outlined in ASTM D2488, “Standard Practice for Description and Identification of Soils”. Soil descriptions included consistency, matrix color, material classification, field moisture, plasticity, and depositional interpretation. Soil textural classifications were assigned according to the United Soil Classification System (USCS). Due to the use of sonic and direct push drilling methods, standard penetration testing was not performed and therefore density descriptions do not conform to ASTM D1586. However, pocket penetrometers were used to test core specimens of fine-grained soils. Penetrometer readings were converted to density descriptions using the equivalency values listed in the Field Guide for Soil and Stratigraphic Analysis, v.2 (Midwest GeoSciences Group, 2008).

A photoionization detector (PID) equipped with an 11.7 eV lamp and calibrated to trichloroethene (TCE) equivalents was utilized during drilling activities to test extruded soil samples for the presence of volatile organic compounds (VOCs). Soils were tested using the Minnesota Pollution Control Agency (MPCA) bag headspace methods as outlined in the MPCA Guidance Document 4-04, “Soil Sampling Collection and Analysis Procedures”. Results of field screening for VOCs were recorded on the field boring logs which are provided in Appendix A.

2.2 Site Geologic and Hydrogeologic Conditions

The investigation encountered five major stratigraphic units at the Site. The units consist of surficial fill and topsoil, river terrace deposits, glacial outwash, glacial till and bedrock. Interpretation and stratigraphic correlation for each unit is discussed in the following sections and supplements data initially presented in the “Detailed Site Investigation and Focused Feasibility Study” (WCEC, 1995) and subsequent investigations thereafter.

2.2.1 Topsoil and Fill

The uppermost stratigraphic unit encountered during the field work is comprised of mixed sandy fill and topsoil of variable thickness. The topsoil and fill mixture consists primarily of very fine to medium-grained, poorly graded sand with some coarser material also present. Soils were typically classified as SP under USCS. Color was typically described as dark brown, brown, yellowish brown, or light yellowish brown; with reference to the Munsell color chart, hue was reported as YR. The texture and color reported is generally consistent with previous observations made across the Site. This unit was observed to be 7 feet thick at MW-108PC and 11.5 feet thick at REEP-2S.

2.2.2 Upper Terrace Alluvial Deposits

Underlying the mixed fill and topsoil materials, a deposit of unconsolidated river terrace sediments or Upper Terrace Alluvial Deposits was encountered. The alluvial terrace deposits at the Reviva Site include two subunits. The first subunit, a coarse-grained alluvium, consists primarily of fine to coarse-grained, loose, well-graded sand. Soils were classified as SW under USCS, and color was described as yellowish brown to light brownish gray. With respect to the Munsell color chart, hue was reported as YR. This upper subunit was only encountered in MW-108PC, however the texture and color reported is generally consistent with previous observations made across the Site.

The second subunit associated with the Upper Terrace Alluvial Deposits is a fine-grained alluvium. Saturated conditions or perched ground water were observed above this unit in REEP-2PC and REEP-2S. It is assumed that the presence of perched water above the fine-grained alluvium is the result of direct infiltration of precipitation. In addition, the perched water above the fine-grained alluvium indicates that it has a relatively low vertical permeability as compared to the coarse-grained alluvium. The fine-grained alluvium consists of very fine-grained sandy lean clay to sandy fat clay. Soils were classified either as CL or CH and color was described as reddish gray to dark gray. The Munsell color chart hue was reported as Y. In general, the texture and color reported in 2017 is consistent with previous observations made across the Site. The fine-grained alluvium was not observed at borings BNSF-3S and BNSF-3D.

2.2.3 Superior Lobe Outwash

Below the Upper Terrace Alluvial Deposits, a glacial outwash deposit associated with the Superior lobe is observed across the entire Site. This outwash deposit is generally comprised of very fine to coarse-grained, well graded sand with some very coarse sand and gravel also present. Occasional cobbles are also observed. This unit was typically described as SW under the USCS; however, some portions were classified as SP. Color was described as being light brownish gray to dark gray and the Munsell color chart hue was reported as YR. On average, this unit was observed to be approximately 40 feet thick. The texture and classification of this unit was similar to previous observations made at the Site.

2.2.4 Superior Lobe Glacial Till

Underlying the Superior Lobe Outwash, a thick deposit of glacial till associated with the Superior lobe was encountered during drilling. The Superior Lobe Glacial Till was typically encountered at a depth of 53 to 59 feet below ground surface. The till is comprised of stiff to hard, cohesive, low to medium plasticity, sandy lean clay with some coarse-grained sand and small to large granitic gravel also encountered. This unit was classified as CL in regards to the USCS. Color was reported as grayish brown to reddish brown, and hue was YR with reference to the Munsell color chart. Moderate to vigorous reaction to 1 molar hydrochloric acid was also observed. The till was reported as being 63 feet thick in MW-108PC and 21 feet thick in REEP-2PC.

2.2.5 Bedrock

In the case of REEP-2PC, bedrock was not encountered directly beneath the Superior Lobe Glacial Till. Beneath the till, a 15.5-foot thick well graded to poorly graded sand unit was observed. The unit is comprised of dark reddish gray to light gray, medium to coarse-grained, rounded sand. Some granitic gravel and cobbles are also present. It is suspected that this unit is actually comprised of a mixture of reworked sandstone bedrock and glacial outwash.

Directly below the sand unit in REEP-2PC, very uniform, medium-grained, rounded, white sandstone was observed. This unit has been interpreted to be St. Peter Sandstone. The St. Peter Sandstone is observed to be 21.5 feet thick at REEP-2PC and is of nominal thickness at MW-108PC.

Directly below the till unit at MW-108PC and beneath the St. Peter Sandstone at REEP-2PC, a buff beige to orange sandy dolomite was observed. This unit, interpreted as the Prairie du Chien Group dolomites, produced hard, competent cores that reacted with 1 molar hydrochloric acid when the surface was scratched. In some instances, white sand was observed between layers of dolomite suggesting that the surface of the dolomite was weathered prior to deposition of the St. Peter Sandstone. The boreholes for MW-108PC and REEP-2PC extend 10 feet into the Prairie du Chien Group.

2.3 Well Installation

Five new monitoring wells were installed within the soil borings discussed in Section 2.1 and were constructed in accordance with the MDH well code (i.e. Minnesota Rules, Chapter 4725). REEP-2S and BNSF-3S were constructed to screen the water table, REEP-2PC and MW-108PC were constructed to screen the upper Prairie du Chien Group bedrock, and BNSF-3D was constructed at an intermediate depth to screen the groundwater directly above the lower glacial till unit. Construction data for the new wells is summarized in Table 1 and well locations are shown on Figure 2.

The bedrock wells and intermediate well (MW-108PC, REEP-2PC and BNSF-3D) were constructed using 5-foot long, 2-inch inner diameter (ID), No. 10-slot (0.010 inch), stainless steel well screens. The water table wells (REEP-2S and BNSF-3S) were constructed using 10-foot long, 2-inch ID, No. 10-slot, stainless steel well screens and were installed approximately 8-feet below the water table.

The screens were connected via couplers to low-carbon steel riser pipe which extended to ground surface for at-grade monitoring wells and approximately 2-feet above ground surface for all other wells. A clean, uniform sand filter pack was placed around each well screen and extended approximately two feet above the top of the screen. A 2- to 3-foot thick bentonite seal was placed above the filter pack, followed by neat cement grout, placed via a tremie pipe, to the ground surface. A concrete collar was placed around the well at the ground surface and sloped away from the well to divert surface drainage. Well protection consisted of a 6-inch diameter, locking, steel protective casing imbedded within the concrete. REEP-2S and REEP-2PC were completed at-grade, and wells BNSF-3S, BNSF-3D, and MW-108PC were completed with approximately 2.3 feet of stickup.

Due to surficial ground water impacts near bedrock well MW-108PC, the well was constructed with a permanent 8-inch diameter welded steel surface casing which was grouted in-place. The casing was installed to a depth of approximately 65 feet bgs, which corresponded to a depth of six feet into the underlying glacial till. After the grout had cured, drilling continued to the target depth within the upper portion of the Prairie du Chien Group bedrock.

All boring and well installation activities were observed by a Carlson McCain field geologist. Well construction details were entered into well construction diagrams, which are included in Appendix A. In addition, MDH well construction records have also been included in Appendix A.

2.4 Well Development

Monitoring wells were developed using a 12-volt submersible pump to remove water and sediment and flush out fines from the filter pack and well screen. Development was conducted on May 18th, 2017 for REEP-2S and REEP-2PC, May 23rd, 2017 for MW-108PC, and August 2nd, 2017 for BNSF-3S and BNSF-3D. Development consisted of pumping at least five well annulus volumes (including filter pack volume) of water from each well. During development, field measurements of pH, temperature, conductivity, turbidity, dissolved oxygen (DO), and oxidation-reduction potential (Eh) were obtained using a Horiba® U-50 Series water quality meter equipped with a flow-through cell. In addition, color and odor (if present) were also noted. Well development was considered complete when the following criteria were met:

- Water temperature is stabilized to ± 0.5 degrees Celsius.
- pH is stabilized to ± 0.1 standard units.
- Specific conductance (temperature corrected) is stabilized to $\pm 10\%$ $\mu\text{S}/\text{cm}$.

Well development was conducted by Carlson McCain personnel and/or the licensed well contractor and measurements were recorded on well development forms which are included in Appendix A. Development criteria were met for each well installed during the field investigation. All water removed during development was transferred to a 55-gallon drum to await the results of water quality analysis prior to disposal.

Decontamination of the submersible pump used for well development consisted of decontaminating both the interior and exterior of the equipment. The exterior portion of the pump was decontaminated using deionized (DI) water and paper toweling. The interior was decontaminated using an Alconox® wash, followed by a tap-water rinse and completed with a rinse using DI water. All disposable supplies (i.e. tubing, gloves, paper towels, etc.) were disposed of as solid waste.

2.5 Water Level Monitoring Data

Groundwater level measurements were collected on four occasions during 2017. Measurements were obtained using an electronic water level indicator and were measured to the nearest 0.01 foot. These measurements were taken from the top of riser (TOR) for each well. Measurements taken while

drilling were made to the nearest 0.1 foot and referenced to the ground surface. A summary of groundwater elevation data is presented in Table 2.

2.6 Survey

All well locations were surveyed to the nearest 0.01 foot horizontally using Real-Time Kinematic GPS survey methods, and to the nearest 0.01 foot vertically using closed level loop methods. Horizontal coordinates were based on Anoka County coordinates and the Universal Transvers Mercator (UTM), Zone 15N. Elevations were measured in reference to the North American Vertical Datum of 1988 (NAVD88).

2.7 Hydraulic Conductivity Testing

Following development, rate-of-recovery (slug) testing was completed on each well to estimate hydraulic conductivity of the geologic material (formation) in the vicinity of each screen. The procedure began by lowering a pressure transducer connected to a data logger in the well. After allowing the water level to stabilize and the pressure transducer began recording, a stainless-steel slug was then lowered into the well to displace water stored in the screen/casing and sand pack into the aquifer. The data logger recorded the change in water level (falling head) versus time, as the well returned to a static condition. Each test was stopped when the water level had recovered to at least 90 percent of the measurement recorded prior to the start of the test. Subsequently, the slug was then removed and the change in water level (rising head) was recorded as the well recovered. In general, rising head data are preferred for wells screened across the water table, whereas falling head data are preferred for wells which are screened below the water table. The rate of recovery is directly proportional to the hydraulic conductivity of the screened portion of the aquifer.

Following completion of rate-of-recovery testing, the data were evaluated following the Bouwer and Rice (1976) method using AQTESOLV computer software (HydroSOLVE, 2007). This method determines the hydraulic conductivity from a data plot of the natural logarithm of displacement versus time and a linear regression is applied to the straight-line portion of the graph. Copies of the analyses for each well are included in Appendix A.

2.8 Well Abandonment

Three monitoring wells, BNSF-1S, BNSF-1D, and MW-109A, and three remediation wells, UVB-3, ASW-1, and ASW-2, were abandoned during field investigation activities.

Abandonment was conducted in accordance with Minnesota Rules, Chapter 4725 for well sealing by Traut Companies, Inc. from Waite Park, Minnesota. Immediately prior to abandonment, the depth to the bottom of the well and the depth to water was recorded to the nearest 0.01 foot from the TOR. Each well was sealed by backfilling with either high solids bentonite or neat cement grout. The grout was placed via tremie pipe, placed near the bottom of the well and pressure pumped until an undiluted grout mixture flowed at the ground surface. After allowing for settlement, the well was topped off with additional grout and completed in accordance with Minnesota Rules. Field information on the well abandonments has been summarized in Table 3.

2.9 Ground Water Sampling

Groundwater sampling of the wells was completed from June 12th through June 15th, 2017, and on August 17th, 2017. Samples were collected using low-flow sampling techniques in accordance with the MPCA-approved Quality Assurance Project Plan (QAPP) (Revision No. 06) and were analyzed for volatile organic compounds using EPA Method 8260. Monitoring wells MW-102A, MW-102B, MW-105B, MW-107A, MW-108A, MW-108B, MW-108PC, and MW-111B were also analyzed for 1,4-dioxane during the 2017 sampling event. Results of the 2017 groundwater monitoring event are summarized in Table 4. Additional discussion on the 2017 groundwater sampling event is included in Section 4.0

2.10 Sub-Slab Soil Vapor Sampling

Sub-slab soil vapor sampling was conducted in conjunction with the field investigation in an effort to quantify the current risk of soil vapor intrusion into the building and to determine whether or not soil gas is migrating off-Site. Six sub-slab vapor samples were collected from within the Reviva facility building and two samples were collected from each of the two buildings located at 5100 and 5110 Main Street, NE (REEP buildings), the property directly south of Reviva. Figure 2 shows the locations of these sub-slab vapor samples. Sampling methods used were consistent with U.S. EPA protocols and procedures for collecting air samples using Summa® canister sampling and analysis methods. Sampling was also conducted in accordance with the MPCA-approved QAPP (Revision No. 6), and MPCA Document c-rem 3-01 “*Vapor Intrusion Technical Support Document*”.

Sub-slab soil vapor samples were collected by drilling a small diameter hole through the concrete floor with a rotary hammer drill to provide access into the sub-surface soil at each location. A Vapor Pin® vapor port was installed within the drill hole as a semi-permanent sub-slab vapor sampling location (in the event additional testing or monitoring is required). In short, a syringe was used to purge two volumes of air from the tubing connected to the vapor port prior to sample collection. Once the top end of the tubing was attached to a flow controller (which, in turn, is connected to a Summa canister), the canister was opened to collect the sub-slab soil gas sample at a flow rate of 200 milliliters per minute. Upon completion, the tubing was then connected to a PID to obtain a field measurement for the presence of organic vapors. The tubing was then removed and the Vapor Pin® covered with a protective cap. In addition, a stainless steel protective cover was installed at the slab surface to prevent damage to the pin.

Each canister was labeled with the name of the sampler, date, time, initial/final vacuum gauge readings and PID readings from the sample tubing. This information was also recorded on the COC form for the canisters. The canisters were then placed in a box, fitted with bubble wrap, and delivered to the laboratory for analysis.

Laboratory batch-certified clean Summa canisters and gauges, and new disposable tubing, fittings and disposable gloves were used at each vapor sampling location to minimize the potential for cross-contamination.

2.11 Investigation-Derived Wastes

An 11.7 eV PID was utilized during the soil drilling to determine whether soil could be thin-spread onsite. All PID readings were less than 10 parts per million (ppm), and as such, the soil cuttings were thin-spread on the Reviva Site.

Water generated during drilling and purge water generated during development and sampling was containerized in 55-gallon drums with locking lids. Two samples from the 55-gallon drums were collected, one sample from a drum containing primarily drilling fluids and one sample from a drum primarily containing purge water. These samples were analyzed for VOCs, total suspended solids (TSS) and chemical oxygen demand. Results showed that VOCs were nearly non-detect with only one low-level detection of acetone in one of the drum samples. Acetone is a common lab contaminant, and not a contaminant of concern for the site. As such, it was concluded that the fluid in the 55-gallon drums would not adversely affect the environment and the water from the drums was thin-spread onsite. In the case of drums containing drilling mud and sediment, these drums were dumped into a roll off box and the material was mixed with topsoil and then thin-spread onsite. Results of the 55-gallon drum sample analyses are included in Appendix B.

3.0 SUB-SLAB SOIL VAPOR RESULTS AND MITIGATION

This section presents the results of the sub-slab soil vapor investigation and discusses the mitigation actions taken at the Site.

3.1 Summary of Sub-Slab Soil Vapor Results

Multiple VOCs in vapor were detected in the sub-slab samples collected at the Reviva Site. A comparison of detected contaminants at the Reviva Site and in the REEP buildings to the industrial MPCA intrusion screening value (ISV) and 33 times the ISV is provided in Table 5. TCE was detected in each of the six sub-slab vapor samples collected at the Reviva Site. Concentrations ranged from 266 ug/m³ (micrograms per cubic meter) to 28,500 ug/m³, which exceeds the 33 times the ISV threshold of 230 ug/m³. Vapor monitoring locations at the Reviva Facility are shown on Figure 3.

Sub-slab vapor sample results in the REEP buildings to the south of the Reviva Site showed that no detected contaminants were greater than the ISV. In particular, TCE was below laboratory reporting limits in each sample. Vapor monitoring locations in the REEP buildings are shown on Figure 2. Laboratory reports for the sub-slab vapor sample results are included in Appendix B.

3.2 Summary of Pilot Testing and Design

Carlson McCain conducted a pilot test of a sub-slab depressurization (SSD) system at the Facility on August 7th and 8th, 2017. The construction of the sample SSD vent and the results of the pilot test are described in a *Technical Memo – Sub-Slab Depressurization Pilot Test*, which is included in Appendix C. The technical memo included a recommendation for the design and details of a SSD system for the Reviva Site based on the test results. The recommendation included a layout for placement of each vent, a typical detail of the cross section of a horizontal vent, a detail of a single point suction well, methods to seal cracks and floor drains in the existing slab, and a recommendation of a soil vapor mitigation fan. Reviva used the recommendations in the Technical Memo to construct a SSD system, with oversight and documentation by Carlson McCain personnel.

3.3 SSD System Construction

The Reviva Site SSD system was constructed in phases over several weeks to minimize disruption of routine plant operations. The horizontal vents were installed and the concrete floor was repaired on two separate Fridays in August (August 18, 2017 and August 25, 2017). Plant personnel installed the remaining segments of polyvinyl chloride (PVC) carrier pipe above the slab and the roof penetrations, throughout the week after sub-slab construction was completed. The fans were installed on the roof and secured to custom-built mounting skids. Photos of the installation are included in Appendix C.

3.3.1 Vent Construction Details

The SSD system consists of eight horizontal vents constructed of 4-inch corrugated, perforated polyethylene drain tile located throughout the facility under the slab. The drain tile is buried in a 12-inch by 12-inch trench filled with ¼-inch pea gravel. The specified section of drain tile is connected to

a solid 4-inch schedule 40 PVC carrier pipe. The carrier pipe is secured to vertical structural support columns and routed to the roof of the structure. The pipe penetrates the roof, and is booted with an ethylene propylene diene monomer (EPDM) or a PVC boot depending on which section of the roof for the given fan. A knife gate valve was installed for future control of the vacuum or flow rate near the ceiling (under the roof). The knife gate valves were all fully open at the time of system start-up, and during system testing on December 19, 2017, completed by Carlson McCain.

Vacuum was applied to the system by individual fans dedicated to each horizontal vent. The fans were mounted on the roof atop a treated wood stand-off frame. Electrical supply consisted of a weather-tight conduit 120V circuit. Each fan has a covered on/off switch. The fan is manufactured by Festa Radon Technologies Co., Force model. As-built details and a layout of the SSD system is shown on Figure 4.

3.3.2 Diagnostic and Indoor Air Quality Testing

Post mitigation testing included measurements of sub-slab vacuum pressures in worst-case heating season conditions and during full plant operation, and indoor air sampling at locations shown on Figure 3. Based on “Diagnostic Testing, Installation and Confirmation Sampling for Active Vapor Mitigation Systems in Single-Family Residential Buildings” (MPCA, 2015), the MPCA considers a minimum of 3 Pascal vacuum under the slab compared with indoor air. All 18 sub-slab locations met the minimum requirement, as indicated on Table 6. Operating vacuum pressures inside the carrier pipe averaged around 2.2 inches of water, and are shown in Table 7. Five locations were tested for indoor air quality using EPA Method TO-15 after the SSD system was started. Results of the indoor air sampling is summarized in Table 8, and the laboratory report is included in Appendix B. The results indicate that all parameters were below MDH Chronic and Acute Health Risk Values (HRVs) or Health Based Values (HBVs) except Naphthalene exceeded the chronic HBV of 9 ug/m^3 in a single sample with a result of 17.4 ug/m^3 . Naphthalene was not detected in any sub-slab samples prior to system installation.

3.4 Operation and Maintenance Plan

An Operation and Maintenance (O&M) Plan for the SSD system has been prepared and is included in Appendix C. The plan has been prepared in accordance with the EPA guidance document, “OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air” (EPA, 2015) and includes a schedule for inspections, monitoring, component maintenance and replacement as well as guidance for repairs and related activities that are necessary to ensure continued operation and effectiveness of the mitigation system.

4.0 2017 GROUNDWATER MONITORING RESULTS

This section presents the results of the 2017 groundwater monitoring event. The objectives of this portion of the report are to present recent groundwater monitoring data, and to evaluate trends in the field monitoring and laboratory analytical results over the monitoring period.

4.1 Monitoring Events

4.1.1 Water Level Measurements

Water level data was collected by Carlson McCain during four events (including the 2017 groundwater sampling event) in 2017. Depth to groundwater measurements were obtained from all wells currently in the monitoring well network during each monitoring event. This information was then used to calculate the groundwater elevation using the surveyed TOR as a benchmark for each well. Groundwater elevation measurements are summarized in Table 2.

During the month of June, transducers were installed MW-104B, MW-108A, MW-108B, MW-108PC, REEP-1, REEP-2S, REEP-2 and REEP-2PC to monitor the changes in groundwater elevation at the water table, directly above the till, directly below the till and within the upper bedrock formations. During the monitoring period, from June to December 2017, the transducers collected readings at one-hour intervals. The raw transducer data was compensated for changes in barometric pressure and converted to elevations. No other adjustments were made to the data. Hydrographs showing the changes in groundwater elevations collected by the transducers in 2017 are included in Appendix D.

4.1.2 Groundwater Sampling

One annual groundwater sampling event was conducted in 2017 which included groundwater sampling and depth to water measurements from all existing monitoring wells on Site. The annual groundwater sampling event was conducted by Carlson McCain between June 12th through June 15th, 2017, and on August 17th, 2017 when BNSF-3S and BNSF-3D were sampled. No unusual or anomalous items were noted during sampling. Monitoring well locations are depicted on Figure 2. Water Level and Well Purging and Sample Collection field logs are included in Appendix A.

4.2 Groundwater Sample Collection Procedures

In general, a minimum of three well volumes were removed from each monitoring well prior to sampling using either a low flow, 12-volt submersible pump or Hurricane® pump with dedicated tubing used for each sampling location. Care was taken during purging to monitor the flow rate of the pump to ensure pumping rates were less than 1,000 milliliters per minute. Field measurements of pH, conductivity, temperature, and turbidity were obtained during the purging process and entered onto Well Purging and Sample Collection Logs, which are included in Appendix A. Measurements of oxidation reduction potential and dissolved oxygen were also noted, when available. Sampling was conducted when the water being removed was clear and sediment free and the follow stabilization parameters were met:

- Water temperature was stabilized to ± 0.5 degrees Celsius ($^{\circ}\text{C}$)
- pH was stabilized to ± 0.1 units
- Specific conductance (temperature corrected) was stabilized to $\pm 5\%$

Upon completion of the purging and stabilization, samples were collected directly from sampling tubing into clean sample containers provided by TestAmerica, Inc. Sampling purge rates were less than 300 milliliters per minute.

Purge water from wells that have historically been below detection limits for contaminants of concern was disposed on the ground away from the well. Purge water from wells where historically high concentrations of contaminants exist, or where the groundwater data history is unknown (i.e. MW-108PC), was collected and containerized in 55-gallon drums and stored onsite. See Section 2.11 for additional information on the investigation derived wastes.

4.3 Groundwater Sampling Equipment Decontamination

Decontamination of the submersible pump used for groundwater sampling consisted of decontaminating both the interior and exterior of the equipment. The exterior portion of the pump was decontaminated using deionized (DI) water and paper toweling. The interior was decontaminated using an Alconox® wash, followed by a tap-water rinse and completed with a rinse using DI water. All disposable supplies (i.e. tubing, gloves, paper towels, etc.) were disposed of as solid waste.

4.4 Groundwater Monitoring Results

Groundwater samples were analyzed for VOCs using Method 8260B by TestAmerica. Table 4 presents a summary of recent groundwater sampling results for the contaminants of concern at the Site as well as field monitoring parameters. In addition, Table 4 also includes analysis results for 1,2-Dioxane which was included as part of the 2017 investigation activities. The full laboratory reports are provided in Appendix B.

4.4.1 Water Levels

Groundwater elevations were measured on four occasions in 2017, including the annual monitoring event. The highest and lowest elevations recorded in 2017 took place in October at MW-107B (825.40 feet) and in August at BNSF-2S (821.15 feet), respectively. All wells experienced historic high water levels in 2017 with almost all of those occurring in the June 2017 event.

Groundwater elevations are, on average, 2.41 feet higher than the December 2015 elevations. During 2017, Groundwater elevations generally decreased from the historic high in early summer (June) through fall (October). Figures 5A and 5B present a hydrograph of the water table and deep groundwater elevations, respectively, at all wells currently present at the Site.

4.4.2 Gradient and Flow Direction

The difference in groundwater elevations across the Site in 2017 was generally a few tenths of a foot which is different than the few hundredths of a foot which has historically been observed at the Site. The relatively flat water table and potentiometric surface is consistent with recent data; however, with the addition of BNSF-2S, BNSF-2D, BNSF-3S, BNSF-3D, REEP-2S, REEP-2 and REEP-2PC the apparent flow direction has shifted and the gradient has slightly increased across the western portion of the Site. Other factors, including changes in groundwater pumping in the vicinity of the Site may also contribute to changes in observed groundwater gradients.

Water table contour and potentiometric surface maps for October 23rd, 2017 are included as Figures 6 and 7, respectively. During the October round of water levels, the overall groundwater flow direction at the water table was to the west with a radial flow component resulting in northwesterly flow on the eastern half of the Site where a flatter gradient occurs. At the base of the aquifer (referred to as deep drift or the base of the surficial aquifer), the overall groundwater flow direction was to the southwest with more westerly to northwest flow observed in the eastern half of the Site. Hydraulic gradient and flow velocities remain low, but have increased in recent years.

Based on the recently observed groundwater flow directions, the monitoring wells on the eastern third of the Site can be considered up-gradient wells and essentially provide background concentrations for water quality entering the Site. The remaining wells are considered either down-gradient or side-gradient depending on seasonal changes in flow direction.

4.5 Groundwater Quality

One groundwater monitoring event was conducted in 2017 by Reviva. Purging of each well prior to sampling was conducted in accordance with Section 4.2. In general, all field parameters are within the range of previous sampling rounds and no significant variations were noted.

4.5.1 Trichloroethene

TCE is the primary contaminant of concern at the Site. Degradation daughter products of TCE including cis-1,2-Dichloroethylene (cis-1,2-DCE), trans-1,2-Dichloroethylene (trans-1,2-DCE) and Vinyl Chloride were also detected at some of the Site wells. TCE was detected at or above the MDH Health Risk Limit (HRL) of 0.4 micrograms per liter ($\mu\text{g}/\text{L}$) at both up-gradient and down-gradient monitoring wells during 2017 monitoring event.

In general, contaminant concentrations have decreased by several orders of magnitude across the Site since remediation work began in the 1990's. Increasing concentrations in up-gradient monitoring wells is evidence of an off-site source(s) contributing to the apparent residual impacts at Reviva. While concentrations fluctuate slightly between monitoring events at a few of the wells, the contaminant trends continue to be decreasing overall and it appears that natural attenuation processes continue to decrease concentrations through natural biodegradation.

4.5.2 1,4-Dioxane

In accordance with the 2016 Remedial Action Plan Work Plan (Revision No. 4) and as was requested by the MPCA, analysis of groundwater for 1,4-Dioxane was conducted at wells MW-102A, MW-102B, MW-105B, MW-107A, MW-108A, MW-108B, MW-108PC, and MW-111B during the 2017 monitoring event. 1,4-Dioxane was detected in two of the eight wells sampled: MW-102B and MW-108A. Where detected, the concentration was low-level and only slightly above the reporting limit of 1 microgram per liter (ug/L).

4.5.3 Groundwater Quality at Existing Wells

Groundwater quality trends are discussed below using historic TCE concentration data and location of each monitoring well in relation to the remaining impacts from Reviva in the southwestern portion of the Site. Even though they are not specifically discussed in this report, compounds from the degradation of TCE such as cis-1,2-DCE, trans-1,2-DCE and Vinyl Chloride exist in the aquifer with concentrations generally rising as TCE concentrations fall. Groundwater quality graphs, included as Appendix E, include the degradation compounds (in most graphs) and TCE. The following pages discuss the analytical results of the 2017 annual monitoring event on a well-by-well basis, and Table 4 presents the groundwater quality for all existing Site wells during the event.

MW-101A

Monitoring well MW-101A is a submerged water table monitoring well. It is located approximately 225 feet southeast of the former source area and has historically been considered a side-gradient well. MW-101A currently acts as an up-gradient well to the remaining TCE impacts in the western portion of the Site. TCE has consistently been detected in this well since monitoring began in 1994. TCE concentrations have fluctuated from a high of 310 µg/L in October, 1994 to a low of 5.59 µg/L during August, 2012 and was at 51.6 µg/L during the 2017 monitoring event. The trend line on the graph included in Appendix E indicates there is a decreasing trend in TCE concentrations. Concentrations remained near 5 µg/L from 2006 through 2012, but increased anomalously in 2013 and have since leveled off, similar to other up-gradient wells on the southeastern portion of the Site.

MW-102A

Monitoring well MW-102A had historically been an up-gradient, water table monitoring well. However, recent changes in the groundwater flow direction to the northwest has resulted in this well becoming more down-gradient of the former source area. Low levels of TCE have consistently been detected in this well since 1994 and have been as high as 94 µg/L in 1999. TCE was detected at a concentration of 28.4 µg/L in 2017. This concentration is an increase from the non-detect value recorded in 2015, however it is similar to those observed in 2013-2014.

MW-102B

Monitoring well MW-102B is nested with well MW-102A and, similar to MW-102A, had historically been an up-gradient, deep aquifer monitoring well. A shift in the groundwater flow direction to the

northwest has resulted in this well becoming more down-gradient of the former source area. This well was installed in March 2002 and TCE concentrations have been as high as 23.3 µg/L in 2010. TCE was detected at 7.08 µg/L during the 2017 monitoring event which is a decrease in concentration from 2015, and is similar to concentrations prior to 2007.

MW-103A

Historically, monitoring well MW-103A had been a down-gradient water table monitoring well, but due to recent changes in groundwater flow direction, this well has become more side-gradient. TCE has consistently been detected above the HRL in this well since 1994. TCE was detected at 206 µg/L during the 2017 monitoring event which is similar to the concentration detected in 2015. A decreasing trend in TCE concentrations has been documented in this well since October 2000 when UVB #2 was relocated to the southern property boundary. TCE concentrations decreased to historic lows in 2011 when groundwater elevations were at historic highs. A graph of TCE concentrations versus groundwater elevations (which is included in Appendix F) illustrates decreasing TCE impacts with increasing groundwater elevations, indicating there are no significant impacts in the soil above the water table up-gradient of MW-103A.

MW-103B

Monitoring well MW-103B is nested with well MW-103A and has now also become more side-gradient. TCE was as high as 2,500 µg/L in 1998, but has been near or below the HRL since 2005. During the 2015 monitoring event TCE was detected at a concentration of 4.46 µg/L. As provided in Appendix F, the graph of TCE concentrations versus groundwater elevation indicates TCE impacts decrease with increasing water levels similar to the trend at MW-103A.

MW-104B

Monitoring well MW-104B is an up-gradient, deep aquifer monitoring well. This well was installed in March 2002 and has regularly recorded TCE concentrations exceeding the HRL of 0.4 µg/L. TCE has been as high as 25 µg/L in 2004 and was at 6.85 µg/L during the 2017 monitoring event.

MW-105B

Monitoring well MW-105B is a side-gradient, deep aquifer monitoring well located near the former source area. TCE was as high as 3,800 µg/L prior to remediation and remained below the laboratory reporting limit from 2006 through 2012. The source area beneath the Site building was cleaned up to below regulatory standards and TCE had not been detected at MW-105B for 6 years, but was detected at a concentration of 9.33 µg/L during the fall 2013 event. With the 2017 event, TCE concentrations are continuing to increase slightly at MW-105B, with a concentration of 28.2 µg/L.

MW-107A

Monitoring well MW-107A is currently a side-gradient, water table monitoring. TCE has been as high as 6,600 µg/L prior to remediation, however the 2017 concentration of 1.62 µg/L observed during the

2017 event is the lowest concentration of TCE in the well's history. TCE at MW-107A has remained near or below 5 µg/L since 2008 and is currently lower than most up-gradient concentrations. The graph of TCE versus groundwater elevation included in Appendix F depicts decreasing TCE concentrations with increasing groundwater elevations indicating there are no significant TCE impacts remaining in the soil above the water table up-gradient of MW-107A.

MW-107B

Monitoring well MW-107B is nested with well MW-107A and is a side-gradient, deep aquifer monitoring well. TCE has been as high as 4,400 µg/L prior to remediation and had previously been near or below 5 µg/L since 2007. However, in 2013, TCE concentrations increased to 39.9 µg/L and reached 81.5 µg/L in 2014. With the 2015 sampling event, concentrations decreased albeit observed concentrations remained above the HRL. TCE concentrations were observed at 84.5 µg/L during the 2017 monitoring event. This is a significant increase over the 2015 low concentration, but is more similar to concentrations observed in 2013 and 2014.

MW-108A

MW-108A is currently considered a down-gradient to side-gradient water table monitoring well. TCE was detected at 260 µg/L when this well was installed in 1995 and concentrations decreased to near 5 µg/L through 2000 when levels increased back up to the 150 to 469 µg/L range. TCE concentrations continue an upward trend since 2014, reaching 517 µg/L during the 2017 event.

MW-108B

Monitoring well MW-108B is nested with well MW-108A and is currently a down-gradient to side-gradient deep aquifer monitoring well. TCE was detected at 200 µg/L during one event in 1996, but has remained near 5 µg/L since. TCE was observed at 4.46 µg/L during the 2017 event, and continues a downward trend in this well since an anomalous increase in 2013.

MW-109B

Monitoring well MW-109B was nested with well MW-109A and is an up-gradient to side-gradient, deep aquifer monitoring. TCE has been detected as high as 1,000 µg/L in 2001, but has remained below 50 µg/L since 2007. TCE was reported at 17.6 in 2017, which is similar to concentrations observed in the last four sampling events. As shown on the graph of TCE versus groundwater elevation included in Appendix F, water levels have been steadily increasing but TCE concentrations in MW-109B have been remaining consistent, indicating an off-site, up-gradient location as a source of the residual TCE.

MW-110

Monitoring well MW-110 is a water table, up-gradient monitoring well. TCE has been as high as 270 µg/L in 2001, but decreased below the HRL from 2006 to 2012. TCE was observed at 35.6 µg/L during the 2017 monitoring event, which continues the downward trend seen since the anomalous

increase in 2013. Similar to MW-109B and given its up-gradient position and water quality history, recent detections are considered to not be associated with historical Site use.

MW-111B

Monitoring well MW-111B is a deep aquifer, up-gradient monitoring well. Low level detections of TCE above the HRL have historically been present in this monitoring well since the high of 12 µg/L was observed in 2003. TCE was reported at 2.64 µg/L during the 2017 monitoring event.

MW-112

Monitoring well MW-112 was installed in the spring of 2013 for the purpose of monitoring groundwater in the northwestern portion of the Site since the groundwater flow direction in that area has had more of a northwesterly component in recent years. TCE concentrations have decreased from the 2015 concentration, however almost no trend for TCE exists due to variability of sample concentrations. During the 2017 event, TCE was reported at 62.2 µg/L.

4.5.4 Groundwater Quality at New Monitoring Wells

In 2017 nine monitoring wells (BNSF-2S, BNSF-2D, BNSF-3S, BNSF-3D, MW-108PC, REEP-1, REEP-2S, REEP-2, REEP-2PC) were added to the groundwater monitoring network. These wells monitor offsite conditions to the west-southwest of the facility (BNSF-2S and BNSF-2D), to the south of the facility (REEP-1, REEP-2S, REEP-2) and bedrock conditions in the upper Prairie du Chien Group (MW-108PC and REEP-2PC). Due to the limited amount of groundwater data available for these wells, the data was not graphed with a trend analysis. However, recent groundwater quality for each well is discussed below.

BNSF-2S

BNSF-2S was installed as part of an MPCA investigation in 2014. The well is located approximately 850 feet down-gradient to the west-southwest of the Site on BNSF Railroad property. Groundwater quality data did not exist for this well prior to 2017. TCE, cis-1,2-DCE, trans-1,2-DCE and Vinyl Chloride were below reporting limits for this well in 2017.

BNSF-2D

Monitoring well BNSF-2D is a down-gradient deep aquifer monitoring well nested with BNSF-2S. One previous groundwater monitoring event was conducted at this well by the MPCA in 2014 in which all parameters of concern were below reporting limits. All contaminants of concern for the Reviva Site continue to be below reporting limits in 2017.

BNSF-3S

BNSF-3S was installed in August 2017 and is located approximately 400 feet northwest of the Site on BNSF Railroad property. This well is a side-gradient water table monitoring well. In 2017, all contaminants of concern were below reporting limits.

BNSF-3D

This monitoring well is nested with BNSF-3S and is a side-gradient deep aquifer monitoring well. TCE was detected at a concentration of 0.763 µg/L in 2017, which is slightly above the HRL of 0.4 µg/L. In addition to TCE, cis-1,2-DCE, trans-1,2-DCE and Vinyl Chloride were also detected at this well; however, concentrations were below their respective HRLs.

MW-108PC

MW-108PC was installed in May 2017 and monitors the uppermost bedrock in the vicinity of the Site. This well is nested with MW-108A and MW-108B. TCE was detected at a concentration of 116 µg/L in 2017. Vinyl Chloride and cis-1,2-DCE were also detected at low concentrations at this well. Vinyl Chloride exceeded the HRL of 0.2 µg/L.

REEP-1

Monitoring well REEP-1 is a side-gradient monitoring well located approximately 200 feet to the south of the Site on REEP property. This well was installed in 2014 as a part of a MPCA investigation and monitors groundwater conditions below the lower till unit. One previous monitoring event was conducted at REEP-1 by the MPCA in 2014 when concentrations of TCE were observed at 765 µg/L. During the 2017 event, concentrations of TCE were observed to have significantly decreased to a concentration of 366 µg/L. During both the 2014 and 2017 event, cis-1,2-DCE, trans-1,2-DCE and Vinyl Chloride were detected at low concentrations. In addition, 1,1-Dichloroethane, 1,1-Dichloroethene, 1,2-Dichloropropane, and Naphthalene which are not contaminants of concern at the Reviva Site, were also detected during the 2014 and/or 2017 sampling events, however only TCE and Vinyl Chloride exceeded the HRL.

REEP-2S

Monitoring well REEP-2S is an up-gradient to side-gradient water table well located approximately 450 feet south of the Site on REEP property. This well was installed in May 2017, and as such the 2017 monitoring event was the first monitoring event for the well. Concentrations of TCE, cis-1,2-DCE, trans-1,2-DCE and Vinyl Chloride were below reporting limits during the 2017 event.

REEP-2

REEP-2 is a side-gradient well and monitors groundwater conditions directly above and within the lower till unit. This well was installed in 2014 as part of a MPCA investigation and is now nested with REEP-2S and REEP-2PC. One previous sampling event was conducted in April 2014 by the MPCA in

which all parameters were below reporting limits. During the 2017 sampling event, all parameters were, again, below reporting limits.

REEP-2PC

Monitoring well REEP-2PC was installed in May 2017 and monitors the uppermost bedrock (Prairie du Chien Group) approximately 450 feet south of the Reviva Site. This well is nested with REEP-2S and REEP-2. TCE was detected at 0.512 µg/L during 2017, which is just slightly greater than the HRL of 0.4 µg/L. No other contaminants of concern for the Reviva Site were detected above reporting limits, however 1,2-Dichloroethane was detected at a low-level concentration of 0.403 µg/L, which is well below the HRL of 1 µg/L.

4.5.5 Quality Assurance/Quality Control

A quality assurance/quality control check was completed on the laboratory testing reports generated for the 2017 sampling event. In general, the review followed the MPCA's Laboratory Data Review Checklist Guidance. Overall, the data was reproducible and reliable for the 2017 sampling event.

4.5.6 Field Blanks and Field Duplicate Samples

Field Blanks (Equipment Blanks)

Field Blanks (equipment blanks) were collected during the 2017 sampling event at a rate of one field blank for every day of sampling. Results of the equipment blanks are provided with the laboratory reports included in Appendix B. In general, parameters in the equipment blanks were below reporting limits, with the exception of Chloroform (detected at 2.50 µg/L) in Equipment Blank 1; 1,4-Dioxane (1.16 µg/L) and TCE (1.26 µg/L) in Equipment Blank 2; 1,4-Dioxane (1.42 µg/L), Acetone (14.0 µg/L) and TCE (1.97 µg/L) in Equipment Blank 3; and, 1,4-Dioxane (1.60 µg/L) in Equipment Blank 4. There were no detections in Equipment Blank 5.

Both Chloroform and Acetone were detected at low concentrations just greater than detection limits and are common lab contaminants. In addition, neither Acetone nor Chloroform were detected in any of the monitoring wells. Therefore, it can be assumed that these detections may be due to laboratory contamination or equipment decontamination.

The equipment blank was typically collected at the end of the sampling day, after the well with the highest contamination. In the case of TCE detected in Equipment Blanks 2 and 3, both these blanks were collected after wells with high concentrations of TCE, and in both cases the wells sampled directly after the blank indicated a much higher concentration of TCE than the equipment blank detection would not have affected the result (e.g. MW-108PC had TCE detected at 116 µg/L and was collected after Equipment Blank 2). In addition, due to the sampling order, most wells with low level TCE detections were sampled on the first day of sampling which corresponds to Equipment Blank 1, in which TCE was not detected.

In the instance of 1,4-Dioxane, the levels detected in the equipment blanks are similar to concentrations detected in the wells. If the 1,4-Dioxane was a result of actual groundwater conditions and improper decontamination techniques, it is likely that the detection of 1,4-Dioxane in the equipment blank would be diluted and much lower than that in the groundwater sample. As such, 1,4-Dioxane may be due to laboratory contamination or an anomalous source.

Trip Blanks

One trip blank was analyzed per cooler during the 2017 sampling event. All parameters were below laboratory reporting limits for each trip blank analyzed.

Field Duplicate Samples

Duplicate samples were collected at a rate of one for every ten wells sampled. Duplicate 1 was collected from MW-109B; Duplicate 2 was collected from MW-103A; Duplicate 3 was collected from MW-108A; and, Duplicate 4 was collected from BNSF-3D. All the same parameters detected in the original sample were detected in the duplicate sample. All parameters achieved less than 50% relative percent difference.

4.5.7 Holding Times/Sample Preservation

Holding times were met for all samples. There were two sample preservation issues encountered during the 2017 sample event:

- Four of the six sample vials for MW-103B were received broken by the laboratory. Fortunately, all required analyses for this location were able to be run on the limited amount of remaining sample and no analysis problems due to sample quantity were encountered.
- Headspace was larger than ¼-inch in one or more vials for several samples, as noted by the laboratory. However, in each case, one or more vials with acceptable headspace were available to run the required analysis, and therefore no analysis problems due to preservation were encountered.

4.5.8 Laboratory Calibration

Laboratory calibration was reviewed and the narrative provided by TestAmerica is included within the laboratory reports in Appendix B. In general, laboratory calibration was acceptable. Certain parameters in different batches of analysis recovered outside of control limits, however in each case, either the upper or lower control sample passed the criteria or the affected parameter was below reporting limits in the samples and thus the data was reportable and acceptable.

4.5.9 Surrogates

No surrogates were found outside of laboratory limits, and therefore the data is considered acceptable.

4.5.10 Laboratory Control Sample/Laboratory Control Sample Duplicates

Trichlorofluoromethane and Carbon Tetrachloride recovered outside of laboratory reporting limits for laboratory control sample data. These parameters were below reporting limits for all samples and therefore the data is considered acceptable.

4.5.11 Matrix Spike/Matrix Spike Duplicate

Multiple parameters recovered outside acceptance limits and multiple matrix spike duplicate data relative percent difference exceeded control limits. However, no obvious trends were noted and therefore the data is considered acceptable.

4.5.12 Reporting Limits/Method Detection Limits

In general, reporting limits were less than HRLs for almost all parameters. Only two instances occurred where parameter reporting limits were greater the reporting limit specific in the QAPP (Revision No. 6); reporting limits for 1,2-Dibromoethane and Xylenes were greater than the reporting limit specific in the QAPP (Revision No. 6). However, the reporting limits for the 2017 monitoring event are the lowest achievable by TestAmerica. In addition, all contaminants of concern for the Reviva Site have reporting limits less than or equal to the HRL.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The remedial actions conducted at the Site since 1996 have resulted in cleaning up the former source area to below laboratory detection limits and significantly reduced groundwater concentrations of TCE across the Site. Based on our review of the geologic setting, historic hydrogeologic data, recent off-site work performed by the MPCA and historic water quality data, the following key observations, conclusions and recommendations are presented:

- Water quality continues to significantly improve - TCE concentrations have been observed to significantly decline over time at most wells with the exception of recent trends at the MW-102 well nest and at MW-108A. It is thought that a recent shift in the localized groundwater flow patterns may have resulted in the apparent increases. In addition, for certain wells onsite, water levels have been steadily increasing, but TCE concentrations have been remaining consistent, indicating an off-site, up-gradient location as a source of the residual TCE. Furthermore, the current average concentration of TCE across the entire Site has significantly improved. In 2017, the average TCE concentration was 70.5 µg/L as compared to 160.3 µg/L in July 2004 and 2,394.7 µg/L in October 1994. In 2017, one well had a TCE concentration approaching 50 µg/L, three wells are under 50 µg/L and seven of the wells are less than 25 µg/L. This is a significant improvement since 2004 when only 5 wells were less than 25 µg/L.
- Site specific groundwater flow direction has shifted to the west-northwest - During the period from approximately 1994 to present, water levels within the glacial drift have risen an average of eight feet. During the same time frame, hydraulic gradients across the Site have increased, and the predominant direction of groundwater flow at the water table is west-northwest. With the installation of the new monitoring wells in 2017, the overall groundwater flow direction at the water table has deviated slightly, resulting in a flow direction to the west with a radial flow component resulting in a northwesterly flow direction on the eastern portion of the Site. Flow at the base of the surficial aquifer has historically been to the west-northwest with a stronger westerly flow gradient observed within the western portion of the Site; however, with the 2017 data, flow is more southwesterly with a west-northwest component observed on the eastern portion of the Site.
- Off-Site Sources of TCE - Potential impacts from off-site sources of TCE are apparent at the most up-gradient wells located at the Site including MW-101A, MW-110, MW104B and MW-111B where TCE concentrations range from 2.6 to 51.6 µg/L TCE. Anomalous increases in TCE concentrations were observed at these wells during the period from September 2013 to September 2014, along with increases in daughter products and lesser increases in TCE at other wells at the site. While the source of the off-site TCE is not known, the Site lies within a Special Well and Boring Construction Area (SWBCA) based on the occurrence of TCE and other contaminants of concern in the groundwater underlying the area. Potential sources cited for the TCE include the Naval Industrial Reserve Ordnance Plant (NIROP), FMC Corp - Fridley Site, BAE Systems, Kurt Manufacturing and Reviva. A second SWBCA involving TCE extends from the former Twin Cities Army Ammunition Plant to the Southwest towards, but currently not reaching, the Reviva Site

- Extent and Magnitude of Contamination - The existing monitoring system is sufficient to assess the extent and magnitude of contamination, particularly in combination with the addition of the off-site well nests on the BNSF railroad and REEP properties.
- REEP-1 - This well was installed in 2014 as part of an MPCA investigation and was sampled in 2014 by the MPCA and again in 2107 under this investigation. REEP-1 was installed in a borehole that penetrated the glacial till and is screened in both the till and an underlying outwash sand deposit that does not appear to correlate with the other monitoring wells. The water level fluctuations at this well, as observed on the transducer hydrographs in Appendix D, are similar to the fluctuations observed at the bedrock monitoring wells. Several contaminants that are not considered to be contaminants of concern at Reviva were also detected at this well in both sampling events, including 1,1-Dichloroethane, 1,1-Dichloroethene, 1,2-Dichloropropane, and Naphthalene. TCE and Vinyl Chloride were detected at 765 and 0.43 µg/L in 2014 and at 366 and 0.29 in 2017, respectively.
- REEP-2 - The borehole for REEP-2 was initially drilled through the till, however the well screen was set within and just above the till. A water table well, REEP-2S, and a bedrock well, REEP-2PC, were added to this location under this investigation. Neither REEP-2S nor REEP-2 detected contaminants of concern; however, REEP-2PC did detect low concentrations of TCE and 1,2-Dichloroethane in the upper portion of the Prairie de Chien Group. While REEP-2 is reportedly screened in the upper till and the lower portion of the surficial aquifer, the observed water level fluctuations are similar to the fluctuations observed at the other bedrock monitoring wells. In addition, the difference between the water table elevation (REEP-2S) and the water level measured at the base of the surficial aquifer (REEP-2) is 1.5 to two feet which is much greater than the differential of a few hundredths to a few tenths of a foot observed at the other well nests. These factors suggest that REEP-2 may not be monitoring a unit that correlates with the other deep drift monitoring wells.
- BNSF-2 and BNSF-3 - No contaminants of concern have been detected at the BNSF-2S/2D well nest located down-gradient of the Site. The BNSF-3S/3D nest, recently installed to the north of the Reviva property did not detect contaminants of concern in the water table well but did detect TCE and daughter products in the deeper drift well. Based on the direction of groundwater flow it is presumed that this contamination is not related to the known contamination at Reviva.
- Vapor Mitigation System - A vapor mitigation system consisting of sub-slab depressurization system was constructed by Reviva based on recommendations developed by Carlson McCain. Post mitigation testing indicates acceptable sub-slab vacuum pressures during worst-case heating season and during routine plant operations. Operating vacuum pressures in the carrier pipes were also measured and found to be acceptable with an average vacuum pressure of approximately 2.2 inches of water. Post mitigation air sampling included collection and analysis of five EPA Method TO-15 samples from within the building. The results indicate that all parameters were below MDH Chronic and Acute Health Risk Values (HRVs) or Health Based Values (HBVs) except Naphthalene, which exceeded the chronic HBV of 9 µg/m³ in a single sample with a result of 17.4 µg/m³. Naphthalene was not detected in any sub-slab samples prior to system installation and therefore this detection is not related to operation of the vapor mitigation system.

Recommendations:

- Conduct annual groundwater monitoring - Groundwater monitoring should be conducted in accordance with the QAPP (Revision No. 6) to evaluate water levels, monitor ground water flow direction, and evaluate water quality. In addition, the five new wells, and the four existing BNSF and REEP wells, will continue to be monitored. An annual monitoring report summarizing these data with recommendations for continued use and modifications to the monitoring system will be submitted by Carlson McCain.
- Continue to monitor 1,4-dioxane in groundwater monitoring wells - Due to the detections of 1,4-dioxane in the equipment blanks and in certain monitoring wells. 1,4-dioxane should be analyzed at MW-102A, MW-102B, MW-105B, MW-107A, MW-108A, MW-108B, MW-108PC and MW-111B during the next sampling event to verify the detections observed in 2017.
- Operate and monitor sub-slab vapor mitigation system - The vapor mitigation system will continue to be operated and monitored during 2018 in accordance with Section 3.0 of this report.
- Environmental Covenant - An “Environmental Covenant” is recommended to be drafted and recorded on the deed for the property to notify future landowners that contaminated groundwater is present and that the vapor mitigation system is present and needs to be operated and maintained until future testing determines that operation is no longer necessary.

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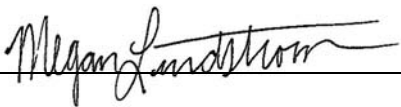

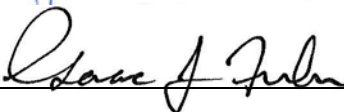
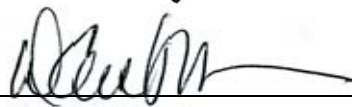
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7.0 CERTIFICATION

Carlson McCain has prepared this 2017 Field Investigation and Annual Monitoring Report for the exclusive use of Reviva for specific application to the Former Dealers Manufacturing Site located in Fridley, Minnesota. The services performed by Carlson McCain for this project have been conducted in a manner consistent with the level of skill and care ordinarily exercised by other members of the profession currently practicing in this area. No other warranty, expressed or implied, is made.

I certify that this document and all attachments were prepared under my direction or supervision under a system designed to assure that qualified personnel gathered and evaluated the information submitted. Based on my inquiry of the persons or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

Name and Title:	Signature:	Date Signed:
Megan Lindstrom, EIT, GIT Staff Engineer/Geologist		January 9, 2018
Jim de Lambert, P.G. - Senior Hydrogeologist Minnesota License No: 30107		January 9, 2018
Isaac J. Fuhr, P.E. - Senior Engineer Minnesota License No: 44583		January 9, 2018
Wade A. Carlson, P.G. - Project Manager Minnesota License No: 30402		January 9, 2018

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Tables

Table 1
Well Construction Details
 Reviva - Fridley, Minnesota
 Carlson McCain Project No. 0101-17

Well Location Information							Well Construction Details				
Well Location	Date Installed	MDH Unique Well Number	Anoka County Coordinates ¹		UTM Zone 15 North (meters)		Well Depth (feet bTOR)	Ground Surface Elevation ² (feet)	Top of Riser Elevation ² (feet)	Screened Elevation ² (feet NAVD 88)	Screened Unit
			Northing	Easting	Northing	Easting					
BNSF Wells											
BNSF-2D	1/14/2014	804280	109225.55	498372.30	4989715.19	478507.31	74.72	839.70	842.34	778 - 768	Within Till
BNSF-2S	1/14/2014	804279	109219.15	498372.19	4989728.05	478504.37	32.64	839.70	842.34	820 - 810	Water Table
BNSF-3D	7/26/2017	827184	109975.50	498963.92	4989945.48	478689.48	59.06	842.45	843.99	790 - 785	Intermediate
BNSF-3S	7/27/2017	827194	109979.90	498962.71	4989944.14	478689.84	28.94	842.45	844.17	825 - 815	Water Table
Reviva Wells											
MW-101A	2/14/1994	539547	109415.64	499471.76	4989773.06	478844.00	44.34	843.65	845.68	811 - 801	Water Table
MW-102A	2/16/1994	539548	109639.70	499162.71	4989841.63	478750.07	35.05	846.04	846.04	821 - 811	Water Table
MW-102B	3/21/2002	671183	109639.41	499158.96	4989841.54	478748.93	59.68	846.33	846.06	791 - 786	Intermediate
MW-103A	2/15/1994	539549	109335.39	499060.47	4989749.02	478718.61	34.83	845.42	845.35	820.5 - 810.5	Water Table
MW-103B	5/22/1995	563976	109335.44	499072.07	4989749.02	478722.15	63.13	846.91	845.07	787 - 782	Intermediate
MW-104B	3/19/2002	671185	109646.56	499524.77	4989843.36	478860.38	52.6	844.92	847.25	800 - 795	Intermediate
MW-105B	10/13/1994	552073	109427.56	499223.63	4989776.94	478768.42	66.73	845.04	844.98	783 - 778	Intermediate
MW-107A	5/23/1995	563977	109335.14	499215.44	4989748.79	478765.83	34.12	845.40	845.40	821 - 811	Water Table
MW-107B	5/23/1995	563978	109335.36	499212.68	4989748.86	478764.99	57.47	845.40	845.40	793 - 788	Intermediate
MW-108A	5/24/1995	563974	109474.15	498970.25	4989791.39	478691.27	39.43	848.83	851.15	822 - 812	Water Table
MW-108B	5/23/1995	563975	109469.63	498970.43	4989790.01	478691.32	64.51	848.83	851.11	792 - 787	Intermediate
MW-108PC	5/23/2017	827185	109453.72	498970.95	4989785.16	478691.46	149.75	849.05	850.20	705.5 - 700.5	PDC
MW-109B	8/7/2000	646928	109339.97	499324.31	4989750.15	478799.00	48.38	845.93	843.00	800 - 795	Intermediate
MW-110	4/11/2001	657845	109343.97	499483.12	4989751.21	478847.39	57.86	842.60	842.06	789 - 784	Intermediate
MW-111B	3/20/2002	671184	109412.84	499581.50	4989772.09	478877.43	56.16	843.18	845.29	795 - 790	Intermediate
MW-112	4/9/2013	797203	109540.01	498966.06	4989812.06	478691.88	38.56	847.50	850.01	821 - 811	Water Table
REEP Property Wells											
REEP-1	1/12/2014	801475	109229.69	499351.01	4989929.12	478807.08	69.88	841.3	840.81	781 - 771	Below/Within Till
REEP-2	1/10/2014	804276	108880.12	499304.85	4989602.85	478784.44	57.97	840.9	840.44	792.5 - 782.5	Above/Within Till
REEP-2PC	5/19/2017	827187	108889.24	499304.62	4989612.85	478792.55	133.56	840.91	839.14	710.5 - 705.5	PDC
REEP-2S	5/19/2017	827186	108899.23	499304.52	4989615.89	478792.53	25.68	840.93	840.73	825 - 815	Water Table

MDH = Minnesota Department of Health

bgs = below ground surface

bTOR = below top of riser

SS = Stainless Steel

¹ Anoka County Coordinate System, NAD83 (1996 Adjustment), US survey feet

² Elevations are based on NAVD 88

PDC = Prairie du Chien

Intermediate = Outwash aquifer directly above Till

Table 2
Recent Groundwater Elevation Data
Reviva - Fridley, Minnesota
Carlson McCain Project No.: 101-17
Page 1 of 1

Date	MW-101A	MW-102A	MW-102B	MW-103A	MW-103B	MW-104B	MW-105B	MW-107A	MW-107B	MW-108A	MW-108B	MW-108PC	MW-109A	MW-109B	MW-110	MW-111B	MW-112	REEP-1	REEP-2S	REEP-2	REEP-2PC	BNSF-2S	BNSF-2D	BNSF-3S	BNSF-3D
5-Dec-07	820.23	820.24	820.12	820.12	820.15	820.21	820.21	820.17	820.23	820.11	820.15	-	820.18	820.12	820.16	820.33	-	-	-	-	-	-	-	-	-
9-Aug-08	820.41	820.36	820.33	820.30	820.28	820.37	820.37	820.40	820.41	820.32	820.35	-	820.45	820.30	820.32	820.55	-	-	-	-	-	-	-	-	-
4-Aug-09	-	818.78	818.73	818.81	818.83	818.92	818.82	818.98	818.85	818.77	818.80	-	818.89	818.69	818.73	818.88	-	-	-	-	-	-	-	-	-
6-Oct-10	820.78	820.81	820.76	820.82	820.78	820.71	820.82	820.82	820.82	820.77	820.80	-	820.79	820.66	820.65	820.80	-	-	-	-	-	-	-	-	-
31-Aug-11	823.97	823.86	823.85	823.94	823.92	823.93	823.94	823.96	823.95	823.86	823.87	-	823.98	823.83	823.86	824.24	-	-	-	-	-	-	-	-	-
17-Oct-11	822.81	822.61	822.57	822.65	822.64	822.72	822.67	822.71	822.71	822.56	822.58	-	822.76	822.61	822.68	823.03	-	-	-	-	-	-	-	-	-
20-Aug-12	822.16	822.21	822.05	822.11	822.09	822.13	822.14	822.14	822.15	822.06	822.05	-	822.17	822.00	822.07	822.37	-	-	-	-	-	-	-	-	-
4-Oct-12	821.13	821.06	821.01	821.07	821.06	821.08	821.07	821.13	821.12	821.01	821.04	-	821.16	821.00	821.04	821.30	-	-	-	-	-	-	-	-	-
30-Apr-13	820.50	820.36	820.38	820.48	820.46	820.43	820.47	820.53	820.54	820.40	820.42	-	820.63	820.48	820.53	820.61	820.40	-	-	-	-	-	-	-	-
13-May-13	-	-	-	820.72	820.42	-	-	-	-	820.63	820.67	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16-May-13	-	-	-	-	-	-	-	-	-	820.66	820.69	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-May-13	-	-	-	-	-	-	-	-	-	820.87	820.89	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23-May-13	-	-	-	821.01	820.99	-	-	-	-	820.90	820.92	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3-Jun-13	-	-	-	821.24	820.94	-	-	-	-	821.17	821.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7-Jun-13	-	-	-	821.25	821.24	-	-	-	-	821.20	821.21	-	-	-	-	-	821.19	-	-	-	-	-	-	-	-
14-Jun-13	-	-	-	821.44	821.42	-	-	-	-	821.35	821.38	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25-Jun-13	-	-	-	822.18	822.16	-	-	-	-	822.04	822.07	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28-Jun-13	-	-	-	822.26	822.25	-	-	-	-	822.19	822.22	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3-Jul-13	-	-	-	822.37	-	-	-	-	-	822.32	822.36	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8-Jul-13	-	-	-	822.42	-	-	-	-	-	822.39	822.41	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17-Jul-13	-	-	-	822.61	-	-	-	-	-	822.53	822.56	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1-Aug-13	-	-	-	822.44	-	-	-	-	-	822.39	822.41	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9-Aug-13	-	-	-	822.29	822.29	-	-	-	-	822.25	822.28	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26-Aug-13	-	-	-	821.96	821.96	-	-	-	-	821.89	821.93	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17-Sep-13	821.60	821.45	821.47	821.52	821.52	821.57	821.54	821.58	821.58	821.47	821.48	-	821.93	821.46	821.53	821.79	821.46	-	-	-	-	-	-	-	-
19-Sep-13	-	-	-	821.48	821.47	-	-	-	-	821.42	821.44	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30-Sep-13	-	-	-	821.33	821.32	-	-	-	-	821.26	821.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18-Oct-13	-	-	-	-	-	-	-	-	-	821.21	821.22	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14-Nov-13	-	-	-	-	-	-	-	-	-	821.05	821.07	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-Nov-13	821.03	820.90	820.96	820.95	820.96	821.07	820.94	821.04	821.06	820.88	820.91	-	821.16	821.02	821.02	821.59	820.90	-	-	-	-	-	-	-	-
2-Apr-14	820.72	820.52	820.55	820.63	-	820.74	820.57	820.62	820.65	820.57	820.57	-	820.74	820.68	820.75	820.87	820.56	-	-	-	-	-	-	-	-
16-Jun-14	823.20	822.56	823.02	823.13	823.13	823.17	823.19	823.12	823.15	823.17	823.17	-	823.33	823.14	823.24	823.58	823.04	-	-	-	-	-	-	-	-
15-Jul-14	824.61	824.02	824.42	824.78	824.24	824.59	824.50	824.50	824.51	824.44	824.46	-	824.69	824.49	824.56	824.95	824.42	-	-	-	-	-	-	-	-
4-Sep-14	823.69	823.04	-	823.86	-	825.66	823.55	823.62	823.61	823.56	823.53	-	823.76	823.59	823.65	824.04	823.50	-	-	-	-	-	-	-	-
10-Dec-14	822.21	822.02	822.01	822.06	822.05	822.24	822.09	822.09	822.09	822.01	822.01	-	822.18	822.14	822.22	822.50	-	-	-	-	-	-	-	-	-
3-Apr-15	821.19	820.94	821.00	821.09	821.09	821.22	821.07	821.09	821.10	821.00	821.01	-	821.22	821.15	821.25	821.43	820.99	-	-	-	-	-	-	-	-
27-Apr-15	821.15	820.95	820.99	821.06	821.06	821.20	821.03	821.06	821.06	820.96	820.97	-	821.16	821.09	821.25	821.40	820.96	-	-	-	-	-	-	-	-
9-Jun-15	821.91	821.39	821.68	821.81	821.82	821.87	-	821.83	821.86	821.71	821.73	-	822.09	821.89	821.97	822.17	821.69	-	-	-	-	-	-	-	-
14-Oct-15	822.52	822.39	822.35	822.40	822.41	822.52	822.40	822.42	822.41	822.35	822.37	-	822.51	822.44	822.51	822.79	822.35	-	-	-	-	-	-	-	-
2-Dec-16	824.35	824.08	824.14	824.20	824.20	824.32	824.20	824.23	824.25	824.11	824.10	-	824.38	824.29	824.40	824.72	824.07	-	-	-	-	-	-	-	-
12-Jun-17	824.95	824.68	824.64	824.82	824.81	824.92	824.77	824.83	824.85	824.72	824.73	823.20	825.00	824.87	824.99	825.31	824.69	823.97	825.19	823.28	822.02	821.66	822.35	-	-
17-Aug-17	824.70	824.27	819.29	824.73	824.75	824.69	824.62	824.77	824.80	824.56	824.57	822.98	825.05	824.74	824.90	825.19	824.53	823.78	825.28	823.01	821.79	821.15	821.95	824.14	824.12
4-Oct-17	824.82	824.56	824.46	824.72	824.72	824.72	824.64	824.77	824.80	824.53	824.55	823.19	825.18	824.82	824.76	825.20	824.47	823.91	825.27	823.15	821.96	821.24	822.35	824.12	824.11
23-Oct-17	824.76	824.48	824.48	824.59	824.59	824.66	824.55	824.64	825.40	824.49	824.54	823.60	824.74	824.64	824.79	825.11	824.43	824.17	824.97	823.43	822.08	821.27	822.56	824.32	824.30

Notes:
All elevations referenced to mean sea level
-- Indicates that the well was not installed at the time of the measurement or was not measured

Table 3
Well Abandonments
 Reviva - Fridley, Minnesota
 Carlson McCain Project No. 0101-17

Well Name	MDH Unique Well ID	Date Sealed	Final Measured Depth to Water (feet bTOR)	Final Measured Depth to Bottom (feet bTOR)
Monitoring Wells				
MW-109A	646929	10/23/2017	17.8	33.26
BNSF-1S	804277	10/23/2017	15.9	29.95
BNSF-1D	804278	10/23/2017	16.11	59.84
Remediation Wells				
ASW-1	563979	10/24/2017	25.25	60.97
ASW-2	797204	10/24/2017	26.83	62.35
UVB-#2	643497	10/23/2017	17.3	53.5
UVB-#3	673815	Unable to seal due to obstruction.		

bTOR = below top of riser

Table 4
Recent Groundwater Quality Data
 Reviva - Fridley, Minnesota
 Carlson McCain Project No. 0101-17
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Parameter	MDH HRL	Well	MW-101A									
		Date	7/14/2004	8/2/2005	6/16/2006	8/21/2012	9/20/2013	11/26/2013	4/2/2014	6/12/2014	10/15/2015	6/13/2017
		Units							MPCA			
Stabilization												
pH (field)	-	pH Units	7.02	7.42	6.93	6.18	6.72	7.58	3.86	6.93	7.41	6.46
Specific Conductivity (field)	-	umhos/cm	922	881.3	902.8	1440	1580	2200	1489	2000	2450	2490
Temperature (field)	-	degrees C	13.86	14.4	13.99	11.54	13.04	9.65	13.5	13.24	13.87	14.85
Oxidation/Reduction (field)	-	mV	354.1	-11	-159	-135	-119	-181	290	-155	-149	-221
Dissolved Oxygen (field)	-	ppm	1.34	1.4	3.91	-	1.26	0.23	0.04	0	0.42	0
Turbidity (field)	-	Ntu	33	0.8	18.7	6.8	3.8	3.9	86.08	12.8	1.7	53.5
USEPA Method 8021 / 8260B SIM												
cis-1,2-Dichloroethylene	50	ug/L	2.6	2.6	<1.0	3.92	12	16.5	26.8	23.2	20.3	18.2
trans-1,2-Dichloroethylene	40	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.3	1.37	1.59	1.49
Trichloroethylene	0.4	ug/L	150	100	11	5.59	52.6	69.5	74.3	59.6	49.7	51.6
Vinyl chloride	0.2	ug/L	<0.40	<1.0	<1.0	<4.0	<1.0	<1.0	<0.4	<1.0	<1.0	0.079

Parameter	MDH HRL	Well	MW-102A									
		Date	8/5/2009	10/6/2010	8/31/2011	8/22/2012	9/20/2013	11/27/2013	4/9/2014	6/13/2014	10/15/2015	6/13/2017
		Units							MPCA			
Stabilization												
pH (field)	-	pH Units	6.77	6.8	6.88	6.69	6.69	7.2	7.2	6.56	9.19	6.56
Specific Conductivity (field)	-	umhos/cm	1.365	918.4	1422	1700	2650	3080	1626	2440	141	1790
Temperature (field)	-	degrees C	13.35	13.42	13.73	11.71	13.65	12.38	14.3	15.54	13.62	14.89
Oxidation/Reduction (field)	-	mV	-7.9	206	-9.7	-124	-110	2	-150	-132	-173	-54
Dissolved Oxygen (field)	-	ppm	0.12	-	0.15	2.77	0.43	2.28	0.01	0	1.87	0
Turbidity (field)	-	Ntu	-	3.13	6	0	0.8	50	20.53	5.8	3.1	0
USEPA Method 8021 / 8260B SIM												
cis-1,2-Dichloroethylene	50	ug/L	<0.83	<0.83	4	1.3	121	355	310	466	1.92	322
trans-1,2-Dichloroethylene	40	ug/L	<0.89	<0.89	2.3	<1.0	29	132	46.6	123	<1.0	59.9
1,4 Dioxane	1	ug/L	-	-	-	-	-	-	-	-	-	<1.0
Trichloroethylene	0.4	ug/L	<0.48	<0.48	0.58 (b)	<1.0	6.47	16.8	23.2	18.1	<1.0	28.4
Vinyl chloride	0.2	ug/L	<0.18	<0.18	<0.18	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	0.245

Parameter	MDH HRL	Well	MW-102B									
		Date	10/7/2010	8/31/2011	8/22/2012	9/20/2013	11/27/2013	4/9/2014	6/13/2014	10/15/2015	6/13/2017	
		Units							MPCA			
Stabilization												
pH (field)	-	pH Units	6.61	6.79	6.51	6.66	7.51	-	7.14	6.53	6.68	6.78
Specific Conductivity (field)	-	umhos/cm	2250	296	3410	2850	1990	-	2025	2140	2810	4250
Temperature (field)	-	degrees C	15.27	13.97	12.57	13.3	12.07	-	14.2	15.17	14.94	16.92
Oxidation/Reduction (field)	-	mV	181	-15	7	63	-142	-	0	34	-45	-211
Dissolved Oxygen (field)	-	ppm	-	0.46	0.69	3.03	0.54	-	2.16	1.88	1.65	0
Turbidity (field)	-	Ntu	90.4	17.9	0	3.5	14.1	-	91.8	22	1.9	0
USEPA Method 8021 / 8260B SIM												
cis-1,2-Dichloroethylene	50	ug/L	30	24	93	79	292	284	336	186	529	362
trans-1,2-Dichloroethylene	40	ug/L	19.3	8.7	24.6	15.4	37.7	42.9	178	24.3	88.8	75.1
1,4 Dioxane	1	ug/L	-	-	-	-	-	-	-	-	-	2.22
Trichloroethylene	0.4	ug/L	23.3	12.8	18.6	14	22.3	22.3	16.2	15.4	19.7	7.08
Vinyl chloride	0.2	ug/L	<0.18	<0.18	<4.0	<1.0	<1.0	<1.0	<0.40	<1.0	<1.0	0.498

Notes:
 b: Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
 mV = millivolts
 ppm = parts per million
 umhos/cm = micromhos per centimeter
 ug/L = micrograms per liter
 - = parameter not analyzed
 MDH HRL = Minnesota Department of Health's Health Risk Limit
Bold = Concentration above laboratory detection limit.
 = Concentration above HRL

Table 4
Recent Groundwater Quality Data
 Reviva - Fridley, Minnesota
 Carlson McCain Project No. 0101-17
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Parameter	MDH HRL	Well	MW-103A									
		Date	8/23/2012	5/1/2013	6/7/2013	9/23/2013	11/26/2013	4/11/2014	6/16/2014	9/16/2014	10/14/2015	6/13/2017
		Units						MPCA				
Stabilization												
pH (field)	-	pH Units	7.10	7.08	6.96	6.71	7.59	7.28	6.79	7.44	7.33	6.45
Specific Conductivity (field)	-	umhos/cm	695	738	886	900	1090	828.3	672	1018	1290	1360
Temperature (field)	-	degrees C	10.69	13.56	13.93	12.76	10.23	13.5	15.31	19.4	13.22	15.86
Oxidation/Reduction (field)	-	mV	-82	-43.1	-39.4	-71	-120	-90	-83	-	-101	-145
Dissolved Oxygen (field)	-	ppm	0	0.23	0.3	0.73	0.27	0.04	0	-	4.02	0
Turbidity (field)	-	Ntu	0.0	2.8	5.1	0.0	1.6	9.8	1.8	-	1.8	0
USEPA Method 8021 / 8260B SIM												
cis-1,2-Dichloroethylene	50	ug/L	191	227	135	150	215	172	206	190	64.6	68.3
trans-1,2-Dichloroethylene	40	ug/L	9.05	18.1	16.5	22.7	14.5	14.4	10.2	11.8	6.2	4.44
Trichloroethylene	0.4	ug/L	23.6	189	298	349	228	255	107	180	203	206
Vinyl chloride	0.2	ug/L	<20.0	<1.0	<1.0	<1.0	<1.0	<0.40	<1.0	<1.0	<1.0	0.0602

Parameter	MDH HRL	Well	MW-103B									
		Date	8/31/2011	8/23/2012	5/1/2013	6/7/2013	9/23/2013	11/26/2013	6/16/2014	9/16/2014	10/14/2015	6/13/2017
		Units										
Stabilization												
pH (field)	-	pH Units	7.24	6.94	7.08	7.13	6.95	7.72	6.75	7.42	7.62	6.75
Specific Conductivity (field)	-	umhos/cm	858	1110	768	820	896	1120	1100	1298	1310	1650
Temperature (field)	-	degrees C	12.25	10.36	12.74	13.19	12.58	11.43	14.74	18.6	13.51	16.53
Oxidation/Reduction (field)	-	mV	-103	-127	-75.4	-76.5	-130	-171	-124	-	-137	-151
Dissolved Oxygen (field)	-	ppm	0.15	0	0.28	0.27	0.61	0.18	0	-	3.52	0.85
Turbidity (field)	-	Ntu	5.3	0	0	1.79	0	51.9	1.2	-	2.1	0
USEPA Method 8021 / 8260B SIM												
cis-1,2-Dichloroethylene	50	ug/L	52.7	21.2	33.4	28	23.6	48.9	39	37.7	37.8	42.9
trans-1,2-Dichloroethylene	40	ug/L	14.5	4.83	7.32	6.39	4.83	12	9.36	9.85	9.9	11.5
Trichloroethylene	0.4	ug/L	3.3	1.39	3.5	3.7	2.58	6.25	6.53	6.32	7.06	4.46
Vinyl chloride	0.2	ug/L	<0.18	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.0916

Parameter	MDH HRL	Well	MW-104B									
		Date	7/13/2004	8/1/2005	6/15/2006	8/21/2012	9/18/2013	11/20/2013	4/9/2014	6/11/2014	10/16/2015	6/12/2017
		Units							MPCA			
Stabilization												
pH (field)	-	pH Units	6.64	7	6.66	5.87	6.5	7.39	7.2	6.69	8.87	7.2
Specific Conductivity (field)	-	umhos/cm	2321	2317	2151	3870	3290	3700	2725	3640	4880	4830
Temperature (field)	-	degrees C	14.08	15.13	14.1	11.81	13.65	12.3	14	15.47	12.86	14.86
Oxidation/Reduction (field)	-	mV	305.2	-10	-127	-104	-109	-126	-160	-85	-118	-133
Dissolved Oxygen (field)	-	ppm	2.9	2.53	-0.43	-	0.51	0.53	0	0	3.81	2.6
Turbidity (field)	-	Ntu	192.1	0.9	1131.5	44.9	48.8	46.1	97.91	38.2	6	132
USEPA Method 8021 / 8260B SIM												
cis-1,2-Dichloroethylene	50	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene	40	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethylene	0.4	ug/L	25	17	2.0	10.8	8.12	8.7	8.1	9.36	7.22	6.85
Vinyl chloride	0.2	ug/L	<0.4	<1.0	<1.0	<4.0	<1.0	<1.0	<0.4	<1.0	<1.0	<0.04

Notes:
 b: Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
 mV = millivolts
 ppm = parts per million
 umhos/cm = micromhos per centimeter
 ug/L = micrograms per liter
 - = parameter not analyzed
 MDH HRL = Minnesota Department of Health's Health Risk Limit
Bold = Concentration above laboratory detection limit.
 ■ = Concentration above HRL

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 Reviva - Fridley, Minnesota
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Parameter	MDH HRL	Well	MW-105B									
		Date	6/16/2006	8/5/2009	8/22/2012	9/20/2013	11/26/2013	4/2/2014	4/2/2014	6/13/2014	10/15/2015	6/13/2017
		Units							MPCA			
Stabilization												
pH (field)	-	pH Units	7.00	6.90	7.00	6.95	7.67	-	3.86	6.85	7.27	6.84
Specific Conductivity (field)	-	umhos/cm	1241	1,554	2,250	4,050	5,160	-	1,489	3,180	4220	3300
Temperature (field)	-	degrees C	14.38	14.36	11.44	13.81	12.49	-	14.09	14.4	14.63	14.73
Oxidation/Reduction (field)	-	mV	-154.0	-14.5	-118.0	-124.0	-143.0	-	290.0	-127.0	-125	-204
Dissolved Oxygen (field)	-	ppm	2.5	0.3	0.0	0.5	-	-	0.0	0.0	1.85	0
Turbidity (field)	-	Ntu	0.1	-	0.0	9.4	15.6	-	146.3	16.9	10.6	13.3
USEPA Method 8021 / 8260B SIM												
cis-1,2-Dichloroethylene	50	ug/L	9.5	8.8	6.01	27.4	42.9	33.8	39.6	46.8	37.5	64.7
trans-1,2-Dichloroethylene	40	ug/L	<1.0	<0.89	1.23	7.56	8.4	8.3	9.7	21.6	26.8	99.7
1,4 Dioxane	1	ug/L	-	-	-	-	-	-	-	-	-	<1.0
Trichloroethylene	0.4	ug/L	<1.0	<0.48	<1.0	8.19	9.33	15.8	17.2	16.2	12.6	28.2
Vinyl chloride	0.2	ug/L	<1.0	<0.18	<4.0	<1.0	<1.0	<1.0	<0.4	<1.0	<1.0	0.634

Parameter	MDH HRL	Well	MW-107A									
		Date	8/31/2011	8/23/2012	4/30/2013	9/19/2013	11/21/2013	4/11/2014	4/11/2014	6/12/2014	10/13/2015	6/13/2017
		Units							MPCA			
Stabilization												
pH (field)	-	pH Units	7.35	7.41	7.54	7.16	8.01	-	7.99	7.2	7.92	7.36
Specific Conductivity (field)	-	umhos/cm	1383	926	456	985	1140	-	646.4	1230	1210	1090
Temperature (field)	-	degrees C	14	11.15	14.77	12.98	12.43	-	13.3	12.39	14.08	15.19
Oxidation/Reduction (field)	-	mV	-49	-51	-38.2	-39	-131	-	-40	-77	-23	-76
Dissolved Oxygen (field)	-	ppm	0.24	3.46	0.24	0.81	0.27	-	0.02	0	6.19	2.26
Turbidity (field)	-	Ntu	30.2	0	4.5	0	1.6	-	17.99	8.9	17.3	18.4
USEPA Method 8021 / 8260B SIM												
cis-1,2-Dichloroethylene	50	ug/L	5	1.12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene	40	ug/L	0.93 (b)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4 Dioxane	1	ug/L	-	-	-	-	-	-	-	-	-	<1.0
Trichloroethylene	0.4	ug/L	17.4	5.92	3.02	10.4	3.62	3.11	3.4	3.85	2.46	1.62
Vinyl chloride	10	ug/L	<0.18	<4.0	<1.0	<1.0	<1.0	<1.0	<0.40	<1.0	<1.0	<0.4

Parameter	MDH HRL	Well	MW-107B									
		Date	10/7/2010	8/31/2011	8/23/2012	4/30/2013	9/19/2013	11/21/2013	4/11/2014	6/12/2014	10/13/2015	6/13/2017
		Units							MPCA			
Stabilization												
pH (field)	-	pH Units	7.06	7.20	6.92	7.04	6.85	7.67	7.52	6.87	7.96	7.21
Specific Conductivity (field)	-	umhos/cm	1050	1620	1550	1268	1450	1880	1320	1600	8560	1480
Temperature (field)	-	degrees C	12.66	12.83	10.71	13.41	12.86	11.57	12.8	12.98	14.09	16.62
Oxidation/Reduction (field)	-	mV	146	-123	-148	-93.2	-141	-169	-180	-143	-27	-191
Dissolved Oxygen (field)	-	ppm	-	0.19	5.99	0.16	0.58	0.17	0.06	0	2.66	1.05
Turbidity (field)	-	Ntu	4.5	4.9	0	0	0	0.1	82.76	19.1	0	0
USEPA Method 8021 / 8260B SIM												
cis-1,2-Dichloroethylene	50	ug/L	76.6	52	39.1	29.1	70.9	103	214	161	59.8	90.2
trans-1,2-Dichloroethylene	40	ug/L	43.7	37.7	23.1	16.4	82.5	107	198	125	36.7	130
Trichloroethylene	0.4	ug/L	6.6	5.9	4	2.44	39.9	50	88.9	81.5	5.34	84.5
Vinyl chloride	0.2	ug/L	<0.18	<0.18	<4.0	<1.0	<1.0	<1.0	<0.40	<1.0	<1.0	0.47

Notes:
 b: Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
 mV = millivolts
 ppm = parts per million
 umhos/cm = micromhos per centimeter
 ug/L = micrograms per liter
 - = parameter not analyzed
 MDH HRL = Minnesota Department of Health's Health Risk Limit
Bold = Concentration above laboratory detection limit.
 = Concentration above HRL

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Recent Groundwater Quality Data
 Reviva - Fridley, Minnesota
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Parameter	MDH HRL	Well	MW-108A									
		Date	4/30/2013	6/7/2013	9/23/2013	11/27/2013	4/3/2014	4/3/2014 MPCA	6/16/2014	9/16/2014	10/14/2015	6/14/2017
		Units										
Stabilization												
pH (field)	-	pH Units	7.11	7.16	6.9	7.68	-	7.66	6.9	7.68	7.86	7.4
Specific Conductivity (field)	-	umhos/cm	995	996	953	1070	-	543.6	1050	930	870	900
Temperature (field)	-	degrees C	13.39	13.3	14.08	10.72	-	12.3	12.24	18.3	14.46	13.68
Oxidation/Reduction (field)	-	mV	-11.3	-29	-61	-85	-	90	-56	-	-121	-150
Dissolved Oxygen (field)	-	ppm	0.27	0.2	0.76	0.25	-	0.04	0	-	3.76	0
Turbidity (field)	-	Ntu	1.2	1.98	47.6	12.7	-	36.53	8.4	-	1.2	0
USEPA Method 8021 / 8260B SIM												
cis-1,2-Dichloroethylene	50	ug/L	413	162	39.2	304	246	206	291	375	262	271
trans-1,2-Dichloroethylene	40	ug/L	44.1	20.7	4.03	40.5	34.2	40	36.1	43.6	24.4	30
1,4-Dioxane	1	ug/L	-	-	-	-	-	-	-	-	-	1.97
Trichloroethylene	0.4	ug/L	469	189	75.7	334	211	229	263	378	455	517
Vinyl chloride	0.2	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<0.40	<1.0	<1.0	<1.0	0.112

Parameter	MDH HRL	Well	MW-108B									
		Date	8/23/2012	4/30/2013	6/7/2013	9/23/2013	11/27/2013	4/3/2014 MPCA	6/16/2014	9/16/2014	10/14/2015	6/14/2017
		Units										
Stabilization												
pH (field)	-	pH Units	6.77	6.95	7	6.87	7.52	7.37	6.68	7.43	7.33	6.98
Specific Conductivity (field)	-	umhos/cm	1150	851	889	839	1030	782.2	998	973	1310	1580
Temperature (field)	-	degrees C	11.61	12.12	12.43	12.49	10.31	11.5	12.36	19.3	14.31	14.36
Oxidation/Reduction (field)	-	mV	-112	-56	-78.5	-139	-140	180	-104	-	-135	-170
Dissolved Oxygen (field)	-	ppm	0	0.16	0.13	1.11	0.31	0.05	0	-	3.91	0.51
Turbidity (field)	-	Ntu	0	0	1.93	14.8	20.2	20.51	7.8	-	0	0
USEPA Method 8021 / 8260B SIM												
cis-1,2-Dichloroethylene	50	ug/L	160	98.5	84.1	113	131	174	92.6	87.1	55.9	30.5
trans-1,2-Dichloroethylene	40	ug/L	2.61	1.97	3.77	9.67	14.20	26	11.7	16.4	12.6	8.51
1,4-Dioxane	1	ug/L	-	-	-	-	-	-	-	-	-	<1.0
Trichloroethylene	0.4	ug/L	7.19	3.97	4.68	25.60	24.4	25	17.1	14.9	9.31	4.46
Vinyl chloride	0.2	ug/L	<1.0	<1.0	<3.0	<3.0	<1.0	<0.40	<1.0	<1.0	<1.0	0.045

Parameter	MDH HRL	Well	MW-108PC									
		Date	8/23/2012	4/30/2013	6/7/2013	9/23/2013	11/27/2013	4/3/2014 MPCA	6/16/2014	9/16/2014	10/14/2015	6/14/2017
		Units										
Stabilization												
pH (field)	-	pH Units	-	-	-	-	-	-	-	-	-	7.34
Specific Conductivity (field)	-	umhos/cm	-	-	-	-	-	-	-	-	-	1320
Temperature (field)	-	degrees C	-	-	-	Well Installed May 2017. No groundwater monitoring data prior to 2017.				-	-	15.4
Oxidation/Reduction (field)	-	mV	-	-	-	-	-	-	-	-	-	-145
Dissolved Oxygen (field)	-	ppm	-	-	-	-	-	-	-	-	-	0.94
Turbidity (field)	-	Ntu	-	-	-	-	-	-	-	-	-	0
USEPA Method 8021 / 8260B SIM												
cis-1,2-Dichloroethylene	50	ug/L	-	-	-	-	-	-	-	-	-	2.54
trans-1,2-Dichloroethylene	40	ug/L	-	-	-	-	-	-	-	-	-	<1.0
1,4-Dioxane	1	ug/L	-	-	-	-	-	-	-	-	-	<1.0
Trichloroethylene	0.4	ug/L	-	-	-	-	-	-	-	-	-	116
Vinyl chloride	0.2	ug/L	-	-	-	-	-	-	-	-	-	0.146

Notes:
 b: Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
 mV = millivolts
 ppm = parts per million
 umhos/cm = micromhos per centimeter
 ug/L = micrograms per liter
 - = parameter not analyzed
 MDH HRL = Minnesota Department of Health's Health Risk Limit
Bold = Concentration above laboratory detection limit.
 = Concentration above HRL

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Parameter	MDH HRL	Well	MW-109B									
		Date	10/7/2010	8/31/2011	8/22/2012	4/30/2013	9/19/2013	11/20/2013	4/9/2014	6/12/2014	10/14/2015	6/13/2017
		Units							MPCA			
Stabilization												
pH (field)	-	pH Units	7.73	9.64	8.47	7.02	7.82	8.03	7.41	6.74	7.44	6.96
Specific Conductivity (field)	-	umhos/cm	599.7	787	639	953	605	1230	942.2	1120	1370	2480
Temperature (field)	-	degrees C	14.18	15.22	12.83	15.28	14.21	12.31	14.9	14.99	16.14	16.14
Oxidation/Reduction (field)	-	mV	98	-248	-293	-73.6	-226	-159	-160	-136	-161	-169
Dissolved Oxygen (field)	-	ppm	~	0.77	1.61	1.2	1.34	0.72	0.12	0	1.78	0.7
Turbidity (field)	-	Ntu	27.6	151	102	10.1	65.2	3.1	61.15	0	0.3	0.5
USEPA Method 8021 / 8260B SIM												
cis-1,2-Dichloroethylene	50	ug/L	96.9	81.1	76.2	73.4	60.6	71.2	75.6	68.1	57.6	61.7
trans-1,2-Dichloroethylene	40	ug/L	299	240	238	<1.0	191	223	246	231	195	195
Trichloroethylene	0.4	ug/L	28.3	9.6	12.7	28	11	23.1	24.1	21.4	14	17.6
Vinyl chloride	0.2	ug/L	<0.45	<0.45	<20.0	<1.0	<1.0	<1.0	<0.40	<1.0	<1.0	0.407

Parameter	MDH HRL	Well	MW-110									
		Date	7/14/2004	8/2/2005	6/16/2006	8/6/2009	8/21/2012	9/20/2013	11/21/2013	6/12/2014	10/15/2015	6/12/2017
		Units										
Stabilization												
pH (field)	-	pH Units	7.01	7.57	6.83	6.68	6.31	6.74	7.39	6.73	7.04	7.63
Specific Conductivity (field)	-	umhos/cm	2122	1903	1996	2593	2570	2230	3040	3170	2880	1930
Temperature (field)	-	degrees C	13.83	13.27	12.46	13.08	10.45	13.95	11.76	12.58	14.19	23.37
Oxidation/Reduction (field)	-	mV	376.6	-34	-144	-3	-131	-158	-144	-96	-138	-135
Dissolved Oxygen (field)	-	ppm	3.25	1.52	4.27	0.59	~	1.34	0.22	0.00	2.63	1.13
Turbidity (field)	-	Ntu	3	3.3	1	~	11.1	3.8	0	12.6	0	1.24
USEPA Method 8021												
cis-1,2-Dichloroethylene	50	ug/L	6.9	5.9	<1.0	<0.83	1.37	15.9	25.9	18.7	23.1	9.01
trans-1,2-Dichloroethylene	40	ug/L	<1.0	<2.0	<1.0	<0.89	<1.0	1.25	2.67	1.91	2.00	<1.0
Trichloroethylene	0.4	ug/L	200	150	<1.0	2.1	2.13	77.9	103	89	58.1	35.6
Vinyl chloride	0.2	ug/L	<0.40	<2.0	<1.0	<0.18	<4.0	<1.0	<1.0	<1.0	<1.0	0.047

Parameter	MDH HRL	Well	MW-111B									
		Date	8/2/2005	6/16/2006	8/5/2009	8/21/2012	9/19/2013	11/21/2013	4/2/2014	6/11/2014	10/16/2015	6/12/2017
		Units							MPCA			
Stabilization												
pH (field)	-	pH Units	7.14	8.11	6.95	8.92	7.92	7.41	3.84	6.75	7.71	7.35
Specific Conductivity (field)	-	umhos/cm	2734	2449	3.964	2660	2840	3790	2399	3760	3820	3480
Temperature (field)	-	degrees C	14.94	13.6	12.56	11.27	13.45	11.45	12.9	13.9	12.57	14.43
Oxidation/Reduction (field)	-	mV	14	-113	-20.9	-218	-230	-133	290	-78	-122	-150
Dissolved Oxygen (field)	-	ppm	1.31	0.98	0.27	~	0.94	0.71	0.03	0	0.86	0.26
Turbidity (field)	-	Ntu	47	55.2	~	100	48.4	800	116.4	24.9	6	7.7
USEPA Method 8021 / 8260B SIM												
cis-1,2-Dichloroethylene	50	ug/L	<1.0	<1.0	<0.83	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene	40	ug/L	<1.0	<1.0	<0.89	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dioxane	1	ug/L	~	~	~	~	~	~	~	~	~	<1.0
Trichloroethylene	0.4	ug/L	4.10	2.00	0.86 (b)	3.28	2.89	3.30	2.80	2.71	3.14	2.64
Vinyl chloride	0.2	ug/L	<1.0	<1.0	<0.18	<4.0	<1.0	<1.0	<0.4	<1.0	<1.0	<0.04

Notes:
 b: Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
 mV = millivolts
 ppm = parts per million
 umhos/cm = micromhos per centimeter
 ug/L = micrograms per liter
 ~ = parameter not analyzed
 MDH HRL = Minnesota Department of Health's Health Risk Limit
Bold = Concentration above laboratory detection limit.
 ■ = Concentration above HRL

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Parameter	MDH HRL	Well	MW-112							
		Date	4/30/2013	6/7/2013	9/23/2013	11/27/2013	6/16/2014	9/17/2014	10/14/2015	6/14/2017
		Units								
Stabilization										
pH (field)	-	pH Units	7.07	7.06	6.83	7.69	6.58	7.58	7.53	7.21
Specific Conductivity (field)	-	umhos/cm	698	732	669	812	815	722	881	700
Temperature (field)	-	degrees C	13.81	13.2	12.59	11.1	12.3	14.8	15.14	13.74
Oxidation/Reduction (field)	-	mV	54.2	66.9	62	-12	22	-	4	-7
Dissolved Oxygen (field)	-	ppm	0.43	2.39	1.05	0.29	0	-	2.63	0
Turbidity (field)	-	Ntu	27.4	10.9	0	47.7	34.7	-	0	0
USEPA Method 8021 / 8260B SIM										
cis-1,2-Dichloroethylene	50	ug/L	173	119	30.8	172	271	169	163	90.9
trans-1,2-Dichloroethylene	40	ug/L	58.2	47.7	14.4	69.3	120	82	66.8	41.6
Trichloroethylene	0.4	ug/L	105	51.5	16.4	81.9	112	59.2	101	62.2
Vinyl chloride	0.2	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.123

Parameter	MDH HRL	Well	BNSF-2S							
		Date	4/30/2013	6/7/2013	9/23/2013	11/27/2013	6/16/2014	9/17/2014	10/14/2015	6/14/2017
		Units								
Stabilization										
pH (field)	-	pH Units	-	-	-	-	-	-	-	6.87
Specific Conductivity (field)	-	umhos/cm	-	-	-	-	-	-	-	1320
Temperature (field)	-	degrees C	-	-	Well installed January 2014.			-	-	12.15
Oxidation/Reduction (field)	-	mV	-	-	No groundwater monitoring			-	-	-74
Dissolved Oxygen (field)	-	ppm	-	-	data prior to 2017.			-	-	0
Turbidity (field)	-	Ntu	-	-	-	-	-	-	-	0
USEPA Method 8021 / 8260B SIM										
cis-1,2-Dichloroethylene	50	ug/L	-	-	-	-	-	-	-	<1.0
trans-1,2-Dichloroethylene	40	ug/L	-	-	-	-	-	-	-	<1.0
Trichloroethylene	0.4	ug/L	-	-	-	-	-	-	-	<0.1
Vinyl chloride	0.2	ug/L	-	-	-	-	-	-	-	<0.04

Parameter	MDH HRL	Well	BNSF-2D							
		Date	6/7/2013	9/23/2017	11/27/2013	4/7/2014 MPCA	6/16/2014	9/7/2017	10/14/2015	6/14/2017
		Units								
Stabilization										
pH (field)	-	pH Units	-	-	-	7.86	-	-	-	7.6
Specific Conductivity (field)	-	umhos/cm	Well installed January 2014.			666	-	-	-	1340
Temperature (field)	-	degrees C	No groundwater monitoring			11.94	-	-	-	13.14
Oxidation/Reduction (field)	-	mV	data prior to 2014.			-160	-	-	-	-223
Dissolved Oxygen (field)	-	ppm	-	-	-	0	-	-	-	0
Turbidity (field)	-	Ntu	-	-	-	-	-	-	-	0
USEPA Method 8021 / 8260B SIM										
cis-1,2-Dichloroethylene	50	ug/L	-	-	-	< 1.0	-	-	-	<1.0
trans-1,2-Dichloroethylene	40	ug/L	-	-	-	< 1.0	-	-	-	<1.0
Trichloroethylene	0.4	ug/L	-	-	-	< 0.40	-	-	-	<0.1
Vinyl chloride	0.2	ug/L	-	-	-	< 0.40	-	-	-	<0.04

Notes:

b: Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

mV = millivolts

ppm = parts per million

umhos/cm = micromhos per centimeter

ug/L = micrograms per liter

- = parameter not analyzed

MDH HRL = Minnesota Department of Health's Health Risk Limit

Bold = Concentration above laboratory detection limit.

█ = Concentration above HRL

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Parameter	MDH HRL	Well	REEP-1								
		Date	6/7/2013	9/23/2013	11/27/2013	4/7/2014	6/16/2014	9/17/2014	10/14/2015	6/14/2017	
		Units				MPCA					
Stabilization											
pH (field)	~	pH Units	~	~	~	3.97	~	~	~	7.28	
Specific Conductivity (field)	~	umhos/cm	Well Installed January 2014.				1153	~	~	~	1990
Temperature (field)	~	degrees C	No groundwater monitoring data prior to 2014.				12.83	~	~	~	14.03
Oxidation/Reduction (field)	~	mV	~	~	~	250	~	~	~	-223	
Dissolved Oxygen (field)	~	ppm	~	~	~	0.31	~	~	~	0	
Turbidity (field)	~	Ntu	~	~	~	~	~	~	~	0	
USEPA Method 8021 / 8260B SIM											
1,1-Dichloroethane	100	ug/L	~	~	~	5	~	~	~	3.84	
1,1-Dichloroethylene	200	ug/L	~	~	~	2.2	~	~	~	<2.0	
cis-1,2-Dichloroethylene	50	ug/L	~	~	~	11.6	~	~	~	14.1	
trans-1,2-Dichloroethylene	40	ug/L	~	~	~	6.8	~	~	~	11	
1,2-Dichloropropane	5	ug/L	~	~	~	< 4.0	~	~	~	2.2	
Naphthalene	300	ug/L	~	~	~	6.8	~	~	~	<5.0	
Trichloroethylene	0.4	ug/L	~	~	~	765	~	~	~	366	
Vinyl chloride	0.2	ug/L	~	~	~	0.43	~	~	~	0.29	

Parameter	MDH HRL	Well	REEP-2								
		Date	6/7/2013	9/23/2013	11/27/2013	4/7/2014	6/16/2014	9/17/2014	10/14/2015	6/15/2017	
		Units				MPCA					
Stabilization											
pH (field)	~	pH Units	~	~	~	7.27	~	~	~	6.48	
Specific Conductivity (field)	~	umhos/cm	Well Installed January 2014.				1702	~	~	~	2520
Temperature (field)	~	degrees C	No groundwater monitoring data prior to 2014.				12.89	~	~	~	14.7
Oxidation/Reduction (field)	~	mV	~	~	~	-140	~	~	~	-251	
Dissolved Oxygen (field)	~	ppm	~	~	~	0	~	~	~	0	
Turbidity (field)	~	Ntu	~	~	~	~	~	~	~	0	
USEPA Method 8021 / 8260B SIM											
cis-1,2-Dichloroethylene	50	ug/L	~	~	~	< 1.0	~	~	~	<1.0	
trans-1,2-Dichloroethylene	40	ug/L	~	~	~	< 1.0	~	~	~	<1.0	
Trichloroethylene	0.4	ug/L	~	~	~	< 0.40	~	~	~	<0.1	
Vinyl chloride	0.2	ug/L	~	~	~	< 0.40	~	~	~	<0.04	

Parameter	MDH HRL	Well	REEP-2S								
		Date	6/7/2013	9/23/2013	11/27/2013	4/7/2014	6/16/2014	9/17/2014	10/14/2015	6/15/2017	
		Units									
Stabilization											
pH (field)	~	pH Units	~	~	~	~	~	~	~	7.55	
Specific Conductivity (field)	~	umhos/cm	~	~	~	~	~	~	~	2220	
Temperature (field)	~	degrees C	~	~	Well Installed May 2017. No groundwater monitoring data prior to 2017.			~	~	~	17.19
Oxidation/Reduction (field)	~	mV	~	~	~	~	~	~	~	-117	
Dissolved Oxygen (field)	~	ppm	~	~	~	~	~	~	~	5	
Turbidity (field)	~	Ntu	~	~	~	~	~	~	~	9.7	
USEPA Method 8021 / 8260B SIM											
cis-1,2-Dichloroethylene	50	ug/L	~	~	~	~	~	~	~	<1.0	
trans-1,2-Dichloroethylene	40	ug/L	~	~	~	~	~	~	~	<1.0	
Trichloroethylene	0.4	ug/L	~	~	~	~	~	~	~	<0.1	
Vinyl chloride	0.2	ug/L	~	~	~	~	~	~	~	<0.04	

Notes:

b: Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

mV = millivolts

ppm = parts per million

umhos/cm = micromhos per centimeter

ug/L = micrograms per liter

~ = parameter not analyzed

MDH HRL = Minnesota Department of Health's Health Risk Limit

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Parameter	MDH HRL	Well	REEP-2PC								
		Date	6/7/2013	9/23/2013	11/27/2013	4/7/2014	6/16/2014	9/17/2014	10/14/2015	6/15/2017	
		Units									
Stabilization											
pH (field)	-	pH Units	-	-	-	-	-	-	-	6.82	
Specific Conductivity (field)	-	umhos/cm	-	-	-	-	-	-	-	1080	
Temperature (field)	-	degrees C	-	-	Well Installed May 2017. No groundwater monitoring data prior to 2017.					-	15.1
Oxidation/Reduction (field)	-	mV	-	-	-	-	-	-	-	-227	
Dissolved Oxygen (field)	-	ppm	-	-	-	-	-	-	-	0	
Turbidity (field)	-	Ntu	-	-	-	-	-	-	-	0	
USEPA Method 8021 / 8260B SIM											
1,2-Dichloroethane	1	ug/L	-	-	-	-	-	-	-	0.403	
cis-1,2-Dichloroethylene	50	ug/L	-	-	-	-	-	-	-	<1.0	
trans-1,2-Dichloroethylene	40	ug/L	-	-	-	-	-	-	-	<1.0	
Trichloroethylene	0.4	ug/L	-	-	-	-	-	-	-	0.512	
Vinyl chloride	0.2	ug/L	-	-	-	-	-	-	-	<0.04	

Parameter	MDH HRL	Well	BNSF-3S								
		Date	6/7/2013	9/23/2013	11/27/2013	4/7/2014	6/16/2014	9/17/2014	10/14/2015	8/17/2017	
		Units									
Stabilization											
pH (field)	-	pH Units	-	-	-	-	-	-	-	7.31	
Specific Conductivity (field)	-	umhos/cm	-	-	-	-	-	-	-	590	
Temperature (field)	-	degrees C	-	-	Well Installed August 2017. No groundwater monitoring data prior to 2017.					-	16.1
Oxidation/Reduction (field)	-	mV	-	-	-	-	-	-	-	-	
Dissolved Oxygen (field)	-	ppm	-	-	-	-	-	-	-	-	
Turbidity (field)	-	Ntu	-	-	-	-	-	-	-	6.09	
USEPA Method 8021 / 8260B SIM											
cis-1,2-Dichloroethylene	50	ug/L	-	-	-	-	-	-	-	<1.0	
trans-1,2-Dichloroethylene	40	ug/L	-	-	-	-	-	-	-	<1.0	
Trichloroethylene	0.4	ug/L	-	-	-	-	-	-	-	<0.1	
Vinyl chloride	0.2	ug/L	-	-	-	-	-	-	-	<0.04	

Parameter	MDH HRL	Well	BNSF-3D								
		Date	6/7/2013	9/23/2013	11/27/2013	4/7/2014	6/16/2014	9/17/2014	10/14/2015	8/17/2017	
		Units									
Stabilization											
pH (field)	-	pH Units	-	-	-	-	-	-	-	6.8	
Specific Conductivity (field)	-	umhos/cm	-	-	-	-	-	-	-	1720	
Temperature (field)	-	degrees C	-	-	Well Installed August 2017. No groundwater monitoring data prior to 2017.					-	16
Oxidation/Reduction (field)	-	mV	-	-	-	-	-	-	-	-	
Dissolved Oxygen (field)	-	ppm	-	-	-	-	-	-	-	-	
Turbidity (field)	-	Ntu	-	-	-	-	-	-	-	0	
USEPA Method 8021 / 8260B SIM											
cis-1,2-Dichloroethylene	50	ug/L	-	-	-	-	-	-	-	11.2	
trans-1,2-Dichloroethylene	40	ug/L	-	-	-	-	-	-	-	2.66	
Trichloroethylene	0.4	ug/L	-	-	-	-	-	-	-	0.763	
Vinyl chloride	0.2	ug/L	-	-	-	-	-	-	-	0.072	

Notes:

b: Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

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umhos/cm = micromhos per centimeter

ug/L = micrograms per liter

- = parameter not analyzed

MDH HRL = Minnesota Department of Health's Health Risk Limit

Bold = Concentration above laboratory detection limit.

Grey = Concentration above HRL

Table 5
Detected Analytes in Sub-Slab Soil Vapor
 Reviva - Fridley, Minnesota
 Carlson McCain Project No. 101-17
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Analyte/Compound	Units	Industrial ISV	Industrial 33x ISV	Reviva Property Sampling Locations					
				AS-1 5/25/17	AS-2 5/25/17	AS-3 5/25/17	AS-4 5/25/17	AS-5 5/25/17	AS-6 5/25/17
1,1,1-Trichloroethane	ug/m ³	10,000	333,333	468	7	118	<328	<4.37	<16.4
1,1-Dichloroethane	ug/m ³	1,000	33,333	<35.8	<4.91	69	<244	<3.24	<12.1
1,2,4-Trimethylbenzene	ug/m ³	210	7,000	<43.5	<5.96	<69.2	<296	4	<14.7
Acetone	ug/m ³	87,000	2,900,000	<525	96	<836	<3570	217	235
Benzene	ug/m ³	45	1,500	44	<3.87	<45.0	<192	<2.56	<9.58
Bromodichloromethane	ug/m ³	NE	NE	<59.2	<8.12	<94.3	<403	<5.36	<20.1
Chloroform	ug/m ³	300	10,000	<43.2	20	458	<294	16	106
cis-1,2-Dichloroethene	ug/m ³	NE	NE	213	6	8,010	<239	<3.17	<11.9
Cyclohexane	ug/m ³	20,000	666,667	<30.4	12	<48.5	<207	<2.75	<10.3
Dichlorodifluoromethane	ug/m ³	600	20,000	1,380	<15.0	615	<744	<9.89	<37.1
Ethanol	ug/m ³	42,000	1,400,000	<416	<57.1	<663	<2840	58	<141
Ethylbenzene	ug/m ³	39	1,300	61	<5.26	<61.1	<261	4	<13.0
Isopropyl alcohol	ug/m ³	20,000	666,667	<543	171	<865	<3700	218	725
m,p-Xylene	ug/m ³	360	12,000	230	13	<153	<654	13	<32.6
Methyl Ethyl Ketone	ug/m ³	10,000	333,333	<65.2	<8.94	<104	<444	15	<22.1
Methyl isobutyl ketone	ug/m ³	8,000	266,667	<90.5	<12.4	<144	<617	<8.19	<30.7
n-Hexane	ug/m ³	6,000	200,000	<31.2	<4.27	<49.6	<212	<2.82	<10.6
Tetrachloroethene	ug/m ³	33	1,100	129	21	396	<408	8	<20.3
Toluene	ug/m ³	18,000	600,000	<33.3	11	<53.1	<227	9	21
trans-1,2-Dichloroethene	ug/m ³	200	6,667	45	6	<55.8	<239	4	<11.9
Trichloroethene	ug/m ³	7	230	4,540	534	3,300	28,500	266	1,410
Xylene, o-	ug/m ³	360	12,000	<38.4	6	<61.1	<261	6	14

Notes:

ug/m³ = micrograms per cubic meter, which is equivalent to parts per billion

< = Less than

ISV = MPCA Intrusion Screening Value

MPCA = Minnesota Pollution Control Agency

NE = Not established

Bold = Detected Concentration

= Sample Exceeded Industrial ISV

= Sample Exceeded 33x Industrial ISV

Table 5
Detected Analytes in Sub-Slab Soil Vapor
 Reviva - Fridley, Minnesota
 Carlson McCain Project No. 101-17
 2 of 2

Analyte/Compound	Units	Industrial ISV	Industrial 33x ISV	REEP Property Sampling Locations			
				AS-7 5/26/17	AS-8 5/26/17	AS-9 5/26/17	AS-10 5/26/17
1,1,1-Trichloroethane	ug/m ³	10,000	333,333	<4.37	<4.37	<2.73	<3.26
1,1-Dichloroethane	ug/m ³	1,000	33,333	<3.24	<3.24	<2.02	<2.42
1,2,4-Trimethylbenzene	ug/m ³	210	7,000	7	<3.93	7	<2.94
Acetone	ug/m ³	87,000	2,900,000	82	130	117	105
Benzene	ug/m ³	45	1,500	<2.56	<2.56	<1.60	<1.91
Bromodichloromethane	ug/m ³	NE	NE	<5.36	<5.36	<3.35	8
Chloroform	ug/m ³	300	10,000	<3.91	<3.91	<2.44	125
cis-1,2-Dichloroethene	ug/m ³	NE	NE	<3.17	<3.17	<1.98	<2.37
Cyclohexane	ug/m ³	20,000	666,667	<2.75	<2.75	<1.72	<2.06
Dichlorodifluoromethane	ug/m ³	600	20,000	<9.89	<9.89	<6.18	<7.39
Ethanol	ug/m ³	42,000	1,400,000	<37.7	50	44	30
Ethylbenzene	ug/m ³	39	1,300	4	<3.47	3	<2.60
Isopropyl alcohol	ug/m ³	20,000	666,667	191	218	129	169
m,p-Xylene	ug/m ³	360	12,000	13	<8.68	12	<6.49
Methyl Ethyl Ketone	ug/m ³	10,000	333,333	17	41	20	59
Methyl isobutyl ketone	ug/m ³	8,000	266,667	<8.19	<8.19	7	<6.12
n-Hexane	ug/m ³	6,000	200,000	<2.82	3	2	<2.11
Tetrachloroethene	ug/m ³	33	1,100	<5.43	<5.43	8	<4.06
Toluene	ug/m ³	18,000	600,000	10	9	10	9
trans-1,2-Dichloroethene	ug/m ³	200	6,667	<3.17	<3.17	<1.98	<2.37
Trichloroethene	ug/m ³	7	230	<4.30	<4.30	<2.69	<3.21
Xylene, o-	ug/m ³	360	12,000	5	<3.47	5	<2.60

Notes:

ug/m³ = micrograms per cubic meter, which is equivalent to parts per billion

< = Less than

ISV = MPCA Intrusion Screening Value

MPCA = Minnesota Pollution Control Agency

NE = Not established

Bold = Detected Concentration

= Sample Exceeded Industrial ISV

= Sample Exceeded 33x Industrial ISV

Table 6
Post-Mitigation Sub-Slab Vacuum Results
 Reviva - Fridley, Minnesota
 Carlson McCain Project No. 101-17

	Sub-Slab Pressure
Location	(Pascals)
AS-1	-193.0
AS-2	-32.7
AS-3	-91.9
AS-4	-97.4
AS-5	-105.2
AS-6	-71.0
AS-11	-20.6
AS-12	-5.6
AS-13	-376.1
AS-14	-48.8
AS-15	-62.3
AS-16	-88.6
AS-17	-14.0
AS-18	-51.7
AS-19	-32.4
AS-20	-17.6
AS-21	-12.3
AS-22	-21.9

Note: Vacuum results obtained
 December 19, 2017

Table 7
Post-Installation Fan Pressure Results
Reviva - Fridley, Minnesota
Carlson McCain Project No. 101-17

Fan Location	Vacuum in Pipe (Inches H ₂ O)
A	2.1
B	2.2
C	2.1
D	2.25
E	2.3
F	2.15
G	2.3
H	2.45

Note: Vacuum results obtained
December 19, 2017

Table 8
Post-Mitigation Detected Analytes in Indoor Air
 Reviva - Fridley, Minnesota
 Carlson McCain Project No. 101-17

Analyte/Compound	Units	MDH Air Chronic HRV/HBV	MDH Air Acute HRV/HBV	Indoor Air Sample Locations				
				VP-1 9/27/2017	VP-2 9/27/2017	VP-3 9/27/2017	VP-4 9/27/2017	VP-5 9/27/2017
1,2,4-Trimethylbenzene	ug/m ³	NE	NE	1.41	6.8	6.83	4.85	<0.983
1,3,5-Trimethylbenzene	ug/m ³	NE	NE	<0.983	1.89	1.96	1.27	<0.983
2-Butanone (MEK)	ug/m ³	NE	10,000	2.58	3.22	3.61	2.29	<1.47
4-Ethyltoluene	ug/m ³	NE	NE	<0.983	1.85	1.97	1.24	<0.983
Acetone	ug/m ³	NE	NE	97.5	168	270	22.3	33.3
Benzene	ug/m ³	1.3 - 4.5	1,000	0.861	1.86	2.12	1.52	<0.639
Carbon disulfide	ug/m ³	700	6,000	<1.56	<1.56	<1.56	<1.56	1.92
Chloromethane	ug/m ³	NE	NE	1.09	<1.03	1.81	1.15	<1.03
Cyclohexane	ug/m ³	NE	NE	2.4	12.1	1.46	1.05	<0.688
Dichlorodifluoromethane	ug/m ³	NE	NE	2.51	<2.47	2.63	2.67	2.79
Ethanol	ug/m ³	NE	NE	90.5	34.3	19.5	19	<9.42
Ethylbenzene	ug/m ³	NE	10,000	0.897	2.57	28.1	1.83	<0.868
Freon TF	ug/m ³	NE	NE	1.55	<1.53	<1.53	<1.53	1.94
Isopropyl alcohol	ug/m ³	NE	NE	53.4	98.2	<12.3	<12.3	<12.3
m&p-Xylene	ug/m ³	NE	43,000	3.62	11	115	7.15	<2.17
Methylene chloride	ug/m ³	NE	NE	3.86	17.4	<1.74	<1.74	<1.74
Naphthalene	ug/m ³	9	200	<2.62	17.4	<2.62	<2.62	<2.62
n-Heptane	ug/m ³	NE	NE	0.958	3.68	2.58	1.95	<0.820
n-Hexane	ug/m ³	2,000	NE	3.13	9.49	4.67	4.09	1.34
Tetrachloroethene	ug/m ³	NE	20,000	<1.36	2.62	<1.36	4.07	<1.36
Toluene	ug/m ³	400	37,000	4.89	13.5	8.42	6.13	1.74
Trichloroethene	ug/m ³	NE	2,000	2.3	1.53	1.08	2.95	1.43
Trichlorofluoromethane	ug/m ³	NE	NE	5.64	2.53	2.09	3.37	1.5
Xylene, o-	ug/m ³	NE	43,000	1.37	4.49	38.1	2.66	<0.868

Notes:

ug/m³ = micrograms per cubic meter, which is equivalent to parts per billion

Bold = Detected Concentration

< = Less than

HRV/HBV = Health Risk Value/Health-Based Value

MDH = Minnesota Department of Health

MPCA = Minnesota Pollution Control Agency

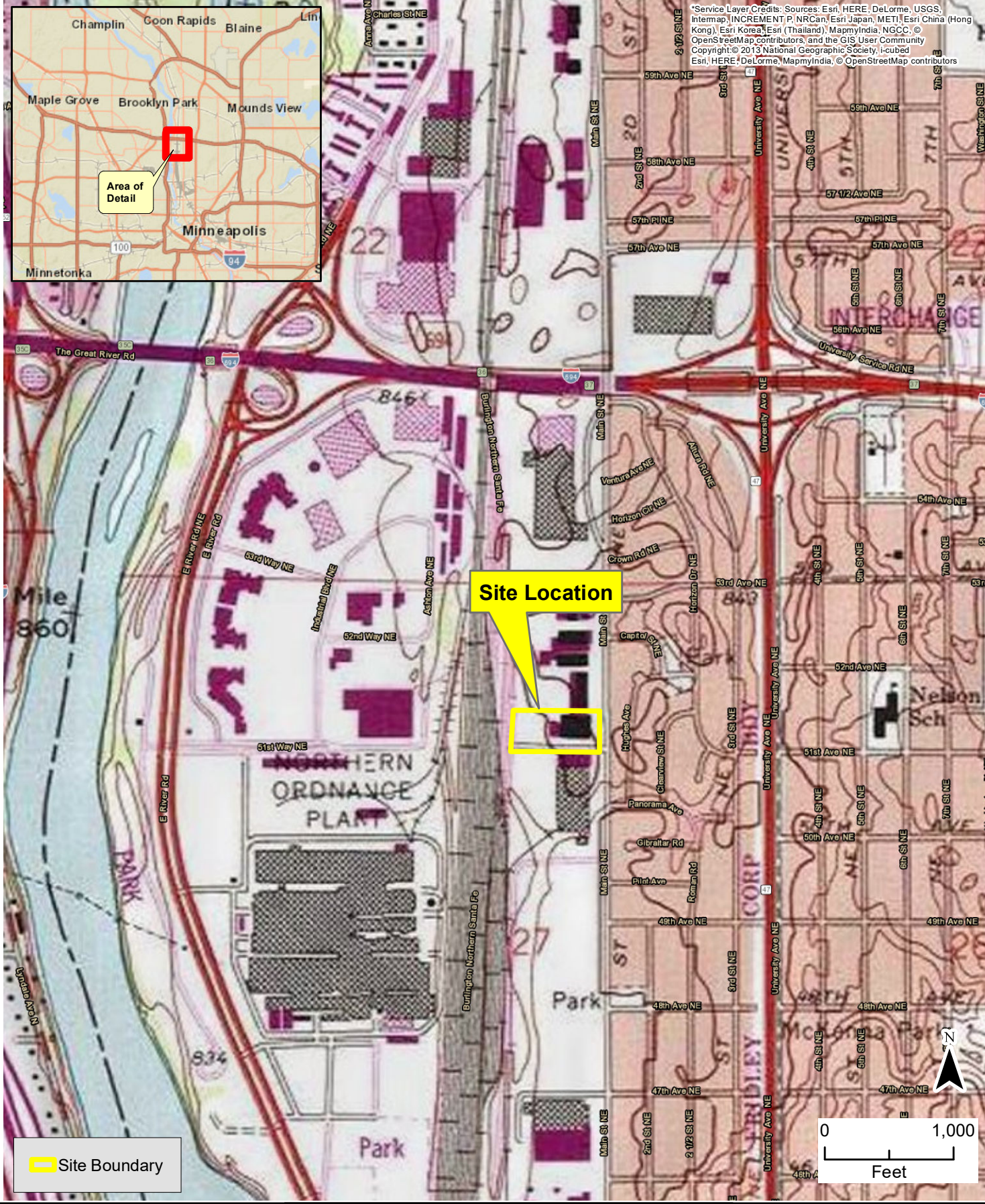
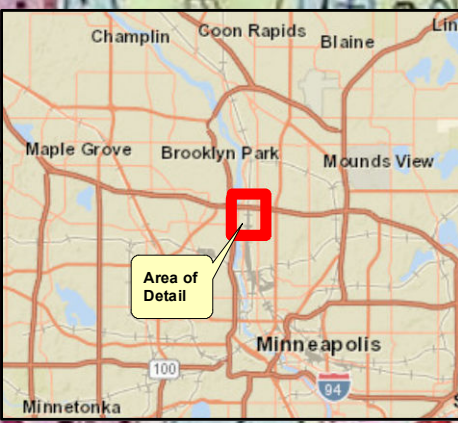
NE = Not Established

 = Sample Exceeded MDH Chronic HRV/HBV

 = Sample Exceeded MDH Acute HRV/HBV

Figures

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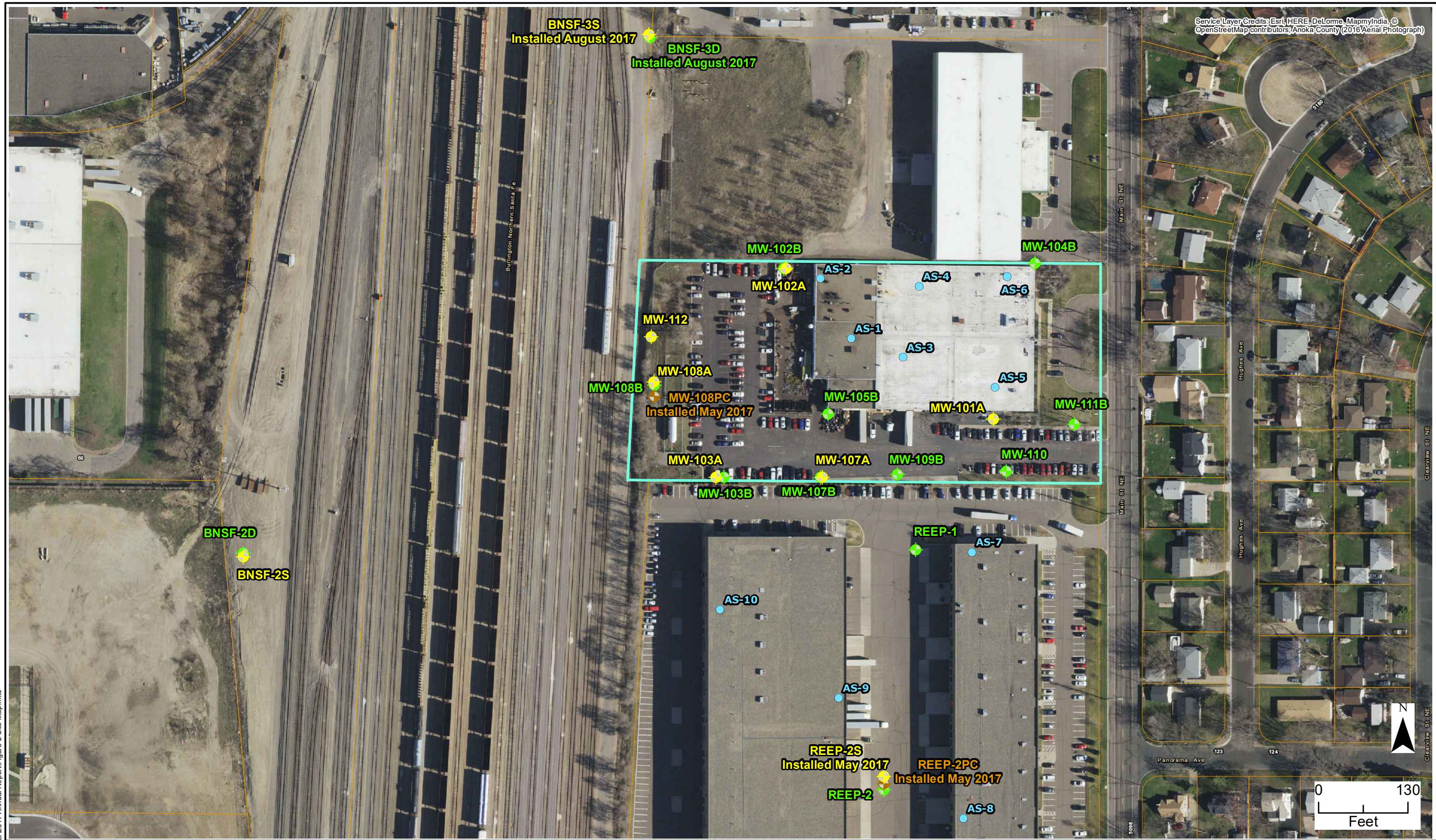
Site Boundary

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**2017 FIELD INVESTIGATION AND ANNUAL MONITORING REPORT
Reviva (Former Dealers Mfg.)
Fridley, Minnesota**

**FIGURE 1
SITE
LOCATION MAP**



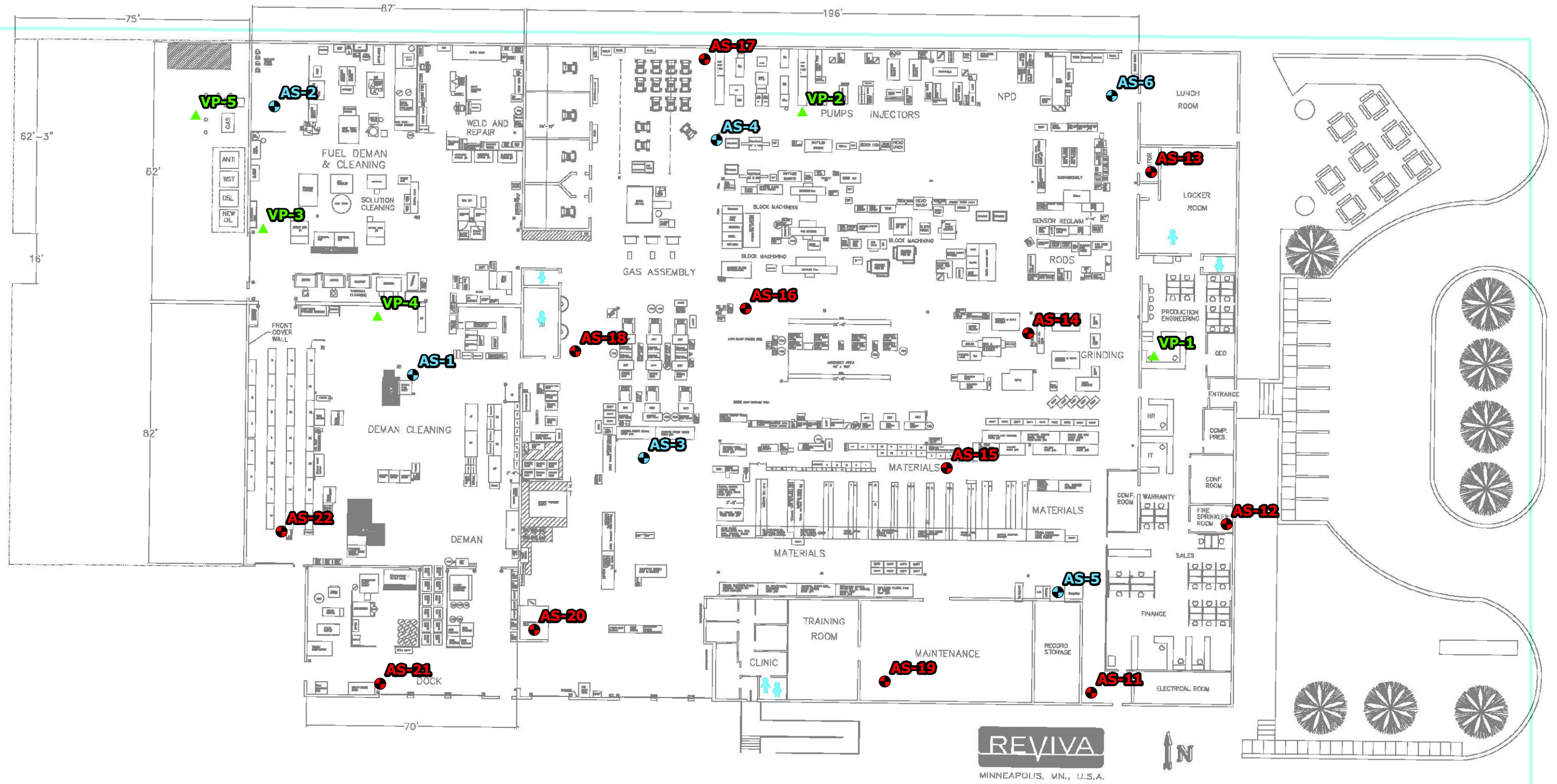
P:\GIS\1_Projects\101-Dealers\2017 Annual Report\Figure 2 Site Map.mxd

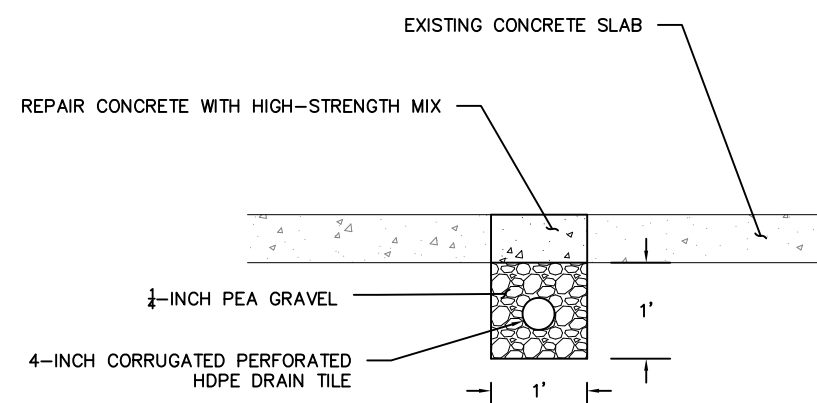
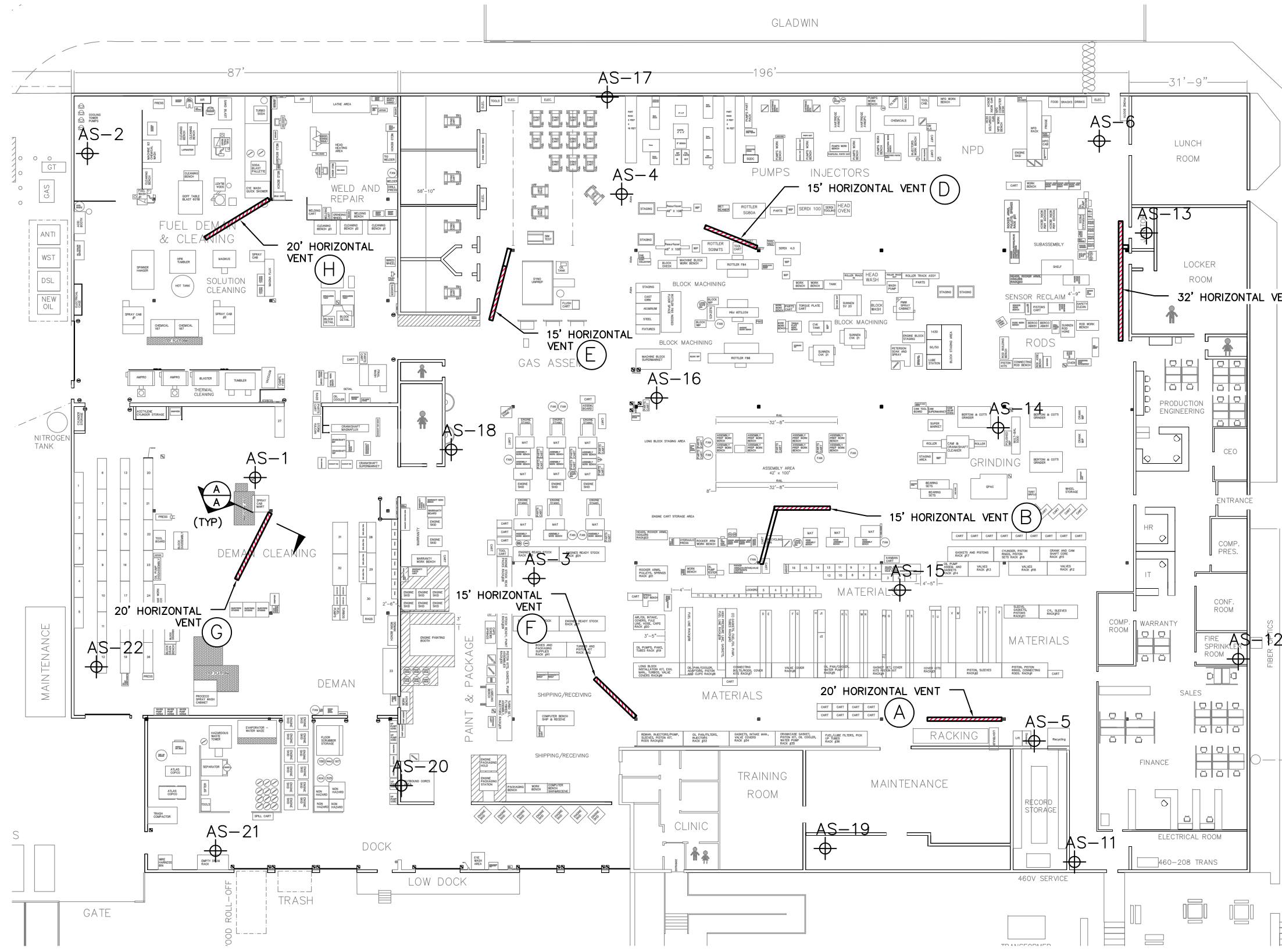


- ◆ Monitoring Well - Water Table
- ◆ Monitoring Well - Deep Drift
- ◆ Monitoring Well - Bedrock
- Sub-Slab Vapor Sample Location
- Site Boundary
- Parcels

**2017 FIELD INVESTIGATION AND ANNUAL MONITORING REPORT
Reviva (Former Dealers Manufacturing)
Fridley, Minnesota**

**FIGURE 2
SITE MAP**





(A/A) SECTION: HORIZONTAL SSD WELL
NTS

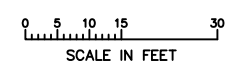
NOTES:

1. OWNER HIRED CONCRETE CONTRACTOR DIRECT, AND PROVIDED ABOVE-SLAB WORK IN-HOUSE. OVERSIGHT OF CONSTRUCTION METHOD AND DOCUMENTATION BY CARLSON MCCAIN.
2. EACH VENT LOCATION SERVICED BY DEDICATED FAN (FESTA AMG FORCE) ROUTED VIA 4" DIA. SCH. 40 PVC PIPE WITH MANUAL GATE VALVE AND MANOMETER (DWYER 1223).
3. FANS MOUNTED ON SYNTHETIC MEMBRANE ROOF WITH TREATED WOOD STAND-OFF FRAME.
4. EXTERIOR ELECTRIC SUPPLY TO FAN USES WATER-TIGHT CONNECTIONS, AND INCLUDES WEATHERPROOF ON/OFF SWITCH.

PLAN: SSD SYSTEM AS-BUILT PLAN

LEGEND

- HORIZONTAL VENT
- NON-PERFORATED 4-INCH PVC PIPE BELOW SLAB
- SSD FAN LOCATION
- VAPOR PIN LOCATION



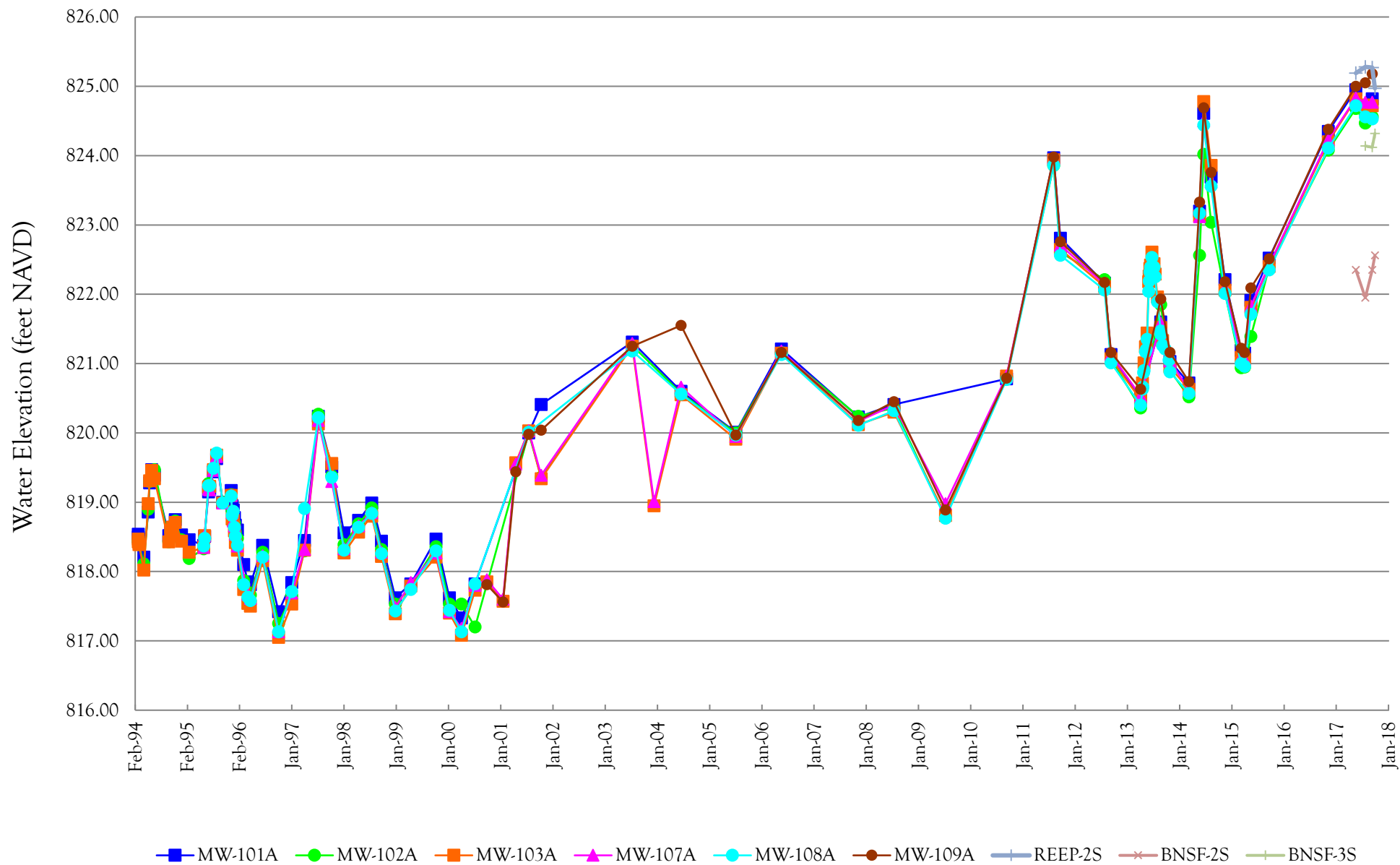
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SSD SYSTEM INSTALLATION

REVIVA, INC.
 5130 MAIN STREET NE
 FRIDLEY, MN

FIGURE 4 - SSD SYSTEM AS-BUILT DIAGRAM

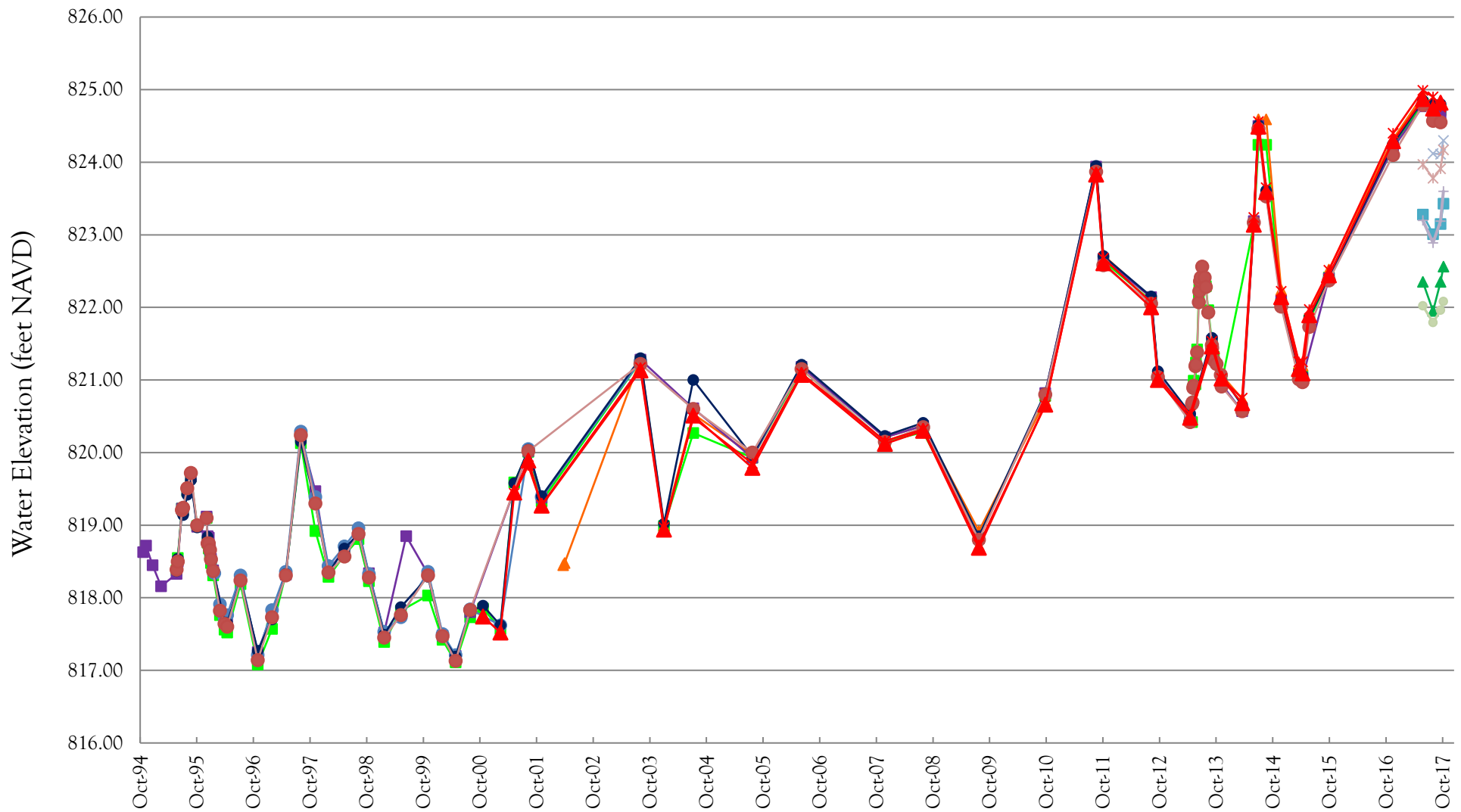


■ MW-101A
 ● MW-102A
 ■ MW-103A
 ▲ MW-107A
 ● MW-108A
 ● MW-109A
 ■ REEP-2S
 × BNSF-2S
 + BNSF-3S

**2017 FIELD INVESTIGATION AND
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 Reviva (Former Dealers Manufacturing)
 Fridley, Minnesota

**FIGURE 5A
 HYDROGRAPH
 WATER TABLE WELLS**



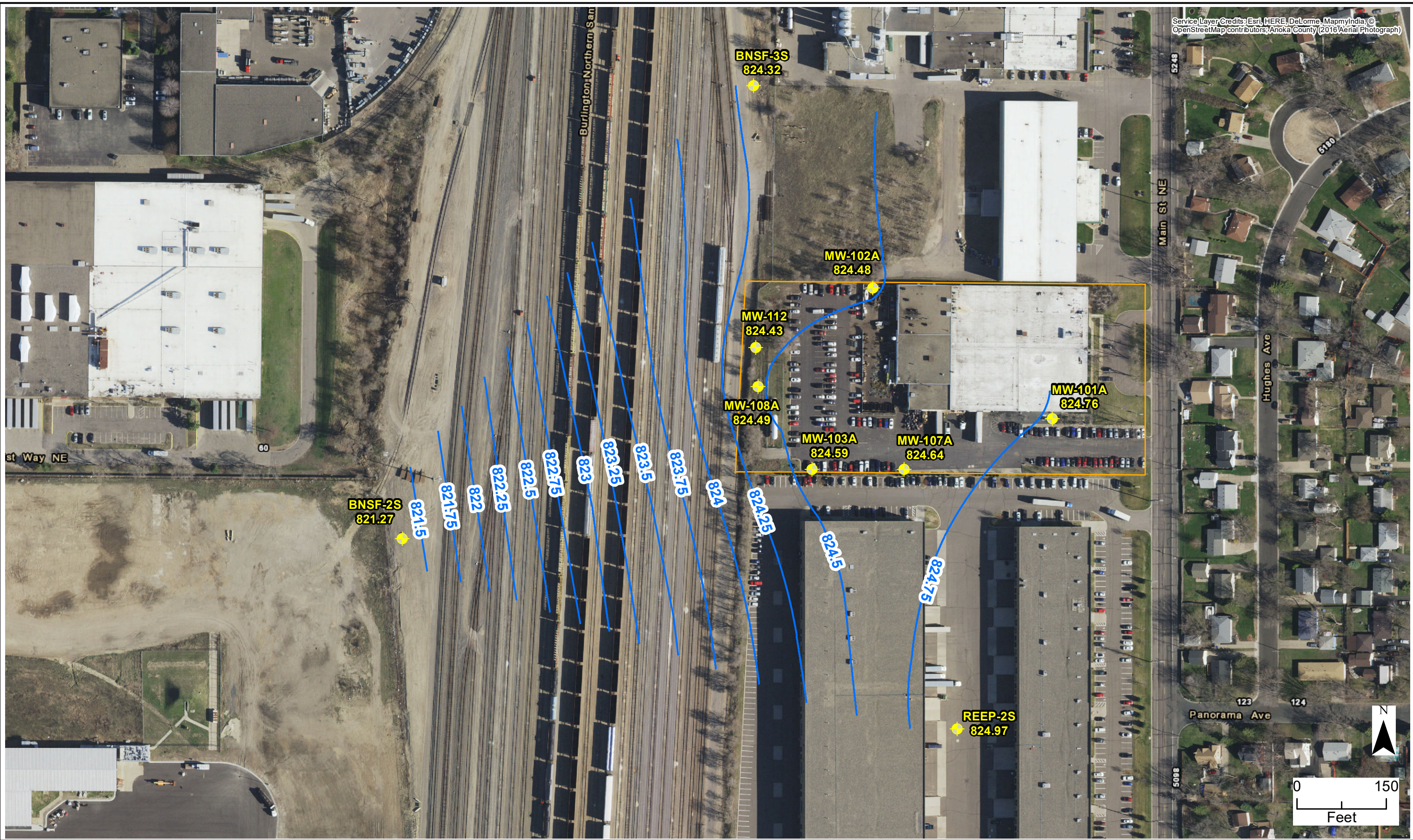


- MW-102B
- MW-103B
- ▲ MW-104B
- MW-105B
- MW-106B
- MW-107B
- MW-108B
- ▲ MW-109B
- * MW-110
- ◆ MW-111B
- REEP-2
- ▲ BNSF-2D
- × BNSF-3D
- * REEP-1
- REEP-2PC
- ◆ MW-108PC

**2017 FIELD INVESTIGATION AND
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Reviva (Former Dealers Manufacturing)
Fridley, Minnesota**

**FIGURE 5B
HYDROGRAPH
DEEP WELLS**





P:\GIS\1_Projects\101-Dealers\2017 Annual Report\Figure 6 WT Contour Map New.mxd



- Monitoring Well - Water Table **821.27** Water Table Elevation (feet MSL)
- Site Boundary
- Water Table Elevation Contour (ft MSL)

**2017 FIELD INVESTIGATION AND ANNUAL MONITORING REPORT
Reviva (Former Dealers Manufacturing)
Fridley, Minnesota**

**FIGURE 6
WATER TABLE
ELEVATION CONTOUR
MAP (10/23/2017)**





P:\GIS\11_Projects\1101-Dealer\2017 Annual Report\Figure 7 Deep Potent. Contour Map.mxd



- + Monitoring Well - Deep Drift **822.61** Water Table Elevation (feet MSL)
- Site Boundary
- Deep Drift Potentiometric Surface Contour (ft MSL)

**2017 FIELD INVESTIGATION AND ANNUAL MONITORING REPORT
Reviva (Former Dealers Manufacturing)
Fridley, Minnesota**

**FIGURE 7
DEEP DRIFT POTENTIOMETRIC
SURFACE ELEVATION CONTOUR
MAP (10/23/2017)**



Appendix A

Boring Logs
MDH Well Records and Utility Variance
Well Diagrams
Well Development Logs
Slug Test Results
Water Level Field Sheets
Field Sampling Sheets



CLIENT Reviva, Inc. **PROJECT NAME** 2017 Monitoring Well Installation
PROJECT NUMBER 101-17 **PROJECT LOCATION** Fridley, Minnesota
DATE STARTED 7/25/17 **COMPLETED** 7/25/17 **GROUND ELEVATION** 842.5 ft **HOLE SIZE** 8 inch
DRILLING CONTRACTOR Traut Well Co. **GROUND WATER LEVELS:**
DRILLING METHOD 4 1/4" ID Hollow Stem Auger **AT TIME OF DRILLING** ---
LOGGED BY M. Lindstrom **CHECKED BY** W. Carlson **AT END OF DRILLING** ---
NOTES _____ **4hrs AFTER DRILLING** 18.5 ft / Elev 824.0 ft

FORMATION	DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION
	0			
	5			
	10			
	15			
	20		▼	
	25			
	27.0			End of boring at 27.0 feet.

Blind dril to 27' bgs. See boring BNSF-3D for stratigraphy information. Installed monitoring well BNSF-3S in bore hole.



CLIENT Reviva, Inc. **PROJECT NAME** 2017 Monitoring Well Installation
PROJECT NUMBER 101-17 **PROJECT LOCATION** Fridley, Minnesota
DATE STARTED 7/24/17 **COMPLETED** 7/24/17 **GROUND ELEVATION** 842.5 ft **HOLE SIZE** 8 inch
DRILLING CONTRACTOR Traut Well Co. **GROUND WATER LEVELS:**
DRILLING METHOD 4 1/4" ID Hollow Stem Auger **AT TIME OF DRILLING** ---
LOGGED BY M. Lindstrom **CHECKED BY** W. Carlson **AT END OF DRILLING** ---
NOTES **48hrs AFTER DRILLING** 19.0 ft / Elev 823.5 ft

FORMATION	DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	TIME	PID (ppm)
FILL	0	MAC 1	0			Hydrovac to 12' bgs. Hole collapsed with slough to approx. 5' bgs. Started soil sampling at 10' bgs.		
	5	MAC 2	0					
	10					10.0 Sand. (Soil that had fallen into the hydro-vacced hole prior to soil sampling).		
OUTWASH	12.0	MAC 3	40			12.0 Light yellowish brown (10YR 6/4) POORLY GRADED SAND, fine to medium-grained, some coarse-grained sand, sub-rounded, trace little gravel, loose, uniform, moist to wet. OUTWASH	14:29	0.0
	15			SP		For run #4, sample sleeve became stuck in dual tube during sample extrusion due to a rock being caught in the sleeve, and resulting in poor sample recovery. Switched to using the macro core sampler with the start of run #5.	14:29	0.0
		MAC 4	20				14:46	NR
	19.0					19.0 Wet at 19' bgs.		
	20					Brown (10YR 5/3) POORLY GRADED SAND, fine to coarse-grained, sub-angular to sub-rounded, trace small gravel, loose, uniform, massive, wet. OUTWASH	14:47	0.0
		MAC 5	52				15:13	0.0
	25			SP		Very fine-grained sand layer observed at 24.4' bgs, approx. 0.3' thick. Color change to yellowish brown (10YR 5/6) observed at 24.9' bgs. Amount of coarse-grained material increases.	15:13	0.0
		MAC 6	50				15:27	0.0
	30					Very coarse-grained sand layer observed at 28.8' bgs, approximately 0.2' thick.		

(Continued Next Page)

TEST 101-17 REVIVA 2017 DRILLING.GPJ GINT US.GDT 9/1/17



CLIENT Reviva, Inc.

PROJECT NAME 2017 Monitoring Well Installation

PROJECT NUMBER 101-17

PROJECT LOCATION Fridley, Minnesota

FORMATION	DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	TIME	PID (ppm)
OUTWASH (continued)	30					Yellowish brown (10YR 5/6) POORLY GRADED SAND, medium-grained, sub-angular to rounded, uniform, loose, wet. OUTWASH	15:27	0.2
		MAC 7	55	SP		Fine-grained, angular sand observed between 32.5-34' bgs.	15:47	0.0
						34.0		
		35				Gray (10YR 5/1) WELL GRADED SAND, very fine to coarse-grained, angular to rounded (larger grains are more rounded), little small gravel, trace large gravel, wet. OUTWASH	15:47	0.0
			MAC 8	40		Gradation from very fine to coarse-grained observed between 35-40' bgs.	16:18	0.0
		40				Very coarse-grained sand with few small gravel observed at 40' bgs.	16:18	0.0
			MAC 9	30		Becomes less graded at approx. 42' bgs.	16:38	0.0
		45				Large gravel observed at 43.3' bgs; approx. 1.25" diameter. Very coarse-grained with small gravel observed between 43.6-44' bgs.	16:38	0.0
			MAC 10	58	SW		17:23	0.0
		50					17:23	0.0
			MAC 11	20			17:49	0.0
		55				Becomes more gravelly nearing 55' bgs. Color change to brown (7.5YR 4/2) observed at 55'. Becomes more of a clayey sand, medium-grained, angular, wet.	17:49	0.0
		MAC 12	60			58.0	18:21	0.0
TILL	60			CL		Dark reddish gray (5YR 4/2) SANDY LEAN CLAY, cohesive, low to medium plasticity, trace small gravel, sand is fine to medium-grained and angular to sub-angular, wet. TILL	18:21	0.0
						Driller reported harded drilling at approx. 57.5' bgs.		
						Installed monitoring well BNSF-3D in bore hole. End of boring at 60.0 feet.		

TEST 101-17 REVIVA 2017 DRILLING.GPJ GINT US.GDT 9/1/17



CLIENT Reviva, Inc. **PROJECT NAME** 2017 Monitoring Well Installation
PROJECT NUMBER 101-17 **PROJECT LOCATION** Fridley, Minnesota
DATE STARTED 5/19/17 **COMPLETED** 5/22/17 **GROUND ELEVATION** 849.1 ft **HOLE SIZE** 6 inch
DRILLING CONTRACTOR Traut Well Co. **GROUND WATER LEVELS:**
DRILLING METHOD Rotasonic **AT TIME OF DRILLING** 17.5 ft / Elev 831.6 ft
LOGGED BY M. Lindstrom **CHECKED BY** W. Carlson **AT END OF DRILLING** ---
NOTES **18hrs AFTER DRILLING** 26.3 ft / Elev 822.8 ft

FORMATION	DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	TIME	PID (ppm)
FILL	0	RS 1	96		SP		Dark brown (10YR 3/3) POORLY GRADED SAND, very fine to fine-grained, sub-angular, trace roots, loose, moist. Large gravel observed in the top 3". FILL.		
	1.5						Yellowish brown (10YR 5/4) POORLY GRADED SAND, very fine-grained, angular, loose, uniform, moist. FILL		
ALLUVIUM	5	RS 2	40		SW		Color change to very dark grayish brown (10YR 3/2) observed between 4.5-5' bgs.	10:23	0.0
	7.0						Yellowish brown (10YR 5/4) WELL GRADED SAND, fine to medium-grained, sub-rounded, loose, oxidized, moist to wet. ALLUVIUM		
	10						More medium to coarse-grained sand observed at 12' bgs.		
	14.5						Coarse-grained sand and small gravel observed at 14.3' bgs, approx. 0.3' thick, wet.		
	15						Light brownish gray (10YR 6/2) WELL GRADED SAND, medium to coarse-grained, rounded, trace small gravel, moist to wet. ALLUVIUM		
OUTWASH	16	RS 3	80		SW		Silty sand with clay layer observed at 16' bgs, non-cohesive, non-plastic, approx. 4" thick.	10:25	0.2
	17.5						Wet at 17.5' bgs.		
	19.5						Grades from medium-grained sand to sandy fat clay at 17.75' bgs. Clay layer is approx. 3" thick.		
	20						Silty sand layer observed at 19.2', approx. 0.2' thick.		
OUTWASH	20.5	RS 4	82		CH		Dark gray (2.5Y 4/1) FAT CLAY, highly cohesive, high plasticity, uniform, soft, wet. ALLUVIUM	10:27	2.2
	23.0						Light brownish gray (10YR 6/2) WELL GRADED SAND, medium to coarse-grained, rounded, trace small gravel, moist to wet. ALLUVIUM		
	25						Light brownish gray (10YR 6/2) POORLY GRADED SAND, very fine to fine-grained, sub-rounded, loose, uniform, moist to wet. OUTWASH		
OUTWASH	24	RS 5	100		SP		Wet at 24' bgs.	10:45	1.4
	24.5						Oxidized at 24.5' bgs.		
OUTWASH	29.5				SW				

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TEST 101-17 REVIVA 2017 DRILLING.GPJ GINT US.GDT 9/1/17



CLIENT Reviva, Inc.

PROJECT NAME 2017 Monitoring Well Installation

PROJECT NUMBER 101-17

PROJECT LOCATION Fridley, Minnesota

FORMATION	DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	TIME	PID (ppm)
OUTWASH (continued)	30						Gray (10YR 6/1) WELL GRADED SAND, fine to coarse-grained, angular to rounded, loose, uniform, wet. Contains approx. 1' thick coarsening downward sequences from fine to coarse-grained. OUTWASH (continued)	10:45	1.9
	35	RS 6	79		SW		Small gravel and coarse-grained sand layer at 32' bgs, approx. 4" thick. Small gravel and coarse-grained sand layer at 33' bgs, approx. 3" thick, trace large gravel, approx. 2" diameter.	10:52	1.8
	40						Color change to grayish brown (10YR 5/2) at approx. 40' bgs. Run #7 fell out of core barrel during extraction. Driller was able to compress and pick up additional soil during run #8, giving run #8 a recovery of 12'.	10:52	2.3
	45	RS 7	0				Due to no recovery in run #7, contact below is assumed from the boring log for MW-108B. Dark gray (10YR 4/1) WELL GRADED SAND, medium to very coarse-grained, sub-angular, loose, uniform, massive, few small gravel, wet. OUTWASH	11:13	0.0
	50				SW		Small gravel and coarse-grained sand layer observed at 48' bgs, approx. 4" thick. Driller reported very soft drilling from 40-50' bgs.	11:13	0.0
TILL	55	RS 8	120				Very coarse-grained sand and small gravel layer observed at 55.8' bgs, approx. 0.7' thick. Medium-grained sand below.	11:13	0.0
	60	RS 9	76	PP = 3.5 tsf PP = 4.0 tsf PP = 3.5 tsf PP = 3.5 tsf	CL		Reddish brown (5YR 5/3) SANDY LEAN CLAY, some silt, cohesive, low plasticity, few small gravel, trace large gravel, uniform, hard to stiff, wet. Sand is fine-grained with a few coarse-grained sand, and rounded. Reacts moderately with 1M HCL. TILL. Color change to dark gray (5YR 4/1) observed at 60' bgs. Increasing sand grain size (medium to coarse-grained).	11:13	0.0

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TEST 101-17 REVIVA 2017 DRILLING.GPJ GINT US.GDT 9/1/17



CLIENT Reviva, Inc.

PROJECT NAME 2017 Monitoring Well Installation

PROJECT NUMBER 101-17

PROJECT LOCATION Fridley, Minnesota

FORMATION	DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	TIME	PID (ppm)
TILL (continued)	65	RS 10	96	PP = 4.0 tsf	CL		Reddish brown (5YR 5/3) SANDY LEAN CLAY, some silt, cohesive, low plasticity, few small gravel, trace large gravel, uniform, hard to stiff, wet. Sand is fine-grained with a few coarse-grained sand, and rounded. Reacts moderately with 1M HCL. TILL (continued)	11:22	0.0
				PP = 4.3 tsf					
				PP = 3.5 tsf					
				PP = 3.5 tsf					
		PP = 4.0 tsf							
	70	RS 11	100	PP = 4.5 tsf			Black granitic cobble observed at 69.5' bgs, pulverized. Oxidization observed in soils around the cobble.	12:51	0.0
				PP = 4.5 tsf					
				PP = 4.0 tsf					
				PP = 4.5 tsf					
				PP = 4.5 tsf					
				PP = 4.5 tsf					
	75	RS 12	100	PP = 3.8 tsf			Color becomes more dark reddish gray (5YR 4/2) at 72' bgs.	13:12	0.0
				PP = 4.5 tsf					
	PP = 4.5 tsf								
	PP = 2.0 tsf								
	PP = 4.5 tsf								
	PP = 4.5 tsf								
	PP = 4.5 tsf								
80	RS 13	100	PP = 4.5 tsf	3" diameter granitic cobble observed at 79.75' bgs. Competent hard core observed in run #12.	13:12	0.2			
			PP = 4.5 tsf						
			PP = 4.5 tsf						
			PP = 4.5 tsf						
			PP = 4.5 tsf						
			PP = 4.5 tsf						
85	RS 12	100	PP = 4.5 tsf	Becomes slightly softer, moderate 1M HCL reaction.	13:32	0.4			
			PP = 4.0 tsf						
			PP = 3.5 tsf						
			PP = 4.5 tsf						
	PP = 4.5 tsf								
	PP = 4.0 tsf								
	PP = 4.5 tsf								
90	RS 13	100	PP = 3.5 tsf	Becomes slightly softer, moderate 1M HCL reaction.	13:32	0.7			
			PP = 2.5 tsf						
			PP = 2.0 tsf						
			PP = 4.0 tsf						
			PP = 3.5 tsf						
			PP = 3.5 tsf						
95	RS 13	100	PP = 3.5 tsf	Becomes slightly softer, moderate 1M HCL reaction.	13:46	0.0			
			PP = 3.5 tsf						
			PP = 2.0 tsf						
			PP = 2.0 tsf						

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TEST 101-17 REVIVA 2017 DRILLING.GPJ GINT US.GDT 9/1/17



CLIENT Reviva, Inc.

PROJECT NAME 2017 Monitoring Well Installation

PROJECT NUMBER 101-17

PROJECT LOCATION Fridley, Minnesota

FORMATION	DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	TIME	PID (ppm)		
TILL (continued)	100	RS 14	100	PP = 2.5 tsf	CL		Reddish brown (5YR 5/3) SANDY LEAN CLAY, some silt, cohesive, low plasticity, few small gravel, trace large gravel, uniform, hard to stiff, wet. Sand is fine-grained with a few coarse-grained sand, and rounded. Reacts moderately with 1M HCL. TILL (continued) Same as above, moderate 1M HCL reaction, wet.	13:46	0.0		
				PP = 2.0 tsf							
				PP = 2.0 tsf							
				PP = 1.0 tsf							
		105					PP = 3.0 tsf			14:07	0.0
			PP = 2.0 tsf								
			PP = 3.0 tsf								
			PP = 1.3 tsf								
		110					PP = 1.3 tsf		Thin sand lens observed at 109' bgs, medium-grained. Becomes slightly more sandy with depth. 3" thick medium-grained sand lens observed at 110.5' bgs.	14:07	0.0
			PP = 2.0 tsf								
		PP = 1.0 tsf									
		PP = 2.0 tsf									
	115	RS 15	100	PP = 1.0 tsf				14:25	0.0		
				PP = 2.3 tsf							
				PP = 1.0 tsf							
				PP = 2.0 tsf							
	120			PP = 1.5 tsf			14:25	0.0			
		PP = 1.3 tsf									
		PP = 2.0 tsf									
		PP <1 tsf									
				PP <1 tsf		122.0	Weathered buff beige sandy Dolomite, wet. Reacts with 1M HCL when surface is scratched. Some white poorly graded sand mixed in. PRAIRIE DU CHIEN GROUP White (10YR 8/14) sand layer observed between 124-124.4' bgs, fine to medium-grained, sub-rounded, oxidized.	14:47	0.0		
	125	RS 16	80	PP = 3.5 tsf							
BEDROCK							DS		Dolomite is weathered to gray (GLEY 6/10GY) between 128.2-128.7' bgs. White sand (10YR 8/1), fine to medium-grained, sub-rounded, and gray lean clay layer observed at 129.6' bgs, approx. 0.3' thick. Cores of dolomite have secondary mineralization within fractures and pores.	14:47	0.0
		130									

TEST 101-17 REVIVA 2017 DRILLING.GPJ GINT US.GDT 9/1/17

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CLIENT Reviva, Inc.

PROJECT NAME 2017 Monitoring Well Installation

PROJECT NUMBER 101-17

PROJECT LOCATION Fridley, Minnesota

FORMATION	DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	TIME	PID (ppm)
BEDROCK (continued)	135	RS 17	79		DS		Competent cores of weather dolomite observed between 131-134' bgs. Reacts well with 1M HCL when pulverized. Weathered buff beige sandy Dolomite, wet. Reacts with 1M HCL when surface is scratched. Some white poorly graded sand mixed in. PRAIRIE DU CHIEN GROUP (continued) Oxidized sand observed between 134-135' bgs. White (10YR 8/1) sand, medium-grained, rounded, and uniform observed between 135-139.5' bgs. Some slightly lithified sand present.	15:22	0.0
	140						139.8 Weathered gray clay, approx. 1" thick, observed at 139.75' bgs. Competent DOLOMITE below. Wet. PRAIRIE DU CHIEN GROUP Dolomite becomes slightly more sandy with depth. Continues to react with 1M HCL when pulverized.		
	145	RS 18	56		DS		Slightly more porous. Pores have been filled with iron mineralization.		
	150						150.0 Fractured between 149.6-149.7' bgs. Installed monitoring well MW-108PC in bore hole. End of boring at 150.0 feet.		



CLIENT Reviva, Inc. **PROJECT NAME** 2017 Monitoring Well Installation
PROJECT NUMBER 101-17 **PROJECT LOCATION** Fridley, Minnesota
DATE STARTED 5/15/17 **COMPLETED** 5/15/17 **GROUND ELEVATION** 840.9 ft **HOLE SIZE** 6 inch
DRILLING CONTRACTOR Traut Well Co. **GROUND WATER LEVELS:**
DRILLING METHOD Rotasonic **AT TIME OF DRILLING** 9.5 ft / Elev 831.4 ft
LOGGED BY M. Lindstrom **CHECKED BY** W. Carlson **AT END OF DRILLING** ---
NOTES ▼ 10hrs AFTER DRILLING 16.4 ft / Elev 824.5 ft

FORMATION	DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	TIME	PID (ppm)
FILL	0	RS 1	100	SW	0.5	ASPHALT.	16:39	0.0
	1.5				Brown (7.5YR 5/2) WELL GRADED SAND, very fine to coarse-grained, sub-angular, contains pieces of concrete, moist. FILL			
	5	RS 2	100	SP	6.0	Light yellowish brown (10YR 6/4) POORLY GRADED SAND, very fine to medium-grained, angular, loose, uniform, moist. FILL	16:41	0.0
					7.0	Color change to light gray (10YR 7/1) observed at 4.25' bgs. Fine-grained between 4.25-4.75' bgs.		
					7.0	Brown (7.5YR 4/2) WELL GRADED SAND, very fine to coarse-grained, sub-angular, reacts with 1M HCL, moist. FILL		
					7.75	Brown (10YR 5/2) POORLY GRADED SAND, very fine-grained, some clay present, rounded to sub-rounded, uniform, moist to wet. FILL		
	10	RS 3	100	SP	7.75	Slightly oxidized orange and brown at 7.75' bgs. Coarse-grained sand lens observed at 7.75' bgs, approx. 0.25' thick.	16:41	0.1
					9.5	Sandy fat clay layer observed at 9.5' bgs, approx. 1.5" thick, high plasticity, soft. Slight reaction with 1M HCL observed at 10' bgs.	16:41	0.0
	15	RS 4	100	CL	11.5	Wet at 11' bgs.	16:44	0.0
					14.5	Reddish gray (2.5Y 5/1) SANDY FAT CLAY, highly cohesive, high plasticity, soft, sand is very fine-grained and rounded, wet. ALLUVIUM		
20	RS 5	100	SW	14.5	Mottled gray between 14-14.5' bgs.	16:47	0.0	
				15	Brown (10YR 5/3) WELL GRADED SAND, fine to coarse-grained, sub-angular, uniform, loose, moist to wet. OUTWASH			
				16	Some slight oxidization observed at 15' bgs. Wet at 16' bgs. Dry to moist above 16' bgs.			
25	RS 5	100	SW	24	Grades to coarse-grained sand at 24' bgs, massive.	16:51	0.0	
				28.0	Gray (10YR 5/1) POORLY GRADED SAND, medium-grained, rounded, uniform, loose, wet. OUTWASH			
30				SP	30.0			

TEST 101-17 REVIVA 2017 DRILLING.GPJ GINT US.GDT 9/1/17

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CLIENT Reviva, Inc.

PROJECT NAME 2017 Monitoring Well Installation

PROJECT NUMBER 101-17

PROJECT LOCATION Fridley, Minnesota

FORMATION	DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	TIME	PID (ppm)
						Installed monitoring well REEP-2S in borehole. End of boring at 30.0 feet.		



CLIENT Reviva, Inc. **PROJECT NAME** 2017 Monitoring Well Installation
PROJECT NUMBER 101-17 **PROJECT LOCATION** Fridley, Minnesota
DATE STARTED 5/16/17 **COMPLETED** 5/16/17 **GROUND ELEVATION** 840.9 ft **HOLE SIZE** 6 inch
DRILLING CONTRACTOR Traut Well Co. **GROUND WATER LEVELS:**
DRILLING METHOD Rotasonic **AT TIME OF DRILLING** 16.5 ft / Elev 824.4 ft
LOGGED BY M. Lindstrom **CHECKED BY** W. Carlson **AT END OF DRILLING** ---
NOTES **48hrs AFTER DRILLING** 16.9 ft / Elev 824.0 ft

FORMATION	DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	TIME	PID (ppm)
FILL	0	RS 1	100		SP		Asphalt with brown (7.5YR 4/2) class 5 fill below, very fine to coarse-grained, angular, dry. FILL	10:44	0.0
	1.0						Brown (10YR 4/3) POORLY GRADED SAND, fine to medium-grained, angular, loose, uniform, moist. FILL		
FILL	5	RS 2	90		SP		Light brownish gray (10YR 6/2) POORLY GRADED SAND, fine to medium-grained, rounded, uniform, moist to wet. FILL	10:46	0.0
	2.0						2" thick very dark grayish brown (10YR 3/2) medium to coarse-grained sand layer observed at 4.8' bgs. Sub-rounded, trace small gravel.		
ALLUVIUM	10	RS 3	100		CL		Coarse-grained sand layer, approx. 4" thick, observed at 7' bgs. Rounded. Mottled gray and oxidized between 7-7.5' bgs. Wet at 7' bgs. Heavily oxidized coarse-grained sand and trace small gravel layer observed at 8' bgs, approx. 3" thick. Fine-grained sand lens observed at 8.4' bgs, approx. 0.2' thick. Dry at 8.5' bgs. Mottled gray and wet at 10.5' bgs.	10:49	0.0
	11.0						Gray (2.5Y 5/1) SANDY LEAN CLAY, cohesive, very low plasticity, wet. Sand is very fine-grained and angular. ALLUVIUM		
OUTWASH	15	RS 4	100		SP		Sand content decreases with depth. Lean clay observed at 14' bgs. Cohesive, medium to high plasticity, soft.	10:50	0.0
	14.8						Light brownish gray (10YR 6/2) POORLY GRADED SAND, fine-grained, angular, loose, uniform, moist to wet. OUTWASH		
OUTWASH	20	RS 5	100		SW		Wet at 16.5' bgs. Color change to yellowish brown (10YR 5/4) observed at 17' bgs. Sand is medium-grained, sub-rounded, oxidized, and wet.	11:15	0.2
	24.0						Oxidization observed between 23-23.5' bgs.		
OUTWASH	25	RS 5	100		SW		Light brownish gray (10 YR 6/2) WELL GRADED SAND, very fine to coarse-grained, sub-angular, loose, uniform, oxidized, wet. OUTWASH	11:15	0.0
	24.0						Becomes coarse-grained at 26' bgs, with moderate coarsening downward sequences.		
OUTWASH	30	RS 5	100		SW		Granitic cobble observed at 28.5' bgs, approx. 3" diameter. Small gravel present between 28.5-29' bgs.		
	29.0								

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TEST 101-17 REVIVA 2017 DRILLING.GPJ GINT US.GDT 9/1/17



CLIENT Reviva, Inc.

PROJECT NAME 2017 Monitoring Well Installation

PROJECT NUMBER 101-17

PROJECT LOCATION Fridley, Minnesota

TEST 101-17 REVIVA 2017 DRILLING.GPJ GINT US.GDT 9/1/17

FORMATION	DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	TIME	PID (ppm)
OUTWASH (continued)	30						Gray (10YR 5/1) WELL GRADED SAND, medium to coarse-grained, few small gravel, sub-angular, uniform, loose, wet. OUTWASH (continued)	11:21	0.0
	35	RS 6	60		SW		Coarsens downward from 36-44' bgs.	11:21	0.0
	40							11:34	0.0
	45	RS 7	100				Coarse-grained sand and small gravel layer observed at 44' bgs. Gravel is 0.25" to 1" diameter and rounded.		
	46.0				SP		Coarsening downward observed between 44-46' bgs, with coarse-grained sand (sub-rounded to rounded) and small gravel observed between 45.6-46' bgs. Granitic cobble observed at 46' bgs, approx. 2.5" diameter.	11:34	0.0
	49.5				SP		Brown (7.5YR 5/2) POORLY GRADED SAND, medium-grained, angular, loose, trace small gravel, wet. OUTWASH Sandy clay layer observed between 49-49.5' bgs, soft, cohesive, non-plastic. Large cobble also observed at 46' bgs, approx. 4" diameter.		
	53.0						Dark reddish gray (5YR 5/2) POORLY GRADED SAND, coarse to very coarse-grained, sub-rounded to rounded, uniform, some small gravel, slight reaction with 1M HCL, wet. OUTWASH Granitic cobble observed at 50' bgs, approx. 3.5" diameter. Very coarse-grained sand with few coarse gravel observed between 50-53' bgs. Granitic cobble observed at 52' bgs, approx. 3" diameter	11:52	0.0
	55	RS 8	100	PP = 4.5 tsf PP = 4.0 tsf PP = 4.5 tsf PP = 4.5 tsf PP = 3.5 tsf PP = 4.0 tsf PP = 4.5 tsf	CL		Grayish brown (10YR 5/2) SANDY LEAN CLAY, cohesive, low to medium plasticity, uniform, few coarse-grained sand and small gravel, slight reaction with 1M HCL, "blocky core", hard, wet. Sand is very fine to medium-grained and rounded. TILL Coarse-grained sand lens observed at 55' bgs.	11:52	0.0
60							12:10	0.0	
				PP = 4.5 tsf PP = 3.5 tsf PP = 4.0 tsf PP = 4.0 tsf					

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CLIENT Reviva, Inc.

PROJECT NAME 2017 Monitoring Well Installation

PROJECT NUMBER 101-17

PROJECT LOCATION Fridley, Minnesota

FORMATION	DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	TIME	PID (ppm)							
TILL (continued)	65	RS 9	100	PP = 4.0 tsf	CL		Grayish brown (10YR 5/2) SANDY LEAN CLAY, cohesive, low to medium plasticity, uniform, few coarse-grained sand and small gravel, slight reaction with 1M HCL, "blocky core", hard, wet. Sand is very fine to medium-grained and rounded. TILL (continued) Sand lens observed at 65.5' bgs, less than 1" thick. Color grades to reddish brown (5YR 4/3) at 67' bgs. Small gravel present.	12:10	0.0							
				PP = 4.5 tsf												
	70			PP = 4.5 tsf				13:09	0.0							
				PP = 4.0 tsf												
				PP = 4.0 tsf												
OUTWASH	75	RS 10	100	PP = 4.0 tsf	SW		Cobble observed at 74' bgs, apprx. 3.5" diameter. Dark reddish gray (5YR 4/2) WELL GRADED SAND, very fine to coarse-grained, angular to rounded, some small to large gravel, massive, loose, wet. OUTWASH Small gravel layer observed at 75' bgs; gravel is rounded.	13:09	0.2							
	80				SP		Coarse-grained uniform sand with some small gravel and trace large gravel, observed between 77.25-78' bgs. Gravel is rounded and on-average, 1.5" diameter. Light gray (5Y 7/1) POORLY GRADED SAND, medium to coarse-grained, rounded, uniform, loose, wet. OUTWASH Contains quartz and granitic rock grains. Oxidized marigold coloring at 78.75' bgs, then color change to very pale brown (10YR 4/3). Trace gray to brown clay mixed in between 78.75-79' bgs.	13:48	0.2							
	85	RS 11	100				Granitic cobble and gravel layer observed between 85.5-86.5' bgs. Pale brown (10YR 6/3) poorly graded sand, medium-grained observed between 86.5-87' bgs. Only quartz grains are present, no granitic material.	13:48	0.3							
							Light gray (5Y 7/1) poorly graded sand observed between 87-89.5' bgs; fine-grained, uniform, reacts with 1M HCL, mottled gray between 87-88' bgs.									
ST. PETER SANDSTONE	90	RS 12	90		SS		White (10YR 8/1) SANDSTONE, contains trace iron flecks, periodically blended with shale, heavily oxidized and weathered. ST PETER SANDSTONE Cemented/Lithification observed between 89.5-93' bgs, then loose and oxidized. Very uniform. Clay observed at 92' bgs, approximately 3' thick. Very sandy.	14:28	0.0							
	95						Oxidized pink (2.5YR 8/4) between 95-97' bgs.	14:28	0.0							

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TEST 101-17 REVIVA 2017 DRILLING.GPJ GINT US.GDT 9/1/17



CLIENT Reviva, Inc.

PROJECT NAME 2017 Monitoring Well Installation

PROJECT NUMBER 101-17

PROJECT LOCATION Fridley, Minnesota

FORMATION	DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	TIME	PID (ppm)
ST. PETER SANDSTONE (continued)	100						White (10YR 8/1) SANDSTONE, contains trace iron flecks, periodically blended with shale, heavily oxidized and weathered. ST PETER SANDSTONE (continued)		
	105	RS 13	80		SS		Lithified sandstone and shale observed between 102-103' bgs, hard, iron lamina present. Heavy oxidization observed between 103-110' bgs. Becomes very fine to medium-grained at 103' bgs.	14:57	0.0
PRAIRIE DU CHIEN GROUP	110						2" thick gray shale layer observed at 108.7' bgs.	14:57	0.0
	115	RS 14	75		DS		111.0 Reddish yellow (10YR 6/8) Dolomite, very sandy (fine to medium-grained, rounded), laminated, oxidized. Reacts with 1M HCL when crushed. PRAIRIE DU CHIEN GROUP		
	120				SP		118.0 White (10YR 8/1) POORLY GRADED SAND, fine-grained, sub-angular, uniform, wet. PRAIRIE DU CHIEN GROUP Some yellow (2.5Y 8/8) discoloring observed between 118.5-119' bgs.		
	125	RS 15	40		DS		124.0 Light brownish gray (10YR 6/2) to yellow (10YR 6/6) DOLOMITE. Blocky core, heavily oxidized orange and pink, some iron and calcite precipitate within fractures, hard drilling. PRAIRIE DU CHIEN GROUP		
	130	RS	80						

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TEST 101-17 REVIVA 2017 DRILLING.GPJ GINT US.GDT 9/1/17




CLIENT Reviva, Inc.

PROJECT NAME 2017 Monitoring Well Installation

PROJECT NUMBER 101-17

PROJECT LOCATION Fridley, Minnesota

FORMATION	DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	TIME	PID (ppm)
	135	16			DS		<p>135.0 Sandy clay layer observed between 134.25-134.75' bgs, cohesive, low plasticity.</p> <p>Installed monitoring well REEP-2PC in bore hole. End of boring at 135.0 feet.</p>		



Minnesota
Department
of Health

PROTECTING, MAINTAINING & IMPROVING THE HEALTH OF ALL MINNESOTANS

July 12, 2017

Refer to: TN 5486

Mr. Mark J. Traut
Mark J Traut Wells, Inc.
141 28th Avenue South
Waite Park, Minnesota 56387

Mr. Dave Goodwin
Reviva, Inc.
5130 Main Street Northeast
Fridley, Minnesota 55421

Mr. Gregory Jeffries
Burlington Northern Santa Fe
80 44th Avenue Northeast
Minneapolis, Minnesota 55421

Dear Mr. Traut, Mr. Goodwin, and Mr. Jeffries:

Subject: Variance from Minnesota Rules, Chapter 4725, for Construction Two Environmental Wells, Minnesota Unique Well Numbers 827184 and 827194, in the Railroad Right-of-Way adjacent to 5130 Main Street Northeast, Fridley, Located in Section 27, Township 30 North, Range 24 West, Anoka County, Minnesota

This letter is in response to your request to the Minnesota Department of Health (MDH) for a variance from Minnesota Rules, chapter 4725, to construct two environmental wells less than 10 feet from a buried 13 kV electric line. The wells will be installed in the right-of-way owned by the Burlington Northern Santa Fe Railroad (BNSF) adjacent to 5130 Main Street Northeast, Fridley.

Minnesota Rules, part 4725.2150 requires that a well or boring must be at least 10 feet from an electric line. The distance may be reduced to 5 feet if: the electric line is deenergized and visibly grounded, or insulating barriers not a part of, or an attachment to, the equipment or machinery have been erected to prevent physical contact with the line during well construction; and the well is marked with a permanent sign warning of the location of the electric line. These requirements do not exempt persons from more restrictive requirements of the Occupational Safety and Health Administration (OSHA).

Mr. Steven Bennett, MDH Metro district well standards representative, inspected the subject site on June 28, 2016. Present at his inspection, were James de Lampert and Megan Lindstrom with Carlson McCain, Inc. and a BNSF representative. Mr. Bennett noted that proposed environmental well locations were placed between the buried electric line and a railroad communication line. The environmental wells are needed as part of an environmental investigation. Ms. Lindstrom indicated that the Minnesota Pollution Control Agency was requesting the placement of the wells. The BNSF representative indicated the buried electric line could not be deenergized because of the continuous operation of the railroad, and that moving the locations further west would be a hazard to railroad employees. The wells will be constructed using the hollow-stem auger method to anticipated depth of approximately 35 feet and 75 feet.

Mr. Mark J. Traut
Mr. Dave Goodwin
Mr. Jeffries
Page 2
July 12, 2017
TN 5486

Ms. Lindstrom indicated the proposed environmental well locations would be hydrovaced or potholed to clear the location of buried utilities, prior to construction of the wells.

Based on Mr. Bennett's inspection, information provided in the variance application, and in accordance with Minnesota Rules, chapter 4725, **your request for a variance is granted to allow the construction of two environmental wells, Minnesota Unique Well Numbers 827184 and 827194, less than 10 feet, but greater than 5 feet, from a buried 13kV electrical line located in the BNSF right-of-way near the property at 5130 Main Street Northeast in Fridley.**

The variance is granted with the following conditions:

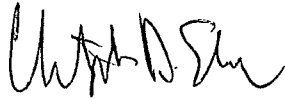
1. The installation must comply with all applicable requirements of the electric utility owner and OSHA.
2. The proposed environmental wells must be at least 5 feet from the buried electric line. The wells must be marked with a permanent sign warning of the location of the buried electric line.
3. The proposed environmental well locations must be cleared by hand digging or hydrovacating prior to beginning well installation activities.
4. The variance applies only to the two proposed monitoring wells indicated for this phase of the project. No other environmental wells can be installed less than 10 feet from a buried electric line unless a variance has been applied for and approved by the MDH.
5. The MDH reviewed and approved construction plans for this project within the Fridley and Southwestern Columbia Heights Special Well and Boring Construction Area. Minnesota Unique Well Number 827184 was approved in a letter dated May 11, 2017, and Minnesota Unique Well Number 827194 was approved in a letter dated July 7, 2017. All conditions provided in the approval letters remain in effect.
6. All other provisions of Minnesota Rules, chapter 4725, are in effect.

Alternative measures or conditions attached to a variance have the force of law and effect of applicable rule. If a party violates the alternative measures or conditions attached to the variance, the party is subject to enforcement actions and penalties provided in the applicable law or rule. Failure by the applicant to comply with the conditions prescribed in the variance may result in the immediate expiration of the variance

Mr. Mark J. Traut
Mr. Dave Goodwin
Mr. Jeffries
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July 12, 2017
TN 5486

If you have any questions or require further information, please contact Mr. Bennett at 651-201-3963 or Mr. Alex Martell at 651-201-4595.

Sincerely,



Christopher D. Elvrum, P.G., Manager
Well Management Section
Environmental Health Division
P.O. Box 64975
St. Paul, Minnesota 55164-0975

CDE:SDB:dg

Enclosure

cc: James de Lambert, Carlson McCain, *via email*

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING CONSTRUCTION RECORD
 Minnesota Statutes, Chapter 1031

827183

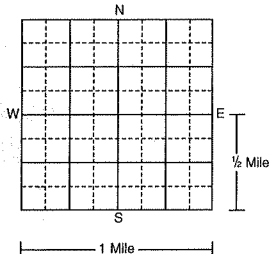
WELL OR BORING LOCATION

County Name Anoka
 Township Name Fridley Township No. 30 Range No. 24 Section No. 27 Fraction (sm. → lg.) NE 1/4 NE 1/4 NE 1/4

GPS LOCATION—decimal degrees (to four decimal places).
 Latitude 45 3 44.98 Longitude 95 16 14.28

House Number, Street Name, City, and ZIP Code of Well Location
5130 Main St. NE Fridley 55421

Show exact location of well/boring in section grid with "X".



Sketch map of well/boring location. Showing property lines, roads, buildings, and direction.

PROPERTY OWNER'S NAME/COMPANY NAME
BNSF Railway Co

Property owner's mailing address if different than well location address indicated above.
80 44th Ave NE Minneapolis, MN 55421

WELL OWNER'S NAME/COMPANY NAME
Reviva Inc BNSF-35

Well/boring owner's mailing address if different than property owner's address indicated above.
5130 main St. NE Fridley, MN 55421

GEOLOGICAL MATERIALS	COLOR	HARDNESS OF MATERIAL	FROM	TO
Top Soil	Black	5	0	1
Sand	Brown	5	1	30

REMARKS, ELEVATION, SOURCE OF DATA, etc.

LOCAL COPY 827183

WELL/BORING DEPTH (completed) 25 ft. DATE WORK COMPLETED 5-19-17

DRILLING METHOD
 Cable Tool Driven Dual Rotary
 Auger Rotary Rotasonic
 Other Roto Sonic

DRILLING FLUID Water WELL HYDROFRACTURED? Yes No
 From _____ ft. To _____ ft.

USE
 Domestic Monitoring Heating/Cooling
 Noncommunity PWS Environ. Bore Hole Industry/Commercial
 Community PWS Irrigation Remedial
 Elevator Dewatering _____

CASING MATERIAL Drive Shoe? Yes No HOLE DIAM.
 Steel Threaded Welded
 Plastic _____

CASING Diameter 2 in. To 15 ft. Weight 1.92 lbs./ft. Specifications A53 Hole diam. 6 5/8 in. To 30 ft.
 _____ in. To _____ ft. _____ lbs./ft. _____
 _____ in. To _____ ft. _____ lbs./ft. _____

SCREEN Yes OPEN HOLE
 Make Johnson From N/A ft. To _____ ft.
 Type Slotted Diam. 2
 Slot/Gauze _____ Length 10
 Set between 15 ft. and 25 ft. FITTINGS Threaded

STATIC WATER LEVEL 18 ft. Below Above land surface
 Measured from Grade Date measured 5-16-17 Dry hole Yes No

PUMPING LEVEL (below land surface)
N/A ft. after _____ hrs. pumping _____ g.p.m.

WELLHEAD COMPLETION
 Pileless/adaptor manufacturer _____ Model _____
 Casing protection 6" Protap 12 in. above grade
 At-grade Well House Hand Pump

GROUT INFORMATION (specify bentonite, cement-sand, neat-cement, concrete, cuttings, or other)
 Material NiCmmt From 0 To 10 ft. 6 Yds. Bags
 Material _____ From _____ To _____ ft. _____ Yds. Bags
 Material _____ From _____ To _____ ft. _____ Yds. Bags
 Driven casing seal From _____ To _____ Bags One bag = 94 lbs. cement or 50 lbs. bentonite

NEAREST KNOWN SOURCE OF CONTAMINATION
 Well is N/A feet _____ direction from _____ type
 Well disinfected upon completion? Yes No

PUMP
 Not installed Date installed _____
 Manufacturer's name _____
 Model Number _____ HP _____ Volts _____
 Length of drop pipe _____ ft. Capacity _____ g.p.m.
 Type: Submersible L.S. Turbine Reciprocating Jet _____

ABANDONED WELLS
 Does property have any not in use and not sealed well(s)? Yes No

VARIANCE
 Was a variance granted from the MDH for this well? Yes No TN# _____

WELL CONTRACTOR CERTIFICATION
 This well was drilled under my supervision and in accordance with Minnesota Rules, Chapter 4725. The information contained in this report is true to the best of my knowledge.

Mark J. Traul Wells, Inc 1404
 Licensee Business Name Lic. or Reg. No.
Don Stebbins 589 622-17
 Certified Representative Signature Certified Rep. No. Date
Don Stebbins
 Name of Driller

WELL OR BORING LOCATION

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING CONSTRUCTION RECORD

MINNESOTA UNIQUE WELL AND BORING NO.

827184

County Name Anoka

Township Name Fridley Township No. 30 Range No. 24 Section No. 27 Fraction (sm. → lg.) NE NE NE

WELL/BORING DEPTH (completed) 57.5 ft. DATE WORK COMPLETED 7-26-17

GPS LOCATION — decimal degrees (to four decimal places)
Latitude 453455 Longitude 09216143

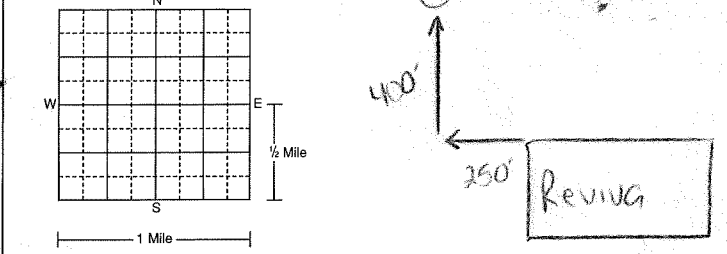
DRILLING METHOD
 Cable Tool Driven Dual Rotary
 Auger Rotary Rotasonic
 Other

House Number, Street Name, City, and ZIP Code of Well Location
5130 Main St NE Fridley 55421

DRILLING FLUID None WELL HYDROFRACTURED? Yes No
From _____ ft. To _____ ft.

Show exact location of well/boring in section grid with "X". Sketch map of well/boring location. Showing property lines, roads, buildings, and direction.

USE
 Domestic Monitoring Heating/Cooling
 Noncommunity PWS Environ. Bore Hole Industry/Commercial
 Community PWS Irrigation Remedial
 Elevator Dewatering



CASING MATERIAL Drive Shoe? Yes No
 Steel Threaded Welded
 Plastic

PROPERTY OWNER'S NAME/COMPANY NAME
BUSF

CASING Diameter 2 in. To 52.5 ft. Weight _____ lbs./ft. Specifications _____
_____ in. To _____ ft. _____ lbs./ft. _____
_____ in. To _____ ft. _____ lbs./ft. _____

Property owner's mailing address if different than well location address indicated above.
80 44th Ave NE
Minneapolis, MN 55421

SCREEN Johnson OPEN HOLE
Make _____ From _____ ft. To _____ ft.
Type SS Diam. 2 1/4 ft.
Slot/Gauze 10 Slot Length _____
Set between 52.5 ft. and 57.5 ft. FITTINGS Rd Complex

WELL OWNER'S NAME/COMPANY NAME
Reving, Inc

STATIC WATER LEVEL 34 ft. Below Above land surface
Measured from Surface Date measured 7-26-17 Dry hole Yes No

Well/boring owner's mailing address if different than property owner's address indicated above.
5130 Main St NE
Fridley MN 55421

PUMPING LEVEL (below land surface)
N/A ft. after _____ hrs. pumping _____ g.p.m.

GEOLOGICAL MATERIALS	COLOR	HARDNESS OF MATERIAL	FROM	TO
Fill	Brn	S	0	12
Sand	Lt Brn	S	12	57
Sandy Clay	Rd Brn	H	57	57.5

WELLHEAD COMPLETION
 Pitless/adaptor manufacturer _____ Model _____
 Casing protection 6" Protop 12 in. above grade
 At-grade Well House Hand Pump

GROUT INFORMATION (specify bentonite, cement-sand, neat-cement, concrete, cuttings, or other)
Material Cement From 0 To 46 ft. 34 Yds. Bags
Material Bentonite From 46 To 50 ft. 1 Yds. Bags
Material _____ From _____ To _____ ft. _____ Yds. Bags
Driven casing seal From _____ To _____ Bags One bag = 94 lbs. cement or 50 lbs. bentonite

NEAREST KNOWN SOURCE OF CONTAMINATION
Well is unknown feet _____ direction from _____ type _____
Well disinfected upon completion? Yes No

PUMP
 Not installed Date installed N/A
Manufacturer's name _____
Model Number _____ HP _____ Volts _____
Length of drop pipe _____ ft. Capacity _____ g.p.m.
Type: Submersible L.S. Turbine Reciprocating Jet

ABANDONED WELLS
Does property have any not in use and not sealed well(s)? Yes No

VARIANCE
Was a variance granted from the MDH for this well? Yes No TN# 5486

WELL CONTRACTOR CERTIFICATION
This well was drilled under my supervision and in accordance with Minnesota Rules, Chapter 4725. The information contained in this report is true to the best of my knowledge.

REMARKS, ELEVATION, SOURCE OF DATA, etc.
mw# BUSF-30

Mark J Traut Wells Inc 1404
Licensee Business Name _____ Lic. or Reg. No. _____
Dan Traut 589 87-17
Certified Representative Signature _____ Certified Rep. No. _____ Date _____
Tammy Wehl

LOCAL COPY 827184

Name of Driller _____

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING CONSTRUCTION RECORD

Minnesota Statutes, Chapter 1031

827185

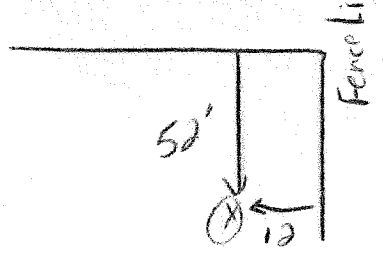
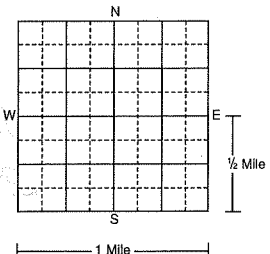
WELL OR BORING LOCATION

County Name Anoka
Township Name Fridley Township No. 30 Range No. 24 Section No. 27 Fraction (sp. → lg.) 5 1/4 NE 1/4 NE 1/4

GPS LOCATION — decimal degrees (to four decimal places).
Latitude 45 34 0.32 Longitude 93 16 14.31

House Number, Street Name, City, and ZIP Code of Well Location
5130 Main St NE Fridley 55421

Show exact location of well/boring in section grid with "X." Sketch map of well/boring location. Showing property lines, roads, buildings, and direction.



WELL/BORING DEPTH (completed) 148 ft. DATE WORK COMPLETED 5-23-17

DRILLING METHOD
 Cable Tool Driven Dual Rotary
 Auger Rotary Rotasonic
 Other RotoSonic

DRILLING FLUID Bentonite WELL HYDROFRACTURED? Yes No
From _____ ft. To _____ ft.

USE
 Domestic Monitoring Heating/Cooling
 Noncommunity PWS Environ. Bore Hole Industry/Commercial
 Community PWS Irrigation Remedial
 Elevator Dewatering _____

CASING MATERIAL Drive Shoe? Yes No
 Steel Threaded Welded
 Plastic _____

CASING Diameter Weight Specifications
8 in. To 65 ft. 28.55 lbs./ft.
2 in. To 143 ft. 1.92 lbs./ft. A53
HOLE DIAM. 6 5/8 in. To 1 1/8 in. To 65 ft.

PROPERTY OWNER'S NAME/COMPANY NAME
Reviva Inc

Property owner's mailing address if different than well location address indicated above.
5130 Main St. NE
Fridley, MN 55421

SCREEN Yes OPEN HOLE
Make Johnson From _____ ft. To _____ ft.
Type Slotted Diam. 2"
Slot/Gauze 10 Length 5'
Set between 143 ft. and 148 ft. FITTINGS Threaded

STATIC WATER LEVEL 68 ft. Below Above land surface
Measured from 5-23-17 Date measured _____ Dry hole Yes No

WELL OWNER'S NAME/COMPANY NAME
Same

Well/boring owner's mailing address if different than property owner's address indicated above.

PUMPING LEVEL (below land surface)
N/A ft. after _____ hrs. pumping _____ g.p.m.

WELLHEAD COMPLETION
 Pitless/adaptor manufacturer _____ Model _____
 Casing protection 6" Protop 12 in. above grade
 At-grade Well House Hand Pump

GROUT INFORMATION (specify bentonite, cement-sand, neat-cement, concrete, cuttings, or other)
Material NI Cmt From 0 To 137 ft. 40 Yds. Bags
Material NI Cmt From 0 To 65 ft. 30 Yds. Bags
Material _____ From _____ To _____ ft. _____ Yds. Bags
Driven casing seal From _____ To _____ Bags One bag = 94 lbs. cement or 50 lbs. bentonite

GEOLOGICAL MATERIALS	COLOR	HARDNESS OF MATERIAL	FROM	TO
Top Soil	Black	S	0	1
Sands/Gravel	Brown	S	1	59
Sand w/ Clay	Brown	m	59	122
Sandstone	White	m	122	134
Dol./State	Tan	H	134	136
Sandstone	Tan	H	136	143
	Tan	ll	143	150

NEAREST KNOWN SOURCE OF CONTAMINATION
Well is N/A feet _____ direction from _____ type _____
Well disinfected upon completion? Yes No

PUMP
 Not installed Date installed _____
Manufacturer's name _____
Model Number _____ HP _____ Volts _____
Length of drop pipe _____ ft. Capacity _____ g.p.m.
Type: Submersible L.S. Turbine Reciprocating Jet _____

ABANDONED WELLS
Does property have any not in use and not sealed well(s)? Yes No

VARIANCE
Was a variance granted from the MDH for this well? Yes No TN# _____

WELL CONTRACTOR CERTIFICATION
This well was drilled under my supervision and in accordance with Minnesota Rules, Chapter 4725. The information contained in this report is true to the best of my knowledge.

REMARKS, ELEVATION, SOURCE OF DATA, etc.
m w - 108 PC

Mark J Trout Wells, Inc 1404
Licensee Business Name Lic. or Reg. No.
Donald Trout 589 622-17
Certified Representative Signature Certified Rep. No. Date
Nate Stebbins
Name of Driller

LOCAL COPY 827185

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING CONSTRUCTION RECORD

Minnesota Statutes, Chapter 103I

827186

WELL OR BORING LOCATION

County Name

Anoka

Township Name: Fridley Township No.: 30 Range No.: 24 Section No.: 27 Fraction (sm. → lg.): NE 1/4 SE 1/4 NE 1/4

WELL/BORING DEPTH (completed): 25 ft. DATE WORK COMPLETED: 5-16-17

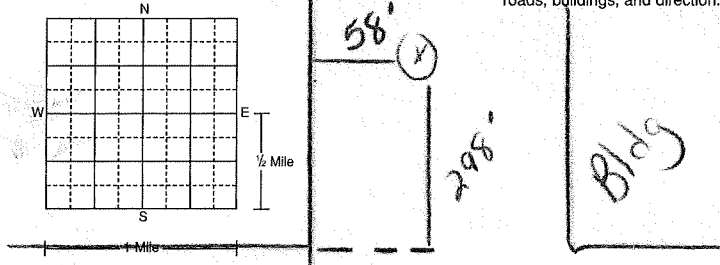
GPS LOCATION (decimal degrees to four decimal places): Latitude 45 33 46.8 Longitude 93 16 9.73

DRILLING METHOD: Cable Tool Driven Dual Rotary Auger Rotary Rotasonic Other: Robo Sonic

House Number, Street Name, City, and ZIP Code of Well Location: 5100 Main St. NE Fridley 55421

DRILLING FLUID: Water WELL HYDROFRACTURED? Yes No

Show exact location of well/boring in section grid with "X". Sketch map of well/boring location. Showing property lines, roads, buildings, and direction.



USE: Domestic Monitoring Heating/Cooling Noncommunity PWS Environ. Bore Hole Industry/Commercial Community PWS Irrigation Remedial Elevator Dewatering

CASING MATERIAL: Steel Plastic Drive Shoe? Yes No Threaded Welded

CASING Diameter: 2 in. To 15 ft. Weight: 1.92 lbs./ft. Specifications: A53 Hole Diam.: 5 1/8 in. To 30 in.

PROPERTY OWNER'S NAME/COMPANY NAME: Reep Ind Fridley, MN LLC

SCREEN: Yes OPEN HOLE: From _____ ft. To _____ ft. Make: Johnson Type: Slotted Diam.: 2" Slot/Gauze: 10 Length: 10' Set between: 15 ft. and 25 ft. FITTINGS: Threaded

Property owner's mailing address if different than well location address indicated above: 303 W. Madison St. Ste 2050 Chicago, MN 60606

STATIC WATER LEVEL: 16.4 ft. Below Above land surface Measured from: Grade Date measured: May 16-2017 Dry hole Yes No

WELL OWNER'S NAME/COMPANY NAME: Reviva Reep-25

PUMPING LEVEL (below land surface): N/A ft. after _____ hrs. pumping _____ g.p.m.

Well/boring owner's mailing address if different than property owner's address indicated above: 5130 Main St. NE Fridley MN 55421

WELLHEAD COMPLETION: Pileless/adaptor manufacturer _____ Model _____ Casing protection _____ 12 in. above grade At-grade Well House Hand Pump

GROUT INFORMATION (specify bentonite, cement-sand, neat-cement, concrete, cuttings, or other): Material: NI Cmnt From 0 To 11.5 ft. 6 Yds. Bags

GEOLOGICAL MATERIALS	COLOR	HARDNESS OF MATERIAL	FROM	TO
Top Soil	Blk	S	0	1
Sand	Brn	S	1	10
Silty Sand	Brn	S	10	15
Sand	Brn	S	15	30

Material: _____ From _____ To _____ ft. _____ Yds. Bags
Material: _____ From _____ To _____ ft. _____ Yds. Bags
Material: _____ From _____ To _____ ft. _____ Yds. Bags
Driven casing seal From _____ To _____ Bags One bag = 94 lbs. cement or 50 lbs. bentonite

NEAREST KNOWN SOURCE OF CONTAMINATION: Well is N/A feet _____ direction from _____ type
Well disinfected upon completion? Yes No

PUMP: Not installed Date installed _____
Manufacturer's name _____
Model Number _____ HP _____ Volts _____
Length of drop pipe _____ ft. Capacity _____ g.p.m.
Type: Submersible L.S. Turbine Reciprocating Jet

ABANDONED WELLS: Does property have any not in use and not sealed well(s)? Yes No

VARIANCE: Was a variance granted from the MDH for this well? Yes No TN# _____

WELL CONTRACTOR CERTIFICATION: This well was drilled under my supervision and in accordance with Minnesota Rules, Chapter 4725. The information contained in this report is true to the best of my knowledge.

REMARKS, ELEVATION, SOURCE OF DATA, etc.: mw-REEP-25

Mark J. Trawl Wells, Inc 11/04
Licensee Business Name Lic. or Reg. No. 58962217
Date
Certified Rep. No. Date
Wale Stebbins

LOCAL COPY 827186

Name of Driller: Wale Stebbins

WELL OR BORING LOCATION

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING CONSTRUCTION RECORD

MINNESOTA UNIQUE WELL AND BORING NO.

County Name
Anoka

827187

Township Name: **Fridley** Township No.: **30** Range No.: **24** Section No.: **27** Fraction (sp. → lg.): **N¹/₄ SE¹/₄ NE**

WELL/BORING DEPTH (completed) **133** ft. DATE WORK COMPLETED **5-17-17**

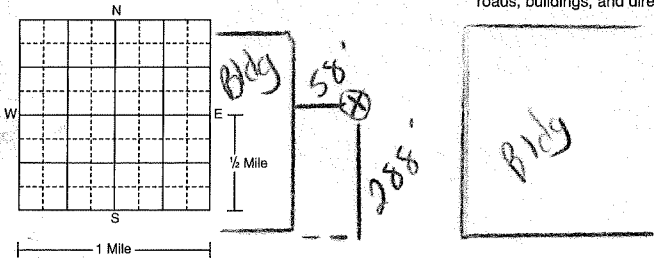
GPS LOCATION - decimal degrees (to four decimal places)
Latitude **45 3 39.68** Longitude **93 16 9.73**

DRILLING METHOD
 Cable Tool Driven Dual Rotary
 Auger Rotary Rotasonic
 Other **RotoSonic**

House Number, Street Name, City, and ZIP Code of Well Location
5110 Main St. NE Fridley 55421

DRILLING FLUID **Bentonite** WELL HYDROFRACTURED? Yes No

Show exact location of well/boring in section grid with "X". Sketch map of well/boring location. Showing property lines, roads, buildings, and direction.



USE Domestic Monitoring Heating/Cooling
 Noncommunity PWS Environ. Bore Hole Industry/Commercial
 Community PWS Irrigation Remedial
 Elevator Dewatering

CASING MATERIAL Steel Plastic Drive Shoe? Yes No Welded Threaded HOLE DIAM. **6 5/8 in. To 135 ft.**

CASING Diameter **2** in. To **128** ft. Weight **1.92** lbs./ft. Specifications **A53** **6 5/8 in. To 135 ft.**

PROPERTY OWNER'S NAME/COMPANY NAME
Reep-Ind Fridley, MN LLC

SCREEN Yes No OPEN HOLE From **N/A** ft. To **N/A** ft.
Make **Johnson** Type **Slot Fed** Diam. **2"**
Slot/Gauge **10** Length **5'**
Set between **128** ft. and **133** ft. FITTINGS **Threaded**

Property owner's mailing address if different than well location address indicated above.
**303 W. Madison St, Ste 2050
Chicago, MN 60606**

STATIC WATER LEVEL **22** ft. Below Above land surface
Measured from **Grade** Date measured **5-17-17** Dry hole Yes No

WELL OWNER'S NAME/COMPANY NAME
Reviva Reep-2PC

PUMPING LEVEL (below land surface) **N/A** ft. after _____ hrs. pumping _____ g.p.m.

Well/boring owner's mailing address if different than property owner's address indicated above.
**5130 Main St. NE
Fridley, MN 55421**

WELLHEAD COMPLETION
 Pitless/adaptor manufacturer _____ Model _____
 Casing protection _____ 12 in. above grade
 At-grade Well House Hand Pump

GROUT INFORMATION (specify bentonite, cement-sand, neat-cement, concrete, cuttings, or other)
Material **N/Cmnt** From **0** To **121** ft. **44** Yds. Bags
Material _____ From _____ To _____ ft. _____ Yds. Bags
Material _____ From _____ To _____ ft. _____ Yds. Bags
Driven casing seal From _____ To _____ Bags One bag = 94 lbs. cement or 50 lbs. bentonite

GEOLOGICAL MATERIALS	COLOR	HARDNESS OF MATERIAL	FROM	TO
See Attached Sheet				

NEAREST KNOWN SOURCE OF CONTAMINATION
Well is **N/A** feet _____ direction from _____ type _____
Well disinfected upon completion? Yes No

PUMP
 Not installed Date installed _____
Manufacturer's name _____
Model Number _____ HP _____ Volts _____
Length of drop pipe _____ ft. Capacity _____ g.p.m.
Type: Submersible L.S. Turbine Reciprocating Jet

ABANDONED WELLS
Does property have any not in use and not sealed well(s)? Yes No

VARIANCE
Was a variance granted from the MDH for this well? Yes No TN# _____

WELL CONTRACTOR CERTIFICATION
This well was drilled under my supervision and in accordance with Minnesota Rules, Chapter 4725. The information contained in this report is true to the best of my knowledge.

REMARKS, ELEVATION, SOURCE OF DATA, etc.

Use a second sheet, if needed.

Mark J. Trout License Business Name **1404** Lic. or Reg. No. **589 622-17**
Don Trout Certified Representative Signature Certified Rep. No. Date
Wete Stebbins Name of Driller

LOCAL COPY **827187**

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING CONSTRUCTION RECORD
 Minnesota Statutes, Chapter 1031

827194

WELL OR BORING LOCATION

County Name

Anoka

Township Name: Fridley Township No.: 30 Range No.: 24 Section No.: 27 Fraction (sm. → lg.): NE NE NE

WELL/BORING DEPTH (completed): 27 ft. DATE WORK COMPLETED: 7-25-17

GPS LOCATION — decimal degrees (to four decimal places).
 Latitude: 45.3456 Longitude: 143.1614

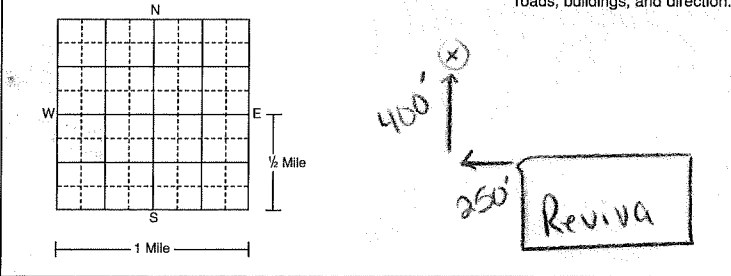
DRILLING METHOD
 Cable Tool Driven Dual Rotary
 Auger Rotary Rotasonic
 Other

House Number, Street Name, City, and ZIP Code of Well Location
 5130 Main St NE Fridley 55421

DRILLING FLUID: N/A WELL HYDROFRACTURED? Yes No
 From _____ ft. To _____ ft.

Show exact location of well/boring in section grid with "X". Sketch map of well/boring location. Showing property lines, roads, buildings, and direction.

USE
 Domestic Monitoring Heating/Cooling
 Noncommunity PWS Environ. Bore Hole Industry/Commercial
 Community PWS Irrigation Remedial
 Elevator Dewatering



CASING MATERIAL Drive Shoe? Yes No HOLE DIAM.
 Steel Threaded Welded
 Plastic

CASING Diameter Weight Specifications
 2 in. To 17 ft. lbs./ft. 8 in. To 27 ft.
 _____ in. To _____ ft. lbs./ft. _____ in. To _____ ft.
 _____ in. To _____ ft. lbs./ft. _____ in. To _____ ft.

PROPERTY OWNER'S NAME/COMPANY NAME
 BNSF

SCREEN Johnson OPEN HOLE
 Make _____ From _____ ft. To _____ ft.
 Type SS Diam. 2"
 Slot/Gauze 10 Slot Length 10'

Property owner's mailing address if different than well location address indicated above.
 80 44th Ave NE
 Minneapolis, MN 55421

Set between 17 ft. and 27 ft. FITTINGS R/C Coupler

STATIC WATER LEVEL 18 ft. Below Above land surface
 Measured from Surface Date measured 7-26-17 Dry hole Yes No

WELL OWNER'S NAME/COMPANY NAME
 Reviva, Inc

PUMPING LEVEL (below land surface)
 N/A ft. after _____ hrs. pumping _____ g.p.m.

Well/boring owner's mailing address if different than property owner's address indicated above.
 5130 Main St NE
 Fridley MN 55421

WELLHEAD COMPLETION
 Pitless/adaptor manufacturer Model _____
 Casing protection 6" Protap 12 in. above grade
 At-grade Well House Hand Pump

GROUT INFORMATION (specify bentonite, cement-sand, neat-cement, concrete, cuttings, or other)
 Material Cement From 0 To 13 ft. 12 Yds. Bags
 Material Bentonite From 13 To 15 ft. 1 Yds. Bags
 Material _____ From _____ To _____ ft. _____ Yds. Bags
 Driven casing seal From _____ To _____ Bags One bag = 94 lbs. cement or 50 lbs. bentonite

GEOLOGICAL MATERIALS	COLOR	HARDNESS OF MATERIAL	FROM	TO
Fill	Brn	S	0	12
Sand	Li Brn	S	12	27

NEAREST KNOWN SOURCE OF CONTAMINATION
 Well is unknown feet _____ direction from _____ type _____
 Well disinfected upon completion? Yes No

PUMP
 Not installed Date installed _____ N/A
 Manufacturer's name _____
 Model Number _____ HP _____ Volts _____
 Length of drop pipe _____ ft. Capacity _____ g.p.m.
 Type: Submersible L.S. Turbine Reciprocating Jet

ABANDONED WELLS
 Does property have any not in use and not sealed well(s)? Yes No

VARIANCE
 Was a variance granted from the MDH for this well? Yes No TN# 5486

WELL CONTRACTOR CERTIFICATION
 This well was drilled under my supervision and in accordance with Minnesota Rules, Chapter 4725. The information contained in this report is true to the best of my knowledge.

REMARKS, ELEVATION, SOURCE OF DATA, etc.

m.w.# BNSF-35

Mark J. Trant Wells, Inc 1404
 Licensee Business Name Lic. or Reg. No.
 [Signature] 589 8-7-17
 Certified Representative Signature Certified Rep. No. Date

Tammy Wahl + Jen F
 Name of Driller

LOCAL COPY 827194

**MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING SEALING RECORD**
Minnesota Statutes, Chapter 103I

Minnesota Well and Boring Sealing No. _____
Minnesota Unique Well No. or W-series No. _____
(Leave blank if not known)

H 348678
6043497

WELL OR BORING LOCATION
County Name Anoka

Township Name Farley Township No. 30 Range No. 24 Section No. 27 Fraction (sm. → lg.) 1/4 SW 1/4 Date Sealed 10-23-17 Date Well or Boring Constructed 6-5-2000

GPS LOCATION - decimal degrees (to four decimal places)
Latitude 45 3 31.23 Longitude 93 10 8.20
Depth at Time of Sealing 53.50 ft. Original Depth 50.5 ft.

Numerical Street Address or Fire Number and City of Well or Boring Location
5300 Main St. NE Farley
AQUIFER(S)
 Single Aquifer Multiaquifer
WELL/BORING
 Water-Supply Well Monit. Well
 Env. Bore Hole Other sealing
STATIC WATER LEVEL
 Measured Date Measured _____ Estimated
17.3 ft. below above land surface

Show exact location of well or boring in section grid with "X". Sketch map of well or boring location, showing property lines, roads, and buildings.

CASING TYPE(S)
 Steel Plastic Tile Other _____
WELLHEAD COMPLETION
Outside: Pitless Adapter/Unit At Grade Well Pit Other _____
Inside: Basement Offset Well House Well Pit Buried Other _____

PROPERTY OWNER'S NAME/COMPANY NAME
5300 Main St. NE Farley MN 55121
CASING(S)
Diameter Depth Set in oversize hole? Annular space initially grouted?
8 in. from 0 to 24 ft. Yes No Yes No Unknown
8 in. from 30 to 53.5 ft. Yes No Yes No Unknown
_____ in. from _____ to _____ ft. Yes No Yes No Unknown

WELL OWNER'S NAME/COMPANY NAME
5300 Main St. NE Farley MN 55121
SCREEN/OPEN HOLE
Screen from 53.5 to 53.5 ft. Open Hole from _____ to _____ ft.

OBSTRUCTIONS
 Rods/Drop Pipe Check Valve(s) Debris Fill No Obstruction
Type of Obstructions (Describe) _____
Obstructions removed? Yes No Describe _____

GEOLOGICAL MATERIAL	COLOR	HARDNESS OR FORMATION	FROM	TO
<u>Topsoil</u>	<u>21K</u>	<u>H</u>	<u>0</u>	<u>4</u>
<u>soil</u>	<u>20a</u>	<u>m</u>	<u>4</u>	<u>11</u>
<u>sandy clay</u>	<u>20a</u>	<u>m</u>	<u>11</u>	<u>16</u>
<u>soil</u>	<u>20a</u>	<u>m</u>	<u>16</u>	<u>19</u>
<u>soil</u>	<u>20a</u>	<u>m</u>	<u>19</u>	<u>23</u>
<u>sandy clay</u>	<u>20a</u>	<u>m</u>	<u>23</u>	<u>26</u>
<u>soil</u>	<u>20a</u>	<u>m</u>	<u>26</u>	<u>30</u>
<u>light yellow</u>	<u>20a</u>	<u>m</u>	<u>30</u>	<u>56</u>

PUMP
 Not Present Present, Removed Prior to Sealing Other _____
Type NA
METHOD USED TO SEAL ANNULAR SPACE BETWEEN 2 CASINGS, OR CASING AND BORE HOLE
 No Annular Space Exists Annular Space Grouted with Tremie Pipe Casing Perforation/Removal
Casing Diameter _____
NA in. from _____ to _____ ft. Perforated Removed
_____ in. from _____ to _____ ft. Perforated Removed
Type of Perforator _____

VARIANCE
Was a variance granted from the MDH for this well? Yes No TN# _____

GROUTING MATERIAL(S) (One bag of cement = 94 lbs., one bag of bentonite = 50 lbs.)
Grouting Material Portland from 0 to 53.5 ft. _____ yards 4 bags
_____ from _____ to _____ ft. _____ yards _____ bags
_____ from _____ to _____ ft. _____ yards _____ bags

OTHER WELLS AND BORINGS
Other unsealed and unused well or boring on property? Yes No. How many? _____

REMARKS, SOURCE OF DATA, DIFFICULTIES IN SEALING
WUB East
LICENSED OR REGISTERED CONTRACTOR CERTIFICATION
This well or boring was sealed in accordance with Minnesota Rules, Chapter 4725. The information contained in this report is true to the best of my knowledge.

Mark S. Timm Licensee Business Name 11/11 License or Registration No.
David Timm Certified Representative Signature 10/23/17 Certified Rep. No. Date
Timothy Dahl + Jennifer Foyed Name of Person Sealing Well or Boring

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING SEALING RECORD
 Minnesota Statutes, Chapter 103I

Minnesota Well and Boring Sealing No.
 Minnesota Unique Well No. or W-series No.
(Leave blank if not known)

H 348681
 827183

WELL OR BORING LOCATION
 County Name Anoka

Township Name Fully Township No. 30 Range No. 24 Section No. 27 Fraction (sm. → lg.) 1/4 NE 1/4 Date Sealed 10-23-17 Date Well or Boring Constructed 5-17-17

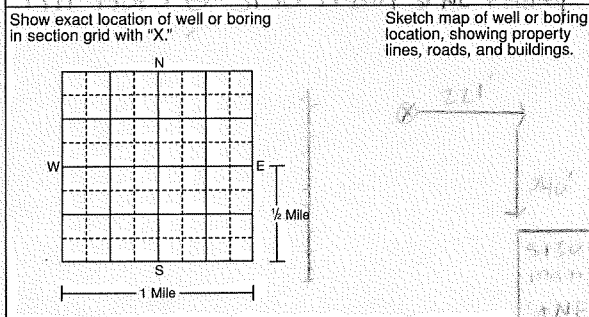
GPS LOCATION – decimal degrees (to four decimal places)
 Latitude 45 34 16.8 Longitude 93 16 14.3 Depth at Time of Sealing 27.97 ft. Original Depth 25 ft.

Numerical Street Address or Fire Number and City of Well or Boring Location
3530 Main Ave NE Minneapolis MN 55421

AQUIFER(S)
 Single Aquifer Multiaquifer

WELL/BORING
 Water-Supply Well Monit. Well
 Env. Bore Hole Other

STATIC WATER LEVEL
 Measured Date Measured _____ Estimated
21.13 ft. below above land surface



PROPERTY OWNER'S NAME/COMPANY NAME
MINN. STATE UNIVERSITY

Property owner's mailing address if different than well location address indicated above
3530 Main Ave NE Minneapolis MN 55421

CASING(S)
 Diameter _____ in. from _____ to _____ ft. Set in oversized hole? Yes No Annular space initially grouted? Yes No Unknown
 _____ in. from _____ to _____ ft. Yes No Yes No Unknown
 _____ in. from _____ to _____ ft. Yes No Yes No Unknown

WELL OWNER'S NAME/COMPANY NAME
MINN. STATE UNIVERSITY

Well owner's mailing address if different than property owner's address indicated above
3530 Main Ave NE Fully MN 55421

SCREEN/OPEN HOLE
 Screen from 15 to 25 ft. Open Hole from _____ to _____ ft.

OBSTRUCTIONS
 Rods/Drop Pipe Check Valve(s) Debris Fill No Obstruction

Type of Obstructions (Describe) _____

Obstructions removed? Yes No Describe _____

GEOLOGICAL MATERIAL	COLOR	HARDNESS OR FORMATION	FROM	TO
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

If not known, indicate estimated formation log from nearby well or boring.

PUMP
 Not Present Present, Removed Prior to Sealing Other _____
 Type NA

METHOD USED TO SEAL ANNULAR SPACE BETWEEN 2 CASINGS, OR CASING AND BORE HOLE
 No Annular Space Exists Annular Space Grouted with Tremie Pipe Casing Perforation/Removal

Casing Diameter
NA in. from _____ to _____ ft. Perforated Removed
 _____ in. from _____ to _____ ft. Perforated Removed

Type of Perforator _____

VARIANCE
 Was a variance granted from the MDH for this well? Yes No TN# _____

GROUTING MATERIAL(S) (One bag of cement = 94 lbs., one bag of bentonite = 50 lbs.)

Grouting Material _____ from _____ to _____ ft. _____ yards _____ bags
 _____ from _____ to _____ ft. _____ yards _____ bags
 _____ from _____ to _____ ft. _____ yards _____ bags

OTHER WELLS AND BORINGS
 Other unsealed and unused well or boring on property? Yes No How many? _____

REMARKS, SOURCE OF DATA, DIFFICULTIES IN SEALING

LICENSED OR REGISTERED CONTRACTOR CERTIFICATION
 This well or boring was sealed in accordance with Minnesota Rules, Chapter 4725. The information contained in this report is true to the best of my knowledge.

Licensee Business Name Mark's Trenchless Wells, LLC License or Registration No. _____
 Certified Representative Signature [Signature] Certified Rep. No. _____ Date 11-8-17
 Name of Person Sealing Well or Boring Tommy Dell

**MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING SEALING RECORD**
Minnesota Statutes, Chapter 103I

Minnesota Well and Boring
Sealing No. _____
Minnesota Unique Well No.
or W-series No. _____
(Leave blank, if not known)

H 351619
626929

WELL OR BORING LOCATION

County Name Anoka

Township Name Wadena Township No. 30 Range No. 24 Section No. 27 Fraction (sm. → lg.) 5 1/4 S 1/4 NE 1/4 Date Sealed 10-23-17 Date Well or Boring Constructed 6-10-2000

GPS LOCATION – decimal degrees (to four decimal places)
Latitude 45 3 39.19 Longitude -93 16 9.39
Depth at Time of Sealing 33.76 ft. Original Depth 35 ft.

Numerical Street Address or Fire Number and City of Well or Boring Location
5130 Main St. NE Fridley MN
Show exact location of well or boring in section grid with "X." Sketch map of well or boring location, showing property lines, roads, and buildings.

AQUIFER(S)
 Single Aquifer Multiaquifer
WELL/BORING
 Water-Supply Well Monit. Well
 Env. Bore Hole Other _____
STATIC WATER LEVEL
 Measured Date Measured _____ Estimated
17.0 ft. below above land surface

CASING TYPE(S)
 Steel Plastic Tile Other _____
WELLHEAD COMPLETION
Outside: Pitless Adapter/Unit At Grade Well Pit Other _____
Inside: Basement Offset Well House Well Pit Buried Other _____

PROPERTY OWNER'S NAME/COMPANY NAME
Private
Property owner's mailing address if different than well location address indicated above
5130 Main St. NE Fridley MN 55421
CASING(S)
Diameter _____ Depth _____ Set in oversized hole? Yes No Annular space initially grouted? Yes No Unknown
2 in. from 0 to 25 ft. Yes No Yes No Unknown
_____ in. from _____ to _____ ft. Yes No Yes No Unknown
_____ in. from _____ to _____ ft. Yes No Yes No Unknown

WELL OWNER'S NAME/COMPANY NAME
Same
Well owner's mailing address if different than property owner's address indicated above

SCREEN/OPEN HOLE
Screen from 25 to 35 ft. Open Hole from _____ to _____ ft.
OBSTRUCTIONS
 Rods/Drop Pipe Check Valve(s) Debris Fill No Obstruction
Type of Obstructions (Describe) _____

GEOLOGICAL MATERIAL COLOR HARDNESS OR FORMATION FROM TO
Obstructions removed? Yes No Describe _____

If not known, indicate estimated formation log from nearby well or boring.
PUMP
 Not Present Present, Removed Prior to Sealing Other _____
Type NA

METHOD USED TO SEAL ANNULAR SPACE BETWEEN 2 CASINGS, OR CASING AND BORE HOLE
 No Annular Space Exists Annular Space Grouted with Tremie Pipe Casing Perforation/Removal
Casing Diameter _____
_____ in. from _____ to _____ ft. Perforated Removed
_____ in. from _____ to _____ ft. Perforated Removed
Type of Perforator _____

VARIANCE
Was a variance granted from the MDH for this well? Yes No TN# _____

GROUTING MATERIAL(S) (One bag of cement = 94 lbs., one bag of bentonite = 50 lbs.)
Grouting Material Cement from 0 to 33 ft. _____ yards 1 bags
_____ from _____ to _____ ft. _____ yards _____ bags
_____ from _____ to _____ ft. _____ yards _____ bags

OTHER WELLS AND BORINGS
Other unsealed and unused well or boring on property? Yes No How many? _____

REMARKS, SOURCE OF DATA, DIFFICULTIES IN SEALING
mw-109a

LICENSED OR REGISTERED CONTRACTOR CERTIFICATION
This well or boring was sealed in accordance with Minnesota Rules, Chapter 4725. The information contained in this report is true to the best of my knowledge.
Mark S. Trout Wells, Inc. Licensee Business Name License or Registration No. 1104
Paul Trout Certified Representative Signature Certified Rep. No. _____ Date 11-9-17

Trout Wells, Inc. Name of Person Sealing Well or Boring

**MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING SEALING RECORD**
Minnesota Statutes, Chapter 103I

Minnesota Well and Boring Sealing No.
Minnesota Unique Well No. or W-series No.
(Leave blank if not known)

H 347450
797204

WELL OR BORING LOCATION

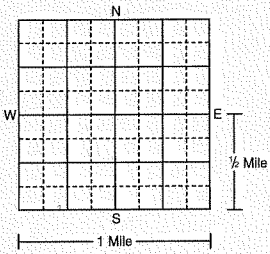
County Name
Anoka

Township Name	Township No.	Range No.	Section No.	Fraction (sm. → lg.)	Date Sealed	Date Well or Boring Constructed
<u>1014</u>	<u>30</u>	<u>21</u>	<u>29</u>	<u>1/4 1/4 NE 1/4</u>	<u>10-24-17</u>	<u>4-7-13</u>

GPS LOCATION – decimal degrees (to four decimal places)
Latitude 45.340622 Longitude -93.161441

Numerical Street Address or Fire Number and City of Well or Boring Location
5150 Main St NE, Fridley

Show exact location of well or boring in section grid with "X." Sketch map of well or boring location, showing property lines, roads, and buildings.



Depth at Time of Sealing 102.35 ft. Original Depth 10 ft.

AQUIFER(S)
 Single Aquifer Multiaquifer

WELL/BORING
 Water-Supply Well Monit. Well
 Env. Bore Hole Other 26.83 ft. below above land surface

CASING TYPE(S)
 Steel Plastic Tile Other

WELLHEAD COMPLETION
Outside: Pitless Adapter/Unit At Grade Well Pit Other 24' above grade
Inside: Basement Offset Well House Well Pit Buried Other

PROPERTY OWNER'S NAME/COMPANY NAME
Home

Property owner's mailing address if different than well location address indicated above
5150 Main St NE, Fridley MN 55421

CASING(S)
Diameter _____ Depth _____ Set in oversize hole? Yes No Annular space initially grouted? Yes No Unknown
_____ in. from _____ to _____ ft. Yes No Yes No Unknown
_____ in. from _____ to _____ ft. Yes No Yes No Unknown

WELL OWNER'S NAME/COMPANY NAME
Home

Well owner's mailing address if different than property owner's address indicated above

SCREEN/OPEN HOLE
Screen from 25 to 10 ft. Open Hole from _____ to _____ ft.

OBSTRUCTIONS
 Rods/Drop Pipe Check Valve(s) Debris Fill No Obstruction
Type of Obstructions (Describe)

GEOLOGICAL MATERIAL	COLOR	HARDNESS OR FORMATION	FROM	TO
---------------------	-------	-----------------------	------	----

If not known, indicate estimated formation log from nearby well or boring.

<u>Sand</u>	<u>tan</u>	<u>medium</u>	<u>0</u>	<u>21</u>
<u>clay sand</u>	<u>gray</u>	<u>medium</u>	<u>21</u>	<u>10</u>

Obstructions removed? Yes No Describe

PUMP
 Not Present Present, Removed Prior to Sealing Other
Type NA

METHOD USED TO SEAL ANNULAR SPACE BETWEEN 2 CASINGS, OR CASING AND BORE HOLE
 No Annular Space Exists Annular Space Grouted with Tremie Pipe Casing Perforation/Removal
Casing Diameter N/A in. from _____ to _____ ft. Perforated Removed
_____ in. from _____ to _____ ft. Perforated Removed
Type of Perforator

VARIANCE
Was a variance granted from the MDH for this well? Yes No TN# _____

GROUTING MATERIAL(S) (One bag of cement = 94 lbs., one bag of bentonite = 50 lbs.)
Grouting Material Bentonite from 0 to 102 ft. _____ yards _____ bags
_____ from _____ to _____ ft. _____ yards _____ bags
_____ from _____ to _____ ft. _____ yards _____ bags

REMARKS, SOURCE OF DATA, DIFFICULTIES IN SEALING

ASW-2

OTHER WELLS AND BORINGS
Other unsealed and unused well or boring on property? Yes No How many?

LICENSED OR REGISTERED CONTRACTOR CERTIFICATION
This well or boring was sealed in accordance with Minnesota Rules, Chapter 4725. The information contained in this report is true to the best of my knowledge.

Donald J. ... Inc Licensee Business Name License or Registration No. 14104

Donald J. ... Certified Representative Signature Certified Rep. No. 589 Date 11-8-17

Travis Will Name of Person Sealing Well or Boring

LOCAL COPY **H** 347450

**MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING SEALING RECORD**
Minnesota Statutes, Chapter 103I

Minnesota Well and Boring Sealing No.
Minnesota Unique Well No. or W-series No.
(Leave blank if not known)

H 347449
563171

WELL OR BORING LOCATION

County Name
Anoka

Township Name Fredrick Township No. 30 Range No. 21 Section No. 27 Fraction (sm. → lg.) 1/4 SE 1/4 NE 1/4 Date Sealed 10-24-17 Date Well or Boring Constructed 5-25-1995

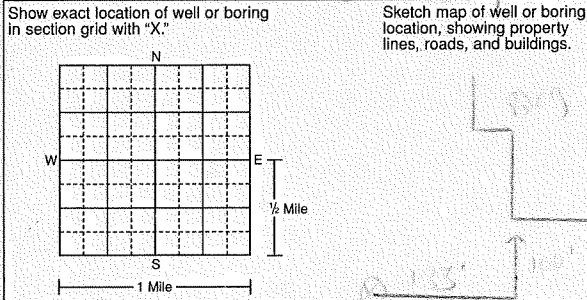
GPS LOCATION – decimal degrees (to four decimal places)
Latitude 45 3 34.15 Longitude 123 10 13.56 Depth at Time of Sealing 10.97 ft. Original Depth 103.0 ft.

Numerical Street Address or Fire Number and City of Well or Boring Location
5130 Main St NE Fredrick

AQUIFER(S)
 Single Aquifer Multi-aquifer

WELL/BORING
 Water-Supply Well Monit. Well
 Env. Bore Hole Other 25.25 ft. below above land surface

STATIC WATER LEVEL
 Measured Date Measured _____ Estimated



CASING TYPE(S)
 Steel Plastic Tile Other _____

WELLHEAD COMPLETION

Outside: Pitless Adapter/Unit At Grade Well Pit Other 21" above grade

Inside: Basement Offset Well House Well Pit Buried Other _____

PROPERTY OWNER'S NAME/COMPANY NAME
5130 Main St NE Fredrick MN 55421

Property owner's mailing address if different than well location address indicated above

CASING(S)

Diameter	Depth	Set in oversized hole?	Annular space initially grouted?
<u>6</u> in. from <u>0</u> to <u>23</u> ft.		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
_____ in. from _____ to _____ ft.		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
_____ in. from _____ to _____ ft.		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown

WELL OWNER'S NAME/COMPANY NAME
5130 Main St NE Fredrick MN 55421

Well owner's mailing address if different than property owner's address indicated above

SCREEN/OPEN HOLE
Screen from 23 to 103 ft. Open Hole from _____ to _____ ft.

OBSTRUCTIONS
 Rods/Drop Pipe Check Valve(s) Debris Fill No Obstruction

Type of Obstructions (Describe) _____

Obstructions removed? Yes No Describe _____

GEOLOGICAL MATERIAL	COLOR	HARDNESS OR FORMATION	FROM	TO
<u>soil</u>	<u>Brown</u>	<u>19</u>	<u>0</u>	<u>12</u>
<u>soil/gravel</u>	<u>↓</u>	<u>↓</u>	<u>12</u>	<u>30</u>
<u>sand/gravel</u>	<u>↓</u>	<u>↓</u>	<u>30</u>	<u>210</u>
<u>soil/gravel</u>	<u>gray</u>	<u>↓</u>	<u>26</u>	<u>103</u>

If not known, indicate estimated formation log from nearby well or boring.

PUMP
 Not Present Present, Removed Prior to Sealing Other _____
Type N/A

METHOD USED TO SEAL ANNULAR SPACE BETWEEN 2 CASINGS, OR CASING AND BORE HOLE
 No Annular Space Exists Annular Space Grouted with Tremie Pipe Casing Perforation/Removal

Casing Diameter _____ in. from _____ to _____ ft. Perforated Removed

_____ in. from _____ to _____ ft. Perforated Removed

Type of Perforator ↓

VARIANCE
Was a variance granted from the MDH for this well? Yes No TN# _____

GROUTING MATERIAL(S) (One bag of cement = 94 lbs., one bag of bentonite = 50 lbs.)

Grouting Material Bentonite from 0 to 10 ft. _____ yards 5 bags

_____ from _____ to _____ ft. _____ yards _____ bags

_____ from _____ to _____ ft. _____ yards _____ bags

OTHER WELLS AND BORINGS
Other unsealed and unused well or boring on property? Yes No How many? _____

REMARKS, SOURCE OF DATA, DIFFICULTIES IN SEALING
ASW-1

LICENSED OR REGISTERED CONTRACTOR CERTIFICATION
This well or boring was sealed in accordance with Minnesota Rules, Chapter 4725. The information contained in this report is true to the best of my knowledge.

Tommy J. Tompkins Wells, Inc. Licensee Business Name License or Registration No. 14104

David Linn Certified Representative Signature 589 Certified Rep. No. 11-8-17 Date

Tommy Wells + Jennifer Fiegel Name of Person Sealing Well or Boring

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING SEALING RECORD
 Minnesota Statutes, Chapter 103I

Minnesota Well and Boring Sealing No.
 Minnesota Unique Well No. or W-series No.
 (Leave blank if not known)

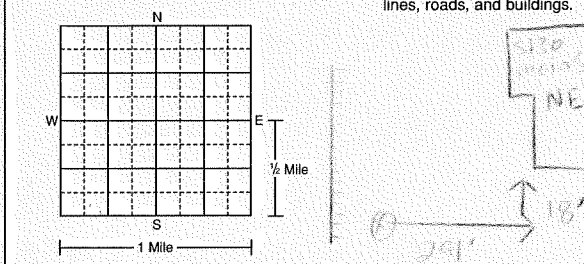
H 347448
 804278

WELL OR BORING LOCATION
 County Name: Anoka

Township Name: <u>Hubley</u>	Township No.: <u>20</u>	Range No.: <u>24</u>	Section No.: <u>26</u>	Fraction (sm. → lg.): <u>1/4 NW 1/4</u>	Date Sealed: <u>10-23-17</u>	Date Well or Boring Constructed: <u>1-15-14</u>
------------------------------	-------------------------	----------------------	------------------------	---	------------------------------	---

GPS LOCATION – decimal degrees (to four decimal places)
 Latitude: 45 3 40.09 Longitude: 123 16 15.04

Numerical Street Address or Fire Number and City of Well or Boring Location: <u>RR Box 10 - 130 Main St NE Hubley</u>	Depth at Time of Sealing: <u>59.34</u> ft.	Original Depth: <u>60</u> ft.
Aquifer(s): <input checked="" type="checkbox"/> Single Aquifer <input type="checkbox"/> Multiaquifer Well/Boring: <input type="checkbox"/> Water-Supply Well <input checked="" type="checkbox"/> Monit. Well <input type="checkbox"/> Env. Bore Hole <input type="checkbox"/> Other _____	Static Water Level: <input checked="" type="checkbox"/> Measured Date Measured: _____ <input type="checkbox"/> Estimated <u>110.11</u> ft. <input type="checkbox"/> below <input type="checkbox"/> above land surface	



Casing Type(s): Steel Plastic Tile Other _____

Wellhead Completion:

Outside: <input type="checkbox"/> Pitless Adapter/Unit <input checked="" type="checkbox"/> At Grade <input type="checkbox"/> Well Pit <input type="checkbox"/> Other _____	Inside: <input type="checkbox"/> Basement Offset <input type="checkbox"/> Well House <input type="checkbox"/> Well Pit <input type="checkbox"/> Buried <input type="checkbox"/> Other _____
--	---

PROPERTY OWNER'S NAME/COMPANY NAME:
RINSE Beckman
 Property owner's mailing address if different than well location address indicated above:
2500 Low Mark Dr. AUB-3
 Fort Worth TX 76131

CASING(S)

Diameter	Depth	Set in oversize hole?	Annular space initially grouted?
<u>2</u> in. from <u>0</u> to <u>50</u> ft.		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
_____ in. from _____ to _____ ft.		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
_____ in. from _____ to _____ ft.		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown

WELL OWNER'S NAME/COMPANY NAME:
INDIA
 Well owner's mailing address if different than property owner's address indicated above:
520 LaFayette Rd
 St. Paul MN 55155

SCREEN/OPEN HOLE
 Screen from 50 to 60 ft. Open Hole from _____ to _____ ft.

OBSTRUCTIONS
 Rods/Drop Pipe Check Valve(s) Debris Fill No Obstruction

Type of Obstructions (Describe): _____

GEOLOGICAL MATERIAL	COLOR	HARDNESS OR FORMATION	FROM	TO
<u>Sand</u>	<u>tan</u>	<u>S</u>	<u>5</u>	<u>39</u>
<u>Clay</u>	<u>red</u>	<u>S</u>	<u>39</u>	<u>53</u>
<u>soft silt</u>	<u>br</u>	<u>S</u>	<u>53</u>	<u>64</u>
<u>clay</u>	<u>gray/red</u>	<u>m</u>	<u>64</u>	<u>80</u>

Obstructions removed? Yes No Describe: _____

PUMP
 Not Present Present, Removed Prior to Sealing Other _____
 Type: NA

METHOD USED TO SEAL ANNULAR SPACE BETWEEN 2 CASINGS, OR CASING AND BORE HOLE

<input type="checkbox"/> No Annular Space Exists	<input type="checkbox"/> Annular Space Grouted with Tremie Pipe	<input type="checkbox"/> Casing Perforation/Removal
--	---	---

Casing Diameter _____ in. from _____ to _____ ft. Perforated Removed

_____ in. from _____ to _____ ft. Perforated Removed

Type of Perforator: ↓

VARIANCE
 Was a variance granted from the MDH for this well? Yes No TN# _____

GROUTING MATERIAL(S) (One bag of cement = 94 lbs., one bag of bentonite = 50 lbs.)

Grouting Material: Purkul from 0 to 60 ft. _____ yards 2 bags

_____ from _____ to _____ ft. _____ yards _____ bags

_____ from _____ to _____ ft. _____ yards _____ bags

REMARKS, SOURCE OF DATA, DIFFICULTIES IN SEALING
BWSF - 1 D

OTHER WELLS AND BORINGS
 Other unsealed and unused well or boring on property? Yes No How many? _____

LICENSED OR REGISTERED CONTRACTOR CERTIFICATION
 This well or boring was sealed in accordance with Minnesota Rules, Chapter 4725. The information contained in this report is true to the best of my knowledge.

Mark J. Trout Works Inc Licensee Business Name License or Registration No. 1401

David Trout Certified Representative Signature 549 11 17 Certified Rep. No. Date

LOCAL COPY **H** 347448

Tommy Dell + Jennifer Foged
 Name of Person Sealing Well or Boring

**MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING SEALING RECORD**
Minnesota Statutes, Chapter 103I

Minnesota Well and Boring Sealing No. _____
Minnesota Unique Well No. or W-series No. _____
(Leave blank if not known)

H 347447
804277

WELL OR BORING LOCATION

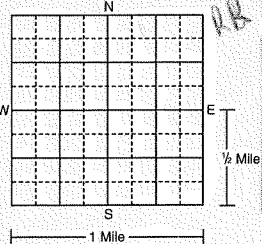
County Name
Anoka

Township Name <i>Fordley</i>	Township No. <i>30</i>	Range No. <i>21</i>	Section No. <i>26</i>	Fraction (sm. → lg.) <i>2 1/4 NW 1/4 S 1/4</i>	Date Sealed <i>10-23-17</i>	Date Well or Boring Constructed <i>1-16-14</i>
---------------------------------	---------------------------	------------------------	--------------------------	---	--------------------------------	---

GPS LOCATION – decimal degrees (to four decimal places)
Latitude *45 34 01 S* Longitude *93 16 15 W*

Numerical Street Address or Fire Number and City of Well or Boring Location
RR Road 5120 m. NE Fordley

Show exact location of well or boring in section grid with "X." Sketch map of well or boring location, showing property lines, roads, and buildings.



Depth at Time of Sealing *29.5* ft. Original Depth *30* ft.

AQUIFER(S)
 Single Aquifer Multiaquifer
WELL/BORING
 Water-Supply Well Monit. Well
 Env. Bore Hole Other
STATIC WATER LEVEL
 Measured Date Measured _____ Estimated
15.90 ft. below above land surface

CASING TYPE(S)
 Steel Plastic Tile Other

WELLHEAD COMPLETION
Outside: Pitless Adapter/Unit At Grade Well Pit Other
Inside: Basement Offset Well House Well Pit Buried Other

PROPERTY OWNER'S NAME/COMPANY NAME
RMSF Railway

Property owner's mailing address if different than well location address indicated above
*2500 Lou Mark Dr. ADB-3
Fort Worth, TX 76131*

CASING(S)
Diameter Depth Set in oversized hole? Annular space initially grouted?
2 in. from *0* to *30* ft. Yes No Yes No Unknown
_____ in. from _____ to _____ ft. Yes No Yes No Unknown
_____ in. from _____ to _____ ft. Yes No Yes No Unknown

WELL OWNER'S NAME/COMPANY NAME
MDCA

Well owner's mailing address if different than property owner's address indicated above
*500 La Fayette Rd
St. Paul, MN 55155*

SCREEN/OPEN HOLE
Screen from *30* to *30* ft. Open Hole from _____ to _____ ft.

OBSTRUCTIONS
 Rods/Drop Pipe Check Valve(s) Debris Fill No Obstruction
Type of Obstructions (Describe) _____

GEOLOGICAL MATERIAL	COLOR	HARDNESS OR FORMATION	FROM	TO
<i>Sand</i>	<i>tan</i>	<i>S</i>	<i>5</i>	<i>30</i>

If not known, indicate estimated formation log from nearby well or boring.

Obstructions removed? Yes No Describe _____

PUMP
 Not Present Present, Removed Prior to Sealing Other
Type *NA*

METHOD USED TO SEAL ANNULAR SPACE BETWEEN 2 CASINGS, OR CASING AND BORE HOLE
 No Annular Space Exists Annular Space Grouted with Tremie Pipe Casing Perforation/Removal
Casing Diameter *N/A* in. from _____ to _____ ft. Perforated Removed
_____ in. from _____ to _____ ft. Perforated Removed
Type of Perforator _____

VARIANCE
Was a variance granted from the MDH for this well? Yes No TN# _____

GROUTING MATERIAL(S) (One bag of cement = 94 lbs., one bag of bentonite = 50 lbs.)
Grouting Material *Quikrete* from *0* to *30* ft. _____ yards *1* bags
_____ from _____ to _____ ft. _____ yards _____ bags
_____ from _____ to _____ ft. _____ yards _____ bags

REMARKS, SOURCE OF DATA, DIFFICULTIES IN SEALING
BUSF - IS

OTHER WELLS AND BORINGS
Other unsealed and unused well or boring on property? Yes No How many? _____

LICENSED OR REGISTERED CONTRACTOR CERTIFICATION
This well or boring was sealed in accordance with Minnesota Rules, Chapter 4725. The information contained in this report is true to the best of my knowledge.

Max J. T. Wells, Inc. Licensee Business Name License or Registration No. *1421*

Daniel T. Wells Certified Representative Signature Certified Rep. No. *559* Date *11-8-17*

T. Wells Name of Person Sealing Well or Boring

LOCAL COPY

H 347447



Monitoring Well Diagram Above Grade Completion

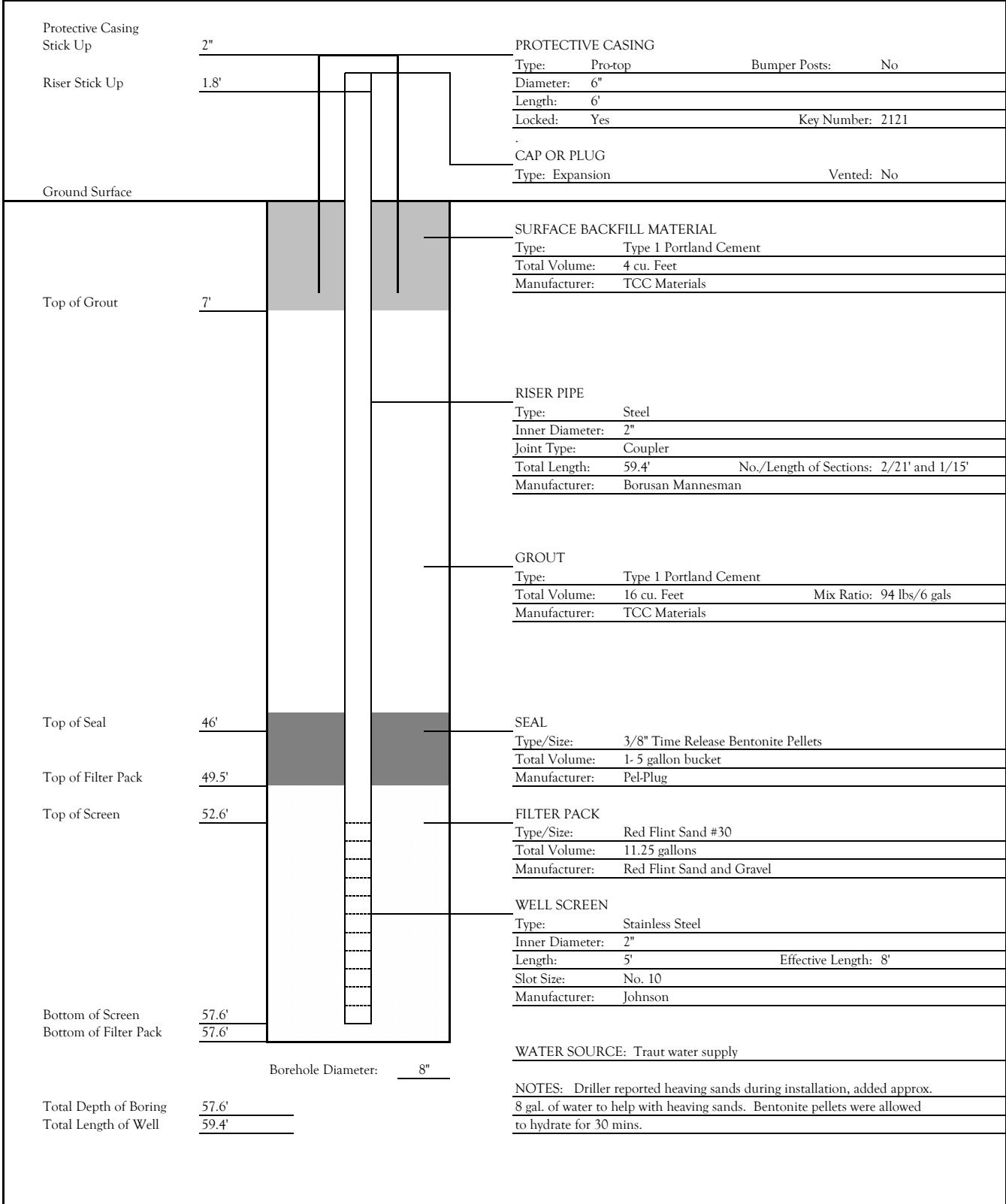
BNSF-3D

PROJECT NAME: Reviva

LOCATION: Fridley, MN

Drilling Method: 4.25" Hollow Stem Auger
 Company: Traut
 Foreman: Tammy Wahl
 Rig Model: Geoprobe 7800
 Geol/Engr: M. Lindstrom

Ground Surface Elevation: 842.50'
 MDH Unique Well No.: 827184
 Date/Time Started: 07/26/2017 @ 10:20
 Date/Time Completed: 7/26/2017 @ 18:19
 Coordinates:





Monitoring Well Diagram Above Grade Completion

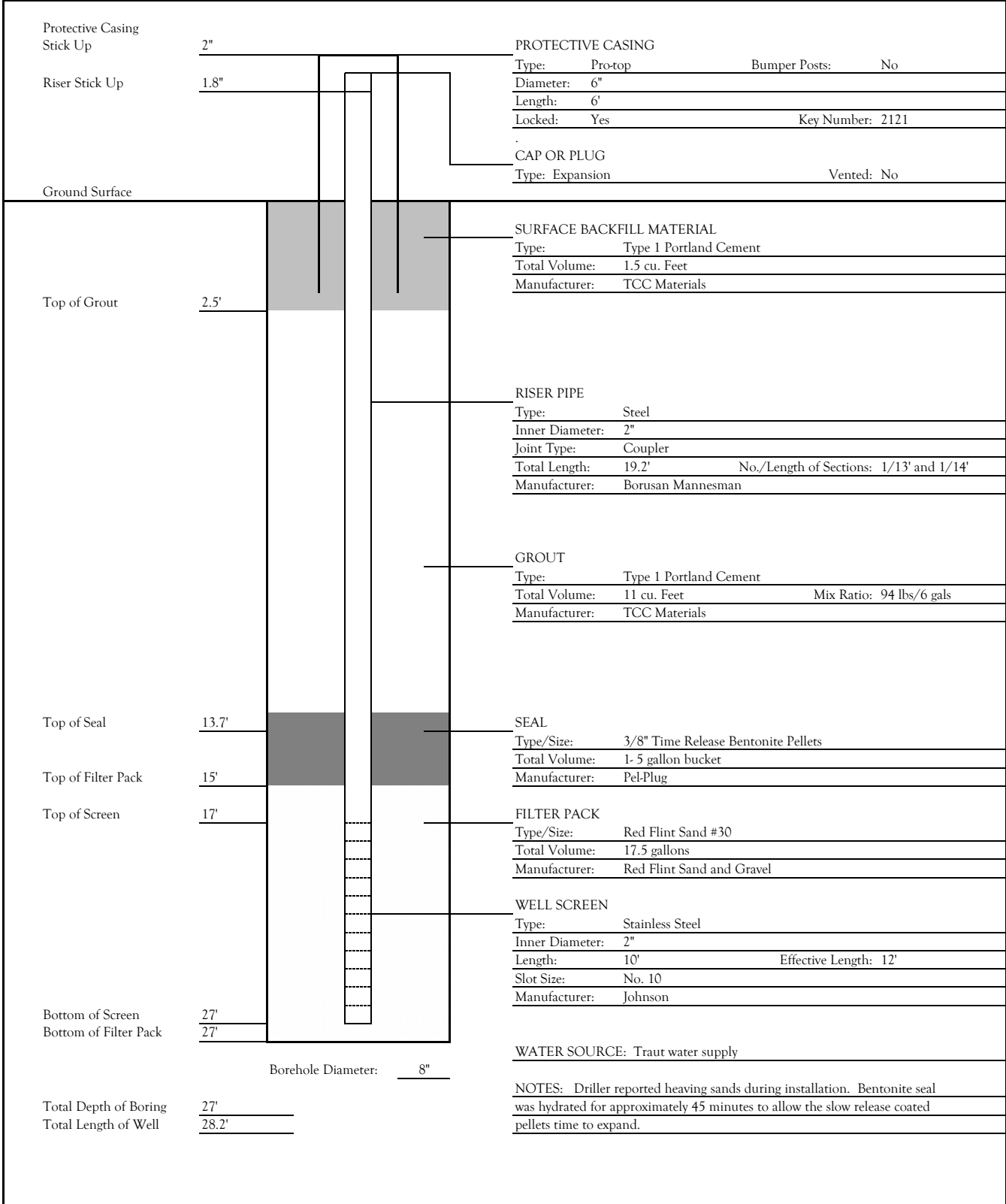
BNSF-3S

PROJECT NAME: Reviva

LOCATION: Fridley, MN

Drilling Method: 4.25" Hollow Stem Auger
 Company: Traut
 Foreman: Tammy Wahl
 Rig Model: Geoprobe 7800
 Geol/Engr: M. Lindstrom

Ground Surface Elevation: 842.50'
 MDH Unique Well No.: 827194
 Date/Time Started: 07/27/2017 @ 1120
 Date/Time Completed: 7/26/2017 @ 1835
 Coordinates:





Monitoring Well Diagram Above Grade Completion

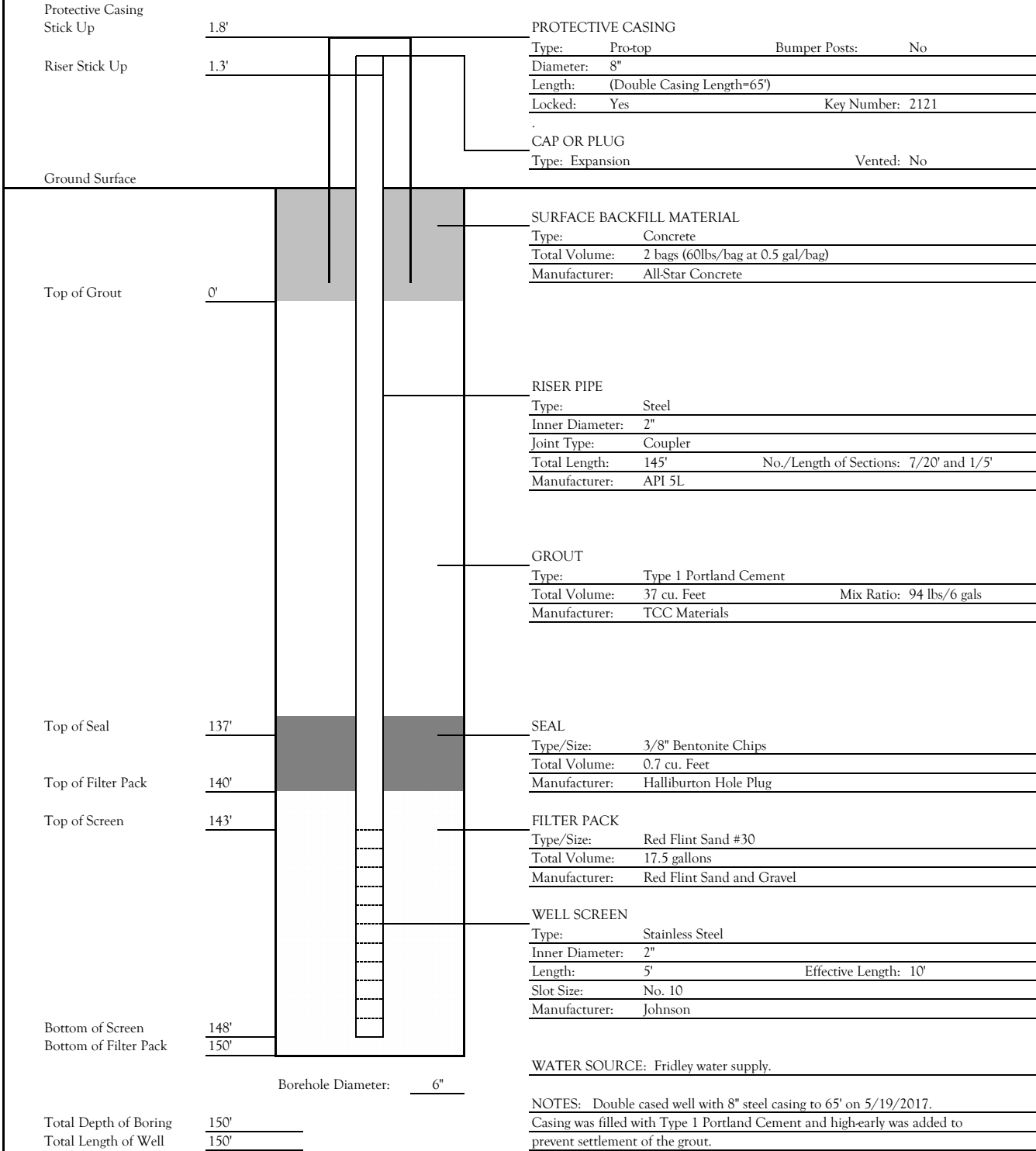
MW-108PC

PROJECT NAME: Reviva

LOCATION: Fridley, MN

Drilling Method: Rotasonic
 Company: Traut
 Foreman: Nate Stebbins
 Rig Model: Versa Drill V-1000, Truck Mount
 Geol/Engr: M. Lindstrom

Ground Surface Elevation: 849.10'
 MDH Unique Well No.: 827185
 Date/Time Started: 5/19/2017 @ 17:02
 Date/Time Completed: 5/23/2017 @ 13:49
 Coordinates:





Monitoring Well Diagram

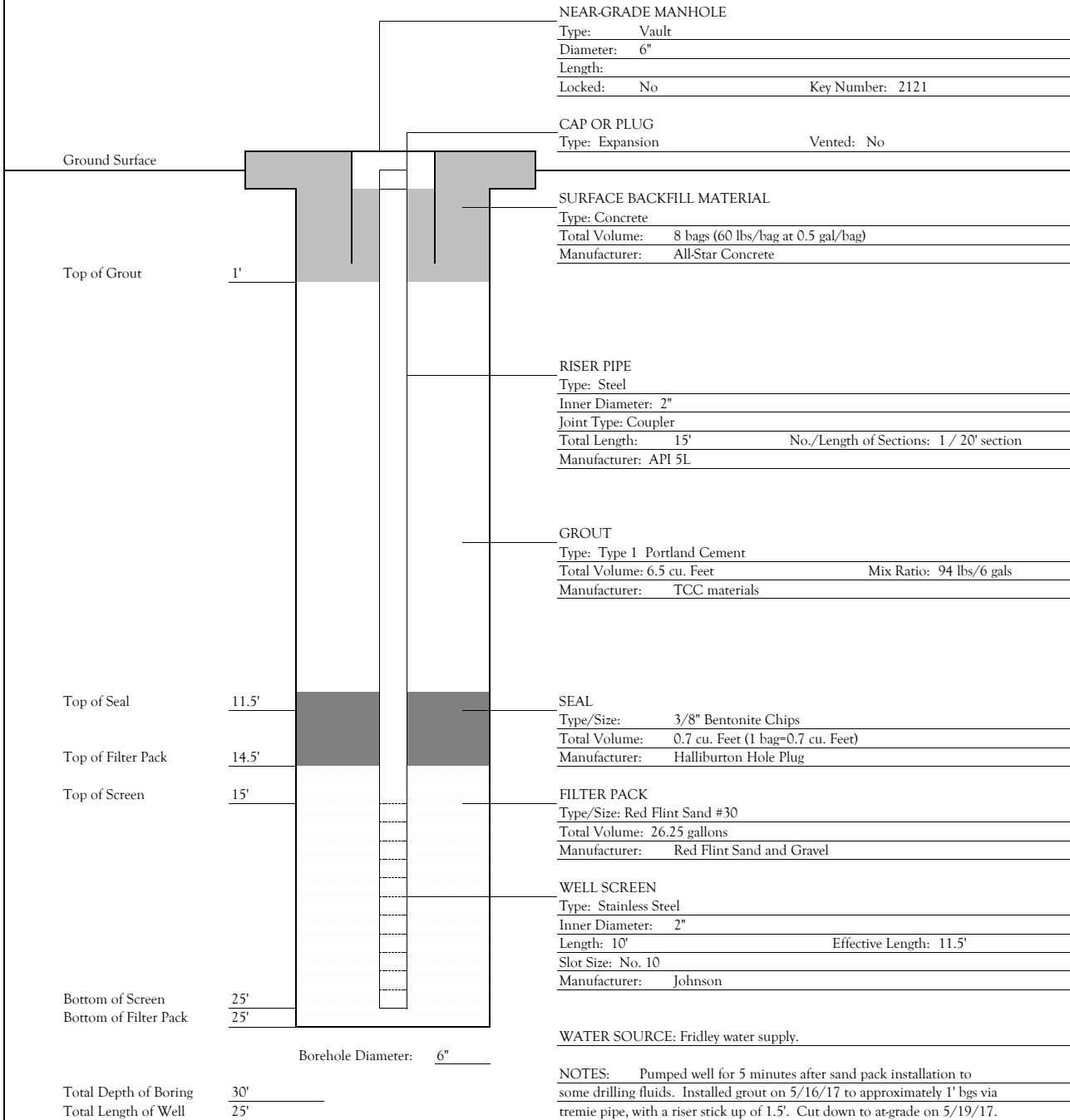
Near Grade Completion

REEP-2S

PROJECT NAME: Reviva
 LOCATION: Fridley, MN

Drilling Method: Rotasonic
 Company: Traut
 Foreman: Nate Stebbins
 Rig Model: Versa Drill V-1000, Truck Mount
 Geol/Engr: M. Lindstrom

Ground Surface Elevation: 840.9'
 MDH Unique Well No.: 827186
 Date/Time Started: 5/16/2017 9:11
 Date/Time Completed: 5/19/2017 9:23
 Coordinates:





Monitoring Well Diagram

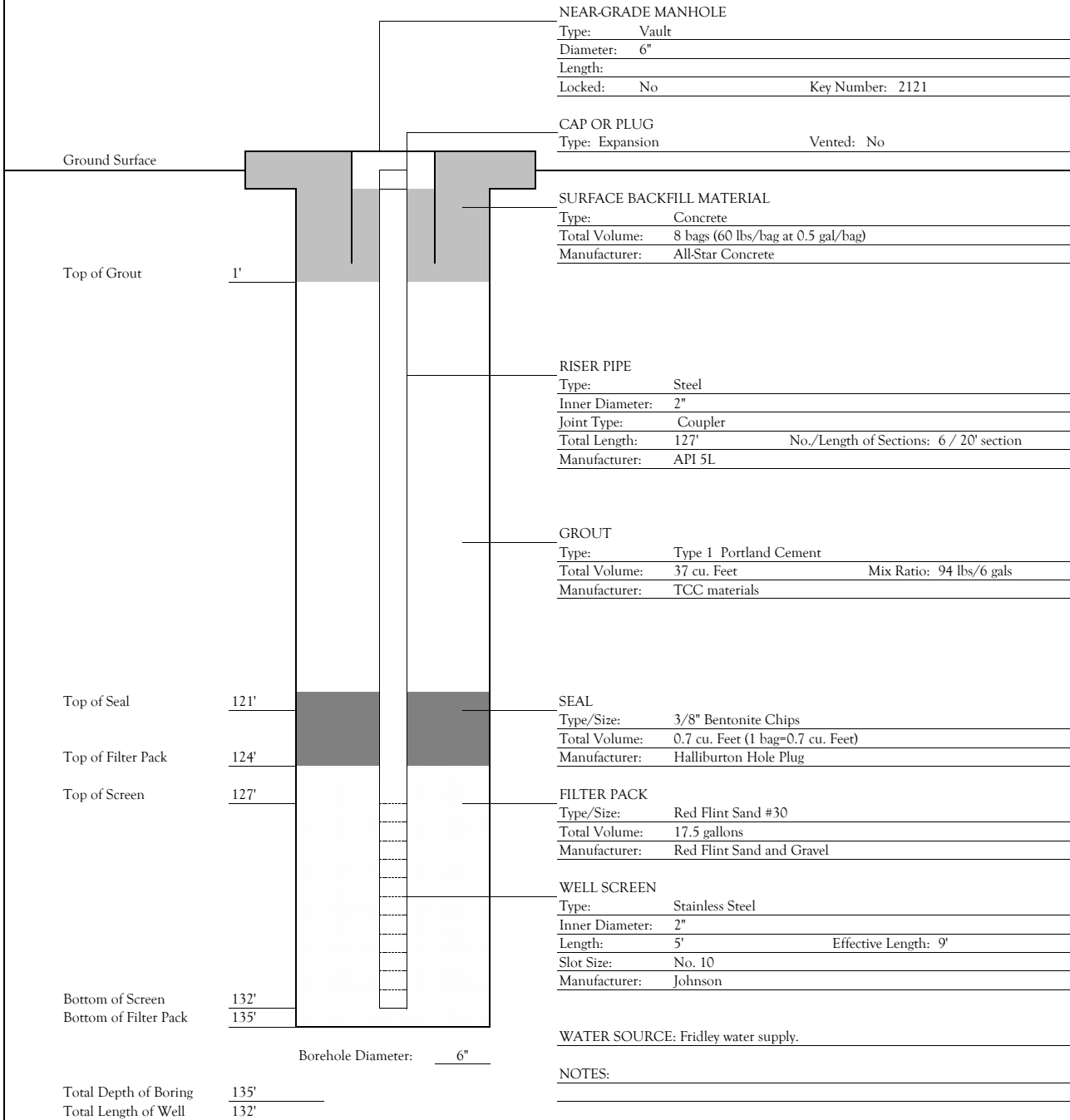
Near Grade Completion

REEP-2PC

PROJECT NAME: Reviva
 LOCATION: Fridley, MN

Drilling Method: Rotasonic
 Company: Traut
 Foreman: Nate Stebbins
 Rig Model: Versa Drill V-1000, Truck Mount
 Geol/Engr: M. Lindstrom

Ground Surface Elevation: 840.90'
 MDH Unique Well No.: 827187
 Date/Time Started: 5/17/2017 @ 10:12
 Date/Time Completed: 5/19/2017 @ 9:09
 Coordinates:



Total Depth of Boring 135'
 Total Length of Well 132'



WELL DEVELOPMENT LOG SHEET

Well No.

DWSF-35

Project Name/Location: Reviva / Minneapolis MN Project No.: 106-17

Date: 8/2/17 Weather: Sunny, Hot

Pumping Method: Pumped Other

Pump Type: Sub Hurricane Bailer Type: _____

Depth to Water (D.T.W.) 20.11 Depth to Bottom (D.T.B.) 28.91

Volume Calculation: $(0.163)(28.91 - 20.11) + [10.3](8.8)(2.611 - 0.163) = 7.89 = 8$

$[(H \times Vw) + [N \times H \times (Vbh - Vw)]] = \text{Total Well Volume}$ ** see below for variable definitions**

Time	Volume Removed (gal.)	pH	Cond. (uS/cm)	Temp. (°C)	ORP (mv)	DO (ppm)	Turbidity (ntu)	Odor Y/N	Color
1636	Initial	8.87	679	13.41	-26	11.38	1000	N	brown
1642	8	8.73	627	12.52	78	2.08	863	N	slightly brown
1650	16	8.72	611	12.48	59	1.38	56.0	N	clear
1656	24	8.73	606	12.49	50	1.18	10.2	N	clear
1701	32	8.72	603	12.49	49	1.07	0.0	N	clear
1706	40	8.71	602	12.49	48	1.04	0.0	N	clear

Comments:

Borehole Dia.	Borehole gal./ft. (Vbh)	Inside Well Diameter	Well gal./ft. (Vw)
6.5"	1.723	1"	0.041
8"	2.611	2"	0.163
10"	4.080	4"	0.653
12"	5.875	6"	1.469

N=Porosity = 0.3

H=D.T.B - D.T.W



WELL DEVELOPMENT LOG SHEET

Well No.

DNRF-3D

Project Name/Location: Reviva / Minneapolis MN Project No.: 101-17

Date: 8/2/17 Weather: Sunny, Hot

Pumping Method Pumped Other _____

Pump Type: Hurricane Bailer Type: _____

Depth to Water (D.T.W.) 19.93 Depth to Bottom (D.T.B.) 59.06

Volume Calculation: (59.06 - 19.93)(0.163) + [(0.3)(8)(2.611 - 0.163)]

$$6.378 + 5.8752 = 12.2532$$

$[(H \times V_w) + (N \times H \times (V_{bh} - V_w))] = \text{Total Well Volume}$ **see below for variable definitions**

Time	Volume Removed (gal.)	pH	Cond. (uS/cm)	Temp. (°C)	ORP (mv)	DO (ppm)	Turbidity (ntu)	Odor Y/N	Color
1444	Initial	8.93	1860	13.44	-139	1.72	1000	N	Brown
1513	12.3	8.17	1910	12.45	-101	0.0	27.2	N	clear
1532	24.6	8.11	1910	12.15	-101	0.0	62.2	N	clear
1544	36.9	8.12	1910	12.13	-106	0.0	144	N	clear
1602	49.2	8.11	1900	12.06	-109	0.0	35.1	N	clear
1615	61.5	8.10	1900	11.99	-112	0.0	33.2	N	clear

Comments:

[Handwritten signature]

Borehole Dia.	Borehole gal./ft. (Vbh)	Inside Well Diameter	Well gal./ft. (Vw)
6.5"	1.723	1"	0.041
8"	2.611	2"	0.163
10"	4.080	4"	0.653
12"	5.875	6"	1.469

N=Porosity = 0.3

H=D.T.B - D.T.W



WELL DEVELOPMENT LOG SHEET

Well No.

REEP-25

Project Name/Location: Reviva Bradley, MN Project No.: 101-17
 Date: 5/18/17 Weather: Overcast, Mid 50°F is
 Pumping Method: Pumped Other _____
 Pump Type: Submersible Bailer Type: _____
 Depth to Water (D.T.W.) 15.90 Depth to Bottom (D.T.B.) 25.68
 Volume Calculation: $(9.78 \times 0.163) + [0.3 \times 9.78 \times (1.469 - 0.163)] = 5.5$
 [[H x Vw] + [N x H x (Vbh - Vw)]] = Total Well Volume **see below for variable definitions**

Time	Volume Removed (gal.)	pH	Cond. (uS/cm)	Temp. (°C)	ORP (mv)	DO (ppm)	Turbidity (ntu)	Odor Y/N	Color
1936	0	8.46	620	13.32	7	6.64	528	N	brown
1939	5.5	7.78	2030 2300	13.19	-44	0.00	147 147	N	brown
1941	11	7.57	2010	13.37	38 20	0.0	128	N	clear
1945	16.5	7.61	1580	13.46	32	1.05	99.1	N	clear
1948	22	7.60	1440	13.50	46	2.24	57.0	N	clear
1952	27.5	7.58	1380	13.48	47	2.61	34.1	N	clear

Comments:

2gpm

Borehole Dia.	Borehole gal./ft. (Vbh)	Inside Well Diameter	Well gal./ft. (Vw)
6.5"	1.723	1"	0.041
8"	2.611	2"	0.163
10"	4.080	4"	0.653
12"	5.875	6"	1.469

N=Porosity = 0.3

H=D.T.B - D.T.W



WELL DEVELOPMENT LOG SHEET

Well No.

REEP
2PC

Project Name/Location: Reviva / Fridley, MN Project No.: 101-17

Date: 5/18/17 Weather: Overcast, Mid 50°F.s

Pumping Method Pumped Other _____

Pump Type: Submersible Bailer Type: _____

Depth to Water (D.T.W.) 116.86 Depth to Bottom (D.T.B.) 133.56

Volume Calculation: [19.02] + [0.3 x 9 x (1468 - 0.163)] = 22.54

$[[H \times Vw] + [N \times H \times (Vbh - Vw)]] = \text{Total Well Volume}$ ***see below for variable definitions***

Time	Volume Removed (gal.)	pH	Cond. (uS/cm)	Temp. (°C)	ORP (mv)	DO (ppm)	Turbidity (ntu)	Odor Y/N	Color
1922	0	8.62	521	15.18	-144	5.38	112	N	brown
1930	43	8.99	780	14.51	-48	10.62	0.0	N	clear
1938	46	8.54	951	13.61	-97	6.50	149	N	clear
1946	69	8.35	989	13.57	-22	5.33	71.7	N	clear
1954	192	7.98	1020	13.37	-7	3.35	35.9	N	clear
2002	115	7.83	1030	13.38	-54	2.68	12.9	N	"
2010	138	7.64	1040	13.31	-42	2.13	6.0	N	"
2018	151	7.60	1044	13.27	-20	2.44	2.3	N	"

Comments: 3.25 gal/min

15.77

927120

75.08

PC = 0.27187

16.49

Borehole Dia.	Borehole gal./ft. (Vbh)	Inside Well Diameter	Well gal./ft. (Vw)
6.5"	1.723	1"	0.041
8"	2.611	2"	0.163
10"	4.080	4"	0.653
12"	5.875	6"	1.469

N=Porosity = 0.3 H=D.T.B - D.T.W



WELL DEVELOPMENT LOG SHEET

Well No.

MW-108PC

Project Name/Location: Reviva / Fridley, MN Project No.: 101-17

Date: 5/23/17 Weather: Sunny, 60°F

Pumping Method Pumped Other _____

Pump Type: Submersible Bailer Type: _____

Depth to Water (D.T.W.) 26.34 Depth to Bottom (D.T.B.) 149.75

Volume Calculation: $[0.163(23.47)] + [0.3(10)(1.469 - 0.163)] = 25$

$[[H \times Vw] + [N \times H \times (Vbh - Vw)]] = \text{Total Well Volume}$ **** see below for variable definitions ****

Time	Volume Removed (gal.)	pH	Cond. (uS/cm)	Temp. (°C)	ORP (mv)	DO (ppm)	Turbidity (ntu)	Odor Y/N	Color
958	0	7.47	1210	13.20	24	9.10	1000	N	turbid / brown
1007	25	7.30	1350	12.60	189	4.01	1000	N	turbid / brown
1017	50	7.22	1370	12.49	133	2.73	403	N	slightly turbid
1026	75	7.18	1390	12.43	117	2.05	515	N	"
1035	100	7.05	1410	12.50	110	2.02	186	N	cloudy slightly cloudy
1045	125	7.10	1410	12.50	100	1.22	47.2	N	Clear

Comments:

~3 gal/min
- pumped placed at bottom of well

Borehole Dia.	Borehole gal./ft. (Vbh)	Inside Well Diameter	Well gal./ft. (Vw)
6.5"	1.723	1"	0.041
8"	2.611	2"	0.163
10"	4.080	4"	0.653
12"	5.875	6"	1.469

N=Porosity = 0.3

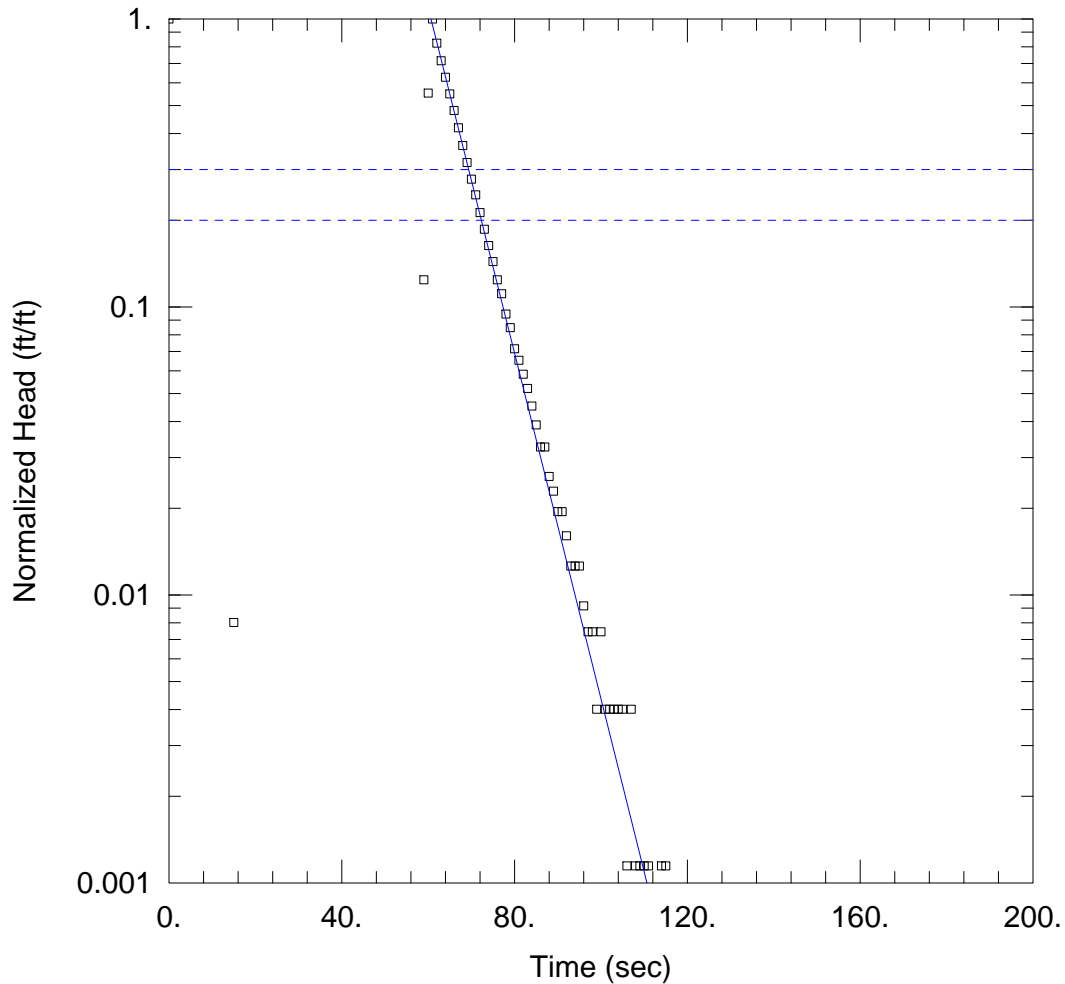
H=D.T.B - D.T.W

Slug Testing Results
 Reviva - Fridley, Minnesota
 Carlson McCain Project No. 101-17

	Well Location	Hydraulic Conductivity (cm/sec)
Water Table Wells	BNSF-3S	0.003434
	REEP-2S	0.001327
Intermediate Depth Wells	BNSF-3D	0.009324
	REEP-2	0.001816
Wells Screened Below Till	REEP-1	0.0008567
	MW-108PC	0.001907
	REEP-2PC	0.0008371

Notes:

MW-108PC and REEP-2PC are screened in the upper portion of the Prairie du Chien aquifer.
 REEP-1 is screened beneath the till in sandy material.
 Slug testing was completed using the Bouwer-Rice method.



WELL TEST ANALYSIS

Data Set: F:\...\Slug out 1.aqt
 Date: 11/14/17

Time: 08:01:46

PROJECT INFORMATION

Company: Carlson McCain
 Client: Reviva
 Project: 101-17
 Location: Fridley, Minnesota
 Test Date: 9/12/2017

AQUIFER DATA

Saturated Thickness: 39.93 ft

Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (BNSF-3D)

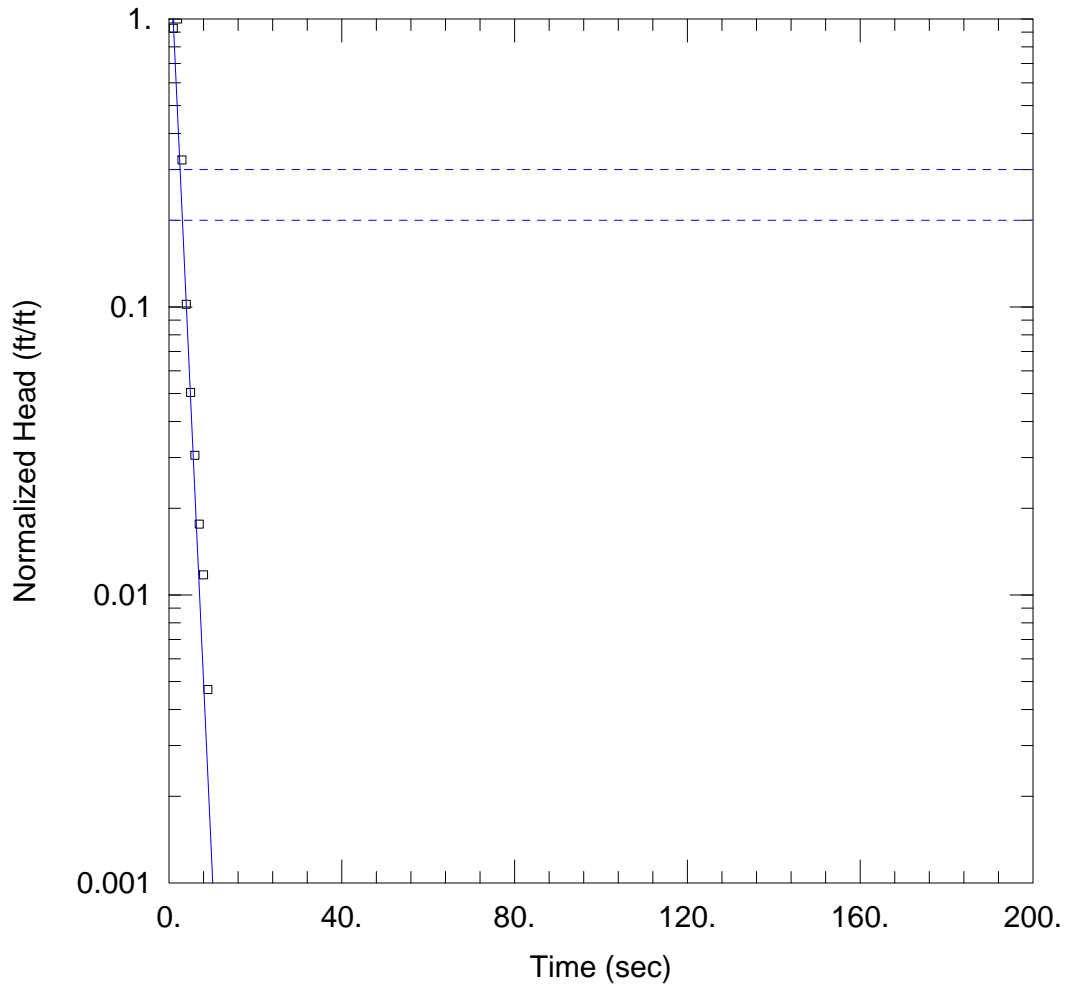
Initial Displacement: 1.746 ft
 Total Well Penetration Depth: 57.6 ft
 Casing Radius: 0.083 ft

Static Water Column Height: 36.19 ft
 Screen Length: 5. ft
 Well Radius: 0.3125 ft

SOLUTION

Aquifer Model: Unconfined
 $K = 0.009324$ cm/sec

Solution Method: Bower-Rice
 $y_0 = 7622.7$ ft



WELL TEST ANALYSIS

Data Set: F:\...\Slug out 2.aqt
 Date: 11/14/17

Time: 07:45:12

PROJECT INFORMATION

Company: Carlson McCain
 Client: Reviva
 Project: 101-17
 Location: Fridley, Minnesota
 Test Date: 9/12/2017

AQUIFER DATA

Saturated Thickness: 39.77 ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (BNSF-3S (slug out 2))

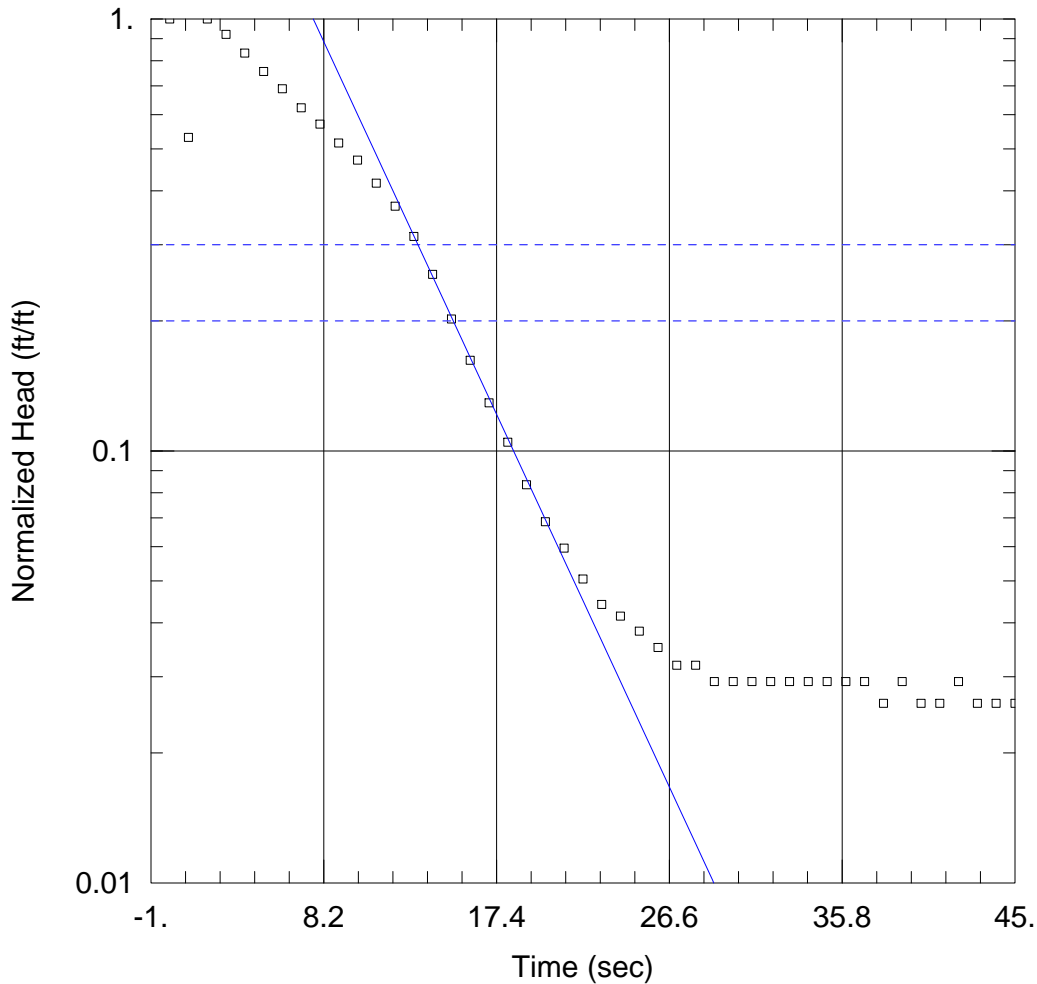
Initial Displacement: 0.852 ft
 Total Well Penetration Depth: 8.91 ft
 Casing Radius: 0.083 ft

Static Water Column Height: 8.91 ft
 Screen Length: 8.91 ft
 Well Radius: 0.3125 ft

SOLUTION

Aquifer Model: Unconfined
 K = 0.003434 cm/sec

Solution Method: Bouwer-Rice
 y0 = 1.781 ft



WELL TEST ANALYSIS

Data Set: F:\...\Slug out 2.aqt
 Date: 11/14/17

Time: 08:13:33

PROJECT INFORMATION

Company: Carlson McCain
 Client: Reviva
 Project: 101-17
 Location: Fridley, Minnesota
 Test Date: 9/12/2017

AQUIFER DATA

Saturated Thickness: 84. ft

Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW-108PC (slug out 2))

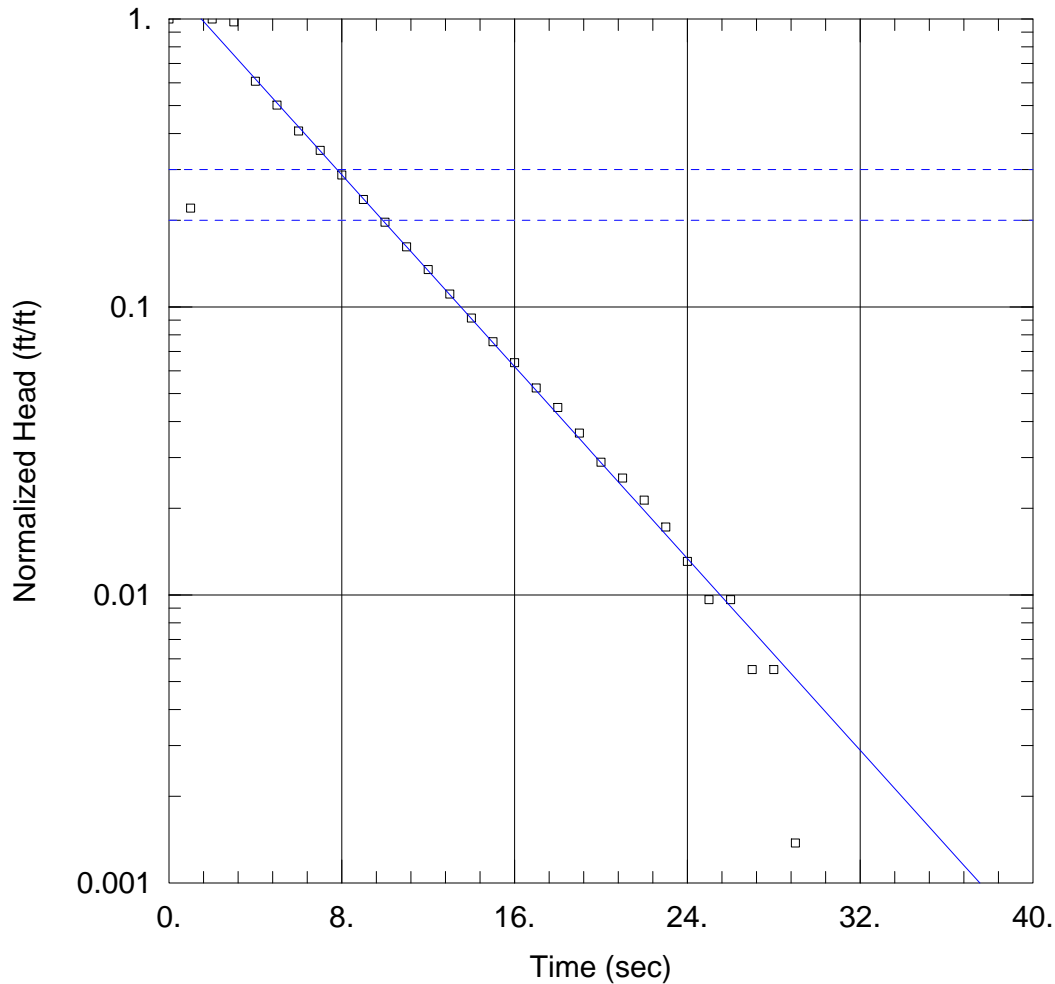
Initial Displacement: 1.881 ft
 Total Well Penetration Depth: 26. ft
 Casing Radius: 0.083 ft

Static Water Column Height: 122.4 ft
 Screen Length: 5. ft
 Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined
 $K = 0.001907$ cm/sec

Solution Method: Bower-Rice
 $y_0 = 9.786$ ft



WELL TEST ANALYSIS

Data Set: F:\jobs\100-120\101 Dealers\post-1999\SLUGTEST\2017 Slug Tests\REEP-1\Slug in 2.aqt
 Date: 11/14/17 Time: 08:41:01

PROJECT INFORMATION

Company: Carlson McCain
 Client: Reviva
 Project: 101-17
 Location: Fridley, Minnesota
 Test Date: 9/12/2017

AQUIFER DATA

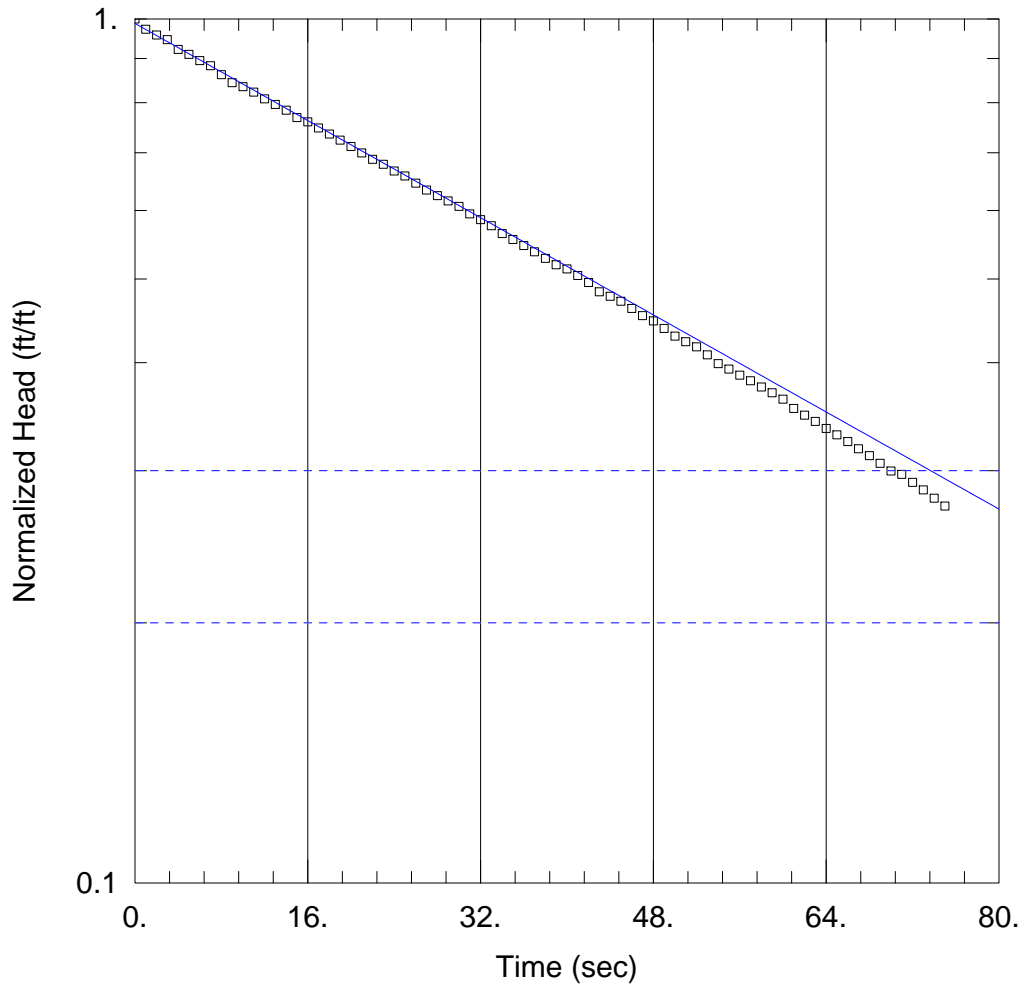
Saturated Thickness: 84. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (REEP-1 (Slug in 2))

Initial Displacement: 1.453 ft Static Water Column Height: 52.85 ft
 Total Well Penetration Depth: 10. ft Screen Length: 10. ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined Solution Method: Bower-Rice
 K = 0.0008567 cm/sec y0 = 1.935 ft



WELL TEST ANALYSIS

Data Set: F:\...\Slug out 3.aqt
 Date: 11/13/17

Time: 15:14:39

PROJECT INFORMATION

Company: Carlson McCain
 Client: Reviva
 Project: 101-17
 Location: Fridley, Minnesota
 Test Date: 9/12/2017

AQUIFER DATA

Saturated Thickness: 84. ft

Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (REEP-2PC (slug out3))

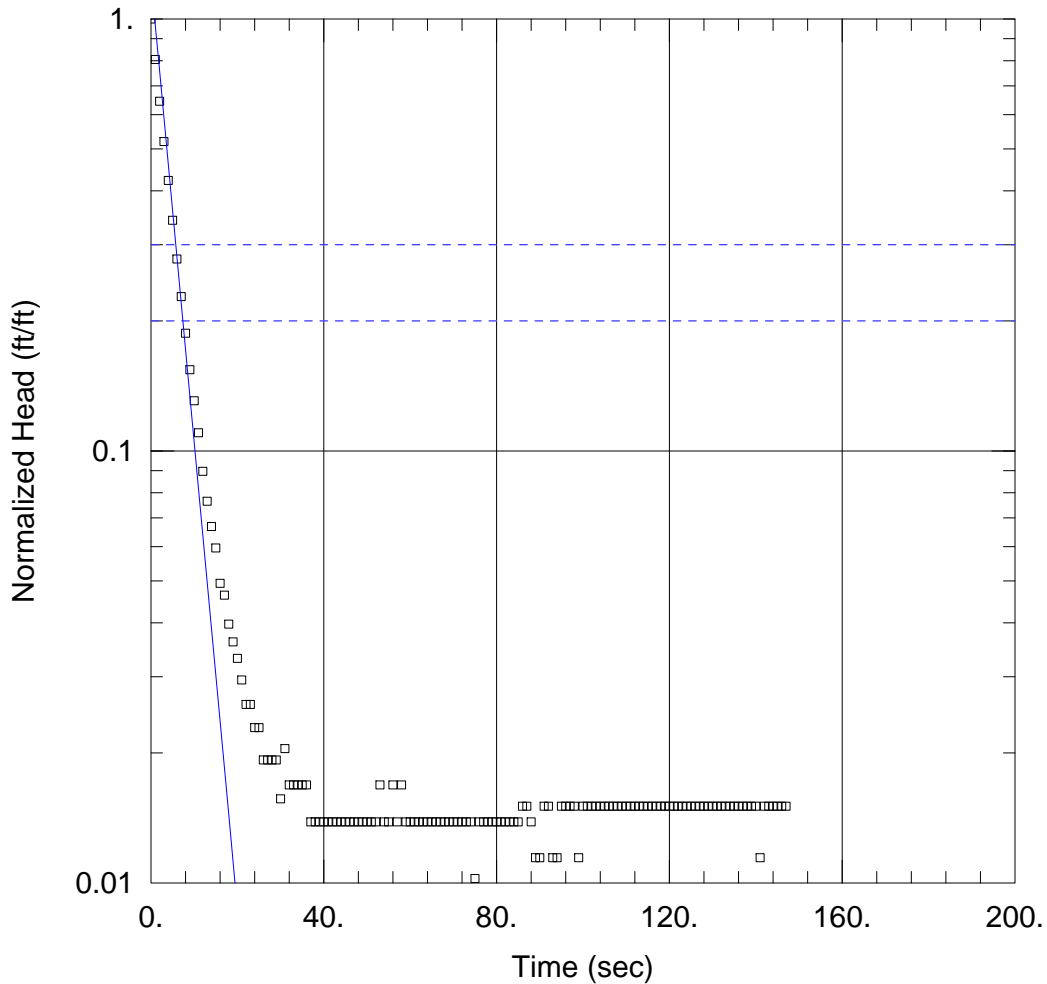
Initial Displacement: 1.912 ft
 Total Well Penetration Depth: 58. ft
 Casing Radius: 0.083 ft

Static Water Column Height: 116.2 ft
 Screen Length: 5. ft
 Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined
 $K = \underline{0.0008371}$ cm/sec

Solution Method: Bower-Rice
 $y_0 = \underline{1.889}$ ft



WELL TEST ANALYSIS

Data Set: F:\jobs\100-120\101 Dealers\post-1999\SLUGTEST\2017 Slug Tests\REEP-2\Slug out 1.aqt
 Date: 11/13/17 Time: 15:02:20

PROJECT INFORMATION

Company: Carlson McCain
 Client: Reviva
 Project: 101-17
 Location: Fridley, Minnesota
 Test Date: 9/12/2017

AQUIFER DATA

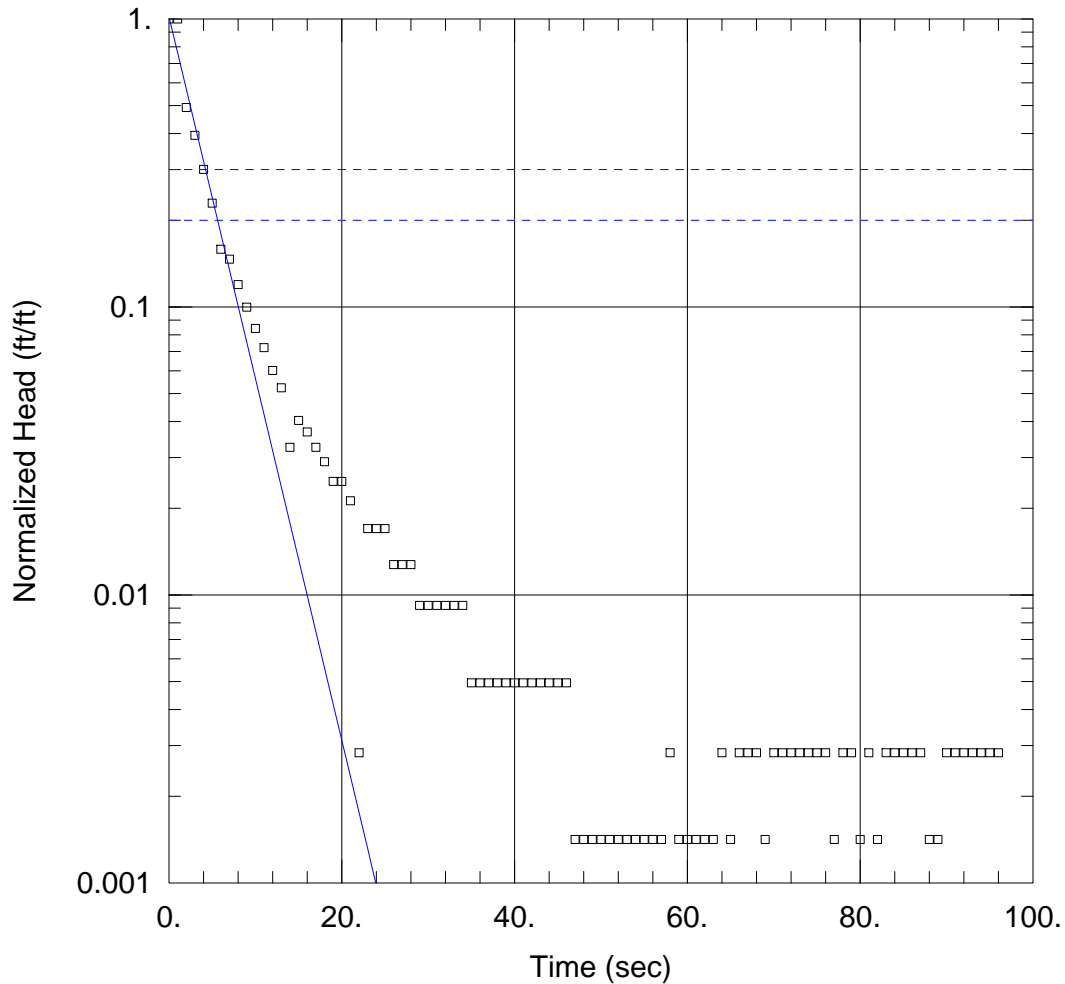
Saturated Thickness: 36.1 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (REEP-2 (slug out 1))

Initial Displacement: 1.661 ft Static Water Column Height: 40.54 ft
 Total Well Penetration Depth: 41.1 ft Screen Length: 10. ft
 Casing Radius: 0.0833 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bower-Rice
 K = 0.001816 cm/sec $y_0 =$ 2.065 ft



WELL TEST ANALYSIS

Data Set: F:\jobs\100-120\101 Dealers\post-1999\SLUGTEST\2017 Slug Tests\REEP-2S\Slug in 1.aqt
 Date: 11/13/17 Time: 15:10:32

PROJECT INFORMATION

Company: Carlson McCain
 Client: Reviva
 Project: 101-17
 Location: Fridley, Minnesota
 Test Date: 9/12/2017

AQUIFER DATA

Saturated Thickness: 37.55 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (REEP-2S (slug in 1))

Initial Displacement: 1.413 ft Static Water Column Height: 10.23 ft
 Total Well Penetration Depth: 10. ft Screen Length: 10. ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bower-Rice
 K = 0.001327 cm/sec y0 = 1.44 ft



WATER LEVEL LOG SHEET

Project Name/Location Reviva/ Fridley MN Project No.: 101-17

Well Number	Depth to Water	Depth to Bottom	Elevation of Top of Pipe	Water Elevation	Comments
✓ MW-101A	20.92				
✓ MW-104B	22.59				
✓ MW-111B	20.18				
✓ MW-110 MW-112	Unable to measure on 10/23/17, ^{Broke} Key stuck in lock				
✓ MW-109A	Abandoned				East well (will be abandoned in 2017) Unique ID=
✓ MW-109B	18.36	48.40			West well
✓ MW-107A	20.76	34.12			East well
✓ MW-107B	20.76	57.38			West well
✓ MW-102A	21.56				West well
✓ MW-102B	21.58				East well
✓ MW-103A	20.76				West well
✓ MW-103B	20.48				East well
✓ MW-105B	20.43				
✓ MW-108A	26.66				North well; Unique ID=563974
✓ MW-108B	26.57				Middle well; Unique ID=563975
✓ MW-108PC	26.60				South well; unique ID= 827184

Comments: DTB includes 0.3' probe tip

Signature: _____ Date: _____



WATER LEVEL LOG SHEET

Project Name/Location _____ Project No.: _____

Well Number	Depth to Water	Depth to Bottom	Elevation of Top of Pipe	Water Elevation	Comments
MW-112 MW-110	17.27				
REEP-1	16.64				
REEP-2S	15.76				North well; Unique ID=827186
REEP-2	17.01				South well
REEP-2PC	17.06				Middle well; Unique ID=827187
BNSF-2S	21.07				Unique ID=804280
BNSF-2D	19.73				Unique ID=804279
BNSF-3S	19.85	28.98			North well
BNSF-3D	19.69	59.14			South well

Comments: DTB includes 0.3' probe tip.

Signature: _____ Date: _____



WELL PURGING AND SAMPLE COLLECTION

Well No.

MW-101A

Project Name/Location: Reviva Project No.: 101-17Date: 10/13/17 Weather: Sunny, Humid, 78°FPurging Method Pumped Bailed Other _____Pump Type: Submersible Bailer Type: _____Depth to Water (D.T.W.) 20.73 Depth to Bottom (D.T.B.) 44.32Volume Calculation: $(44.32 - 20.73) (0.163) = 3.84$ Gals./Well Volume: 3.9 [(D.T.B. - D.T.W.) gal./ft.] = Gals./well volume]

Time	Volume Removed (gal.)	pH	Cond. (µS/cm)	Temp. (°C)	ORP (mv)	DO (ppm)	Turbidity (ntu)	Odor Y/N	Color
752	Initial	6.54	742	14.80	-185	0.78	91.3	N	light gray
809	3.9	6.52	2320	14.49	-204	0.00	138	N	gray
826	7.8	6.45	2450	14.69	-216	0.0	76.0	N	light gray
843	11.7	6.46	2490	14.85	-221	0.0	53.5	N	clear

Sample No.: MW-101ATime: 846Trip Blank Time: _____

Sample No.: _____

Duplicate Time: _____

Sample No.: _____

Containers: _____

Analysis: _____

Analysis: _____

Signature: [Handwritten Signature]Date: 10 / 13 / 17**Stabilization Criteria:**

Temperature is stabilized to ± 0.5 degrees Celsius.

pH is stabilized to ± 0.1 standard units.

Specific conductance (temperature corrected) is stabilized to ± 10% µS/cm.

Inside Well Diameter	gal./ft.
2"	0.163
4"	0.653
6"	1.469
8"	2.611



WELL PURGING AND SAMPLE COLLECTION

Well No.

MW-102A

Project Name/Location: Reviva / Fridley, MN Project No.: 101-17Date: 6/13/17 Weather: Misty Sunny, Hot, HumidPurging Method Pumped Bailed Other _____Pump Type: submersible Bailer Type: _____Depth to Water (D.T.W.) 21.36 Depth to Bottom (D.T.B.) 35.11Volume Calculation: $(35.11 - 21.36)(0.163) = 2.24$ Gals./Well Volume: 2.3 [(D.T.B. - D.T.W.) gal./ft.] = Gals./well volume]

Time	Volume Removed (gal.)	pH	Cond. (uS/cm)	Temp. (°C)	ORP (mv)	DO (ppm)	Turbidity (ntu)	Odor Y/N	Color
1325	Initial	6.98	1940	15.01	-140	0.82	1.0	N	clear
1334	2.3	6.73	1850	14.82	-74	0.0	0.0	N	11
1343	4.6	6.61	1810	14.86	-64	0.0	0.0	"	11
1352	6.9	6.56	1790	14.89	-54	0.0	0.0	"	11

Sample No.: MW-102ATime: 1355Trip Blank Time: _____

Sample No.: _____

Duplicate Time: _____

Sample No.: _____

Containers: _____

Analysis: _____

Analysis: _____

Signature: [Signature]Date: 6 / 13 / 17

Stabilization Criteria:

Temperature is stabilized to ± 0.5 degrees Celsius.pH is stabilized to ± 0.1 standard units.Specific conductance (temperature corrected) is stabilized to $\pm 10\%$ $\mu\text{S}/\text{cm}$.

Inside Well Diameter	gal./ft.
2"	0.163
4"	0.653
6"	1.469
8"	2.611



WELL PURGING AND SAMPLE COLLECTION

Well No. MW-102B

Project No.: 101-1Z


Project Name/Location: Reviva / Fridley, MNWeather: 90's, Sunny, Hot, HumidDate: 6/13/17Purging Method Pumped Bailed Other _____Pump Type: Submersible Bailer Type: _____Depth to Bottom (D.T.B.) 59.76Depth to Water (D.T.W.) 21.42Volume Calculation: (59.76 - 21.42) (0.163) = 6.25Gals./Well Volume: 6.3

[(D.T.B. - D.T.W.) gal./ft.] = Gals./well volume]

Time	Volume Removed (gal.)	pH	Cond. (uS/cm)	Temp. (°C)	ORP (mv)	DO (ppm)	Turbidity (ntu)	Odor Y/N	Color
1243	Initial	8.108	2120	18.88	-103	2.06	30.5	N	clear
1308	6.3	8.33	5480	17.02	-300	0.0	71.9	N	
1458	12.6	6.70	4200	16.68	-222	1.61	0.0	N	
1528	18.9	6.78	4250	16.92	-211	0.00	0.0	N	
Flow rate decreased at 1320. Pump stopped working at ~ 1400. Redeployed other submersible for next 2 well volumes. Resumed at 1435									

Sample No.: MW-102BTrip Blank Time: _____Duplicate Time: _____

Containers: _____

Signature: Time: 1530

Sample No.: _____

Sample No.: _____

Analysis: _____

Analysis: _____

Date: 6 / 13 / 17**Stabilization Criteria:**Temperature is stabilized to ± 0.5 degrees Celsius.pH is stabilized to ± 0.1 standard units.Specific conductance (temperature corrected) is stabilized to $\pm 10\%$ $\mu\text{S}/\text{cm}$.

Inside Well Diameter	gal./ft.
2"	0.163
4"	0.653
6"	1.469
8"	2.611

container size



WELL PURGING AND SAMPLE COLLECTION

Well No.

MW-103A West

Project Name/Location: Pos. 10 Project No.: _____

Date: 10-13-17 Weather: clear

Purging Method Pumped Bailed Other _____

Pump Type: Submersible Bailer Type: _____

Depth to Water (D.T.W.) 20.53 Depth to Bottom (D.T.B.) 34.83

Volume Calculation: 34.83 - 20.53 = 14.3 x 0.163 = 2.33

Gals./Well Volume: 2.4 [(D.T.B. - D.T.W.) gal./ft.] = Gals./well volume]

Time	Volume Removed (gal.)	pH	Cond. (uS/cm)	Temp. (°C)	ORP (mv)	DO (ppm)	Turbidity (ntu)	Odor Y/N	Color
1027	Initial	6.90	1560	17.22	-152	1.63	117	N	slightly brown
1037	2.4	6.55	1460	15.81	-148	0.0	0.0	N	clear
1046	4.8	6.45	1370	15.77	-144	0.0	0.0	N	
1058	7.2	6.45	1360	15.86	-145	0.0	0.0	N	clear

Sample No.: MW-103A Time: 1059

Trip Blank Time: _____

Duplicate Time: 1704

Containers: Equipment blank #2 Analysis: _____

(1716) Analysis: _____

Signature: Date: 10 / 13 / 17

Stabilization Criteria:
Temperature is stabilized to ± 0.5 degrees Celsius.
pH is stabilized to ± 0.1 standard units.
Specific conductance (temperature corrected) is stabilized to ± 10% µS/cm.

Inside Well Diameter	gal./ft.
2"	0.163
4"	0.653
6"	1.469
8"	2.611



WELL PURGING AND SAMPLE COLLECTION

Well No. _____

MW-103B
East

Project Name/Location: Lerna Project No.: _____

Date: 6-13-17 Weather: _____

Purging Method Pumped Bailed Other _____

Pump Type: _____ Bailer Type: _____

Depth to Water (D.T.W.) 20.26 Depth to Bottom (D.T.B.) 63.13

Volume Calculation: 63.13 - 20.26 = 42.87 x 0.136 = 6.9

Gals./Well Volume: 70 [(D.T.B. - D.T.W.) gal./ft.] = Gals./well volume]

Time	Volume Removed (gal.)	pH	Cond. (µS/cm)	Temp. (°C)	ORP (mv)	DO (ppm)	Turbidity (ntu)	Odor Y/N	Color
14:22	Initial	8.48	0.915 (mS/cm)	18.76	-7	11.01	40.1	N	grayish
14:50	7.0	6.70	1.64	16.55	-151	5.46	1.0	N	clear
15:18	14.0	6.69	1.66	16.31	-149	1.67	0.0	N	clear
15:46	21.0	6.75	1.65	16.53	-151	0.85	0.0	N	clear

Sample No.: MW103B Time: 15:50

Trip Blank Time: _____ Sample No.: _____

Duplicate Time: _____ Sample No.: _____

Containers: _____ Analysis: _____

Analysis: _____

Signature: [Signature] Date: 6/13/17

Stabilization Criteria:
Temperature is stabilized to ± 0.5 degrees Celsius.
pH is stabilized to ± 0.1 standard units.
Specific conductance (temperature corrected) is stabilized to ± 10% µS/cm.

Inside Well Diameter	gal./ft.
2"	0.163
4"	0.653
6"	1.469
8"	2.611



WELL PURGING AND SAMPLE COLLECTION

Well No.

MW-104B

Project Name/Location: Reviva Project No.: 101-17Date: 6/12/17 Weather: Humid, 80°F, partly sunnyPurging Method Pumped Bailed Other _____Pump Type: Submersible Bailer Type: _____Depth to Water (D.T.W.) 22.33 Depth to Bottom (D.T.B.) 52.60Volume Calculation: $(52.60 - 22.33) 0.163 = 4.93$ Gals./Well Volume: 5 [(D.T.B. - D.T.W.) gal./ft.] = Gals./well volume]

Time	Volume Removed (gal.)	pH	Cond. (uS/cm)	Temp. (°C)	ORP (mv)	DO (ppm)	Turbidity (ntu)	Odor Y/N	Color
1310	Initial	9.25	1340	15.68	98	8.80	165	N	Black
1340	5	8.10	4436	15.44	-154	5.71	328	N	"
1410	10	7.21	4850	14.89	-136	3.92	566	N	light gray
1430	15	7.20	4830	14.86	-133	2.60	132	N	"

Sample No.: MW-104BTime: 1432Trip Blank Time: _____

Sample No.: _____

Duplicate Time: _____

Sample No.: _____

Containers: _____

Analysis: _____

Analysis: _____

Signature:

Date: 6 / 12 / 17**Stabilization Criteria:**Temperature is stabilized to ± 0.5 degrees Celsius.pH is stabilized to ± 0.1 standard units.Specific conductance (temperature corrected) is stabilized to $\pm 10\%$ $\mu\text{S}/\text{cm}$.

Inside Well Diameter	gal./ft.
2"	0.163
4"	0.653
6"	1.469
8"	2.611



WELL PURGING AND SAMPLE COLLECTION

Well No.

MW-105B

Project Name/Location: Reviva / Fridley, MN Project No.: _____

Date: 6/13/17 Weather: Humid, Mostly Cloudy, 80's

Purging Method Pumped Bailed Other _____

Pump Type: Submersible Bailer Type: _____

Depth to Water (D.T.W.) 20.21 Depth to Bottom (D.T.B.) 106.75

Volume Calculation: $(106.75 - 20.21) (0.163) = 7.58$

Gals./Well Volume: 7.6 [(D.T.B. - D.T.W.) gal./ft.] = Gals./well volume]

Time	Volume Removed (gal.)	pH	Cond. (uS/cm)	Temp. (°C)	ORP (mv)	DO (ppm)	Turbidity (ntu)	Odor Y/N	Color
948	Initial	7.57	2160	15.54	-308	0.0	6.7	N	Clear
1024	7.6	7.17	3120	14.66	-276	0.0	82.1	N	Clear
1056	15.2	6.86	3270	14.38	-202	0.0	21.5	N	"
1126	22.8	6.84	3300	14.73	-204	0.0	13.3	N	"

Sample No.: MW-105B Time: 1128

Trip Blank Time: _____ Sample No.: _____

Duplicate Time: _____ Sample No.: _____

Containers: _____ Analysis: _____

Analysis: _____

Signature: *Megan Farrelman* Date: 6 / 13 / 17

Stabilization Criteria:
Temperature is stabilized to ± 0.5 degrees Celsius.
pH is stabilized to ± 0.1 standard units.
Specific conductance (temperature corrected) is stabilized to ± 10% uS/cm.

Inside Well Diameter	gal./ft.
2"	0.163
4"	0.653
6"	1.469
8"	2.611



WELL PURGING AND SAMPLE COLLECTION

Well No. MW-107A (cast)Project Name/Location: Res No. Project No.: 101-17Date: 6-13-17 Weather: clearPurging Method Pumped Bailed Other _____

Pump Type: _____ Bailer Type: _____

Depth to Water (D.T.W.) 20.57 Depth to Bottom (D.T.B.) 34.07Volume Calculation: 34.07 - 20.57 = 13.5 x 0.163 = 2.2Gals./Well Volume: 2.2 [(D.T.B. - D.T.W.) gal./ft.] = Gals./well volume]

Time	Volume Removed (gal.)	pH	Cond. (µS/cm)	Temp. (°C)	ORP (mv)	DO (ppm)	Turbidity (ntu)	Odor Y/N	Color
10:21	Initial	7.76	^{µS/cm} 0.987	15.57	-41	10.04	1000	N	orange
10:33	2.2	7.50	1.08	15.38	-38	5.32	89.8	N	cloudy
10:45	4.4	7.32	1.09	15.23	-48	3.68	59.8	N	clear
10:57	6.6	7.36	1.09	15.19	-76	2.26	18.4	N	clear

Sample No.: MW-107ATime: 11:00 amTrip Blank Time: _____

Sample No.: _____

Duplicate Time: _____

Sample No.: _____

Containers: _____

Analysis: _____

Analysis: _____

Signature: [Signature]Date: 6 / 13 / 17

Stabilization Criteria:

Temperature is stabilized to ± 0.5 degrees Celsius.

pH is stabilized to ± 0.1 standard units.

Specific conductance (temperature corrected) is stabilized to ± 10% µS/cm.

Inside Well Diameter	gal./ft.
2"	0.163
4"	0.653
6"	1.469
8"	2.611



WELL PURGING AND SAMPLE COLLECTION

Well No. NW-107B (West)

Project Name/Location: Leona Project No.: 101-17
 Date: 6-13-17 Weather: _____
 Purging Method Pumped Bailed Other _____
 Pump Type: _____ Bailer Type: _____
 Depth to Water (D.T.W.) 20.55 Depth to Bottom (D.T.B.) 57.47
 Volume Calculation: 57.47 - 20.55 = 36.92 x 0.163 = 6.0
 Gals./Well Volume: 6.0 [(D.T.B. - D.T.W.) gal./ft.] = Gals./well volume]

Time	Volume Removed (gal.)	pH	Cond. (µS/cm)	Temp. (°C)	ORP (mv)	DO (ppm)	Turbidity (ntu)	Odor Y/N	Color
11:29	Initial	7.99	1.11	17.37	5	2.77	64.4	N	Gray
12:00	6.0	7.11	1.51	15.73	-191	6.00	7.6	N	grayish
12:42	12.0	7.09	1.49	16.30	-186	2.84	0.0	N	Clear
13:24	18.0	7.21	1.48	16.62	-191	1.05	0.0	N	clear

Sample No.: 107B Time: 13:27
 Trip Blank Time: _____ Sample No.: _____
 Duplicate Time: _____ Sample No.: _____
 Containers: _____ Analysis: _____
 _____ Analysis: _____
 Signature: [Signature] Date: 6 / 13 / 17

Stabilization Criteria:
Temperature is stabilized to ± 0.5 degrees Celsius.
pH is stabilized to ± 0.1 standard units.
Specific conductance (temperature corrected) is stabilized to ± 10% µS/cm.

Inside Well Diameter	gal./ft.
2"	0.163
4"	0.653
6"	1.469
8"	2.611



WELL PURGING AND SAMPLE COLLECTION

Well No.

MW-108A

Project Name/Location: Reviva / Fridley, MN Project No.: 101-17
 Date: 6/14/17 Weather: Sunny, Hot, Humid
 Purging Method Pumped Bailed Other _____
 Pump Type: Submersible Bailer Type: _____
 Depth to Water (D.T.W.) 26.43 Depth to Bottom (D.T.B.) 39.43
 Volume Calculation: $(39.43 - 26.43) \times 0.163 = 2.12$
 Gals./Well Volume: 2.2 [(D.T.B. - D.T.W.) gal./ft.] = Gals./well volume]

Time	Volume Removed (gal.)	pH	Cond. (uS/cm)	Temp. (°C)	ORP (mv)	DO (ppm)	Turbidity (ntu)	Odor Y/N	Color
1322	Initial	7.75	996	13.74	-271	0.23	0.0	N	clear
1331	2.2	7.38	903	13.77	-180	0.0	0.0	N	clear
1340	4.4	7.36	894	13.70	-169	0.0	0.0	N	clear
1349	6.6	7.40	900	13.68	-150	0.0	0.0	N	clear

Sample No.: MW-108A Time: 1352
 Trip Blank Time: _____ Sample No.: _____
 Duplicate Time: 1356 Sample No.: Duplicate 3
 Containers: ~~Equipment blank #4-1/19~~ Analysis: _____
Equipment blank #3-1/19 Analysis: _____
 Signature: [Signature] Date: 10 / 14 / 17

Stabilization Criteria:
Temperature is stabilized to ± 0.5 degrees Celsius.
pH is stabilized to ± 0.1 standard units.
Specific conductance (temperature corrected) is stabilized to $\pm 10\%$ $\mu\text{S}/\text{cm}$.

Inside Well Diameter	gal./ft.
2"	0.163
4"	0.653
6"	1.469
8"	2.611



WELL PURGING AND SAMPLE COLLECTION

Well No.

MW-108B

Project Name/Location: LeonaProject No.: 101-17Date: 6-14-17Weather: ClearPurging Method Pumped Bailed Other _____Pump Type: Submersible Bailer Type: _____Depth to Water (D.T.W.): 26.38Depth to Bottom (D.T.B.): 64.51Volume Calculation: $64.51 - 26.38 = 38.13 \times 1.63 = 6.2$ Gals./Well Volume: 6.2 [(D.T.B. - D.T.W.) gal./ft.] = Gals./well volume]

Time	Volume Removed (gal.)	pH	Cond. ($\mu\text{S}/\text{cm}$)	Temp. ($^{\circ}\text{C}$)	ORP (mv)	DO (ppm)	Turbidity (ntu)	Odor Y/N	Color
13:20	Initial	9.29	0.580	18.19	-95	2.15	9.1	N	clear
13:44	6.2	6.72	1.49	16.53	-172	0.51	0.0	N	clear
14:10	12.4	6.72	1.59	14.59	-169	1.01	0.0	N	clear
14:36	18.6	6.98	1.58	14.36	-170	0.51	0.0	N	clear

Sample No.: MW 108BTime: 14:40Trip Blank Time: _____

Sample No.: _____

Duplicate Time: _____

Sample No.: _____

Containers: _____

Analysis: _____

Analysis: _____

Signature: [Signature]Date: 6 / 14 / 17**Stabilization Criteria:**Temperature is stabilized to ± 0.5 degrees Celsius.pH is stabilized to ± 0.1 standard units.Specific conductance (temperature corrected) is stabilized to $\pm 10\%$ $\mu\text{S}/\text{cm}$.

Inside Well Diameter	gal./ft.
2"	0.163
4"	0.653
6"	1.469
8"	2.611



WELL PURGING AND SAMPLE COLLECTION

Well No.

MW-108PC

Project Name/Location: Kenosha Project No.: 101-17
 Date: 6-14-17 Weather: Sunny Hot
 Purging Method Pumped Bailed Other _____
 Pump Type: Submersible Bailer Type: _____
 Depth to Water (D.T.W.) 27.00 Depth to Bottom (D.T.B.) 149.75
 Volume Calculation: 149.75 - 27.00 = 122.75 x 0.163 = 20
 Gals./Well Volume: 20 [(D.T.B. - D.T.W.) gal./ft.] = Gals./well volume]

Time	Volume Removed (gal.)	pH	Cond. (uS/cm)	Temp. (°C)	ORP (mv)	DO (ppm)	Turbidity (ntu)	Odor Y/N	Color
8:28	Initial	8.70	0.57cm 0.503	15.69	-168	1.87	9.2	N	clear
10:02	20	7.05	1.25	14.54	-204	2.86	10.3	N	clear
11:19	40	7.11	1.35	14.60	-137	1.64	0.0	N	clear
12:40	60	7.34	1.32	15.40	-145	0.94	0.0	N	clear

Sample No.: MW-108 PC Time: 12:45
 Trip Blank Time: _____ Sample No.: _____
 Duplicate Time: _____ Sample No.: _____
 Containers: _____ Analysis: _____
 _____ Analysis: _____
 Signature: [Signature] Date: 6 14 17

Stabilization Criteria:
Temperature is stabilized to ± 0.5 degrees Celsius.
pH is stabilized to ± 0.1 standard units.
Specific conductance (temperature corrected) is stabilized to $\pm 10\%$ $\mu\text{S}/\text{cm}$.

Inside Well Diameter	gal./ft.
2"	0.163
4"	0.653
6"	1.469
8"	2.611



WELL PURGING AND SAMPLE COLLECTION

Well No. MW-1090Project Name/Location: Reservoir Project No.: 101-17Date: 6/13-17 Weather: clearPurging Method Pumped Bailed Other _____

Pump Type: _____ Bailer Type: _____

Depth to Water (D.T.W.) 18.13 Depth to Bottom (D.T.B.) 48.38Volume Calculation: $(48.38 - 18.13) \times 0.163 = 4.9$

Gals./Well Volume: _____ [(D.T.B. - D.T.W.) gal./ft.] = Gals./well volume]

Time	Volume Removed (gal.)	pH	Cond. (µS/cm)	Temp. (°C)	ORP (mv)	DO ^{sat} (ppm)	Turbidity (ntu)	Odor Y/N	Color
7:39	Initial	7.25	0.769 ^{ns/cm}	13.92	-20	15.20	24.5	N	gray
8:42	5.0	7.95	0.958	16.53	-169	3.94	17.1	N	gray
8:46	10.0	7.01	2.35	16.16	472	1.53	7.5	N	clear
9:20	15.0	6.96	2.48	16.14	-169	0.70	0.5	N	clear

Sample No.: MW 1090 Time: 9:25

Trip Blank Time: _____

Duplicate Time: 9:30

Containers: _____

Analysis: _____

Analysis: _____

Signature: [Signature] Date: 6 / 13 / 17

Stabilization Criteria:
Temperature is stabilized to ± 0.5 degrees Celsius.
pH is stabilized to ± 0.1 standard units.
Specific conductance (temperature corrected) is stabilized to ± 10% µS/cm.

Inside Well Diameter	gal./ft.
2"	0.163
4"	0.653
6"	1.469
8"	2.611



WELL PURGING AND SAMPLE COLLECTION

Well No.

MW-110

Project Name/Location: Reswa Project No.: _____

Date: 6-12-17 Weather: _____

Purging Method Pumped Bailed Other _____

Pump Type: _____ Bailer Type: _____

Depth to Water (D.T.W.) 17.07 Depth to Bottom (D.T.B.) 57.90

Volume Calculation: $(57.90 - 17.07) \times 0.163 = 6.6$

Gals./Well Volume: _____ [(D.T.B. - D.T.W.) gal./ft.] = Gals./well volume]

Time	Volume Removed (gal.)	pH	Cond. (uS/cm)	Temp. (°C)	ORP (mv)	DO (ppm)	Turbidity (ntu)	Odor Y/N	Color
12:35	Initial	10.13	1.56	18.50	-67	5.27	1.14	Y slight	Black
13:00	6.0	8.14		28.46	4	7.36		Y slight	gray
13:24	12.0	8.11		28.78	16	7.05		Y slight	gray
13:44	18.0	7.63	1.93	23.37	-135	1.13	1.24	Y slight	gray

Sample No.: MW-110 Time: 13:48

Trip Blank Time: _____ Sample No.: MW-110

Duplicate Time: _____ Sample No.: _____

Containers: 6 Vials Analysis: _____

Analysis: _____

Signature: [Signature] Date: 6 11 2 17

Stabilization Criteria:

Temperature is stabilized to ± 0.5 degrees Celsius.

pH is stabilized to ± 0.1 standard units.

Specific conductance (temperature corrected) is stabilized to $\pm 10\%$ $\mu\text{S}/\text{cm}$.

Inside Well Diameter	gal./ft.
2"	0.163
4"	0.653
6"	1.469
8"	2.611



WELL PURGING AND SAMPLE COLLECTION

Well No.

MW-112

Project Name/Location: Reviva / Fridley, MN Project No.: 151-17Date: 6/14/13 Weather: Sunny, Breezy, Mid-80'sPurging Method Pumped Bailed Other _____Pump Type: Submersible Bailer Type: _____Depth to Water (D.T.W.) 25.32 Depth to Bottom (D.T.B.) 38.56Volume Calculation: $(38.56 - 25.32) 0.163 = 2.16$ Gals./Well Volume: 2.2 [(D.T.B. - D.T.W.) gal./ft.] = Gals./well volume]

Time	Volume Removed (gal.)	pH	Cond. (uS/cm)	Temp. (°C)	ORP (mv)	DO (ppm)	Turbidity (ntu)	Odor Y/N	Color
1209	Initial	7.25	702	13.88	19	1.87	8.1	N	Clear
1218	2.2	7.23	702	13.93	18	0.0	5.2	N	Clear
1227	4.4	7.21	699	13.51	8	0.0	0.0	N	Clear
1236	6.6	7.21	700	13.74	-7	0.0	0.0	N	Clear

Sample No.: MW-112Time: 1236Trip Blank Time: _____

Sample No.: _____

Duplicate Time: _____

Sample No.: _____

Containers: _____

Analysis: _____

Analysis: _____

Signature: Date: 6 / 14 / 13**Stabilization Criteria:**Temperature is stabilized to ± 0.5 degrees Celsius.pH is stabilized to ± 0.1 standard units.Specific conductance (temperature corrected) is stabilized to $\pm 10\%$ $\mu\text{S}/\text{cm}$.

Inside Well Diameter	gal./ft.
2"	0.163
4"	0.653
6"	1.469
8"	2.611



WELL PURGING AND SAMPLE COLLECTION

Well No.

REEP-1

Project Name/Location: Reviva / Fridley, MN Project No.: 101-17
 Date: 6/14/17 Weather: Sunny, Hot, Humid, High 80's
 Purging Method Pumped Bailed Other _____
 Pump Type: Submersible Bailer Type: _____
 Depth to Water (D.T.W.) 16.84 Depth to Bottom (D.T.B.) 69.88
 Volume Calculation: (69.88 - 16.84) * 1.63 = 8.64
 Gals./Well Volume: 8.7 [(D.T.B. - D.T.W.) gal./ft.] = Gals./well volume]

Time	Volume Removed (gal.)	pH	Cond. (uS/cm)	Temp. (°C)	ORP (mv)	DO (ppm)	Turbidity (ntu)	Odor Y/N	Color
1440	Initial	9.90	3310	15.46	-234	5.96	17.0	N	clear
1515	8.7	7.40	1970	14.64	-213	0.0	0.0	N	clear
1550	17.4	7.30	1990	14.13	-218	0.0	0.0	N	clear
1625	26.1	7.28	1990	14.03	-223	0.0	0.0	N	clear

Sample No.: REEP-1 Time: 1627
 Trip Blank Time: _____
 Duplicate Time: _____
 Containers: _____
 Analysis: _____
 Analysis: _____
 Signature: [Signature] Date: 6 / 14 / 17

Stabilization Criteria:
Temperature is stabilized to ± 0.5 degrees Celsius.
pH is stabilized to ± 0.1 standard units.
Specific conductance (temperature corrected) is stabilized to ± 10% µS/cm.

#Bolts are broke on at-grade manhole.

Inside Well Diameter	gal./ft.
2"	0.163
4"	0.653
6"	1.469
8"	2.611



WELL PURGING AND SAMPLE COLLECTION

Well No.

REEP-25

Project Name/Location: Reynolds Project No.: 101-17

Date: 6-14-17 Weather: Clear

Purging Method Pumped Bailed Other _____

Pump Type: _____ Bailer Type: _____

Depth to Water (D.T.W.) 15.54 Depth to Bottom (D.T.B.) 25.68

Volume Calculation: 25.68 - 15.54 = 10.14 x 0.163 = 1.65

Gals./Well Volume: 1.7 [(D.T.B. - D.T.W.) gal./ft.] = Gals./well volume]

Time	Volume Removed (gal.)	pH	Cond. (µS/cm)	Temp. (°C)	ORP (mv)	DO (ppm)	Turbidity (ntu)	Odor Y/N	Color
15:30	Initial	7.49	2.15	19.44	-140	5.62	417	N	Cloudy
15:38	1.7	7.72	2.23	17.53	-165	5.48	173	N	Cloudy
15:46	3.4	7.71	2.23	17.28	-148	5.14	76.9	N	Clear
15:54	5.1	7.55	2.22	17.19	-117	5.00	9.7	N	Clear

Sample No.: Reep-25

Time: 16:00

Trip Blank Time: _____

Sample No.: _____

Duplicate Time: _____

Sample No.: _____

Containers: _____

Analysis: _____

Analysis: _____

Signature: [Signature]

Date: 6 / 14 / 17

Stabilization Criteria:

Temperature is stabilized to ± 0.5 degrees Celsius.

pH is stabilized to ± 0.1 standard units.

Specific conductance (temperature corrected) is stabilized to ± 10% µS/cm.

Inside Well Diameter	gal./ft.
2"	0.163
4"	0.653
6"	1.469
8"	2.611



WELL PURGING AND SAMPLE COLLECTION

Well No.

REEP-2

Project Name/Location: Reviva / Fridley MN Project No.: 101-17
 Date: 6/15/17 Weather: Sunny, Breezy, Upper 70's
 Purging Method Pumped Bailed Other _____
 Pump Type: Submersible Bailer Type: _____
 Depth to Water (D.T.W.) 17.22 Depth to Bottom (D.T.B.) 57.97
 Volume Calculation: $(57.97 - 17.22) \times 0.163 = 6.64$
 Gals./Well Volume: 6.7 [(D.T.B. - D.T.W.) gal./ft.] = Gals./well volume]

Time	Volume Removed (gal.)	pH	Cond. (uS/cm)	Temp. (°C)	ORP (mv)	DO (ppm)	Turbidity (ntu)	Odor Y/N	Color
841	Initial	9.04	431	15.30	-283	6.27	0.0	N	clear
908	6.7	6.82	2470	15.61	-249	0.0	0.0	N	clear
937	13.4	6.53	2520	14.68	-249	0.0	0.0	N	clear
1004	20.1	6.48	2520	14.70	-251	0.0	0.0	N	clear

Sample No.: REEP-2 Time: 1005
 Trip Blank! Time: 1005 Sample No.: _____
 Duplicate Time: _____ Sample No.: _____
 Containers: Equipment blank # 4-1145 Analysis: _____
 Analysis: _____
 Signature: Meghan McElroy Date: 6 / 15 / 17

Stabilization Criteria:

Temperature is stabilized to ± 0.5 degrees Celsius.
 pH is stabilized to ± 0.1 standard units.
 Specific conductance (temperature corrected) is stabilized to $\pm 10\%$ $\mu\text{S}/\text{cm}$.

Inside Well Diameter	gal./ft.
2"	0.163
4"	0.653
6"	1.469
8"	2.611



WELL PURGING AND SAMPLE COLLECTION

Well No.

PEEP-ZPC

Project Name/Location: Reviva / Fridley, MN Project No.: 101-17Date: 10/15/17 Weather: Sunny, Breezy, upper 70'sPurging Method Pumped Bailed Other _____Pump Type: Submersible Bailer Type: _____Depth to Water (D.T.W.) 17.20 Depth to Bottom (D.T.B.) 133.56Volume Calculation: $(133.56 - 17.20) 0.163 = 18.97$ Gals./Well Volume: 19 [(D.T.B. - D.T.W.) gal./ft.] = Gals./well volume]

Time	Volume Removed (gal.)	pH	Cond. (uS/cm)	Temp. (°C)	ORP (mv)	DO (ppm)	Turbidity (ntu)	Odor Y/N	Color
734	Initial	7.47	315	15.30	-237	8.09	3.1	N	clear
850	19	8.47	597	14.96	-464	0.0	0.0	N	clear
1000	38	6.82	1080	15.26	-243	0.0	0.0	N	clear
1112	57	6.82	1080	15.10	-227	0.0	0.0	N	clear

Sample No. ~~1114~~ PEEP-ZPCTime: 1114Trip Blank 2 Time: _____

Sample No.: _____

Duplicate Time: _____

Sample No.: _____

Containers: _____

Analysis: _____

Analysis: _____

Signature: [Signature]Date: 10 / 15 / 17**Stabilization Criteria:**Temperature is stabilized to ± 0.5 degrees Celsius.pH is stabilized to ± 0.1 standard units.Specific conductance (temperature corrected) is stabilized to $\pm 10\%$ uS/cm.

Inside Well Diameter	gal./ft.
2"	0.163
4"	0.653
6"	1.469
8"	2.611



WELL PURGING AND SAMPLE COLLECTION

Well No.

BNSF-2S

Project Name/Location: Reulla / Fridley, MN Project No.: 101-17
 Date: 6/14/17 Weather: Sunny, Breezy, Mid 80's
 Purging Method Pumped Bailed Other _____
 Pump Type: Submersible Bailer Type: _____
 Depth to Water (D.T.W.) 20.08 Depth to Bottom (D.T.B.) 32.64
 Volume Calculation: $(32.64 - 20.08) \times 0.163 = 1.95$
 Gals./Well Volume: 2 [(D.T.B. - D.T.W.) gal./ft.] = Gals./well volume]

Time	Volume Removed (gal.)	pH	Cond. (uS/cm)	Temp. (°C)	ORP (mv)	DO (ppm)	Turbidity (ntu)	Odor Y/N	Color
1043	Initial	7.12	1310	12.21	-98	1.84	64.4	N	clear
1051	2	7.08	1310	12.45	-88	0.0	0.0	N	clear
1059	4	6.91	1320	12.22	-79	0.0	0.0	N	clear
1107	6	6.87	1320	12.15	-74	0.0	0.0	N	clear

Sample No.: BNSF-2S Time: 1108
 Trip Blank Time: _____
 Duplicate Time: _____
 Containers: _____
 Analysis: _____
 Analysis: _____
 Signature: [Signature] Date: 6 / 14 / 17

Stabilization Criteria:
Temperature is stabilized to ± 0.5 degrees Celsius.
pH is stabilized to ± 0.1 standard units.
Specific conductance (temperature corrected) is stabilized to $\pm 10\%$ $\mu\text{S}/\text{cm}$.

Inside Well Diameter	gal./ft.
2"	0.163
4"	0.653
6"	1.469
8"	2.611



WELL PURGING AND SAMPLE COLLECTION

Well No.

BNSF-2D

Project Name/Location: Reviva Project No.: 101-17Date: 10/14/17 Weather: Sunny, 70's.Purging Method Pumped Bailed Other _____Pump Type: Submersible Bailer Type: _____Depth to Water (D.T.W.) 19.99 Depth to Bottom (D.T.B.) 74.72Volume Calculation: $(74.72 - 19.99) \times 0.163 = 8.9$

Gals./Well Volume: _____ [(D.T.B. - D.T.W.) gal./ft.] = Gals./well volume]

Time	Volume Removed (gal.)	pH	Cond. (uS/cm)	Temp. (°C)	ORP (mv)	DO (ppm)	Turbidity (ntu)	Odor Y/N	Color
834	Initial	7.75	1330	12.34	-277	0.93	0.0	N	clear
910	9	7.43	1350	13.62	-223	0.0	0.0	N	clear
948	18	7.54	1350	13.18	-235	0.0	0.0	N	clear
1025	27	7.60	1340	13.14	-223	0.0	0.0	N	clear

Sample No.: BNSF-2DTime: 1025Trip Blank Time: _____

Sample No.: _____

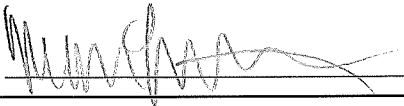
Duplicate Time: _____

Sample No.: _____

Containers: _____


Analysis: _____

Analysis: _____

Signature: Date: 10 / 14 / 17**Stabilization Criteria:**Temperature is stabilized to ± 0.5 degrees Celsius.pH is stabilized to ± 0.1 standard units.Specific conductance (temperature corrected) is stabilized to $\pm 10\%$ $\mu\text{S}/\text{cm}$.

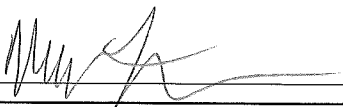
Inside Well Diameter	gal./ft.
2"	0.163
4"	0.653
6"	1.469
8"	2.611

48.4

	WELL PURGING AND SAMPLE COLLECTION	Well No. BNSF-35
--	---	---

Project Name/Location: <u>Reviva / Fridley MN</u>	Project No.: <u>101-17</u>
Date: <u>8/17/17</u>	Weather: <u>Overcast, low clouds, misty</u>
Purging Method <input checked="" type="checkbox"/> Pumped <input type="checkbox"/> Bailed <input type="checkbox"/> Other _____	
Pump Type: <u>Submersible</u> Bailer Type: _____	
Depth to Water (D.T.W.) <u>20.03</u>	Depth to Bottom (D.T.B.) <u>28.94</u>
Volume Calculation: $(28.94 - 20.03) (0.103) = 1.45$	
Gals./Well Volume: <u>1.5</u> [(D.T.B. - D.T.W.) gal./ft.] = Gals./well volume]	

Time	Volume Removed (gal.)	pH	Cond. (µS/cm)	Temp. (°C)	ORP (mv)	DO (ppm)	Turbidity (ntu)	Odor Y/N	Color
1226	Initial	6.98	616	18.6	-	-	1000	N	Brown
1236	1.5	7.19	610	16.2	-	-	64.6	N	Clear
1244	3	7.34	589	16.0	-	-	53.1	N	clear
1252	4.5	7.31	590	16.1	-	-	6.09	N	clear

Sample No.: <u>BNSF-35</u>	Time: <u>1254</u>
Trip Blank <input type="checkbox"/> Time: _____	Sample No.: _____
Duplicate <input type="checkbox"/> Time: _____	Sample No.: _____
Containers: <u>10 - VOA vials</u>	Analysis: _____
	Analysis: _____
Signature: 	Date: <u>8 / 17 / 17</u>

<u>Stabilization Criteria:</u>
Temperature is stabilized to ± 0.5 degrees Celsius.
pH is stabilized to ± 0.1 standard units.
Specific conductance (temperature corrected) is stabilized to ± 10% µS/cm.

Inside Well Diameter	gal./ft.
2"	0.163
4"	0.653
6"	1.469
8"	2.611

922-2777



WELL PURGING AND SAMPLE COLLECTION

Well No.

BNSF-3D

Project Name/Location: Revival / Fridley MN Project No.: 101-17

Date: 8/17/17 Weather: Overcast

Purging Method Pumped Bailed Other _____

Pump Type: Submersible Bailer Type: _____

Depth to Water (D.T.W.) 19.87 Depth to Bottom (D.T.B.) 59.03

Volume Calculation: $(59.03 - 19.87) (0.163) = 6.38$

Gals./Well Volume: 6.4 [(D.T.B. - D.T.W.) gal./ft.] = Gals./well volume]

Time	Volume Removed (gal.)	pH	Cond. (uS/cm)	Temp. (°C)	ORP (mv)	DO (ppm)	Turbidity (ntu)	Odor Y/N	Color
1319	Initial	10.20	1150	16.7	-	-	34.8	N	clear
1345	6.4	6.98	1746	16.5	-	-	14.6	N	clear
1411	12.8	6.83	1748	16.3	-	-	0.0	N	clear
1437	19.2	6.80	1729	16.0	-	-	0.0	N	clear

Sample No.: BNSF-3D Time: 1438

Equip. # 5 Trip Blank Time: 1503 Sample No.: _____

Duplicate # 4 Time: 1441 Sample No.: _____

Containers: _____ Analysis: _____

Signature: [Signature] Date: 8 / 17 / 17 Analysis: _____

Stabilization Criteria:
Temperature is stabilized to ± 0.5 degrees Celsius.
pH is stabilized to ± 0.1 standard units.
Specific conductance (temperature corrected) is stabilized to ± 10% µS/cm.

Inside Well Diameter	gal./ft.
2"	0.163
4"	0.653
6"	1.469
8"	2.611

Appendix B

Water Quality Sampling Laboratory Reports
IDW (Barrel) Sampling Laboratory Report
Sub-Slab Vapor Sampling Laboratory Report
Indoor Air Quality Laboratory Report

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Cedar Falls
704 Enterprise Drive
Cedar Falls, IA 50613
Tel: (319)277-2401

TestAmerica Job ID: 310-108069-1
Client Project/Site: Reviva 101-16

For:
Carlson McCain, Inc.
15650 36th Ave North
Suite 110
Plymouth, Minnesota 55446

Attn: Megan Lindstrom



Authorized for release by:
6/27/2017 9:42:12 AM

Zach Bindert, Project Manager I
(319)277-2401
zach.bindert@testamericainc.com

LINKS

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results through
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www.testamericainc.com

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

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

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Case Narrative

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Job ID: 310-108069-1

Laboratory: TestAmerica Cedar Falls

Narrative

Job Narrative 310-108069-1

Comments

No additional comments.

Receipt

The samples were received on 6/16/2017 9:40 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 2.7° C, 4.1° C and 5.0° C.

Receipt Exceptions

One or more containers for the following sample was received broken or leaking: MW-103B (310-108069-5).
4 vials received broken for this sample.

GC/MS VOA

Method 8260B SIM: The continuing calibration verification (CCV) associated with batch 310-169945 recovered above the upper control limit for 1,2,3-Trichloropropane (24.9%D), 1,2-Dichloroethane (35.7%D), Carbon tetrachloride (34.5%D), Trichloroethene (31.3%D) and Vinyl chloride (25.4%D). The LCS associated with this CCV passed CCV criteria for the affected analytes; therefore, the data have been reported.

Method 8260B SIM: The continuing calibration verification (CCV) associated with batch 310-170058 recovered above the upper control limit for Carbon tetrachloride (21.8%D). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260B SIM: The laboratory control sample (LCS) for analytical batch 310-170058 recovered outside control limits for the following analytes: Carbon tetrachloride. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260B SIM: Due to insufficient sample, this dilution was made using a vial that was already injected. The dilution was made within 24 hours of being injected.

MW-103B (310-108069-5)

Method 8260B SIM: The continuing calibration verification (CCV) associated with batch 310-170243 recovered above the upper control limit for Carbon tetrachloride (31.6%D). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260B SIM: The continuing calibration verification (CCV) associated with batch 310-170243 recovered above the upper control limit for Trichloroethene (21.7%D). The LCS associated with this CCV passes CCV criteria for the affected analytes; therefore, the data have been reported.

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

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: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-108069-1	MW-101A	Water	06/13/17 08:46	06/16/17 09:40
310-108069-2	MW-102A	Water	06/13/17 13:55	06/16/17 09:40
310-108069-3	MW-102B	Water	06/13/17 15:30	06/16/17 09:40
310-108069-4	MW-103A	Water	06/13/17 16:59	06/16/17 09:40
310-108069-5	MW-103B	Water	06/13/17 15:50	06/16/17 09:40
310-108069-6	MW-104B	Water	06/12/17 14:32	06/16/17 09:40
310-108069-7	MW-105B	Water	06/13/17 11:28	06/16/17 09:40
310-108069-8	MW-107A	Water	06/13/17 11:00	06/16/17 09:40
310-108069-9	MW-107B	Water	06/13/17 13:27	06/16/17 09:40
310-108069-10	MW-108A	Water	06/14/17 13:52	06/16/17 09:40
310-108069-11	MW-108B	Water	06/14/17 14:40	06/16/17 09:40
310-108069-12	MW-108PC	Water	06/14/17 12:45	06/16/17 09:40
310-108069-13	MW-109B	Water	06/13/17 09:25	06/16/17 09:40
310-108069-14	MW-110	Water	06/12/17 13:48	06/16/17 09:40
310-108069-15	MW-111B	Water	06/12/17 18:09	06/16/17 09:40
310-108069-16	MW-112	Water	06/14/17 12:36	06/16/17 09:40
310-108069-17	BNSF-2S	Water	06/14/17 11:08	06/16/17 09:40
310-108069-18	BNSF-2D	Water	06/14/17 10:25	06/16/17 09:40
310-108069-19	Trip Blank 2	Water	06/15/17 00:00	06/16/17 09:40
310-108069-20	REEP-1	Water	06/14/17 16:27	06/16/17 09:40
310-108069-21	REEP-2S	Water	06/14/17 16:00	06/16/17 09:40
310-108069-22	REEP-2	Water	06/15/17 10:05	06/16/17 09:40
310-108069-23	REEP-2PC	Water	06/15/17 11:14	06/16/17 09:40
310-108069-24	Trip Blank 1	Water	06/15/17 00:00	06/16/17 09:40
310-108069-25	Equipment Blank 1	Water	06/12/17 18:14	06/16/17 09:40
310-108069-26	Equipment Blank 2	Water	06/13/17 17:16	06/16/17 09:40
310-108069-27	Equipment Blank 3	Water	06/14/17 14:19	06/16/17 09:40
310-108069-28	Equipment Blank 4	Water	06/15/17 11:45	06/16/17 09:40
310-108069-29	Duplicate 1	Water	06/13/17 09:30	06/16/17 09:40
310-108069-30	Duplicate 2	Water	06/13/17 17:04	06/16/17 09:40
310-108069-31	Duplicate 3	Water	06/14/17 13:56	06/16/17 09:40

TestAmerica Cedar Falls

Detection Summary

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: MW-101A

Lab Sample ID: 310-108069-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	51.6		5.00		ug/L	50		8260B SIM	Total/NA
Vinyl chloride	0.0790		0.0400		ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	18.2		1.00		ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	1.49		1.00		ug/L	1		8260B	Total/NA

Client Sample ID: MW-102A

Lab Sample ID: 310-108069-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	28.4		1.00		ug/L	10		8260B SIM	Total/NA
Vinyl chloride	0.245	F1	0.0400		ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	322		1.00		ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	59.9	F1	1.00		ug/L	1		8260B	Total/NA

Client Sample ID: MW-102B

Lab Sample ID: 310-108069-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	2.22		1.00		ug/L	1		8260B SIM	Total/NA
Trichloroethene	7.08		0.500		ug/L	5		8260B SIM	Total/NA
Vinyl chloride	0.498		0.0400		ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	362		1.00		ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	75.1		1.00		ug/L	1		8260B	Total/NA

Client Sample ID: MW-103A

Lab Sample ID: 310-108069-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	206		10.0		ug/L	100		8260B SIM	Total/NA
Vinyl chloride	0.0602		0.0400		ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	68.3		1.00		ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	4.44		1.00		ug/L	1		8260B	Total/NA

Client Sample ID: MW-103B

Lab Sample ID: 310-108069-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	4.46		1.00		ug/L	10		8260B SIM	Total/NA
Vinyl chloride	0.0916		0.0400		ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	42.9		1.00		ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	11.5		1.00		ug/L	1		8260B	Total/NA

Client Sample ID: MW-104B

Lab Sample ID: 310-108069-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	6.85		0.500		ug/L	5		8260B SIM	Total/NA

Client Sample ID: MW-105B

Lab Sample ID: 310-108069-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	28.2		1.00		ug/L	10		8260B SIM	Total/NA
Vinyl chloride	0.634		0.0400		ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	64.7		1.00		ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	99.7		1.00		ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Cedar Falls

Detection Summary

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: MW-107A

Lab Sample ID: 310-108069-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	1.62		0.100		ug/L	1		8260B SIM	Total/NA

Client Sample ID: MW-107B

Lab Sample ID: 310-108069-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	84.5		5.00		ug/L	50		8260B SIM	Total/NA
Vinyl chloride	0.470		0.0400		ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	90.2		1.00		ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	130		1.00		ug/L	1		8260B	Total/NA

Client Sample ID: MW-108A

Lab Sample ID: 310-108069-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.97		1.00		ug/L	1		8260B SIM	Total/NA
Trichloroethene	517		50.0		ug/L	500		8260B SIM	Total/NA
Vinyl chloride	0.112		0.0400		ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	271		1.00		ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	30.0		1.00		ug/L	1		8260B	Total/NA

Client Sample ID: MW-108B

Lab Sample ID: 310-108069-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	4.46		0.500		ug/L	5		8260B SIM	Total/NA
Vinyl chloride	0.0450		0.0400		ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	30.5		1.00		ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	8.51		1.00		ug/L	1		8260B	Total/NA

Client Sample ID: MW-108PC

Lab Sample ID: 310-108069-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	116		10.0		ug/L	100		8260B SIM	Total/NA
Vinyl chloride	0.146		0.0400		ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	2.54		1.00		ug/L	1		8260B	Total/NA

Client Sample ID: MW-109B

Lab Sample ID: 310-108069-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	17.6		1.00		ug/L	10		8260B SIM	Total/NA
Vinyl chloride	0.407		0.0400		ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	61.7		1.00		ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	195		1.00		ug/L	1		8260B	Total/NA

Client Sample ID: MW-110

Lab Sample ID: 310-108069-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	35.6		2.00		ug/L	20		8260B SIM	Total/NA
Vinyl chloride	0.0470		0.0400		ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	9.01		1.00		ug/L	1		8260B	Total/NA

Client Sample ID: MW-111B

Lab Sample ID: 310-108069-15

This Detection Summary does not include radiochemical test results.

TestAmerica Cedar Falls

Detection Summary

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: MW-111B (Continued)

Lab Sample ID: 310-108069-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	2.64		0.100		ug/L	1		8260B SIM	Total/NA

Client Sample ID: MW-112

Lab Sample ID: 310-108069-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	62.2		5.00		ug/L	50		8260B SIM	Total/NA
Vinyl chloride	0.123		0.0400		ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	90.9		1.00		ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	41.6		1.00		ug/L	1		8260B	Total/NA

Client Sample ID: BNSF-2S

Lab Sample ID: 310-108069-17

No Detections.

Client Sample ID: BNSF-2D

Lab Sample ID: 310-108069-18

No Detections.

Client Sample ID: Trip Blank 2

Lab Sample ID: 310-108069-19

No Detections.

Client Sample ID: REEP-1

Lab Sample ID: 310-108069-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	366		50.0		ug/L	500		8260B SIM	Total/NA
Vinyl chloride	0.290		0.0400		ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	14.1		1.00		ug/L	1		8260B	Total/NA
1,1-Dichloroethane	3.84		1.00		ug/L	1		8260B	Total/NA
1,2-Dichloropropane	2.20		1.00		ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	11.0		1.00		ug/L	1		8260B	Total/NA

Client Sample ID: REEP-2S

Lab Sample ID: 310-108069-21

No Detections.

Client Sample ID: REEP-2

Lab Sample ID: 310-108069-22

No Detections.

Client Sample ID: REEP-2PC

Lab Sample ID: 310-108069-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,2-Dichloroethane	0.403		0.100		ug/L	1		8260B SIM	Total/NA
Trichloroethene	0.512		0.100		ug/L	1		8260B SIM	Total/NA

Client Sample ID: Trip Blank 1

Lab Sample ID: 310-108069-24

No Detections.

Client Sample ID: Equipment Blank 1

Lab Sample ID: 310-108069-25

This Detection Summary does not include radiochemical test results.

TestAmerica Cedar Falls

Detection Summary

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: Equipment Blank 1 (Continued)

Lab Sample ID: 310-108069-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	2.50		1.00		ug/L	1		8260B	Total/NA

Client Sample ID: Equipment Blank 2

Lab Sample ID: 310-108069-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.16		1.00		ug/L	1		8260B SIM	Total/NA
Trichloroethene	1.26		0.100		ug/L	1		8260B SIM	Total/NA

Client Sample ID: Equipment Blank 3

Lab Sample ID: 310-108069-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.42		1.00		ug/L	1		8260B SIM	Total/NA
Trichloroethene	1.97		0.100		ug/L	1		8260B SIM	Total/NA
Acetone	14.0		10.0		ug/L	1		8260B	Total/NA

Client Sample ID: Equipment Blank 4

Lab Sample ID: 310-108069-28

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.60		1.00		ug/L	1		8260B SIM	Total/NA

Client Sample ID: Duplicate 1

Lab Sample ID: 310-108069-29

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	13.1		1.00		ug/L	10		8260B SIM	Total/NA
Vinyl chloride	0.418		0.0400		ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	63.1		1.00		ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	199		1.00		ug/L	1		8260B	Total/NA

Client Sample ID: Duplicate 2

Lab Sample ID: 310-108069-30

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	133		10.0		ug/L	100		8260B SIM	Total/NA
Vinyl chloride	0.0706		0.0400		ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	64.2		1.00		ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	4.48		1.00		ug/L	1		8260B	Total/NA

Client Sample ID: Duplicate 3

Lab Sample ID: 310-108069-31

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.10		1.00		ug/L	1		8260B SIM	Total/NA
Trichloroethene	345		50.0		ug/L	500		8260B SIM	Total/NA
Vinyl chloride	0.117		0.0400		ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	271		1.00		ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	30.1		1.00		ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: MW-101A

Lab Sample ID: 310-108069-1

Date Collected: 06/13/17 08:46

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.100		0.100		ug/L			06/20/17 12:31	1
1,2-Dibromo-3-Chloropropane	<0.0500		0.0500		ug/L			06/20/17 12:31	1
1,2-Dibromoethane (EDB)	<0.00500		0.00500		ug/L			06/20/17 12:31	1
1,2-Dichloroethane	<0.100		0.100		ug/L			06/20/17 12:31	1
Trichloroethene	51.6		5.00		ug/L			06/21/17 14:02	50
1,2,3-Trichloropropane	<0.00500		0.00500		ug/L			06/20/17 12:31	1
Vinyl chloride	0.0790		0.0400		ug/L			06/20/17 12:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		80 - 120		06/20/17 12:31	1
4-Bromofluorobenzene (Surr)	98		80 - 120		06/21/17 14:02	50
Dibromofluoromethane (Surr)	103		80 - 120		06/20/17 12:31	1
Dibromofluoromethane (Surr)	104		80 - 120		06/21/17 14:02	50
Toluene-d8 (Surr)	95		79 - 119		06/20/17 12:31	1
Toluene-d8 (Surr)	92		79 - 119		06/21/17 14:02	50

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			06/19/17 09:54	1
Allyl chloride	<2.00		2.00		ug/L			06/19/17 09:54	1
Benzene	<0.500		0.500		ug/L			06/19/17 09:54	1
Bromobenzene	<1.00		1.00		ug/L			06/19/17 09:54	1
Bromochloromethane	<5.00		5.00		ug/L			06/19/17 09:54	1
Bromodichloromethane	<1.00		1.00		ug/L			06/19/17 09:54	1
Bromoform	<5.00		5.00		ug/L			06/19/17 09:54	1
Bromomethane	<2.00		2.00		ug/L			06/19/17 09:54	1
2-Butanone (MEK)	<10.0		10.0		ug/L			06/19/17 09:54	1
Chlorobenzene	<1.00		1.00		ug/L			06/19/17 09:54	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			06/19/17 09:54	1
Chloroform	<1.00		1.00		ug/L			06/19/17 09:54	1
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			06/19/17 09:54	1
2-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 09:54	1
4-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 09:54	1
cis-1,2-Dichloroethene	18.2		1.00		ug/L			06/19/17 09:54	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 09:54	1
Dibromochloromethane	<2.00		2.00		ug/L			06/19/17 09:54	1
Dibromomethane	<1.00		1.00		ug/L			06/19/17 09:54	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 09:54	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 09:54	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 09:54	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			06/19/17 09:54	1
1,1-Dichloroethane	<1.00		1.00		ug/L			06/19/17 09:54	1
1,1-Dichloroethene	<2.00		2.00		ug/L			06/19/17 09:54	1
Dichlorofluoromethane	<1.00		1.00		ug/L			06/19/17 09:54	1
1,2-Dichloropropane	<1.00		1.00		ug/L			06/19/17 09:54	1
1,3-Dichloropropane	<1.00		1.00		ug/L			06/19/17 09:54	1
2,2-Dichloropropane	<4.00		4.00		ug/L			06/19/17 09:54	1
1,1-Dichloropropene	<1.00		1.00		ug/L			06/19/17 09:54	1
Diethyl ether	<2.00		2.00		ug/L			06/19/17 09:54	1
Ethylbenzene	<1.00		1.00		ug/L			06/19/17 09:54	1

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: MW-101A

Lab Sample ID: 310-108069-1

Date Collected: 06/13/17 08:46

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	<1.00		1.00		ug/L			06/19/17 09:54	1
Isopropylbenzene	<1.00		1.00		ug/L			06/19/17 09:54	1
4-Isopropyltoluene	<1.00		1.00		ug/L			06/19/17 09:54	1
Methylene Chloride	<1.00		1.00		ug/L			06/19/17 09:54	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			06/19/17 09:54	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			06/19/17 09:54	1
Naphthalene	<5.00		5.00		ug/L			06/19/17 09:54	1
n-Butylbenzene	<1.00		1.00		ug/L			06/19/17 09:54	1
n-Propylbenzene	<1.00		1.00		ug/L			06/19/17 09:54	1
sec-Butylbenzene	<1.00		1.00		ug/L			06/19/17 09:54	1
Styrene	<1.00		1.00		ug/L			06/19/17 09:54	1
tert-Butylbenzene	<1.00		1.00		ug/L			06/19/17 09:54	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			06/19/17 09:54	1
1,1,2,2-Tetrachloroethane	<0.500		0.500		ug/L			06/19/17 09:54	1
Tetrachloroethene	<1.00		1.00		ug/L			06/19/17 09:54	1
Tetrahydrofuran	<10.0		10.0		ug/L			06/19/17 09:54	1
Toluene	<1.00		1.00		ug/L			06/19/17 09:54	1
trans-1,2-Dichloroethene	1.49		1.00		ug/L			06/19/17 09:54	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 09:54	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			06/19/17 09:54	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			06/19/17 09:54	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			06/19/17 09:54	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			06/19/17 09:54	1
Trichlorofluoromethane	<4.00		4.00		ug/L			06/19/17 09:54	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			06/19/17 09:54	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 09:54	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 09:54	1
Xylenes, Total	<3.00		3.00		ug/L			06/19/17 09:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		82 - 122		06/19/17 09:54	1
Dibromofluoromethane (Surr)	104		79 - 119		06/19/17 09:54	1
Toluene-d8 (Surr)	95		77 - 117		06/19/17 09:54	1

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: MW-102A

Lab Sample ID: 310-108069-2

Date Collected: 06/13/17 13:55

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.100		0.100		ug/L			06/20/17 12:55	1
1,2-Dibromo-3-Chloropropane	<0.0500		0.0500		ug/L			06/20/17 12:55	1
1,2-Dibromoethane (EDB)	<0.00500		0.00500		ug/L			06/20/17 12:55	1
1,2-Dichloroethane	<0.100		0.100		ug/L			06/20/17 12:55	1
1,4-Dioxane	<1.00	F1	1.00		ug/L			06/20/17 12:55	1
Trichloroethene	28.4		1.00		ug/L			06/21/17 12:03	10
1,2,3-Trichloropropane	<0.00500		0.00500		ug/L			06/20/17 12:55	1
Vinyl chloride	0.245	F1	0.0400		ug/L			06/20/17 12:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		80 - 120		06/20/17 12:55	1
4-Bromofluorobenzene (Surr)	100		80 - 120		06/21/17 12:03	10
Dibromofluoromethane (Surr)	103		80 - 120		06/20/17 12:55	1
Dibromofluoromethane (Surr)	104		80 - 120		06/21/17 12:03	10
Toluene-d8 (Surr)	95		79 - 119		06/20/17 12:55	1
Toluene-d8 (Surr)	92		79 - 119		06/21/17 12:03	10

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			06/19/17 10:18	1
Allyl chloride	<2.00		2.00		ug/L			06/19/17 10:18	1
Benzene	<0.500		0.500		ug/L			06/19/17 10:18	1
Bromobenzene	<1.00		1.00		ug/L			06/19/17 10:18	1
Bromochloromethane	<5.00		5.00		ug/L			06/19/17 10:18	1
Bromodichloromethane	<1.00		1.00		ug/L			06/19/17 10:18	1
Bromoform	<5.00		5.00		ug/L			06/19/17 10:18	1
Bromomethane	<2.00		2.00		ug/L			06/19/17 10:18	1
2-Butanone (MEK)	<10.0		10.0		ug/L			06/19/17 10:18	1
Chlorobenzene	<1.00		1.00		ug/L			06/19/17 10:18	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			06/19/17 10:18	1
Chloroform	<1.00		1.00		ug/L			06/19/17 10:18	1
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			06/19/17 10:18	1
2-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 10:18	1
4-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 10:18	1
cis-1,2-Dichloroethene	322		1.00		ug/L			06/19/17 10:18	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 10:18	1
Dibromochloromethane	<2.00		2.00		ug/L			06/19/17 10:18	1
Dibromomethane	<1.00		1.00		ug/L			06/19/17 10:18	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 10:18	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 10:18	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 10:18	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			06/19/17 10:18	1
1,1-Dichloroethane	<1.00		1.00		ug/L			06/19/17 10:18	1
1,1-Dichloroethene	<2.00		2.00		ug/L			06/19/17 10:18	1
Dichlorofluoromethane	<1.00		1.00		ug/L			06/19/17 10:18	1
1,2-Dichloropropane	<1.00		1.00		ug/L			06/19/17 10:18	1
1,3-Dichloropropane	<1.00		1.00		ug/L			06/19/17 10:18	1
2,2-Dichloropropane	<4.00		4.00		ug/L			06/19/17 10:18	1
1,1-Dichloropropene	<1.00		1.00		ug/L			06/19/17 10:18	1
Diethyl ether	<2.00		2.00		ug/L			06/19/17 10:18	1

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: MW-102A

Lab Sample ID: 310-108069-2

Date Collected: 06/13/17 13:55

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	<1.00		1.00		ug/L			06/19/17 10:18	1
Hexachlorobutadiene	<1.00		1.00		ug/L			06/19/17 10:18	1
Isopropylbenzene	<1.00		1.00		ug/L			06/19/17 10:18	1
4-Isopropyltoluene	<1.00		1.00		ug/L			06/19/17 10:18	1
Methylene Chloride	<1.00		1.00		ug/L			06/19/17 10:18	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			06/19/17 10:18	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			06/19/17 10:18	1
Naphthalene	<5.00		5.00		ug/L			06/19/17 10:18	1
n-Butylbenzene	<1.00		1.00		ug/L			06/19/17 10:18	1
n-Propylbenzene	<1.00		1.00		ug/L			06/19/17 10:18	1
sec-Butylbenzene	<1.00		1.00		ug/L			06/19/17 10:18	1
Styrene	<1.00		1.00		ug/L			06/19/17 10:18	1
tert-Butylbenzene	<1.00		1.00		ug/L			06/19/17 10:18	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			06/19/17 10:18	1
1,1,1,2-Tetrachloroethane	<0.500		0.500		ug/L			06/19/17 10:18	1
Tetrachloroethene	<1.00		1.00		ug/L			06/19/17 10:18	1
Tetrahydrofuran	<10.0		10.0		ug/L			06/19/17 10:18	1
Toluene	<1.00		1.00		ug/L			06/19/17 10:18	1
trans-1,2-Dichloroethene	59.9	F1	1.00		ug/L			06/19/17 10:18	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 10:18	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			06/19/17 10:18	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			06/19/17 10:18	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			06/19/17 10:18	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			06/19/17 10:18	1
Trichlorofluoromethane	<4.00		4.00		ug/L			06/19/17 10:18	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			06/19/17 10:18	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 10:18	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 10:18	1
Xylenes, Total	<3.00		3.00		ug/L			06/19/17 10:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		82 - 122		06/19/17 10:18	1
Dibromofluoromethane (Surr)	106		79 - 119		06/19/17 10:18	1
Toluene-d8 (Surr)	95		77 - 117		06/19/17 10:18	1

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: MW-102B

Lab Sample ID: 310-108069-3

Date Collected: 06/13/17 15:30

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.100		0.100		ug/L			06/20/17 13:19	1
1,2-Dibromo-3-Chloropropane	<0.0500		0.0500		ug/L			06/20/17 13:19	1
1,2-Dibromoethane (EDB)	<0.00500		0.00500		ug/L			06/20/17 13:19	1
1,2-Dichloroethane	<0.100		0.100		ug/L			06/20/17 13:19	1
1,4-Dioxane	2.22		1.00		ug/L			06/20/17 13:19	1
Trichloroethene	7.08		0.500		ug/L			06/21/17 11:15	5
1,2,3-Trichloropropane	<0.00500		0.00500		ug/L			06/20/17 13:19	1
Vinyl chloride	0.498		0.0400		ug/L			06/20/17 13:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		80 - 120		06/20/17 13:19	1
4-Bromofluorobenzene (Surr)	100		80 - 120		06/21/17 11:15	5
Dibromofluoromethane (Surr)	106		80 - 120		06/20/17 13:19	1
Dibromofluoromethane (Surr)	104		80 - 120		06/21/17 11:15	5
Toluene-d8 (Surr)	94		79 - 119		06/20/17 13:19	1
Toluene-d8 (Surr)	92		79 - 119		06/21/17 11:15	5

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			06/19/17 10:42	1
Allyl chloride	<2.00		2.00		ug/L			06/19/17 10:42	1
Benzene	<0.500		0.500		ug/L			06/19/17 10:42	1
Bromobenzene	<1.00		1.00		ug/L			06/19/17 10:42	1
Bromochloromethane	<5.00		5.00		ug/L			06/19/17 10:42	1
Bromodichloromethane	<1.00		1.00		ug/L			06/19/17 10:42	1
Bromoform	<5.00		5.00		ug/L			06/19/17 10:42	1
Bromomethane	<2.00		2.00		ug/L			06/19/17 10:42	1
2-Butanone (MEK)	<10.0		10.0		ug/L			06/19/17 10:42	1
Chlorobenzene	<1.00		1.00		ug/L			06/19/17 10:42	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			06/19/17 10:42	1
Chloroform	<1.00		1.00		ug/L			06/19/17 10:42	1
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			06/19/17 10:42	1
2-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 10:42	1
4-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 10:42	1
cis-1,2-Dichloroethene	362		1.00		ug/L			06/19/17 10:42	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 10:42	1
Dibromochloromethane	<2.00		2.00		ug/L			06/19/17 10:42	1
Dibromomethane	<1.00		1.00		ug/L			06/19/17 10:42	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 10:42	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 10:42	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 10:42	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			06/19/17 10:42	1
1,1-Dichloroethane	<1.00		1.00		ug/L			06/19/17 10:42	1
1,1-Dichloroethene	<2.00		2.00		ug/L			06/19/17 10:42	1
Dichlorofluoromethane	<1.00		1.00		ug/L			06/19/17 10:42	1
1,2-Dichloropropane	<1.00		1.00		ug/L			06/19/17 10:42	1
1,3-Dichloropropane	<1.00		1.00		ug/L			06/19/17 10:42	1
2,2-Dichloropropane	<4.00		4.00		ug/L			06/19/17 10:42	1
1,1-Dichloropropene	<1.00		1.00		ug/L			06/19/17 10:42	1
Diethyl ether	<2.00		2.00		ug/L			06/19/17 10:42	1

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: MW-102B

Lab Sample ID: 310-108069-3

Date Collected: 06/13/17 15:30

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	<1.00		1.00		ug/L			06/19/17 10:42	1
Hexachlorobutadiene	<1.00		1.00		ug/L			06/19/17 10:42	1
Isopropylbenzene	<1.00		1.00		ug/L			06/19/17 10:42	1
4-Isopropyltoluene	<1.00		1.00		ug/L			06/19/17 10:42	1
Methylene Chloride	<1.00		1.00		ug/L			06/19/17 10:42	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			06/19/17 10:42	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			06/19/17 10:42	1
Naphthalene	<5.00		5.00		ug/L			06/19/17 10:42	1
n-Butylbenzene	<1.00		1.00		ug/L			06/19/17 10:42	1
n-Propylbenzene	<1.00		1.00		ug/L			06/19/17 10:42	1
sec-Butylbenzene	<1.00		1.00		ug/L			06/19/17 10:42	1
Styrene	<1.00		1.00		ug/L			06/19/17 10:42	1
tert-Butylbenzene	<1.00		1.00		ug/L			06/19/17 10:42	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			06/19/17 10:42	1
1,1,1,2-Tetrachloroethane	<0.500		0.500		ug/L			06/19/17 10:42	1
Tetrachloroethene	<1.00		1.00		ug/L			06/19/17 10:42	1
Tetrahydrofuran	<10.0		10.0		ug/L			06/19/17 10:42	1
Toluene	<1.00		1.00		ug/L			06/19/17 10:42	1
trans-1,2-Dichloroethene	75.1		1.00		ug/L			06/19/17 10:42	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 10:42	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			06/19/17 10:42	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			06/19/17 10:42	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			06/19/17 10:42	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			06/19/17 10:42	1
Trichlorofluoromethane	<4.00		4.00		ug/L			06/19/17 10:42	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			06/19/17 10:42	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 10:42	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 10:42	1
Xylenes, Total	<3.00		3.00		ug/L			06/19/17 10:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		82 - 122		06/19/17 10:42	1
Dibromofluoromethane (Surr)	104		79 - 119		06/19/17 10:42	1
Toluene-d8 (Surr)	96		77 - 117		06/19/17 10:42	1

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: MW-103A

Lab Sample ID: 310-108069-4

Date Collected: 06/13/17 16:59

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.100		0.100		ug/L			06/20/17 13:43	1
1,2-Dibromo-3-Chloropropane	<0.0500		0.0500		ug/L			06/20/17 13:43	1
1,2-Dibromoethane (EDB)	<0.00500		0.00500		ug/L			06/20/17 13:43	1
1,2-Dichloroethane	<0.100		0.100		ug/L			06/20/17 13:43	1
Trichloroethene	206		10.0		ug/L			06/21/17 15:39	100
1,2,3-Trichloropropane	<0.00500		0.00500		ug/L			06/20/17 13:43	1
Vinyl chloride	0.0602		0.0400		ug/L			06/20/17 13:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		80 - 120		06/20/17 13:43	1
4-Bromofluorobenzene (Surr)	99		80 - 120		06/21/17 15:39	100
Dibromofluoromethane (Surr)	104		80 - 120		06/20/17 13:43	1
Dibromofluoromethane (Surr)	103		80 - 120		06/21/17 15:39	100
Toluene-d8 (Surr)	94		79 - 119		06/20/17 13:43	1
Toluene-d8 (Surr)	92		79 - 119		06/21/17 15:39	100

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			06/19/17 11:05	1
Allyl chloride	<2.00		2.00		ug/L			06/19/17 11:05	1
Benzene	<0.500		0.500		ug/L			06/19/17 11:05	1
Bromobenzene	<1.00		1.00		ug/L			06/19/17 11:05	1
Bromochloromethane	<5.00		5.00		ug/L			06/19/17 11:05	1
Bromodichloromethane	<1.00		1.00		ug/L			06/19/17 11:05	1
Bromoform	<5.00		5.00		ug/L			06/19/17 11:05	1
Bromomethane	<2.00		2.00		ug/L			06/19/17 11:05	1
2-Butanone (MEK)	<10.0		10.0		ug/L			06/19/17 11:05	1
Chlorobenzene	<1.00		1.00		ug/L			06/19/17 11:05	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			06/19/17 11:05	1
Chloroform	<1.00		1.00		ug/L			06/19/17 11:05	1
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			06/19/17 11:05	1
2-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 11:05	1
4-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 11:05	1
cis-1,2-Dichloroethene	68.3		1.00		ug/L			06/19/17 11:05	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 11:05	1
Dibromochloromethane	<2.00		2.00		ug/L			06/19/17 11:05	1
Dibromomethane	<1.00		1.00		ug/L			06/19/17 11:05	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 11:05	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 11:05	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 11:05	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			06/19/17 11:05	1
1,1-Dichloroethane	<1.00		1.00		ug/L			06/19/17 11:05	1
1,1-Dichloroethene	<2.00		2.00		ug/L			06/19/17 11:05	1
Dichlorofluoromethane	<1.00		1.00		ug/L			06/19/17 11:05	1
1,2-Dichloropropane	<1.00		1.00		ug/L			06/19/17 11:05	1
1,3-Dichloropropane	<1.00		1.00		ug/L			06/19/17 11:05	1
2,2-Dichloropropane	<4.00		4.00		ug/L			06/19/17 11:05	1
1,1-Dichloropropene	<1.00		1.00		ug/L			06/19/17 11:05	1
Diethyl ether	<2.00		2.00		ug/L			06/19/17 11:05	1
Ethylbenzene	<1.00		1.00		ug/L			06/19/17 11:05	1

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: MW-103A

Lab Sample ID: 310-108069-4

Date Collected: 06/13/17 16:59

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	<1.00		1.00		ug/L			06/19/17 11:05	1
Isopropylbenzene	<1.00		1.00		ug/L			06/19/17 11:05	1
4-Isopropyltoluene	<1.00		1.00		ug/L			06/19/17 11:05	1
Methylene Chloride	<1.00		1.00		ug/L			06/19/17 11:05	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			06/19/17 11:05	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			06/19/17 11:05	1
Naphthalene	<5.00		5.00		ug/L			06/19/17 11:05	1
n-Butylbenzene	<1.00		1.00		ug/L			06/19/17 11:05	1
n-Propylbenzene	<1.00		1.00		ug/L			06/19/17 11:05	1
sec-Butylbenzene	<1.00		1.00		ug/L			06/19/17 11:05	1
Styrene	<1.00		1.00		ug/L			06/19/17 11:05	1
tert-Butylbenzene	<1.00		1.00		ug/L			06/19/17 11:05	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			06/19/17 11:05	1
1,1,1,2-Tetrachloroethane	<0.500		0.500		ug/L			06/19/17 11:05	1
Tetrachloroethene	<1.00		1.00		ug/L			06/19/17 11:05	1
Tetrahydrofuran	<10.0		10.0		ug/L			06/19/17 11:05	1
Toluene	<1.00		1.00		ug/L			06/19/17 11:05	1
trans-1,2-Dichloroethene	4.44		1.00		ug/L			06/19/17 11:05	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 11:05	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			06/19/17 11:05	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			06/19/17 11:05	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			06/19/17 11:05	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			06/19/17 11:05	1
Trichlorofluoromethane	<4.00		4.00		ug/L			06/19/17 11:05	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			06/19/17 11:05	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 11:05	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 11:05	1
Xylenes, Total	<3.00		3.00		ug/L			06/19/17 11:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		82 - 122		06/19/17 11:05	1
Dibromofluoromethane (Surr)	105		79 - 119		06/19/17 11:05	1
Toluene-d8 (Surr)	96		77 - 117		06/19/17 11:05	1

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: MW-103B

Lab Sample ID: 310-108069-5

Date Collected: 06/13/17 15:50

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.100		0.100		ug/L			06/20/17 14:07	1
1,2-Dibromo-3-Chloropropane	<0.0500		0.0500		ug/L			06/20/17 14:07	1
1,2-Dibromoethane (EDB)	<0.00500		0.00500		ug/L			06/20/17 14:07	1
1,2-Dichloroethane	<0.100		0.100		ug/L			06/20/17 14:07	1
Trichloroethene	4.46		1.00		ug/L			06/21/17 12:27	10
1,2,3-Trichloropropane	<0.00500		0.00500		ug/L			06/20/17 14:07	1
Vinyl chloride	0.0916		0.0400		ug/L			06/20/17 14:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		80 - 120		06/20/17 14:07	1
4-Bromofluorobenzene (Surr)	99		80 - 120		06/21/17 12:27	10
Dibromofluoromethane (Surr)	104		80 - 120		06/20/17 14:07	1
Dibromofluoromethane (Surr)	105		80 - 120		06/21/17 12:27	10
Toluene-d8 (Surr)	93		79 - 119		06/20/17 14:07	1
Toluene-d8 (Surr)	92		79 - 119		06/21/17 12:27	10

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			06/19/17 11:29	1
Allyl chloride	<2.00		2.00		ug/L			06/19/17 11:29	1
Benzene	<0.500		0.500		ug/L			06/19/17 11:29	1
Bromobenzene	<1.00		1.00		ug/L			06/19/17 11:29	1
Bromochloromethane	<5.00		5.00		ug/L			06/19/17 11:29	1
Bromodichloromethane	<1.00		1.00		ug/L			06/19/17 11:29	1
Bromoform	<5.00		5.00		ug/L			06/19/17 11:29	1
Bromomethane	<2.00		2.00		ug/L			06/19/17 11:29	1
2-Butanone (MEK)	<10.0		10.0		ug/L			06/19/17 11:29	1
Chlorobenzene	<1.00		1.00		ug/L			06/19/17 11:29	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			06/19/17 11:29	1
Chloroform	<1.00		1.00		ug/L			06/19/17 11:29	1
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			06/19/17 11:29	1
2-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 11:29	1
4-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 11:29	1
cis-1,2-Dichloroethene	42.9		1.00		ug/L			06/19/17 11:29	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 11:29	1
Dibromochloromethane	<2.00		2.00		ug/L			06/19/17 11:29	1
Dibromomethane	<1.00		1.00		ug/L			06/19/17 11:29	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 11:29	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 11:29	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 11:29	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			06/19/17 11:29	1
1,1-Dichloroethane	<1.00		1.00		ug/L			06/19/17 11:29	1
1,1-Dichloroethene	<2.00		2.00		ug/L			06/19/17 11:29	1
Dichlorofluoromethane	<1.00		1.00		ug/L			06/19/17 11:29	1
1,2-Dichloropropane	<1.00		1.00		ug/L			06/19/17 11:29	1
1,3-Dichloropropane	<1.00		1.00		ug/L			06/19/17 11:29	1
2,2-Dichloropropane	<4.00		4.00		ug/L			06/19/17 11:29	1
1,1-Dichloropropene	<1.00		1.00		ug/L			06/19/17 11:29	1
Diethyl ether	<2.00		2.00		ug/L			06/19/17 11:29	1
Ethylbenzene	<1.00		1.00		ug/L			06/19/17 11:29	1

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: MW-103B

Lab Sample ID: 310-108069-5

Date Collected: 06/13/17 15:50

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	<1.00		1.00		ug/L			06/19/17 11:29	1
Isopropylbenzene	<1.00		1.00		ug/L			06/19/17 11:29	1
4-Isopropyltoluene	<1.00		1.00		ug/L			06/19/17 11:29	1
Methylene Chloride	<1.00		1.00		ug/L			06/19/17 11:29	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			06/19/17 11:29	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			06/19/17 11:29	1
Naphthalene	<5.00		5.00		ug/L			06/19/17 11:29	1
n-Butylbenzene	<1.00		1.00		ug/L			06/19/17 11:29	1
n-Propylbenzene	<1.00		1.00		ug/L			06/19/17 11:29	1
sec-Butylbenzene	<1.00		1.00		ug/L			06/19/17 11:29	1
Styrene	<1.00		1.00		ug/L			06/19/17 11:29	1
tert-Butylbenzene	<1.00		1.00		ug/L			06/19/17 11:29	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			06/19/17 11:29	1
1,1,1,2-Tetrachloroethane	<0.500		0.500		ug/L			06/19/17 11:29	1
Tetrachloroethene	<1.00		1.00		ug/L			06/19/17 11:29	1
Tetrahydrofuran	<10.0		10.0		ug/L			06/19/17 11:29	1
Toluene	<1.00		1.00		ug/L			06/19/17 11:29	1
trans-1,2-Dichloroethene	11.5		1.00		ug/L			06/19/17 11:29	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 11:29	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			06/19/17 11:29	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			06/19/17 11:29	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			06/19/17 11:29	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			06/19/17 11:29	1
Trichlorofluoromethane	<4.00		4.00		ug/L			06/19/17 11:29	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			06/19/17 11:29	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 11:29	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 11:29	1
Xylenes, Total	<3.00		3.00		ug/L			06/19/17 11:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		82 - 122		06/19/17 11:29	1
Dibromofluoromethane (Surr)	105		79 - 119		06/19/17 11:29	1
Toluene-d8 (Surr)	96		77 - 117		06/19/17 11:29	1

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: MW-104B

Lab Sample ID: 310-108069-6

Date Collected: 06/12/17 14:32

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.100		0.100		ug/L			06/20/17 14:30	1
1,2-Dibromo-3-Chloropropane	<0.0500		0.0500		ug/L			06/20/17 14:30	1
1,2-Dibromoethane (EDB)	<0.00500		0.00500		ug/L			06/20/17 14:30	1
1,2-Dichloroethane	<0.100		0.100		ug/L			06/20/17 14:30	1
Trichloroethene	6.85		0.500		ug/L			06/21/17 11:39	5
1,2,3-Trichloropropane	<0.00500		0.00500		ug/L			06/20/17 14:30	1
Vinyl chloride	<0.0400		0.0400		ug/L			06/20/17 14:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		80 - 120		06/20/17 14:30	1
4-Bromofluorobenzene (Surr)	99		80 - 120		06/21/17 11:39	5
Dibromofluoromethane (Surr)	104		80 - 120		06/20/17 14:30	1
Dibromofluoromethane (Surr)	105		80 - 120		06/21/17 11:39	5
Toluene-d8 (Surr)	93		79 - 119		06/20/17 14:30	1
Toluene-d8 (Surr)	91		79 - 119		06/21/17 11:39	5

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			06/19/17 11:52	1
Allyl chloride	<2.00		2.00		ug/L			06/19/17 11:52	1
Benzene	<0.500		0.500		ug/L			06/19/17 11:52	1
Bromobenzene	<1.00		1.00		ug/L			06/19/17 11:52	1
Bromochloromethane	<5.00		5.00		ug/L			06/19/17 11:52	1
Bromodichloromethane	<1.00		1.00		ug/L			06/19/17 11:52	1
Bromoform	<5.00		5.00		ug/L			06/19/17 11:52	1
Bromomethane	<2.00		2.00		ug/L			06/19/17 11:52	1
2-Butanone (MEK)	<10.0		10.0		ug/L			06/19/17 11:52	1
Chlorobenzene	<1.00		1.00		ug/L			06/19/17 11:52	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			06/19/17 11:52	1
Chloroform	<1.00		1.00		ug/L			06/19/17 11:52	1
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			06/19/17 11:52	1
2-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 11:52	1
4-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 11:52	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			06/19/17 11:52	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 11:52	1
Dibromochloromethane	<2.00		2.00		ug/L			06/19/17 11:52	1
Dibromomethane	<1.00		1.00		ug/L			06/19/17 11:52	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 11:52	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 11:52	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 11:52	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			06/19/17 11:52	1
1,1-Dichloroethane	<1.00		1.00		ug/L			06/19/17 11:52	1
1,1-Dichloroethene	<2.00		2.00		ug/L			06/19/17 11:52	1
Dichlorofluoromethane	<1.00		1.00		ug/L			06/19/17 11:52	1
1,2-Dichloropropane	<1.00		1.00		ug/L			06/19/17 11:52	1
1,3-Dichloropropane	<1.00		1.00		ug/L			06/19/17 11:52	1
2,2-Dichloropropane	<4.00		4.00		ug/L			06/19/17 11:52	1
1,1-Dichloropropene	<1.00		1.00		ug/L			06/19/17 11:52	1
Diethyl ether	<2.00		2.00		ug/L			06/19/17 11:52	1
Ethylbenzene	<1.00		1.00		ug/L			06/19/17 11:52	1

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: MW-104B

Lab Sample ID: 310-108069-6

Date Collected: 06/12/17 14:32

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	<1.00		1.00		ug/L			06/19/17 11:52	1
Isopropylbenzene	<1.00		1.00		ug/L			06/19/17 11:52	1
4-Isopropyltoluene	<1.00		1.00		ug/L			06/19/17 11:52	1
Methylene Chloride	<1.00		1.00		ug/L			06/19/17 11:52	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			06/19/17 11:52	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			06/19/17 11:52	1
Naphthalene	<5.00		5.00		ug/L			06/19/17 11:52	1
n-Butylbenzene	<1.00		1.00		ug/L			06/19/17 11:52	1
n-Propylbenzene	<1.00		1.00		ug/L			06/19/17 11:52	1
sec-Butylbenzene	<1.00		1.00		ug/L			06/19/17 11:52	1
Styrene	<1.00		1.00		ug/L			06/19/17 11:52	1
tert-Butylbenzene	<1.00		1.00		ug/L			06/19/17 11:52	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			06/19/17 11:52	1
1,1,1,2-Tetrachloroethane	<0.500		0.500		ug/L			06/19/17 11:52	1
Tetrachloroethene	<1.00		1.00		ug/L			06/19/17 11:52	1
Tetrahydrofuran	<10.0		10.0		ug/L			06/19/17 11:52	1
Toluene	<1.00		1.00		ug/L			06/19/17 11:52	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			06/19/17 11:52	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 11:52	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			06/19/17 11:52	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			06/19/17 11:52	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			06/19/17 11:52	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			06/19/17 11:52	1
Trichlorofluoromethane	<4.00		4.00		ug/L			06/19/17 11:52	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			06/19/17 11:52	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 11:52	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 11:52	1
Xylenes, Total	<3.00		3.00		ug/L			06/19/17 11:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		82 - 122		06/19/17 11:52	1
Dibromofluoromethane (Surr)	106		79 - 119		06/19/17 11:52	1
Toluene-d8 (Surr)	96		77 - 117		06/19/17 11:52	1

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: MW-105B

Lab Sample ID: 310-108069-7

Date Collected: 06/13/17 11:28

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.100		0.100		ug/L			06/20/17 14:54	1
1,2-Dibromo-3-Chloropropane	<0.0500		0.0500		ug/L			06/20/17 14:54	1
1,2-Dibromoethane (EDB)	<0.00500		0.00500		ug/L			06/20/17 14:54	1
1,2-Dichloroethane	<0.100		0.100		ug/L			06/20/17 14:54	1
1,4-Dioxane	<1.00		1.00		ug/L			06/20/17 14:54	1
Trichloroethene	28.2		1.00		ug/L			06/21/17 12:51	10
1,2,3-Trichloropropane	<0.00500		0.00500		ug/L			06/20/17 14:54	1
Vinyl chloride	0.634		0.0400		ug/L			06/20/17 14:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		80 - 120		06/20/17 14:54	1
4-Bromofluorobenzene (Surr)	98		80 - 120		06/21/17 12:51	10
Dibromofluoromethane (Surr)	105		80 - 120		06/20/17 14:54	1
Dibromofluoromethane (Surr)	104		80 - 120		06/21/17 12:51	10
Toluene-d8 (Surr)	94		79 - 119		06/20/17 14:54	1
Toluene-d8 (Surr)	92		79 - 119		06/21/17 12:51	10

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			06/19/17 12:15	1
Allyl chloride	<2.00		2.00		ug/L			06/19/17 12:15	1
Benzene	<0.500		0.500		ug/L			06/19/17 12:15	1
Bromobenzene	<1.00		1.00		ug/L			06/19/17 12:15	1
Bromochloromethane	<5.00		5.00		ug/L			06/19/17 12:15	1
Bromodichloromethane	<1.00		1.00		ug/L			06/19/17 12:15	1
Bromoform	<5.00		5.00		ug/L			06/19/17 12:15	1
Bromomethane	<2.00		2.00		ug/L			06/19/17 12:15	1
2-Butanone (MEK)	<10.0		10.0		ug/L			06/19/17 12:15	1
Chlorobenzene	<1.00		1.00		ug/L			06/19/17 12:15	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			06/19/17 12:15	1
Chloroform	<1.00		1.00		ug/L			06/19/17 12:15	1
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			06/19/17 12:15	1
2-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 12:15	1
4-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 12:15	1
cis-1,2-Dichloroethene	64.7		1.00		ug/L			06/19/17 12:15	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 12:15	1
Dibromochloromethane	<2.00		2.00		ug/L			06/19/17 12:15	1
Dibromomethane	<1.00		1.00		ug/L			06/19/17 12:15	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 12:15	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 12:15	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 12:15	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			06/19/17 12:15	1
1,1-Dichloroethane	<1.00		1.00		ug/L			06/19/17 12:15	1
1,1-Dichloroethene	<2.00		2.00		ug/L			06/19/17 12:15	1
Dichlorofluoromethane	<1.00		1.00		ug/L			06/19/17 12:15	1
1,2-Dichloropropane	<1.00		1.00		ug/L			06/19/17 12:15	1
1,3-Dichloropropane	<1.00		1.00		ug/L			06/19/17 12:15	1
2,2-Dichloropropane	<4.00		4.00		ug/L			06/19/17 12:15	1
1,1-Dichloropropene	<1.00		1.00		ug/L			06/19/17 12:15	1
Diethyl ether	<2.00		2.00		ug/L			06/19/17 12:15	1

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: MW-105B

Lab Sample ID: 310-108069-7

Date Collected: 06/13/17 11:28

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	<1.00		1.00		ug/L			06/19/17 12:15	1
Hexachlorobutadiene	<1.00		1.00		ug/L			06/19/17 12:15	1
Isopropylbenzene	<1.00		1.00		ug/L			06/19/17 12:15	1
4-Isopropyltoluene	<1.00		1.00		ug/L			06/19/17 12:15	1
Methylene Chloride	<1.00		1.00		ug/L			06/19/17 12:15	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			06/19/17 12:15	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			06/19/17 12:15	1
Naphthalene	<5.00		5.00		ug/L			06/19/17 12:15	1
n-Butylbenzene	<1.00		1.00		ug/L			06/19/17 12:15	1
n-Propylbenzene	<1.00		1.00		ug/L			06/19/17 12:15	1
sec-Butylbenzene	<1.00		1.00		ug/L			06/19/17 12:15	1
Styrene	<1.00		1.00		ug/L			06/19/17 12:15	1
tert-Butylbenzene	<1.00		1.00		ug/L			06/19/17 12:15	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			06/19/17 12:15	1
1,1,2,2-Tetrachloroethane	<0.500		0.500		ug/L			06/19/17 12:15	1
Tetrachloroethene	<1.00		1.00		ug/L			06/19/17 12:15	1
Tetrahydrofuran	<10.0		10.0		ug/L			06/19/17 12:15	1
Toluene	<1.00		1.00		ug/L			06/19/17 12:15	1
trans-1,2-Dichloroethene	99.7		1.00		ug/L			06/19/17 12:15	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 12:15	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			06/19/17 12:15	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			06/19/17 12:15	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			06/19/17 12:15	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			06/19/17 12:15	1
Trichlorofluoromethane	<4.00		4.00		ug/L			06/19/17 12:15	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			06/19/17 12:15	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 12:15	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 12:15	1
Xylenes, Total	<3.00		3.00		ug/L			06/19/17 12:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		82 - 122		06/19/17 12:15	1
Dibromofluoromethane (Surr)	106		79 - 119		06/19/17 12:15	1
Toluene-d8 (Surr)	96		77 - 117		06/19/17 12:15	1

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: MW-107A

Lab Sample ID: 310-108069-8

Date Collected: 06/13/17 11:00

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.100		0.100		ug/L			06/20/17 15:18	1
1,2-Dibromo-3-Chloropropane	<0.0500		0.0500		ug/L			06/20/17 15:18	1
1,2-Dibromoethane (EDB)	<0.00500		0.00500		ug/L			06/20/17 15:18	1
1,2-Dichloroethane	<0.100		0.100		ug/L			06/20/17 15:18	1
1,4-Dioxane	<1.00		1.00		ug/L			06/20/17 15:18	1
Trichloroethene	1.62		0.100		ug/L			06/20/17 15:18	1
1,2,3-Trichloropropane	<0.00500		0.00500		ug/L			06/20/17 15:18	1
Vinyl chloride	<0.0400		0.0400		ug/L			06/20/17 15:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		80 - 120					06/20/17 15:18	1
Dibromofluoromethane (Surr)	104		80 - 120					06/20/17 15:18	1
Toluene-d8 (Surr)	94		79 - 119					06/20/17 15:18	1

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			06/19/17 12:39	1
Allyl chloride	<2.00		2.00		ug/L			06/19/17 12:39	1
Benzene	<0.500		0.500		ug/L			06/19/17 12:39	1
Bromobenzene	<1.00		1.00		ug/L			06/19/17 12:39	1
Bromochloromethane	<5.00		5.00		ug/L			06/19/17 12:39	1
Bromodichloromethane	<1.00		1.00		ug/L			06/19/17 12:39	1
Bromoform	<5.00		5.00		ug/L			06/19/17 12:39	1
Bromomethane	<2.00		2.00		ug/L			06/19/17 12:39	1
2-Butanone (MEK)	<10.0		10.0		ug/L			06/19/17 12:39	1
Chlorobenzene	<1.00		1.00		ug/L			06/19/17 12:39	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			06/19/17 12:39	1
Chloroform	<1.00		1.00		ug/L			06/19/17 12:39	1
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			06/19/17 12:39	1
2-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 12:39	1
4-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 12:39	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			06/19/17 12:39	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 12:39	1
Dibromochloromethane	<2.00		2.00		ug/L			06/19/17 12:39	1
Dibromomethane	<1.00		1.00		ug/L			06/19/17 12:39	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 12:39	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 12:39	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 12:39	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			06/19/17 12:39	1
1,1-Dichloroethane	<1.00		1.00		ug/L			06/19/17 12:39	1
1,1-Dichloroethene	<2.00		2.00		ug/L			06/19/17 12:39	1
Dichlorofluoromethane	<1.00		1.00		ug/L			06/19/17 12:39	1
1,2-Dichloropropane	<1.00		1.00		ug/L			06/19/17 12:39	1
1,3-Dichloropropane	<1.00		1.00		ug/L			06/19/17 12:39	1
2,2-Dichloropropane	<4.00		4.00		ug/L			06/19/17 12:39	1
1,1-Dichloropropene	<1.00		1.00		ug/L			06/19/17 12:39	1
Diethyl ether	<2.00		2.00		ug/L			06/19/17 12:39	1
Ethylbenzene	<1.00		1.00		ug/L			06/19/17 12:39	1
Hexachlorobutadiene	<1.00		1.00		ug/L			06/19/17 12:39	1
Isopropylbenzene	<1.00		1.00		ug/L			06/19/17 12:39	1

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: MW-107A

Lab Sample ID: 310-108069-8

Date Collected: 06/13/17 11:00

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Isopropyltoluene	<1.00		1.00		ug/L			06/19/17 12:39	1
Methylene Chloride	<1.00		1.00		ug/L			06/19/17 12:39	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			06/19/17 12:39	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			06/19/17 12:39	1
Naphthalene	<5.00		5.00		ug/L			06/19/17 12:39	1
n-Butylbenzene	<1.00		1.00		ug/L			06/19/17 12:39	1
n-Propylbenzene	<1.00		1.00		ug/L			06/19/17 12:39	1
sec-Butylbenzene	<1.00		1.00		ug/L			06/19/17 12:39	1
Styrene	<1.00		1.00		ug/L			06/19/17 12:39	1
tert-Butylbenzene	<1.00		1.00		ug/L			06/19/17 12:39	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			06/19/17 12:39	1
1,1,2,2-Tetrachloroethane	<0.500		0.500		ug/L			06/19/17 12:39	1
Tetrachloroethene	<1.00		1.00		ug/L			06/19/17 12:39	1
Tetrahydrofuran	<10.0		10.0		ug/L			06/19/17 12:39	1
Toluene	<1.00		1.00		ug/L			06/19/17 12:39	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			06/19/17 12:39	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 12:39	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			06/19/17 12:39	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			06/19/17 12:39	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			06/19/17 12:39	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			06/19/17 12:39	1
Trichlorofluoromethane	<4.00		4.00		ug/L			06/19/17 12:39	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			06/19/17 12:39	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 12:39	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 12:39	1
Xylenes, Total	<3.00		3.00		ug/L			06/19/17 12:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		82 - 122		06/19/17 12:39	1
Dibromofluoromethane (Surr)	105		79 - 119		06/19/17 12:39	1
Toluene-d8 (Surr)	98		77 - 117		06/19/17 12:39	1

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: MW-107B

Lab Sample ID: 310-108069-9

Date Collected: 06/13/17 13:27

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.100		0.100		ug/L			06/20/17 15:42	1
1,2-Dibromo-3-Chloropropane	<0.0500		0.0500		ug/L			06/20/17 15:42	1
1,2-Dibromoethane (EDB)	<0.00500		0.00500		ug/L			06/20/17 15:42	1
1,2-Dichloroethane	<0.100		0.100		ug/L			06/20/17 15:42	1
Trichloroethene	84.5		5.00		ug/L			06/21/17 14:27	50
1,2,3-Trichloropropane	<0.00500		0.00500		ug/L			06/20/17 15:42	1
Vinyl chloride	0.470		0.0400		ug/L			06/20/17 15:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		80 - 120		06/20/17 15:42	1
4-Bromofluorobenzene (Surr)	98		80 - 120		06/21/17 14:27	50
Dibromofluoromethane (Surr)	105		80 - 120		06/20/17 15:42	1
Dibromofluoromethane (Surr)	103		80 - 120		06/21/17 14:27	50
Toluene-d8 (Surr)	95		79 - 119		06/20/17 15:42	1
Toluene-d8 (Surr)	92		79 - 119		06/21/17 14:27	50

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			06/19/17 13:03	1
Allyl chloride	<2.00		2.00		ug/L			06/19/17 13:03	1
Benzene	<0.500		0.500		ug/L			06/19/17 13:03	1
Bromobenzene	<1.00		1.00		ug/L			06/19/17 13:03	1
Bromochloromethane	<5.00		5.00		ug/L			06/19/17 13:03	1
Bromodichloromethane	<1.00		1.00		ug/L			06/19/17 13:03	1
Bromoform	<5.00		5.00		ug/L			06/19/17 13:03	1
Bromomethane	<2.00		2.00		ug/L			06/19/17 13:03	1
2-Butanone (MEK)	<10.0		10.0		ug/L			06/19/17 13:03	1
Chlorobenzene	<1.00		1.00		ug/L			06/19/17 13:03	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			06/19/17 13:03	1
Chloroform	<1.00		1.00		ug/L			06/19/17 13:03	1
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			06/19/17 13:03	1
2-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 13:03	1
4-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 13:03	1
cis-1,2-Dichloroethene	90.2		1.00		ug/L			06/19/17 13:03	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 13:03	1
Dibromochloromethane	<2.00		2.00		ug/L			06/19/17 13:03	1
Dibromomethane	<1.00		1.00		ug/L			06/19/17 13:03	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 13:03	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 13:03	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 13:03	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			06/19/17 13:03	1
1,1-Dichloroethane	<1.00		1.00		ug/L			06/19/17 13:03	1
1,1-Dichloroethene	<2.00		2.00		ug/L			06/19/17 13:03	1
Dichlorofluoromethane	<1.00		1.00		ug/L			06/19/17 13:03	1
1,2-Dichloropropane	<1.00		1.00		ug/L			06/19/17 13:03	1
1,3-Dichloropropane	<1.00		1.00		ug/L			06/19/17 13:03	1
2,2-Dichloropropane	<4.00		4.00		ug/L			06/19/17 13:03	1
1,1-Dichloropropene	<1.00		1.00		ug/L			06/19/17 13:03	1
Diethyl ether	<2.00		2.00		ug/L			06/19/17 13:03	1
Ethylbenzene	<1.00		1.00		ug/L			06/19/17 13:03	1

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: MW-107B

Lab Sample ID: 310-108069-9

Date Collected: 06/13/17 13:27

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	<1.00		1.00		ug/L			06/19/17 13:03	1
Isopropylbenzene	<1.00		1.00		ug/L			06/19/17 13:03	1
4-Isopropyltoluene	<1.00		1.00		ug/L			06/19/17 13:03	1
Methylene Chloride	<1.00		1.00		ug/L			06/19/17 13:03	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			06/19/17 13:03	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			06/19/17 13:03	1
Naphthalene	<5.00		5.00		ug/L			06/19/17 13:03	1
n-Butylbenzene	<1.00		1.00		ug/L			06/19/17 13:03	1
n-Propylbenzene	<1.00		1.00		ug/L			06/19/17 13:03	1
sec-Butylbenzene	<1.00		1.00		ug/L			06/19/17 13:03	1
Styrene	<1.00		1.00		ug/L			06/19/17 13:03	1
tert-Butylbenzene	<1.00		1.00		ug/L			06/19/17 13:03	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			06/19/17 13:03	1
1,1,2,2-Tetrachloroethane	<0.500		0.500		ug/L			06/19/17 13:03	1
Tetrachloroethene	<1.00		1.00		ug/L			06/19/17 13:03	1
Tetrahydrofuran	<10.0		10.0		ug/L			06/19/17 13:03	1
Toluene	<1.00		1.00		ug/L			06/19/17 13:03	1
trans-1,2-Dichloroethene	130		1.00		ug/L			06/19/17 13:03	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 13:03	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			06/19/17 13:03	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			06/19/17 13:03	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			06/19/17 13:03	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			06/19/17 13:03	1
Trichlorofluoromethane	<4.00		4.00		ug/L			06/19/17 13:03	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			06/19/17 13:03	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 13:03	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 13:03	1
Xylenes, Total	<3.00		3.00		ug/L			06/19/17 13:03	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		82 - 122					06/19/17 13:03	1
Dibromofluoromethane (Surr)	106		79 - 119					06/19/17 13:03	1
Toluene-d8 (Surr)	96		77 - 117					06/19/17 13:03	1

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: MW-108A

Lab Sample ID: 310-108069-10

Date Collected: 06/14/17 13:52

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.100		0.100		ug/L			06/20/17 16:07	1
1,2-Dibromo-3-Chloropropane	<0.0500		0.0500		ug/L			06/20/17 16:07	1
1,2-Dibromoethane (EDB)	<0.00500		0.00500		ug/L			06/20/17 16:07	1
1,2-Dichloroethane	<0.100		0.100		ug/L			06/20/17 16:07	1
1,4-Dioxane	1.97		1.00		ug/L			06/20/17 16:07	1
Trichloroethene	517		50.0		ug/L			06/21/17 16:02	500
1,2,3-Trichloropropane	<0.00500		0.00500		ug/L			06/20/17 16:07	1
Vinyl chloride	0.112		0.0400		ug/L			06/20/17 16:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		80 - 120		06/20/17 16:07	1
4-Bromofluorobenzene (Surr)	100		80 - 120		06/21/17 16:02	500
Dibromofluoromethane (Surr)	104		80 - 120		06/20/17 16:07	1
Dibromofluoromethane (Surr)	103		80 - 120		06/21/17 16:02	500
Toluene-d8 (Surr)	95		79 - 119		06/20/17 16:07	1
Toluene-d8 (Surr)	92		79 - 119		06/21/17 16:02	500

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			06/19/17 13:26	1
Allyl chloride	<2.00		2.00		ug/L			06/19/17 13:26	1
Benzene	<0.500		0.500		ug/L			06/19/17 13:26	1
Bromobenzene	<1.00		1.00		ug/L			06/19/17 13:26	1
Bromochloromethane	<5.00		5.00		ug/L			06/19/17 13:26	1
Bromodichloromethane	<1.00		1.00		ug/L			06/19/17 13:26	1
Bromoform	<5.00		5.00		ug/L			06/19/17 13:26	1
Bromomethane	<2.00		2.00		ug/L			06/19/17 13:26	1
2-Butanone (MEK)	<10.0		10.0		ug/L			06/19/17 13:26	1
Chlorobenzene	<1.00		1.00		ug/L			06/19/17 13:26	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			06/19/17 13:26	1
Chloroform	<1.00		1.00		ug/L			06/19/17 13:26	1
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			06/19/17 13:26	1
2-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 13:26	1
4-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 13:26	1
cis-1,2-Dichloroethene	271		1.00		ug/L			06/19/17 13:26	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 13:26	1
Dibromochloromethane	<2.00		2.00		ug/L			06/19/17 13:26	1
Dibromomethane	<1.00		1.00		ug/L			06/19/17 13:26	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 13:26	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 13:26	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 13:26	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			06/19/17 13:26	1
1,1-Dichloroethane	<1.00		1.00		ug/L			06/19/17 13:26	1
1,1-Dichloroethene	<2.00		2.00		ug/L			06/19/17 13:26	1
Dichlorofluoromethane	<1.00		1.00		ug/L			06/19/17 13:26	1
1,2-Dichloropropane	<1.00		1.00		ug/L			06/19/17 13:26	1
1,3-Dichloropropane	<1.00		1.00		ug/L			06/19/17 13:26	1
2,2-Dichloropropane	<4.00		4.00		ug/L			06/19/17 13:26	1
1,1-Dichloropropene	<1.00		1.00		ug/L			06/19/17 13:26	1
Diethyl ether	<2.00		2.00		ug/L			06/19/17 13:26	1

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: MW-108A

Lab Sample ID: 310-108069-10

Date Collected: 06/14/17 13:52

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	<1.00		1.00		ug/L			06/19/17 13:26	1
Hexachlorobutadiene	<1.00		1.00		ug/L			06/19/17 13:26	1
Isopropylbenzene	<1.00		1.00		ug/L			06/19/17 13:26	1
4-Isopropyltoluene	<1.00		1.00		ug/L			06/19/17 13:26	1
Methylene Chloride	<1.00		1.00		ug/L			06/19/17 13:26	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			06/19/17 13:26	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			06/19/17 13:26	1
Naphthalene	<5.00		5.00		ug/L			06/19/17 13:26	1
n-Butylbenzene	<1.00		1.00		ug/L			06/19/17 13:26	1
n-Propylbenzene	<1.00		1.00		ug/L			06/19/17 13:26	1
sec-Butylbenzene	<1.00		1.00		ug/L			06/19/17 13:26	1
Styrene	<1.00		1.00		ug/L			06/19/17 13:26	1
tert-Butylbenzene	<1.00		1.00		ug/L			06/19/17 13:26	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			06/19/17 13:26	1
1,1,2,2-Tetrachloroethane	<0.500		0.500		ug/L			06/19/17 13:26	1
Tetrachloroethene	<1.00		1.00		ug/L			06/19/17 13:26	1
Tetrahydrofuran	<10.0		10.0		ug/L			06/19/17 13:26	1
Toluene	<1.00		1.00		ug/L			06/19/17 13:26	1
trans-1,2-Dichloroethene	30.0		1.00		ug/L			06/19/17 13:26	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 13:26	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			06/19/17 13:26	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			06/19/17 13:26	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			06/19/17 13:26	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			06/19/17 13:26	1
Trichlorofluoromethane	<4.00		4.00		ug/L			06/19/17 13:26	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			06/19/17 13:26	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 13:26	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 13:26	1
Xylenes, Total	<3.00		3.00		ug/L			06/19/17 13:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		82 - 122		06/19/17 13:26	1
Dibromofluoromethane (Surr)	106		79 - 119		06/19/17 13:26	1
Toluene-d8 (Surr)	96		77 - 117		06/19/17 13:26	1

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: MW-108B

Lab Sample ID: 310-108069-11

Date Collected: 06/14/17 14:40

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.100		0.100		ug/L			06/20/17 16:30	1
1,2-Dibromo-3-Chloropropane	<0.0500		0.0500		ug/L			06/20/17 16:30	1
1,2-Dibromoethane (EDB)	<0.00500		0.00500		ug/L			06/20/17 16:30	1
1,2-Dichloroethane	<0.100		0.100		ug/L			06/20/17 16:30	1
1,4-Dioxane	<1.00		1.00		ug/L			06/20/17 16:30	1
Trichloroethene	4.46		0.500		ug/L			06/21/17 10:51	5
1,2,3-Trichloropropane	<0.00500		0.00500		ug/L			06/20/17 16:30	1
Vinyl chloride	0.0450		0.0400		ug/L			06/20/17 16:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		80 - 120		06/20/17 16:30	1
4-Bromofluorobenzene (Surr)	99		80 - 120		06/21/17 10:03	1
4-Bromofluorobenzene (Surr)	100		80 - 120		06/21/17 10:51	5
Dibromofluoromethane (Surr)	104		80 - 120		06/20/17 16:30	1
Dibromofluoromethane (Surr)	104		80 - 120		06/21/17 10:03	1
Dibromofluoromethane (Surr)	104		80 - 120		06/21/17 10:51	5
Toluene-d8 (Surr)	93		79 - 119		06/20/17 16:30	1
Toluene-d8 (Surr)	93		79 - 119		06/21/17 10:03	1
Toluene-d8 (Surr)	92		79 - 119		06/21/17 10:51	5

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			06/19/17 13:50	1
Allyl chloride	<2.00		2.00		ug/L			06/19/17 13:50	1
Benzene	<0.500		0.500		ug/L			06/19/17 13:50	1
Bromobenzene	<1.00		1.00		ug/L			06/19/17 13:50	1
Bromochloromethane	<5.00		5.00		ug/L			06/19/17 13:50	1
Bromodichloromethane	<1.00		1.00		ug/L			06/19/17 13:50	1
Bromoform	<5.00		5.00		ug/L			06/19/17 13:50	1
Bromomethane	<2.00		2.00		ug/L			06/19/17 13:50	1
2-Butanone (MEK)	<10.0		10.0		ug/L			06/19/17 13:50	1
Chlorobenzene	<1.00		1.00		ug/L			06/19/17 13:50	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			06/19/17 13:50	1
Chloroform	<1.00		1.00		ug/L			06/19/17 13:50	1
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			06/19/17 13:50	1
2-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 13:50	1
4-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 13:50	1
cis-1,2-Dichloroethene	30.5		1.00		ug/L			06/19/17 13:50	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 13:50	1
Dibromochloromethane	<2.00		2.00		ug/L			06/19/17 13:50	1
Dibromomethane	<1.00		1.00		ug/L			06/19/17 13:50	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 13:50	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 13:50	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 13:50	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			06/19/17 13:50	1
1,1-Dichloroethane	<1.00		1.00		ug/L			06/19/17 13:50	1
1,1-Dichloroethene	<2.00		2.00		ug/L			06/19/17 13:50	1
Dichlorofluoromethane	<1.00		1.00		ug/L			06/19/17 13:50	1
1,2-Dichloropropane	<1.00		1.00		ug/L			06/19/17 13:50	1
1,3-Dichloropropane	<1.00		1.00		ug/L			06/19/17 13:50	1

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: MW-108B

Lab Sample ID: 310-108069-11

Date Collected: 06/14/17 14:40

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,2-Dichloropropane	<4.00		4.00		ug/L			06/19/17 13:50	1
1,1-Dichloropropene	<1.00		1.00		ug/L			06/19/17 13:50	1
Diethyl ether	<2.00		2.00		ug/L			06/19/17 13:50	1
Ethylbenzene	<1.00		1.00		ug/L			06/19/17 13:50	1
Hexachlorobutadiene	<1.00		1.00		ug/L			06/19/17 13:50	1
Isopropylbenzene	<1.00		1.00		ug/L			06/19/17 13:50	1
4-Isopropyltoluene	<1.00		1.00		ug/L			06/19/17 13:50	1
Methylene Chloride	<1.00		1.00		ug/L			06/19/17 13:50	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			06/19/17 13:50	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			06/19/17 13:50	1
Naphthalene	<5.00		5.00		ug/L			06/19/17 13:50	1
n-Butylbenzene	<1.00		1.00		ug/L			06/19/17 13:50	1
n-Propylbenzene	<1.00		1.00		ug/L			06/19/17 13:50	1
sec-Butylbenzene	<1.00		1.00		ug/L			06/19/17 13:50	1
Styrene	<1.00		1.00		ug/L			06/19/17 13:50	1
tert-Butylbenzene	<1.00		1.00		ug/L			06/19/17 13:50	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			06/19/17 13:50	1
1,1,1,2-Tetrachloroethane	<0.500		0.500		ug/L			06/19/17 13:50	1
Tetrachloroethene	<1.00		1.00		ug/L			06/19/17 13:50	1
Tetrahydrofuran	<10.0		10.0		ug/L			06/19/17 13:50	1
Toluene	<1.00		1.00		ug/L			06/19/17 13:50	1
trans-1,2-Dichloroethene	8.51		1.00		ug/L			06/19/17 13:50	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 13:50	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			06/19/17 13:50	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			06/19/17 13:50	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			06/19/17 13:50	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			06/19/17 13:50	1
Trichlorofluoromethane	<4.00		4.00		ug/L			06/19/17 13:50	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			06/19/17 13:50	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 13:50	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 13:50	1
Xylenes, Total	<3.00		3.00		ug/L			06/19/17 13:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		82 - 122		06/19/17 13:50	1
Dibromofluoromethane (Surr)	106		79 - 119		06/19/17 13:50	1
Toluene-d8 (Surr)	96		77 - 117		06/19/17 13:50	1

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: MW-108PC

Lab Sample ID: 310-108069-12

Date Collected: 06/14/17 12:45

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.100		0.100		ug/L			06/20/17 16:54	1
1,2-Dibromo-3-Chloropropane	<0.0500		0.0500		ug/L			06/20/17 16:54	1
1,2-Dibromoethane (EDB)	<0.00500		0.00500		ug/L			06/20/17 16:54	1
1,2-Dichloroethane	<0.100		0.100		ug/L			06/20/17 16:54	1
1,4-Dioxane	<1.00		1.00		ug/L			06/20/17 16:54	1
Trichloroethene	116		10.0		ug/L			06/21/17 15:15	100
1,2,3-Trichloropropane	<0.00500		0.00500		ug/L			06/20/17 16:54	1
Vinyl chloride	0.146		0.0400		ug/L			06/20/17 16:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		80 - 120		06/20/17 16:54	1
4-Bromofluorobenzene (Surr)	99		80 - 120		06/21/17 15:15	100
Dibromofluoromethane (Surr)	105		80 - 120		06/20/17 16:54	1
Dibromofluoromethane (Surr)	102		80 - 120		06/21/17 15:15	100
Toluene-d8 (Surr)	93		79 - 119		06/20/17 16:54	1
Toluene-d8 (Surr)	93		79 - 119		06/21/17 15:15	100

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			06/19/17 22:04	1
Allyl chloride	<2.00		2.00		ug/L			06/19/17 22:04	1
Benzene	<0.500		0.500		ug/L			06/19/17 22:04	1
Bromobenzene	<1.00		1.00		ug/L			06/19/17 22:04	1
Bromochloromethane	<5.00		5.00		ug/L			06/19/17 22:04	1
Bromodichloromethane	<1.00		1.00		ug/L			06/19/17 22:04	1
Bromoform	<5.00		5.00		ug/L			06/19/17 22:04	1
Bromomethane	<2.00		2.00		ug/L			06/19/17 22:04	1
2-Butanone (MEK)	<10.0		10.0		ug/L			06/19/17 22:04	1
Chlorobenzene	<1.00		1.00		ug/L			06/19/17 22:04	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			06/19/17 22:04	1
Chloroform	<1.00		1.00		ug/L			06/19/17 22:04	1
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			06/19/17 22:04	1
2-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 22:04	1
4-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 22:04	1
cis-1,2-Dichloroethene	2.54		1.00		ug/L			06/19/17 22:04	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 22:04	1
Dibromochloromethane	<2.00		2.00		ug/L			06/19/17 22:04	1
Dibromomethane	<1.00		1.00		ug/L			06/19/17 22:04	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 22:04	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 22:04	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 22:04	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			06/19/17 22:04	1
1,1-Dichloroethane	<1.00		1.00		ug/L			06/19/17 22:04	1
1,1-Dichloroethene	<2.00		2.00		ug/L			06/19/17 22:04	1
Dichlorofluoromethane	<1.00		1.00		ug/L			06/19/17 22:04	1
1,2-Dichloropropane	<1.00		1.00		ug/L			06/19/17 22:04	1
1,3-Dichloropropane	<1.00		1.00		ug/L			06/19/17 22:04	1
2,2-Dichloropropane	<4.00		4.00		ug/L			06/19/17 22:04	1
1,1-Dichloropropene	<1.00		1.00		ug/L			06/19/17 22:04	1
Diethyl ether	<2.00		2.00		ug/L			06/19/17 22:04	1

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: MW-108PC

Lab Sample ID: 310-108069-12

Date Collected: 06/14/17 12:45

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	<1.00		1.00		ug/L			06/19/17 22:04	1
Hexachlorobutadiene	<1.00		1.00		ug/L			06/19/17 22:04	1
Isopropylbenzene	<1.00		1.00		ug/L			06/19/17 22:04	1
4-Isopropyltoluene	<1.00		1.00		ug/L			06/19/17 22:04	1
Methylene Chloride	<1.00		1.00		ug/L			06/19/17 22:04	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			06/19/17 22:04	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			06/19/17 22:04	1
Naphthalene	<5.00		5.00		ug/L			06/19/17 22:04	1
n-Butylbenzene	<1.00		1.00		ug/L			06/19/17 22:04	1
n-Propylbenzene	<1.00		1.00		ug/L			06/19/17 22:04	1
sec-Butylbenzene	<1.00		1.00		ug/L			06/19/17 22:04	1
Styrene	<1.00		1.00		ug/L			06/19/17 22:04	1
tert-Butylbenzene	<1.00		1.00		ug/L			06/19/17 22:04	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			06/19/17 22:04	1
1,1,2,2-Tetrachloroethane	<0.500		0.500		ug/L			06/19/17 22:04	1
Tetrachloroethene	<1.00		1.00		ug/L			06/19/17 22:04	1
Tetrahydrofuran	<10.0		10.0		ug/L			06/19/17 22:04	1
Toluene	<1.00		1.00		ug/L			06/19/17 22:04	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			06/19/17 22:04	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 22:04	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			06/19/17 22:04	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			06/19/17 22:04	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			06/19/17 22:04	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			06/19/17 22:04	1
Trichlorofluoromethane	<4.00		4.00		ug/L			06/19/17 22:04	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			06/19/17 22:04	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 22:04	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 22:04	1
Xylenes, Total	<3.00		3.00		ug/L			06/19/17 22:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		82 - 122		06/19/17 22:04	1
Dibromofluoromethane (Surr)	105		79 - 119		06/19/17 22:04	1
Toluene-d8 (Surr)	97		77 - 117		06/19/17 22:04	1

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: MW-109B

Lab Sample ID: 310-108069-13

Date Collected: 06/13/17 09:25

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.100		0.100		ug/L			06/20/17 17:18	1
1,2-Dibromo-3-Chloropropane	<0.0500		0.0500		ug/L			06/20/17 17:18	1
1,2-Dibromoethane (EDB)	<0.00500		0.00500		ug/L			06/20/17 17:18	1
1,2-Dichloroethane	<0.100		0.100		ug/L			06/20/17 17:18	1
Trichloroethene	17.6		1.00		ug/L			06/21/17 13:15	10
1,2,3-Trichloropropane	<0.00500		0.00500		ug/L			06/20/17 17:18	1
Vinyl chloride	0.407		0.0400		ug/L			06/20/17 17:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		80 - 120		06/20/17 17:18	1
4-Bromofluorobenzene (Surr)	99		80 - 120		06/21/17 13:15	10
Dibromofluoromethane (Surr)	105		80 - 120		06/20/17 17:18	1
Dibromofluoromethane (Surr)	105		80 - 120		06/21/17 13:15	10
Toluene-d8 (Surr)	93		79 - 119		06/20/17 17:18	1
Toluene-d8 (Surr)	92		79 - 119		06/21/17 13:15	10

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			06/19/17 22:27	1
Allyl chloride	<2.00		2.00		ug/L			06/19/17 22:27	1
Benzene	<0.500		0.500		ug/L			06/19/17 22:27	1
Bromobenzene	<1.00		1.00		ug/L			06/19/17 22:27	1
Bromochloromethane	<5.00		5.00		ug/L			06/19/17 22:27	1
Bromodichloromethane	<1.00		1.00		ug/L			06/19/17 22:27	1
Bromoform	<5.00		5.00		ug/L			06/19/17 22:27	1
Bromomethane	<2.00		2.00		ug/L			06/19/17 22:27	1
2-Butanone (MEK)	<10.0		10.0		ug/L			06/19/17 22:27	1
Chlorobenzene	<1.00		1.00		ug/L			06/19/17 22:27	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			06/19/17 22:27	1
Chloroform	<1.00		1.00		ug/L			06/19/17 22:27	1
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			06/19/17 22:27	1
2-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 22:27	1
4-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 22:27	1
cis-1,2-Dichloroethene	61.7		1.00		ug/L			06/19/17 22:27	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 22:27	1
Dibromochloromethane	<2.00		2.00		ug/L			06/19/17 22:27	1
Dibromomethane	<1.00		1.00		ug/L			06/19/17 22:27	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 22:27	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 22:27	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 22:27	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			06/19/17 22:27	1
1,1-Dichloroethane	<1.00		1.00		ug/L			06/19/17 22:27	1
1,1-Dichloroethene	<2.00		2.00		ug/L			06/19/17 22:27	1
Dichlorofluoromethane	<1.00		1.00		ug/L			06/19/17 22:27	1
1,2-Dichloropropane	<1.00		1.00		ug/L			06/19/17 22:27	1
1,3-Dichloropropane	<1.00		1.00		ug/L			06/19/17 22:27	1
2,2-Dichloropropane	<4.00		4.00		ug/L			06/19/17 22:27	1
1,1-Dichloropropene	<1.00		1.00		ug/L			06/19/17 22:27	1
Diethyl ether	<2.00		2.00		ug/L			06/19/17 22:27	1
Ethylbenzene	<1.00		1.00		ug/L			06/19/17 22:27	1

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: MW-109B

Lab Sample ID: 310-108069-13

Date Collected: 06/13/17 09:25

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	<1.00		1.00		ug/L			06/19/17 22:27	1
Isopropylbenzene	<1.00		1.00		ug/L			06/19/17 22:27	1
4-Isopropyltoluene	<1.00		1.00		ug/L			06/19/17 22:27	1
Methylene Chloride	<1.00		1.00		ug/L			06/19/17 22:27	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			06/19/17 22:27	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			06/19/17 22:27	1
Naphthalene	<5.00		5.00		ug/L			06/19/17 22:27	1
n-Butylbenzene	<1.00		1.00		ug/L			06/19/17 22:27	1
n-Propylbenzene	<1.00		1.00		ug/L			06/19/17 22:27	1
sec-Butylbenzene	<1.00		1.00		ug/L			06/19/17 22:27	1
Styrene	<1.00		1.00		ug/L			06/19/17 22:27	1
tert-Butylbenzene	<1.00		1.00		ug/L			06/19/17 22:27	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			06/19/17 22:27	1
1,1,2,2-Tetrachloroethane	<0.500		0.500		ug/L			06/19/17 22:27	1
Tetrachloroethene	<1.00		1.00		ug/L			06/19/17 22:27	1
Tetrahydrofuran	<10.0		10.0		ug/L			06/19/17 22:27	1
Toluene	<1.00		1.00		ug/L			06/19/17 22:27	1
trans-1,2-Dichloroethene	195		1.00		ug/L			06/19/17 22:27	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 22:27	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			06/19/17 22:27	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			06/19/17 22:27	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			06/19/17 22:27	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			06/19/17 22:27	1
Trichlorofluoromethane	<4.00		4.00		ug/L			06/19/17 22:27	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			06/19/17 22:27	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 22:27	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 22:27	1
Xylenes, Total	<3.00		3.00		ug/L			06/19/17 22:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		82 - 122					06/19/17 22:27	1
Dibromofluoromethane (Surr)	105		79 - 119					06/19/17 22:27	1
Toluene-d8 (Surr)	96		77 - 117					06/19/17 22:27	1

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: MW-110

Lab Sample ID: 310-108069-14

Date Collected: 06/12/17 13:48

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.100		0.100		ug/L			06/20/17 17:42	1
1,2-Dibromo-3-Chloropropane	<0.0500		0.0500		ug/L			06/20/17 17:42	1
1,2-Dibromoethane (EDB)	<0.00500		0.00500		ug/L			06/20/17 17:42	1
1,2-Dichloroethane	<0.100		0.100		ug/L			06/20/17 17:42	1
Trichloroethene	35.6		2.00		ug/L			06/21/17 13:38	20
1,2,3-Trichloropropane	<0.00500		0.00500		ug/L			06/20/17 17:42	1
Vinyl chloride	0.0470		0.0400		ug/L			06/20/17 17:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		80 - 120		06/20/17 17:42	1
4-Bromofluorobenzene (Surr)	100		80 - 120		06/21/17 13:38	20
Dibromofluoromethane (Surr)	105		80 - 120		06/20/17 17:42	1
Dibromofluoromethane (Surr)	103		80 - 120		06/21/17 13:38	20
Toluene-d8 (Surr)	94		79 - 119		06/20/17 17:42	1
Toluene-d8 (Surr)	92		79 - 119		06/21/17 13:38	20

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			06/19/17 22:51	1
Allyl chloride	<2.00		2.00		ug/L			06/19/17 22:51	1
Benzene	<0.500		0.500		ug/L			06/19/17 22:51	1
Bromobenzene	<1.00		1.00		ug/L			06/19/17 22:51	1
Bromochloromethane	<5.00		5.00		ug/L			06/19/17 22:51	1
Bromodichloromethane	<1.00		1.00		ug/L			06/19/17 22:51	1
Bromoform	<5.00		5.00		ug/L			06/19/17 22:51	1
Bromomethane	<2.00		2.00		ug/L			06/19/17 22:51	1
2-Butanone (MEK)	<10.0		10.0		ug/L			06/19/17 22:51	1
Chlorobenzene	<1.00		1.00		ug/L			06/19/17 22:51	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			06/19/17 22:51	1
Chloroform	<1.00		1.00		ug/L			06/19/17 22:51	1
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			06/19/17 22:51	1
2-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 22:51	1
4-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 22:51	1
cis-1,2-Dichloroethene	9.01		1.00		ug/L			06/19/17 22:51	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 22:51	1
Dibromochloromethane	<2.00		2.00		ug/L			06/19/17 22:51	1
Dibromomethane	<1.00		1.00		ug/L			06/19/17 22:51	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 22:51	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 22:51	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 22:51	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			06/19/17 22:51	1
1,1-Dichloroethane	<1.00		1.00		ug/L			06/19/17 22:51	1
1,1-Dichloroethene	<2.00		2.00		ug/L			06/19/17 22:51	1
Dichlorofluoromethane	<1.00		1.00		ug/L			06/19/17 22:51	1
1,2-Dichloropropane	<1.00		1.00		ug/L			06/19/17 22:51	1
1,3-Dichloropropane	<1.00		1.00		ug/L			06/19/17 22:51	1
2,2-Dichloropropane	<4.00		4.00		ug/L			06/19/17 22:51	1
1,1-Dichloropropene	<1.00		1.00		ug/L			06/19/17 22:51	1
Diethyl ether	<2.00		2.00		ug/L			06/19/17 22:51	1
Ethylbenzene	<1.00		1.00		ug/L			06/19/17 22:51	1

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: MW-110

Lab Sample ID: 310-108069-14

Date Collected: 06/12/17 13:48

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	<1.00		1.00		ug/L			06/19/17 22:51	1
Isopropylbenzene	<1.00		1.00		ug/L			06/19/17 22:51	1
4-Isopropyltoluene	<1.00		1.00		ug/L			06/19/17 22:51	1
Methylene Chloride	<1.00		1.00		ug/L			06/19/17 22:51	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			06/19/17 22:51	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			06/19/17 22:51	1
Naphthalene	<5.00		5.00		ug/L			06/19/17 22:51	1
n-Butylbenzene	<1.00		1.00		ug/L			06/19/17 22:51	1
n-Propylbenzene	<1.00		1.00		ug/L			06/19/17 22:51	1
sec-Butylbenzene	<1.00		1.00		ug/L			06/19/17 22:51	1
Styrene	<1.00		1.00		ug/L			06/19/17 22:51	1
tert-Butylbenzene	<1.00		1.00		ug/L			06/19/17 22:51	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			06/19/17 22:51	1
1,1,2,2-Tetrachloroethane	<0.500		0.500		ug/L			06/19/17 22:51	1
Tetrachloroethene	<1.00		1.00		ug/L			06/19/17 22:51	1
Tetrahydrofuran	<10.0		10.0		ug/L			06/19/17 22:51	1
Toluene	<1.00		1.00		ug/L			06/19/17 22:51	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			06/19/17 22:51	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 22:51	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			06/19/17 22:51	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			06/19/17 22:51	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			06/19/17 22:51	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			06/19/17 22:51	1
Trichlorofluoromethane	<4.00		4.00		ug/L			06/19/17 22:51	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			06/19/17 22:51	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 22:51	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 22:51	1
Xylenes, Total	<3.00		3.00		ug/L			06/19/17 22:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		82 - 122		06/19/17 22:51	1
Dibromofluoromethane (Surr)	106		79 - 119		06/19/17 22:51	1
Toluene-d8 (Surr)	96		77 - 117		06/19/17 22:51	1

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: MW-111B

Lab Sample ID: 310-108069-15

Date Collected: 06/12/17 18:09

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.100		0.100		ug/L			06/20/17 18:05	1
1,2-Dibromo-3-Chloropropane	<0.0500		0.0500		ug/L			06/20/17 18:05	1
1,2-Dibromoethane (EDB)	<0.00500		0.00500		ug/L			06/20/17 18:05	1
1,2-Dichloroethane	<0.100		0.100		ug/L			06/20/17 18:05	1
1,4-Dioxane	<1.00		1.00		ug/L			06/20/17 18:05	1
Trichloroethene	2.64		0.100		ug/L			06/20/17 18:05	1
1,2,3-Trichloropropane	<0.00500		0.00500		ug/L			06/20/17 18:05	1
Vinyl chloride	<0.0400		0.0400		ug/L			06/20/17 18:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		80 - 120					06/20/17 18:05	1
Dibromofluoromethane (Surr)	104		80 - 120					06/20/17 18:05	1
Toluene-d8 (Surr)	93		79 - 119					06/20/17 18:05	1

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			06/19/17 23:14	1
Allyl chloride	<2.00		2.00		ug/L			06/19/17 23:14	1
Benzene	<0.500		0.500		ug/L			06/19/17 23:14	1
Bromobenzene	<1.00		1.00		ug/L			06/19/17 23:14	1
Bromochloromethane	<5.00		5.00		ug/L			06/19/17 23:14	1
Bromodichloromethane	<1.00		1.00		ug/L			06/19/17 23:14	1
Bromoform	<5.00		5.00		ug/L			06/19/17 23:14	1
Bromomethane	<2.00		2.00		ug/L			06/19/17 23:14	1
2-Butanone (MEK)	<10.0		10.0		ug/L			06/19/17 23:14	1
Chlorobenzene	<1.00		1.00		ug/L			06/19/17 23:14	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			06/19/17 23:14	1
Chloroform	<1.00		1.00		ug/L			06/19/17 23:14	1
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			06/19/17 23:14	1
2-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 23:14	1
4-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 23:14	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			06/19/17 23:14	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 23:14	1
Dibromochloromethane	<2.00		2.00		ug/L			06/19/17 23:14	1
Dibromomethane	<1.00		1.00		ug/L			06/19/17 23:14	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 23:14	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 23:14	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 23:14	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			06/19/17 23:14	1
1,1-Dichloroethane	<1.00		1.00		ug/L			06/19/17 23:14	1
1,1-Dichloroethene	<2.00		2.00		ug/L			06/19/17 23:14	1
Dichlorofluoromethane	<1.00		1.00		ug/L			06/19/17 23:14	1
1,2-Dichloropropane	<1.00		1.00		ug/L			06/19/17 23:14	1
1,3-Dichloropropane	<1.00		1.00		ug/L			06/19/17 23:14	1
2,2-Dichloropropane	<4.00		4.00		ug/L			06/19/17 23:14	1
1,1-Dichloropropene	<1.00		1.00		ug/L			06/19/17 23:14	1
Diethyl ether	<2.00		2.00		ug/L			06/19/17 23:14	1
Ethylbenzene	<1.00		1.00		ug/L			06/19/17 23:14	1
Hexachlorobutadiene	<1.00		1.00		ug/L			06/19/17 23:14	1
Isopropylbenzene	<1.00		1.00		ug/L			06/19/17 23:14	1

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: MW-111B

Lab Sample ID: 310-108069-15

Date Collected: 06/12/17 18:09

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Isopropyltoluene	<1.00		1.00		ug/L			06/19/17 23:14	1
Methylene Chloride	<1.00		1.00		ug/L			06/19/17 23:14	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			06/19/17 23:14	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			06/19/17 23:14	1
Naphthalene	<5.00		5.00		ug/L			06/19/17 23:14	1
n-Butylbenzene	<1.00		1.00		ug/L			06/19/17 23:14	1
n-Propylbenzene	<1.00		1.00		ug/L			06/19/17 23:14	1
sec-Butylbenzene	<1.00		1.00		ug/L			06/19/17 23:14	1
Styrene	<1.00		1.00		ug/L			06/19/17 23:14	1
tert-Butylbenzene	<1.00		1.00		ug/L			06/19/17 23:14	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			06/19/17 23:14	1
1,1,2,2-Tetrachloroethane	<0.500		0.500		ug/L			06/19/17 23:14	1
Tetrachloroethene	<1.00		1.00		ug/L			06/19/17 23:14	1
Tetrahydrofuran	<10.0		10.0		ug/L			06/19/17 23:14	1
Toluene	<1.00		1.00		ug/L			06/19/17 23:14	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			06/19/17 23:14	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 23:14	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			06/19/17 23:14	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			06/19/17 23:14	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			06/19/17 23:14	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			06/19/17 23:14	1
Trichlorofluoromethane	<4.00		4.00		ug/L			06/19/17 23:14	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			06/19/17 23:14	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 23:14	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 23:14	1
Xylenes, Total	<3.00		3.00		ug/L			06/19/17 23:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		82 - 122		06/19/17 23:14	1
Dibromofluoromethane (Surr)	105		79 - 119		06/19/17 23:14	1
Toluene-d8 (Surr)	95		77 - 117		06/19/17 23:14	1

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: MW-112

Lab Sample ID: 310-108069-16

Date Collected: 06/14/17 12:36

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.100		0.100		ug/L			06/20/17 18:29	1
1,2-Dibromo-3-Chloropropane	<0.0500		0.0500		ug/L			06/20/17 18:29	1
1,2-Dibromoethane (EDB)	<0.00500		0.00500		ug/L			06/20/17 18:29	1
1,2-Dichloroethane	<0.100		0.100		ug/L			06/20/17 18:29	1
Trichloroethene	62.2		5.00		ug/L			06/21/17 14:51	50
1,2,3-Trichloropropane	<0.00500		0.00500		ug/L			06/20/17 18:29	1
Vinyl chloride	0.123		0.0400		ug/L			06/20/17 18:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		80 - 120		06/20/17 18:29	1
4-Bromofluorobenzene (Surr)	98		80 - 120		06/21/17 14:51	50
Dibromofluoromethane (Surr)	105		80 - 120		06/20/17 18:29	1
Dibromofluoromethane (Surr)	104		80 - 120		06/21/17 14:51	50
Toluene-d8 (Surr)	94		79 - 119		06/20/17 18:29	1
Toluene-d8 (Surr)	92		79 - 119		06/21/17 14:51	50

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			06/19/17 23:38	1
Allyl chloride	<2.00		2.00		ug/L			06/19/17 23:38	1
Benzene	<0.500		0.500		ug/L			06/19/17 23:38	1
Bromobenzene	<1.00		1.00		ug/L			06/19/17 23:38	1
Bromochloromethane	<5.00		5.00		ug/L			06/19/17 23:38	1
Bromodichloromethane	<1.00		1.00		ug/L			06/19/17 23:38	1
Bromoform	<5.00		5.00		ug/L			06/19/17 23:38	1
Bromomethane	<2.00		2.00		ug/L			06/19/17 23:38	1
2-Butanone (MEK)	<10.0		10.0		ug/L			06/19/17 23:38	1
Chlorobenzene	<1.00		1.00		ug/L			06/19/17 23:38	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			06/19/17 23:38	1
Chloroform	<1.00		1.00		ug/L			06/19/17 23:38	1
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			06/19/17 23:38	1
2-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 23:38	1
4-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 23:38	1
cis-1,2-Dichloroethene	90.9		1.00		ug/L			06/19/17 23:38	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 23:38	1
Dibromochloromethane	<2.00		2.00		ug/L			06/19/17 23:38	1
Dibromomethane	<1.00		1.00		ug/L			06/19/17 23:38	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 23:38	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 23:38	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 23:38	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			06/19/17 23:38	1
1,1-Dichloroethane	<1.00		1.00		ug/L			06/19/17 23:38	1
1,1-Dichloroethene	<2.00		2.00		ug/L			06/19/17 23:38	1
Dichlorofluoromethane	<1.00		1.00		ug/L			06/19/17 23:38	1
1,2-Dichloropropane	<1.00		1.00		ug/L			06/19/17 23:38	1
1,3-Dichloropropane	<1.00		1.00		ug/L			06/19/17 23:38	1
2,2-Dichloropropane	<4.00		4.00		ug/L			06/19/17 23:38	1
1,1-Dichloropropene	<1.00		1.00		ug/L			06/19/17 23:38	1
Diethyl ether	<2.00		2.00		ug/L			06/19/17 23:38	1
Ethylbenzene	<1.00		1.00		ug/L			06/19/17 23:38	1

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: MW-112

Lab Sample ID: 310-108069-16

Date Collected: 06/14/17 12:36

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	<1.00		1.00		ug/L			06/19/17 23:38	1
Isopropylbenzene	<1.00		1.00		ug/L			06/19/17 23:38	1
4-Isopropyltoluene	<1.00		1.00		ug/L			06/19/17 23:38	1
Methylene Chloride	<1.00		1.00		ug/L			06/19/17 23:38	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			06/19/17 23:38	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			06/19/17 23:38	1
Naphthalene	<5.00		5.00		ug/L			06/19/17 23:38	1
n-Butylbenzene	<1.00		1.00		ug/L			06/19/17 23:38	1
n-Propylbenzene	<1.00		1.00		ug/L			06/19/17 23:38	1
sec-Butylbenzene	<1.00		1.00		ug/L			06/19/17 23:38	1
Styrene	<1.00		1.00		ug/L			06/19/17 23:38	1
tert-Butylbenzene	<1.00		1.00		ug/L			06/19/17 23:38	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			06/19/17 23:38	1
1,1,2,2-Tetrachloroethane	<0.500		0.500		ug/L			06/19/17 23:38	1
Tetrachloroethene	<1.00		1.00		ug/L			06/19/17 23:38	1
Tetrahydrofuran	<10.0		10.0		ug/L			06/19/17 23:38	1
Toluene	<1.00		1.00		ug/L			06/19/17 23:38	1
trans-1,2-Dichloroethene	41.6		1.00		ug/L			06/19/17 23:38	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 23:38	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			06/19/17 23:38	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			06/19/17 23:38	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			06/19/17 23:38	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			06/19/17 23:38	1
Trichlorofluoromethane	<4.00		4.00		ug/L			06/19/17 23:38	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			06/19/17 23:38	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 23:38	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 23:38	1
Xylenes, Total	<3.00		3.00		ug/L			06/19/17 23:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		82 - 122		06/19/17 23:38	1
Dibromofluoromethane (Surr)	105		79 - 119		06/19/17 23:38	1
Toluene-d8 (Surr)	97		77 - 117		06/19/17 23:38	1

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: BNSF-2S

Lab Sample ID: 310-108069-17

Date Collected: 06/14/17 11:08

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.100	*	0.100		ug/L			06/21/17 10:27	1
1,2-Dibromo-3-Chloropropane	<0.0500	F2	0.0500		ug/L			06/21/17 10:27	1
1,2-Dibromoethane (EDB)	<0.00500	F1 F2	0.00500		ug/L			06/21/17 10:27	1
1,2-Dichloroethane	<0.100		0.100		ug/L			06/21/17 10:27	1
Trichloroethene	<0.100		0.100		ug/L			06/21/17 10:27	1
1,2,3-Trichloropropane	<0.00500	F2	0.00500		ug/L			06/21/17 10:27	1
Vinyl chloride	<0.0400		0.0400		ug/L			06/21/17 10:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		80 - 120		06/21/17 10:27	1
Dibromofluoromethane (Surr)	104		80 - 120		06/21/17 10:27	1
Toluene-d8 (Surr)	92		79 - 119		06/21/17 10:27	1

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			06/20/17 00:02	1
Allyl chloride	<2.00		2.00		ug/L			06/20/17 00:02	1
Benzene	<0.500		0.500		ug/L			06/20/17 00:02	1
Bromobenzene	<1.00		1.00		ug/L			06/20/17 00:02	1
Bromochloromethane	<5.00		5.00		ug/L			06/20/17 00:02	1
Bromodichloromethane	<1.00		1.00		ug/L			06/20/17 00:02	1
Bromoform	<5.00		5.00		ug/L			06/20/17 00:02	1
Bromomethane	<2.00		2.00		ug/L			06/20/17 00:02	1
2-Butanone (MEK)	<10.0		10.0		ug/L			06/20/17 00:02	1
Chlorobenzene	<1.00		1.00		ug/L			06/20/17 00:02	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			06/20/17 00:02	1
Chloroform	<1.00		1.00		ug/L			06/20/17 00:02	1
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			06/20/17 00:02	1
2-Chlorotoluene	<1.00		1.00		ug/L			06/20/17 00:02	1
4-Chlorotoluene	<1.00		1.00		ug/L			06/20/17 00:02	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			06/20/17 00:02	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			06/20/17 00:02	1
Dibromochloromethane	<2.00		2.00		ug/L			06/20/17 00:02	1
Dibromomethane	<1.00		1.00		ug/L			06/20/17 00:02	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			06/20/17 00:02	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			06/20/17 00:02	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			06/20/17 00:02	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			06/20/17 00:02	1
1,1-Dichloroethane	<1.00		1.00		ug/L			06/20/17 00:02	1
1,1-Dichloroethene	<2.00		2.00		ug/L			06/20/17 00:02	1
Dichlorofluoromethane	<1.00		1.00		ug/L			06/20/17 00:02	1
1,2-Dichloropropane	<1.00		1.00		ug/L			06/20/17 00:02	1
1,3-Dichloropropane	<1.00		1.00		ug/L			06/20/17 00:02	1
2,2-Dichloropropane	<4.00		4.00		ug/L			06/20/17 00:02	1
1,1-Dichloropropene	<1.00		1.00		ug/L			06/20/17 00:02	1
Diethyl ether	<2.00		2.00		ug/L			06/20/17 00:02	1
Ethylbenzene	<1.00		1.00		ug/L			06/20/17 00:02	1
Hexachlorobutadiene	<1.00		1.00		ug/L			06/20/17 00:02	1
Isopropylbenzene	<1.00		1.00		ug/L			06/20/17 00:02	1
4-Isopropyltoluene	<1.00		1.00		ug/L			06/20/17 00:02	1

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: BNSF-2S

Lab Sample ID: 310-108069-17

Date Collected: 06/14/17 11:08

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	<1.00		1.00		ug/L			06/20/17 00:02	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			06/20/17 00:02	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			06/20/17 00:02	1
Naphthalene	<5.00		5.00		ug/L			06/20/17 00:02	1
n-Butylbenzene	<1.00		1.00		ug/L			06/20/17 00:02	1
n-Propylbenzene	<1.00		1.00		ug/L			06/20/17 00:02	1
sec-Butylbenzene	<1.00		1.00		ug/L			06/20/17 00:02	1
Styrene	<1.00		1.00		ug/L			06/20/17 00:02	1
tert-Butylbenzene	<1.00		1.00		ug/L			06/20/17 00:02	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			06/20/17 00:02	1
1,1,2,2-Tetrachloroethane	<0.500		0.500		ug/L			06/20/17 00:02	1
Tetrachloroethene	<1.00		1.00		ug/L			06/20/17 00:02	1
Tetrahydrofuran	<10.0		10.0		ug/L			06/20/17 00:02	1
Toluene	<1.00		1.00		ug/L			06/20/17 00:02	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			06/20/17 00:02	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			06/20/17 00:02	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			06/20/17 00:02	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			06/20/17 00:02	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			06/20/17 00:02	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			06/20/17 00:02	1
Trichlorofluoromethane	<4.00		4.00		ug/L			06/20/17 00:02	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			06/20/17 00:02	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			06/20/17 00:02	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			06/20/17 00:02	1
Xylenes, Total	<3.00		3.00		ug/L			06/20/17 00:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		82 - 122		06/20/17 00:02	1
Dibromofluoromethane (Surr)	105		79 - 119		06/20/17 00:02	1
Toluene-d8 (Surr)	95		77 - 117		06/20/17 00:02	1

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: BNSF-2D

Lab Sample ID: 310-108069-18

Date Collected: 06/14/17 10:25

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.100		0.100		ug/L			06/22/17 13:53	1
1,2-Dibromo-3-Chloropropane	<0.0500		0.0500		ug/L			06/22/17 13:53	1
1,2-Dibromoethane (EDB)	<0.00500	F1 F2	0.00500		ug/L			06/22/17 13:53	1
1,2-Dichloroethane	<0.100	F1 F2	0.100		ug/L			06/22/17 13:53	1
Trichloroethene	<0.100	F1 F2	0.100		ug/L			06/22/17 13:53	1
1,2,3-Trichloropropane	<0.00500	F2	0.00500		ug/L			06/22/17 13:53	1
Vinyl chloride	<0.0400		0.0400		ug/L			06/22/17 13:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		80 - 120		06/22/17 13:53	1
Dibromofluoromethane (Surr)	106		80 - 120		06/22/17 13:53	1
Toluene-d8 (Surr)	92		79 - 119		06/22/17 13:53	1

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			06/20/17 00:25	1
Allyl chloride	<2.00		2.00		ug/L			06/20/17 00:25	1
Benzene	<0.500		0.500		ug/L			06/20/17 00:25	1
Bromobenzene	<1.00		1.00		ug/L			06/20/17 00:25	1
Bromochloromethane	<5.00		5.00		ug/L			06/20/17 00:25	1
Bromodichloromethane	<1.00		1.00		ug/L			06/20/17 00:25	1
Bromoform	<5.00		5.00		ug/L			06/20/17 00:25	1
Bromomethane	<2.00		2.00		ug/L			06/20/17 00:25	1
2-Butanone (MEK)	<10.0		10.0		ug/L			06/20/17 00:25	1
Chlorobenzene	<1.00		1.00		ug/L			06/20/17 00:25	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			06/20/17 00:25	1
Chloroform	<1.00		1.00		ug/L			06/20/17 00:25	1
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			06/20/17 00:25	1
2-Chlorotoluene	<1.00		1.00		ug/L			06/20/17 00:25	1
4-Chlorotoluene	<1.00		1.00		ug/L			06/20/17 00:25	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			06/20/17 00:25	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			06/20/17 00:25	1
Dibromochloromethane	<2.00		2.00		ug/L			06/20/17 00:25	1
Dibromomethane	<1.00		1.00		ug/L			06/20/17 00:25	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			06/20/17 00:25	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			06/20/17 00:25	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			06/20/17 00:25	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			06/20/17 00:25	1
1,1-Dichloroethane	<1.00		1.00		ug/L			06/20/17 00:25	1
1,1-Dichloroethene	<2.00		2.00		ug/L			06/20/17 00:25	1
Dichlorofluoromethane	<1.00		1.00		ug/L			06/20/17 00:25	1
1,2-Dichloropropane	<1.00		1.00		ug/L			06/20/17 00:25	1
1,3-Dichloropropane	<1.00		1.00		ug/L			06/20/17 00:25	1
2,2-Dichloropropane	<4.00		4.00		ug/L			06/20/17 00:25	1
1,1-Dichloropropene	<1.00		1.00		ug/L			06/20/17 00:25	1
Diethyl ether	<2.00		2.00		ug/L			06/20/17 00:25	1
Ethylbenzene	<1.00		1.00		ug/L			06/20/17 00:25	1
Hexachlorobutadiene	<1.00		1.00		ug/L			06/20/17 00:25	1
Isopropylbenzene	<1.00		1.00		ug/L			06/20/17 00:25	1
4-Isopropyltoluene	<1.00		1.00		ug/L			06/20/17 00:25	1

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: BNSF-2D

Lab Sample ID: 310-108069-18

Date Collected: 06/14/17 10:25

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	<1.00		1.00		ug/L			06/20/17 00:25	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			06/20/17 00:25	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			06/20/17 00:25	1
Naphthalene	<5.00		5.00		ug/L			06/20/17 00:25	1
n-Butylbenzene	<1.00		1.00		ug/L			06/20/17 00:25	1
n-Propylbenzene	<1.00		1.00		ug/L			06/20/17 00:25	1
sec-Butylbenzene	<1.00		1.00		ug/L			06/20/17 00:25	1
Styrene	<1.00		1.00		ug/L			06/20/17 00:25	1
tert-Butylbenzene	<1.00		1.00		ug/L			06/20/17 00:25	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			06/20/17 00:25	1
1,1,2,2-Tetrachloroethane	<0.500		0.500		ug/L			06/20/17 00:25	1
Tetrachloroethene	<1.00		1.00		ug/L			06/20/17 00:25	1
Tetrahydrofuran	<10.0		10.0		ug/L			06/20/17 00:25	1
Toluene	<1.00		1.00		ug/L			06/20/17 00:25	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			06/20/17 00:25	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			06/20/17 00:25	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			06/20/17 00:25	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			06/20/17 00:25	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			06/20/17 00:25	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			06/20/17 00:25	1
Trichlorofluoromethane	<4.00		4.00		ug/L			06/20/17 00:25	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			06/20/17 00:25	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			06/20/17 00:25	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			06/20/17 00:25	1
Xylenes, Total	<3.00		3.00		ug/L			06/20/17 00:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		82 - 122		06/20/17 00:25	1
Dibromofluoromethane (Surr)	104		79 - 119		06/20/17 00:25	1
Toluene-d8 (Surr)	97		77 - 117		06/20/17 00:25	1

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: Trip Blank 2

Lab Sample ID: 310-108069-19

Date Collected: 06/15/17 00:00

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.100	*	0.100		ug/L			06/21/17 09:39	1
1,2-Dibromo-3-Chloropropane	<0.0500		0.0500		ug/L			06/21/17 09:39	1
1,2-Dibromoethane (EDB)	<0.00500		0.00500		ug/L			06/21/17 09:39	1
1,2-Dichloroethane	<0.100		0.100		ug/L			06/21/17 09:39	1
1,4-Dioxane	<1.00		1.00		ug/L			06/21/17 09:39	1
Trichloroethene	<0.100		0.100		ug/L			06/21/17 09:39	1
1,2,3-Trichloropropane	<0.00500		0.00500		ug/L			06/21/17 09:39	1
Vinyl chloride	<0.0400		0.0400		ug/L			06/21/17 09:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		80 - 120					06/21/17 09:39	1
Dibromofluoromethane (Surr)	103		80 - 120					06/21/17 09:39	1
Toluene-d8 (Surr)	93		79 - 119					06/21/17 09:39	1

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			06/19/17 19:43	1
Allyl chloride	<2.00		2.00		ug/L			06/19/17 19:43	1
Benzene	<0.500		0.500		ug/L			06/19/17 19:43	1
Bromobenzene	<1.00		1.00		ug/L			06/19/17 19:43	1
Bromochloromethane	<5.00		5.00		ug/L			06/19/17 19:43	1
Bromodichloromethane	<1.00		1.00		ug/L			06/19/17 19:43	1
Bromoform	<5.00		5.00		ug/L			06/19/17 19:43	1
Bromomethane	<2.00		2.00		ug/L			06/19/17 19:43	1
2-Butanone (MEK)	<10.0		10.0		ug/L			06/19/17 19:43	1
Chlorobenzene	<1.00		1.00		ug/L			06/19/17 19:43	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			06/19/17 19:43	1
Chloroform	<1.00		1.00		ug/L			06/19/17 19:43	1
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			06/19/17 19:43	1
2-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 19:43	1
4-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 19:43	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			06/19/17 19:43	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 19:43	1
Dibromochloromethane	<2.00		2.00		ug/L			06/19/17 19:43	1
Dibromomethane	<1.00		1.00		ug/L			06/19/17 19:43	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 19:43	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 19:43	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 19:43	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			06/19/17 19:43	1
1,1-Dichloroethane	<1.00		1.00		ug/L			06/19/17 19:43	1
1,1-Dichloroethene	<2.00		2.00		ug/L			06/19/17 19:43	1
Dichlorofluoromethane	<1.00		1.00		ug/L			06/19/17 19:43	1
1,2-Dichloropropane	<1.00		1.00		ug/L			06/19/17 19:43	1
1,3-Dichloropropane	<1.00		1.00		ug/L			06/19/17 19:43	1
2,2-Dichloropropane	<4.00		4.00		ug/L			06/19/17 19:43	1
1,1-Dichloropropene	<1.00		1.00		ug/L			06/19/17 19:43	1
Diethyl ether	<2.00		2.00		ug/L			06/19/17 19:43	1
Ethylbenzene	<1.00		1.00		ug/L			06/19/17 19:43	1
Hexachlorobutadiene	<1.00		1.00		ug/L			06/19/17 19:43	1
Isopropylbenzene	<1.00		1.00		ug/L			06/19/17 19:43	1

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: Trip Blank 2

Lab Sample ID: 310-108069-19

Date Collected: 06/15/17 00:00

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Isopropyltoluene	<1.00		1.00		ug/L			06/19/17 19:43	1
Methylene Chloride	<1.00		1.00		ug/L			06/19/17 19:43	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			06/19/17 19:43	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			06/19/17 19:43	1
Naphthalene	<5.00		5.00		ug/L			06/19/17 19:43	1
n-Butylbenzene	<1.00		1.00		ug/L			06/19/17 19:43	1
n-Propylbenzene	<1.00		1.00		ug/L			06/19/17 19:43	1
sec-Butylbenzene	<1.00		1.00		ug/L			06/19/17 19:43	1
Styrene	<1.00		1.00		ug/L			06/19/17 19:43	1
tert-Butylbenzene	<1.00		1.00		ug/L			06/19/17 19:43	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			06/19/17 19:43	1
1,1,2,2-Tetrachloroethane	<0.500		0.500		ug/L			06/19/17 19:43	1
Tetrachloroethene	<1.00		1.00		ug/L			06/19/17 19:43	1
Tetrahydrofuran	<10.0		10.0		ug/L			06/19/17 19:43	1
Toluene	<1.00		1.00		ug/L			06/19/17 19:43	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			06/19/17 19:43	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 19:43	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			06/19/17 19:43	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			06/19/17 19:43	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			06/19/17 19:43	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			06/19/17 19:43	1
Trichlorofluoromethane	<4.00		4.00		ug/L			06/19/17 19:43	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			06/19/17 19:43	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 19:43	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 19:43	1
Xylenes, Total	<3.00		3.00		ug/L			06/19/17 19:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		82 - 122		06/19/17 19:43	1
Dibromofluoromethane (Surr)	106		79 - 119		06/19/17 19:43	1
Toluene-d8 (Surr)	97		77 - 117		06/19/17 19:43	1

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: REEP-1

Date Collected: 06/14/17 16:27

Date Received: 06/16/17 09:40

Lab Sample ID: 310-108069-20

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.100		0.100		ug/L			06/22/17 17:52	1
1,2-Dibromo-3-Chloropropane	<0.0500		0.0500		ug/L			06/22/17 17:52	1
1,2-Dibromoethane (EDB)	<0.00500		0.00500		ug/L			06/22/17 17:52	1
1,2-Dichloroethane	<0.100		0.100		ug/L			06/22/17 17:52	1
Trichloroethene	366		50.0		ug/L			06/26/17 19:33	500
1,2,3-Trichloropropane	<0.00500		0.00500		ug/L			06/22/17 17:52	1
Vinyl chloride	0.290		0.0400		ug/L			06/22/17 17:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		80 - 120		06/22/17 17:52	1
4-Bromofluorobenzene (Surr)	98		80 - 120		06/26/17 19:33	500
Dibromofluoromethane (Surr)	106		80 - 120		06/22/17 17:52	1
Dibromofluoromethane (Surr)	101		80 - 120		06/26/17 19:33	500
Toluene-d8 (Surr)	92		79 - 119		06/22/17 17:52	1
Toluene-d8 (Surr)	100		79 - 119		06/26/17 19:33	500

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			06/20/17 00:49	1
Allyl chloride	<2.00		2.00		ug/L			06/20/17 00:49	1
Benzene	<0.500		0.500		ug/L			06/20/17 00:49	1
Bromobenzene	<1.00		1.00		ug/L			06/20/17 00:49	1
Bromochloromethane	<5.00		5.00		ug/L			06/20/17 00:49	1
Bromodichloromethane	<1.00		1.00		ug/L			06/20/17 00:49	1
Bromoform	<5.00		5.00		ug/L			06/20/17 00:49	1
Bromomethane	<2.00		2.00		ug/L			06/20/17 00:49	1
2-Butanone (MEK)	<10.0		10.0		ug/L			06/20/17 00:49	1
Chlorobenzene	<1.00		1.00		ug/L			06/20/17 00:49	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			06/20/17 00:49	1
Chloroform	<1.00		1.00		ug/L			06/20/17 00:49	1
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			06/20/17 00:49	1
2-Chlorotoluene	<1.00		1.00		ug/L			06/20/17 00:49	1
4-Chlorotoluene	<1.00		1.00		ug/L			06/20/17 00:49	1
cis-1,2-Dichloroethene	14.1		1.00		ug/L			06/20/17 00:49	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			06/20/17 00:49	1
Dibromochloromethane	<2.00		2.00		ug/L			06/20/17 00:49	1
Dibromomethane	<1.00		1.00		ug/L			06/20/17 00:49	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			06/20/17 00:49	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			06/20/17 00:49	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			06/20/17 00:49	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			06/20/17 00:49	1
1,1-Dichloroethane	3.84		1.00		ug/L			06/20/17 00:49	1
1,1-Dichloroethene	<2.00		2.00		ug/L			06/20/17 00:49	1
Dichlorofluoromethane	<1.00		1.00		ug/L			06/20/17 00:49	1
1,2-Dichloropropane	2.20		1.00		ug/L			06/20/17 00:49	1
1,3-Dichloropropane	<1.00		1.00		ug/L			06/20/17 00:49	1
2,2-Dichloropropane	<4.00		4.00		ug/L			06/20/17 00:49	1
1,1-Dichloropropene	<1.00		1.00		ug/L			06/20/17 00:49	1
Diethyl ether	<2.00		2.00		ug/L			06/20/17 00:49	1
Ethylbenzene	<1.00		1.00		ug/L			06/20/17 00:49	1

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: REEP-1

Lab Sample ID: 310-108069-20

Date Collected: 06/14/17 16:27

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	<1.00		1.00		ug/L			06/20/17 00:49	1
Isopropylbenzene	<1.00		1.00		ug/L			06/20/17 00:49	1
4-Isopropyltoluene	<1.00		1.00		ug/L			06/20/17 00:49	1
Methylene Chloride	<1.00		1.00		ug/L			06/20/17 00:49	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			06/20/17 00:49	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			06/20/17 00:49	1
Naphthalene	<5.00		5.00		ug/L			06/20/17 00:49	1
n-Butylbenzene	<1.00		1.00		ug/L			06/20/17 00:49	1
n-Propylbenzene	<1.00		1.00		ug/L			06/20/17 00:49	1
sec-Butylbenzene	<1.00		1.00		ug/L			06/20/17 00:49	1
Styrene	<1.00		1.00		ug/L			06/20/17 00:49	1
tert-Butylbenzene	<1.00		1.00		ug/L			06/20/17 00:49	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			06/20/17 00:49	1
1,1,1,2-Tetrachloroethane	<0.500		0.500		ug/L			06/20/17 00:49	1
Tetrachloroethene	<1.00		1.00		ug/L			06/20/17 00:49	1
Tetrahydrofuran	<10.0		10.0		ug/L			06/20/17 00:49	1
Toluene	<1.00		1.00		ug/L			06/20/17 00:49	1
trans-1,2-Dichloroethene	11.0		1.00		ug/L			06/20/17 00:49	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			06/20/17 00:49	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			06/20/17 00:49	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			06/20/17 00:49	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			06/20/17 00:49	1
1,1,1,2-Trichloroethane	<0.500		0.500		ug/L			06/20/17 00:49	1
Trichlorofluoromethane	<4.00		4.00		ug/L			06/20/17 00:49	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			06/20/17 00:49	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			06/20/17 00:49	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			06/20/17 00:49	1
Xylenes, Total	<3.00		3.00		ug/L			06/20/17 00:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		82 - 122		06/20/17 00:49	1
Dibromofluoromethane (Surr)	106		79 - 119		06/20/17 00:49	1
Toluene-d8 (Surr)	99		77 - 117		06/20/17 00:49	1

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: REEP-2S

Lab Sample ID: 310-108069-21

Date Collected: 06/14/17 16:00

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.100		0.100		ug/L			06/22/17 14:17	1
1,2-Dibromo-3-Chloropropane	<0.0500		0.0500		ug/L			06/22/17 14:17	1
1,2-Dibromoethane (EDB)	<0.00500		0.00500		ug/L			06/22/17 14:17	1
1,2-Dichloroethane	<0.100		0.100		ug/L			06/22/17 14:17	1
Trichloroethene	<0.100		0.100		ug/L			06/22/17 14:17	1
1,2,3-Trichloropropane	<0.00500		0.00500		ug/L			06/22/17 14:17	1
Vinyl chloride	<0.0400		0.0400		ug/L			06/22/17 14:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		80 - 120		06/22/17 14:17	1
Dibromofluoromethane (Surr)	105		80 - 120		06/22/17 14:17	1
Toluene-d8 (Surr)	92		79 - 119		06/22/17 14:17	1

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			06/20/17 01:13	1
Allyl chloride	<2.00		2.00		ug/L			06/20/17 01:13	1
Benzene	<0.500		0.500		ug/L			06/20/17 01:13	1
Bromobenzene	<1.00		1.00		ug/L			06/20/17 01:13	1
Bromochloromethane	<5.00		5.00		ug/L			06/20/17 01:13	1
Bromodichloromethane	<1.00		1.00		ug/L			06/20/17 01:13	1
Bromoform	<5.00		5.00		ug/L			06/20/17 01:13	1
Bromomethane	<2.00		2.00		ug/L			06/20/17 01:13	1
2-Butanone (MEK)	<10.0		10.0		ug/L			06/20/17 01:13	1
Chlorobenzene	<1.00		1.00		ug/L			06/20/17 01:13	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			06/20/17 01:13	1
Chloroform	<1.00		1.00		ug/L			06/20/17 01:13	1
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			06/20/17 01:13	1
2-Chlorotoluene	<1.00		1.00		ug/L			06/20/17 01:13	1
4-Chlorotoluene	<1.00		1.00		ug/L			06/20/17 01:13	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			06/20/17 01:13	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			06/20/17 01:13	1
Dibromochloromethane	<2.00		2.00		ug/L			06/20/17 01:13	1
Dibromomethane	<1.00		1.00		ug/L			06/20/17 01:13	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			06/20/17 01:13	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			06/20/17 01:13	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			06/20/17 01:13	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			06/20/17 01:13	1
1,1-Dichloroethane	<1.00		1.00		ug/L			06/20/17 01:13	1
1,1-Dichloroethene	<2.00		2.00		ug/L			06/20/17 01:13	1
Dichlorofluoromethane	<1.00		1.00		ug/L			06/20/17 01:13	1
1,2-Dichloropropane	<1.00		1.00		ug/L			06/20/17 01:13	1
1,3-Dichloropropane	<1.00		1.00		ug/L			06/20/17 01:13	1
2,2-Dichloropropane	<4.00		4.00		ug/L			06/20/17 01:13	1
1,1-Dichloropropene	<1.00		1.00		ug/L			06/20/17 01:13	1
Diethyl ether	<2.00		2.00		ug/L			06/20/17 01:13	1
Ethylbenzene	<1.00		1.00		ug/L			06/20/17 01:13	1
Hexachlorobutadiene	<1.00		1.00		ug/L			06/20/17 01:13	1
Isopropylbenzene	<1.00		1.00		ug/L			06/20/17 01:13	1
4-Isopropyltoluene	<1.00		1.00		ug/L			06/20/17 01:13	1

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: REEP-2S

Lab Sample ID: 310-108069-21

Date Collected: 06/14/17 16:00

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	<1.00		1.00		ug/L			06/20/17 01:13	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			06/20/17 01:13	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			06/20/17 01:13	1
Naphthalene	<5.00		5.00		ug/L			06/20/17 01:13	1
n-Butylbenzene	<1.00		1.00		ug/L			06/20/17 01:13	1
n-Propylbenzene	<1.00		1.00		ug/L			06/20/17 01:13	1
sec-Butylbenzene	<1.00		1.00		ug/L			06/20/17 01:13	1
Styrene	<1.00		1.00		ug/L			06/20/17 01:13	1
tert-Butylbenzene	<1.00		1.00		ug/L			06/20/17 01:13	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			06/20/17 01:13	1
1,1,2,2-Tetrachloroethane	<0.500		0.500		ug/L			06/20/17 01:13	1
Tetrachloroethene	<1.00		1.00		ug/L			06/20/17 01:13	1
Tetrahydrofuran	<10.0		10.0		ug/L			06/20/17 01:13	1
Toluene	<1.00		1.00		ug/L			06/20/17 01:13	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			06/20/17 01:13	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			06/20/17 01:13	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			06/20/17 01:13	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			06/20/17 01:13	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			06/20/17 01:13	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			06/20/17 01:13	1
Trichlorofluoromethane	<4.00		4.00		ug/L			06/20/17 01:13	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			06/20/17 01:13	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			06/20/17 01:13	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			06/20/17 01:13	1
Xylenes, Total	<3.00		3.00		ug/L			06/20/17 01:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		82 - 122		06/20/17 01:13	1
Dibromofluoromethane (Surr)	106		79 - 119		06/20/17 01:13	1
Toluene-d8 (Surr)	95		77 - 117		06/20/17 01:13	1

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: REEP-2

Lab Sample ID: 310-108069-22

Date Collected: 06/15/17 10:05

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.100		0.100		ug/L			06/22/17 14:41	1
1,2-Dibromo-3-Chloropropane	<0.0500		0.0500		ug/L			06/22/17 14:41	1
1,2-Dibromoethane (EDB)	<0.00500		0.00500		ug/L			06/22/17 14:41	1
1,2-Dichloroethane	<0.100		0.100		ug/L			06/22/17 14:41	1
Trichloroethene	<0.100		0.100		ug/L			06/22/17 14:41	1
1,2,3-Trichloropropane	<0.00500		0.00500		ug/L			06/22/17 14:41	1
Vinyl chloride	<0.0400		0.0400		ug/L			06/22/17 14:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		80 - 120		06/22/17 14:41	1
Dibromofluoromethane (Surr)	106		80 - 120		06/22/17 14:41	1
Toluene-d8 (Surr)	92		79 - 119		06/22/17 14:41	1

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			06/20/17 01:36	1
Allyl chloride	<2.00		2.00		ug/L			06/20/17 01:36	1
Benzene	<0.500		0.500		ug/L			06/20/17 01:36	1
Bromobenzene	<1.00		1.00		ug/L			06/20/17 01:36	1
Bromochloromethane	<5.00		5.00		ug/L			06/20/17 01:36	1
Bromodichloromethane	<1.00		1.00		ug/L			06/20/17 01:36	1
Bromoform	<5.00		5.00		ug/L			06/20/17 01:36	1
Bromomethane	<2.00		2.00		ug/L			06/20/17 01:36	1
2-Butanone (MEK)	<10.0		10.0		ug/L			06/20/17 01:36	1
Chlorobenzene	<1.00		1.00		ug/L			06/20/17 01:36	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			06/20/17 01:36	1
Chloroform	<1.00		1.00		ug/L			06/20/17 01:36	1
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			06/20/17 01:36	1
2-Chlorotoluene	<1.00		1.00		ug/L			06/20/17 01:36	1
4-Chlorotoluene	<1.00		1.00		ug/L			06/20/17 01:36	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			06/20/17 01:36	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			06/20/17 01:36	1
Dibromochloromethane	<2.00		2.00		ug/L			06/20/17 01:36	1
Dibromomethane	<1.00		1.00		ug/L			06/20/17 01:36	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			06/20/17 01:36	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			06/20/17 01:36	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			06/20/17 01:36	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			06/20/17 01:36	1
1,1-Dichloroethane	<1.00		1.00		ug/L			06/20/17 01:36	1
1,1-Dichloroethene	<2.00		2.00		ug/L			06/20/17 01:36	1
Dichlorofluoromethane	<1.00		1.00		ug/L			06/20/17 01:36	1
1,2-Dichloropropane	<1.00		1.00		ug/L			06/20/17 01:36	1
1,3-Dichloropropane	<1.00		1.00		ug/L			06/20/17 01:36	1
2,2-Dichloropropane	<4.00		4.00		ug/L			06/20/17 01:36	1
1,1-Dichloropropene	<1.00		1.00		ug/L			06/20/17 01:36	1
Diethyl ether	<2.00		2.00		ug/L			06/20/17 01:36	1
Ethylbenzene	<1.00		1.00		ug/L			06/20/17 01:36	1
Hexachlorobutadiene	<1.00		1.00		ug/L			06/20/17 01:36	1
Isopropylbenzene	<1.00		1.00		ug/L			06/20/17 01:36	1
4-Isopropyltoluene	<1.00		1.00		ug/L			06/20/17 01:36	1

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: REEP-2

Lab Sample ID: 310-108069-22

Date Collected: 06/15/17 10:05

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	<1.00		1.00		ug/L			06/20/17 01:36	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			06/20/17 01:36	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			06/20/17 01:36	1
Naphthalene	<5.00		5.00		ug/L			06/20/17 01:36	1
n-Butylbenzene	<1.00		1.00		ug/L			06/20/17 01:36	1
n-Propylbenzene	<1.00		1.00		ug/L			06/20/17 01:36	1
sec-Butylbenzene	<1.00		1.00		ug/L			06/20/17 01:36	1
Styrene	<1.00		1.00		ug/L			06/20/17 01:36	1
tert-Butylbenzene	<1.00		1.00		ug/L			06/20/17 01:36	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			06/20/17 01:36	1
1,1,2,2-Tetrachloroethane	<0.500		0.500		ug/L			06/20/17 01:36	1
Tetrachloroethene	<1.00		1.00		ug/L			06/20/17 01:36	1
Tetrahydrofuran	<10.0		10.0		ug/L			06/20/17 01:36	1
Toluene	<1.00		1.00		ug/L			06/20/17 01:36	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			06/20/17 01:36	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			06/20/17 01:36	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			06/20/17 01:36	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			06/20/17 01:36	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			06/20/17 01:36	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			06/20/17 01:36	1
Trichlorofluoromethane	<4.00		4.00		ug/L			06/20/17 01:36	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			06/20/17 01:36	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			06/20/17 01:36	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			06/20/17 01:36	1
Xylenes, Total	<3.00		3.00		ug/L			06/20/17 01:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		82 - 122		06/20/17 01:36	1
Dibromofluoromethane (Surr)	106		79 - 119		06/20/17 01:36	1
Toluene-d8 (Surr)	95		77 - 117		06/20/17 01:36	1

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: REEP-2PC

Lab Sample ID: 310-108069-23

Date Collected: 06/15/17 11:14

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.100		0.100		ug/L			06/22/17 15:05	1
1,2-Dibromo-3-Chloropropane	<0.0500		0.0500		ug/L			06/22/17 15:05	1
1,2-Dibromoethane (EDB)	<0.00500		0.00500		ug/L			06/22/17 15:05	1
1,2-Dichloroethane	0.403		0.100		ug/L			06/22/17 15:05	1
Trichloroethene	0.512		0.100		ug/L			06/22/17 15:05	1
1,2,3-Trichloropropane	<0.00500		0.00500		ug/L			06/22/17 15:05	1
Vinyl chloride	<0.0400		0.0400		ug/L			06/22/17 15:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		80 - 120		06/22/17 15:05	1
Dibromofluoromethane (Surr)	106		80 - 120		06/22/17 15:05	1
Toluene-d8 (Surr)	91		79 - 119		06/22/17 15:05	1

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			06/20/17 02:00	1
Allyl chloride	<2.00		2.00		ug/L			06/20/17 02:00	1
Benzene	<0.500		0.500		ug/L			06/20/17 02:00	1
Bromobenzene	<1.00		1.00		ug/L			06/20/17 02:00	1
Bromochloromethane	<5.00		5.00		ug/L			06/20/17 02:00	1
Bromodichloromethane	<1.00		1.00		ug/L			06/20/17 02:00	1
Bromoform	<5.00		5.00		ug/L			06/20/17 02:00	1
Bromomethane	<2.00		2.00		ug/L			06/20/17 02:00	1
2-Butanone (MEK)	<10.0		10.0		ug/L			06/20/17 02:00	1
Chlorobenzene	<1.00		1.00		ug/L			06/20/17 02:00	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			06/20/17 02:00	1
Chloroform	<1.00		1.00		ug/L			06/20/17 02:00	1
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			06/20/17 02:00	1
2-Chlorotoluene	<1.00		1.00		ug/L			06/20/17 02:00	1
4-Chlorotoluene	<1.00		1.00		ug/L			06/20/17 02:00	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			06/20/17 02:00	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			06/20/17 02:00	1
Dibromochloromethane	<2.00		2.00		ug/L			06/20/17 02:00	1
Dibromomethane	<1.00		1.00		ug/L			06/20/17 02:00	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			06/20/17 02:00	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			06/20/17 02:00	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			06/20/17 02:00	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			06/20/17 02:00	1
1,1-Dichloroethane	<1.00		1.00		ug/L			06/20/17 02:00	1
1,1-Dichloroethene	<2.00		2.00		ug/L			06/20/17 02:00	1
Dichlorofluoromethane	<1.00		1.00		ug/L			06/20/17 02:00	1
1,2-Dichloropropane	<1.00		1.00		ug/L			06/20/17 02:00	1
1,3-Dichloropropane	<1.00		1.00		ug/L			06/20/17 02:00	1
2,2-Dichloropropane	<4.00		4.00		ug/L			06/20/17 02:00	1
1,1-Dichloropropene	<1.00		1.00		ug/L			06/20/17 02:00	1
Diethyl ether	<2.00		2.00		ug/L			06/20/17 02:00	1
Ethylbenzene	<1.00		1.00		ug/L			06/20/17 02:00	1
Hexachlorobutadiene	<1.00		1.00		ug/L			06/20/17 02:00	1
Isopropylbenzene	<1.00		1.00		ug/L			06/20/17 02:00	1
4-Isopropyltoluene	<1.00		1.00		ug/L			06/20/17 02:00	1

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: REEP-2PC

Lab Sample ID: 310-108069-23

Date Collected: 06/15/17 11:14

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	<1.00		1.00		ug/L			06/20/17 02:00	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			06/20/17 02:00	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			06/20/17 02:00	1
Naphthalene	<5.00		5.00		ug/L			06/20/17 02:00	1
n-Butylbenzene	<1.00		1.00		ug/L			06/20/17 02:00	1
n-Propylbenzene	<1.00		1.00		ug/L			06/20/17 02:00	1
sec-Butylbenzene	<1.00		1.00		ug/L			06/20/17 02:00	1
Styrene	<1.00		1.00		ug/L			06/20/17 02:00	1
tert-Butylbenzene	<1.00		1.00		ug/L			06/20/17 02:00	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			06/20/17 02:00	1
1,1,2,2-Tetrachloroethane	<0.500		0.500		ug/L			06/20/17 02:00	1
Tetrachloroethene	<1.00		1.00		ug/L			06/20/17 02:00	1
Tetrahydrofuran	<10.0		10.0		ug/L			06/20/17 02:00	1
Toluene	<1.00		1.00		ug/L			06/20/17 02:00	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			06/20/17 02:00	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			06/20/17 02:00	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			06/20/17 02:00	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			06/20/17 02:00	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			06/20/17 02:00	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			06/20/17 02:00	1
Trichlorofluoromethane	<4.00		4.00		ug/L			06/20/17 02:00	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			06/20/17 02:00	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			06/20/17 02:00	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			06/20/17 02:00	1
Xylenes, Total	<3.00		3.00		ug/L			06/20/17 02:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		82 - 122		06/20/17 02:00	1
Dibromofluoromethane (Surr)	105		79 - 119		06/20/17 02:00	1
Toluene-d8 (Surr)	95		77 - 117		06/20/17 02:00	1

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: Trip Blank 1

Lab Sample ID: 310-108069-24

Date Collected: 06/15/17 00:00

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.100		0.100		ug/L			06/22/17 13:29	1
1,2-Dibromo-3-Chloropropane	<0.0500		0.0500		ug/L			06/22/17 13:29	1
1,2-Dibromoethane (EDB)	<0.00500		0.00500		ug/L			06/22/17 13:29	1
1,2-Dichloroethane	<0.100		0.100		ug/L			06/22/17 13:29	1
1,4-Dioxane	<1.00		1.00		ug/L			06/22/17 13:29	1
Trichloroethene	<0.100		0.100		ug/L			06/22/17 13:29	1
1,2,3-Trichloropropane	<0.00500		0.00500		ug/L			06/22/17 13:29	1
Vinyl chloride	<0.0400		0.0400		ug/L			06/22/17 13:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		80 - 120					06/22/17 13:29	1
Dibromofluoromethane (Surr)	104		80 - 120					06/22/17 13:29	1
Toluene-d8 (Surr)	91		79 - 119					06/22/17 13:29	1

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			06/19/17 20:06	1
Allyl chloride	<2.00		2.00		ug/L			06/19/17 20:06	1
Benzene	<0.500		0.500		ug/L			06/19/17 20:06	1
Bromobenzene	<1.00		1.00		ug/L			06/19/17 20:06	1
Bromochloromethane	<5.00		5.00		ug/L			06/19/17 20:06	1
Bromodichloromethane	<1.00		1.00		ug/L			06/19/17 20:06	1
Bromoform	<5.00		5.00		ug/L			06/19/17 20:06	1
Bromomethane	<2.00		2.00		ug/L			06/19/17 20:06	1
2-Butanone (MEK)	<10.0		10.0		ug/L			06/19/17 20:06	1
Chlorobenzene	<1.00		1.00		ug/L			06/19/17 20:06	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			06/19/17 20:06	1
Chloroform	<1.00		1.00		ug/L			06/19/17 20:06	1
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			06/19/17 20:06	1
2-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 20:06	1
4-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 20:06	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			06/19/17 20:06	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 20:06	1
Dibromochloromethane	<2.00		2.00		ug/L			06/19/17 20:06	1
Dibromomethane	<1.00		1.00		ug/L			06/19/17 20:06	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 20:06	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 20:06	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 20:06	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			06/19/17 20:06	1
1,1-Dichloroethane	<1.00		1.00		ug/L			06/19/17 20:06	1
1,1-Dichloroethene	<2.00		2.00		ug/L			06/19/17 20:06	1
Dichlorofluoromethane	<1.00		1.00		ug/L			06/19/17 20:06	1
1,2-Dichloropropane	<1.00		1.00		ug/L			06/19/17 20:06	1
1,3-Dichloropropane	<1.00		1.00		ug/L			06/19/17 20:06	1
2,2-Dichloropropane	<4.00		4.00		ug/L			06/19/17 20:06	1
1,1-Dichloropropene	<1.00		1.00		ug/L			06/19/17 20:06	1
Diethyl ether	<2.00		2.00		ug/L			06/19/17 20:06	1
Ethylbenzene	<1.00		1.00		ug/L			06/19/17 20:06	1
Hexachlorobutadiene	<1.00		1.00		ug/L			06/19/17 20:06	1
Isopropylbenzene	<1.00		1.00		ug/L			06/19/17 20:06	1

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: Trip Blank 1

Lab Sample ID: 310-108069-24

Date Collected: 06/15/17 00:00

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Isopropyltoluene	<1.00		1.00		ug/L			06/19/17 20:06	1
Methylene Chloride	<1.00		1.00		ug/L			06/19/17 20:06	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			06/19/17 20:06	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			06/19/17 20:06	1
Naphthalene	<5.00		5.00		ug/L			06/19/17 20:06	1
n-Butylbenzene	<1.00		1.00		ug/L			06/19/17 20:06	1
n-Propylbenzene	<1.00		1.00		ug/L			06/19/17 20:06	1
sec-Butylbenzene	<1.00		1.00		ug/L			06/19/17 20:06	1
Styrene	<1.00		1.00		ug/L			06/19/17 20:06	1
tert-Butylbenzene	<1.00		1.00		ug/L			06/19/17 20:06	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			06/19/17 20:06	1
1,1,2,2-Tetrachloroethane	<0.500		0.500		ug/L			06/19/17 20:06	1
Tetrachloroethene	<1.00		1.00		ug/L			06/19/17 20:06	1
Tetrahydrofuran	<10.0		10.0		ug/L			06/19/17 20:06	1
Toluene	<1.00		1.00		ug/L			06/19/17 20:06	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			06/19/17 20:06	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 20:06	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			06/19/17 20:06	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			06/19/17 20:06	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			06/19/17 20:06	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			06/19/17 20:06	1
Trichlorofluoromethane	<4.00		4.00		ug/L			06/19/17 20:06	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			06/19/17 20:06	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 20:06	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 20:06	1
Xylenes, Total	<3.00		3.00		ug/L			06/19/17 20:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		82 - 122		06/19/17 20:06	1
Dibromofluoromethane (Surr)	105		79 - 119		06/19/17 20:06	1
Toluene-d8 (Surr)	96		77 - 117		06/19/17 20:06	1

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: Equipment Blank 1

Lab Sample ID: 310-108069-25

Date Collected: 06/12/17 18:14

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.100		0.100		ug/L			06/22/17 15:29	1
1,2-Dibromo-3-Chloropropane	<0.0500		0.0500		ug/L			06/22/17 15:29	1
1,2-Dibromoethane (EDB)	<0.00500		0.00500		ug/L			06/22/17 15:29	1
1,2-Dichloroethane	<0.100		0.100		ug/L			06/22/17 15:29	1
1,4-Dioxane	<1.00		1.00		ug/L			06/22/17 15:29	1
Trichloroethene	<0.100		0.100		ug/L			06/22/17 15:29	1
1,2,3-Trichloropropane	<0.00500		0.00500		ug/L			06/22/17 15:29	1
Vinyl chloride	<0.0400		0.0400		ug/L			06/22/17 15:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		80 - 120					06/22/17 15:29	1
Dibromofluoromethane (Surr)	106		80 - 120					06/22/17 15:29	1
Toluene-d8 (Surr)	91		79 - 119					06/22/17 15:29	1

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			06/19/17 20:30	1
Allyl chloride	<2.00		2.00		ug/L			06/19/17 20:30	1
Benzene	<0.500		0.500		ug/L			06/19/17 20:30	1
Bromobenzene	<1.00		1.00		ug/L			06/19/17 20:30	1
Bromochloromethane	<5.00		5.00		ug/L			06/19/17 20:30	1
Bromodichloromethane	<1.00		1.00		ug/L			06/19/17 20:30	1
Bromoform	<5.00		5.00		ug/L			06/19/17 20:30	1
Bromomethane	<2.00		2.00		ug/L			06/19/17 20:30	1
2-Butanone (MEK)	<10.0		10.0		ug/L			06/19/17 20:30	1
Chlorobenzene	<1.00		1.00		ug/L			06/19/17 20:30	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			06/19/17 20:30	1
Chloroform	2.50		1.00		ug/L			06/19/17 20:30	1
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			06/19/17 20:30	1
2-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 20:30	1
4-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 20:30	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			06/19/17 20:30	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 20:30	1
Dibromochloromethane	<2.00		2.00		ug/L			06/19/17 20:30	1
Dibromomethane	<1.00		1.00		ug/L			06/19/17 20:30	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 20:30	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 20:30	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 20:30	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			06/19/17 20:30	1
1,1-Dichloroethane	<1.00		1.00		ug/L			06/19/17 20:30	1
1,1-Dichloroethene	<2.00		2.00		ug/L			06/19/17 20:30	1
Dichlorofluoromethane	<1.00		1.00		ug/L			06/19/17 20:30	1
1,2-Dichloropropane	<1.00		1.00		ug/L			06/19/17 20:30	1
1,3-Dichloropropane	<1.00		1.00		ug/L			06/19/17 20:30	1
2,2-Dichloropropane	<4.00		4.00		ug/L			06/19/17 20:30	1
1,1-Dichloropropene	<1.00		1.00		ug/L			06/19/17 20:30	1
Diethyl ether	<2.00		2.00		ug/L			06/19/17 20:30	1
Ethylbenzene	<1.00		1.00		ug/L			06/19/17 20:30	1
Hexachlorobutadiene	<1.00		1.00		ug/L			06/19/17 20:30	1
Isopropylbenzene	<1.00		1.00		ug/L			06/19/17 20:30	1

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: Equipment Blank 1

Lab Sample ID: 310-108069-25

Date Collected: 06/12/17 18:14

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Isopropyltoluene	<1.00		1.00		ug/L			06/19/17 20:30	1
Methylene Chloride	<1.00		1.00		ug/L			06/19/17 20:30	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			06/19/17 20:30	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			06/19/17 20:30	1
Naphthalene	<5.00		5.00		ug/L			06/19/17 20:30	1
n-Butylbenzene	<1.00		1.00		ug/L			06/19/17 20:30	1
n-Propylbenzene	<1.00		1.00		ug/L			06/19/17 20:30	1
sec-Butylbenzene	<1.00		1.00		ug/L			06/19/17 20:30	1
Styrene	<1.00		1.00		ug/L			06/19/17 20:30	1
tert-Butylbenzene	<1.00		1.00		ug/L			06/19/17 20:30	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			06/19/17 20:30	1
1,1,2,2-Tetrachloroethane	<0.500		0.500		ug/L			06/19/17 20:30	1
Tetrachloroethene	<1.00		1.00		ug/L			06/19/17 20:30	1
Tetrahydrofuran	<10.0		10.0		ug/L			06/19/17 20:30	1
Toluene	<1.00		1.00		ug/L			06/19/17 20:30	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			06/19/17 20:30	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 20:30	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			06/19/17 20:30	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			06/19/17 20:30	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			06/19/17 20:30	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			06/19/17 20:30	1
Trichlorofluoromethane	<4.00		4.00		ug/L			06/19/17 20:30	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			06/19/17 20:30	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 20:30	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 20:30	1
Xylenes, Total	<3.00		3.00		ug/L			06/19/17 20:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		82 - 122		06/19/17 20:30	1
Dibromofluoromethane (Surr)	105		79 - 119		06/19/17 20:30	1
Toluene-d8 (Surr)	95		77 - 117		06/19/17 20:30	1

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: Equipment Blank 2

Lab Sample ID: 310-108069-26

Date Collected: 06/13/17 17:16

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.100		0.100		ug/L			06/22/17 15:53	1
1,2-Dibromo-3-Chloropropane	<0.0500		0.0500		ug/L			06/22/17 15:53	1
1,2-Dibromoethane (EDB)	<0.00500		0.00500		ug/L			06/22/17 15:53	1
1,2-Dichloroethane	<0.100		0.100		ug/L			06/22/17 15:53	1
1,4-Dioxane	1.16		1.00		ug/L			06/22/17 15:53	1
Trichloroethene	1.26		0.100		ug/L			06/22/17 15:53	1
1,2,3-Trichloropropane	<0.00500		0.00500		ug/L			06/22/17 15:53	1
Vinyl chloride	<0.0400		0.0400		ug/L			06/22/17 15:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		80 - 120		06/22/17 15:53	1
Dibromofluoromethane (Surr)	106		80 - 120		06/22/17 15:53	1
Toluene-d8 (Surr)	91		79 - 119		06/22/17 15:53	1

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			06/19/17 20:53	1
Allyl chloride	<2.00		2.00		ug/L			06/19/17 20:53	1
Benzene	<0.500		0.500		ug/L			06/19/17 20:53	1
Bromobenzene	<1.00		1.00		ug/L			06/19/17 20:53	1
Bromochloromethane	<5.00		5.00		ug/L			06/19/17 20:53	1
Bromodichloromethane	<1.00		1.00		ug/L			06/19/17 20:53	1
Bromoform	<5.00		5.00		ug/L			06/19/17 20:53	1
Bromomethane	<2.00		2.00		ug/L			06/19/17 20:53	1
2-Butanone (MEK)	<10.0		10.0		ug/L			06/19/17 20:53	1
Chlorobenzene	<1.00		1.00		ug/L			06/19/17 20:53	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			06/19/17 20:53	1
Chloroform	<1.00		1.00		ug/L			06/19/17 20:53	1
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			06/19/17 20:53	1
2-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 20:53	1
4-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 20:53	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			06/19/17 20:53	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 20:53	1
Dibromochloromethane	<2.00		2.00		ug/L			06/19/17 20:53	1
Dibromomethane	<1.00		1.00		ug/L			06/19/17 20:53	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 20:53	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 20:53	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 20:53	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			06/19/17 20:53	1
1,1-Dichloroethane	<1.00		1.00		ug/L			06/19/17 20:53	1
1,1-Dichloroethene	<2.00		2.00		ug/L			06/19/17 20:53	1
Dichlorofluoromethane	<1.00		1.00		ug/L			06/19/17 20:53	1
1,2-Dichloropropane	<1.00		1.00		ug/L			06/19/17 20:53	1
1,3-Dichloropropane	<1.00		1.00		ug/L			06/19/17 20:53	1
2,2-Dichloropropane	<4.00		4.00		ug/L			06/19/17 20:53	1
1,1-Dichloropropene	<1.00		1.00		ug/L			06/19/17 20:53	1
Diethyl ether	<2.00		2.00		ug/L			06/19/17 20:53	1
Ethylbenzene	<1.00		1.00		ug/L			06/19/17 20:53	1
Hexachlorobutadiene	<1.00		1.00		ug/L			06/19/17 20:53	1
Isopropylbenzene	<1.00		1.00		ug/L			06/19/17 20:53	1

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: Equipment Blank 2

Lab Sample ID: 310-108069-26

Date Collected: 06/13/17 17:16

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Isopropyltoluene	<1.00		1.00		ug/L			06/19/17 20:53	1
Methylene Chloride	<1.00		1.00		ug/L			06/19/17 20:53	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			06/19/17 20:53	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			06/19/17 20:53	1
Naphthalene	<5.00		5.00		ug/L			06/19/17 20:53	1
n-Butylbenzene	<1.00		1.00		ug/L			06/19/17 20:53	1
n-Propylbenzene	<1.00		1.00		ug/L			06/19/17 20:53	1
sec-Butylbenzene	<1.00		1.00		ug/L			06/19/17 20:53	1
Styrene	<1.00		1.00		ug/L			06/19/17 20:53	1
tert-Butylbenzene	<1.00		1.00		ug/L			06/19/17 20:53	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			06/19/17 20:53	1
1,1,2,2-Tetrachloroethane	<0.500		0.500		ug/L			06/19/17 20:53	1
Tetrachloroethene	<1.00		1.00		ug/L			06/19/17 20:53	1
Tetrahydrofuran	<10.0		10.0		ug/L			06/19/17 20:53	1
Toluene	<1.00		1.00		ug/L			06/19/17 20:53	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			06/19/17 20:53	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 20:53	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			06/19/17 20:53	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			06/19/17 20:53	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			06/19/17 20:53	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			06/19/17 20:53	1
Trichlorofluoromethane	<4.00		4.00		ug/L			06/19/17 20:53	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			06/19/17 20:53	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 20:53	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 20:53	1
Xylenes, Total	<3.00		3.00		ug/L			06/19/17 20:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		82 - 122		06/19/17 20:53	1
Dibromofluoromethane (Surr)	104		79 - 119		06/19/17 20:53	1
Toluene-d8 (Surr)	96		77 - 117		06/19/17 20:53	1

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: Equipment Blank 3

Lab Sample ID: 310-108069-27

Date Collected: 06/14/17 14:19

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.100		0.100		ug/L			06/22/17 16:17	1
1,2-Dibromo-3-Chloropropane	<0.0500		0.0500		ug/L			06/22/17 16:17	1
1,2-Dibromoethane (EDB)	<0.00500		0.00500		ug/L			06/22/17 16:17	1
1,2-Dichloroethane	<0.100		0.100		ug/L			06/22/17 16:17	1
1,4-Dioxane	1.42		1.00		ug/L			06/22/17 16:17	1
Trichloroethene	1.97		0.100		ug/L			06/22/17 16:17	1
1,2,3-Trichloropropane	<0.00500		0.00500		ug/L			06/22/17 16:17	1
Vinyl chloride	<0.0400		0.0400		ug/L			06/22/17 16:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		80 - 120					06/22/17 16:17	1
Dibromofluoromethane (Surr)	105		80 - 120					06/22/17 16:17	1
Toluene-d8 (Surr)	92		79 - 119					06/22/17 16:17	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	14.0		10.0		ug/L			06/19/17 21:17	1
Allyl chloride	<2.00		2.00		ug/L			06/19/17 21:17	1
Benzene	<0.500		0.500		ug/L			06/19/17 21:17	1
Bromobenzene	<1.00		1.00		ug/L			06/19/17 21:17	1
Bromochloromethane	<5.00		5.00		ug/L			06/19/17 21:17	1
Bromodichloromethane	<1.00		1.00		ug/L			06/19/17 21:17	1
Bromoform	<5.00		5.00		ug/L			06/19/17 21:17	1
Bromomethane	<2.00		2.00		ug/L			06/19/17 21:17	1
2-Butanone (MEK)	<10.0		10.0		ug/L			06/19/17 21:17	1
Chlorobenzene	<1.00		1.00		ug/L			06/19/17 21:17	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			06/19/17 21:17	1
Chloroform	<1.00		1.00		ug/L			06/19/17 21:17	1
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			06/19/17 21:17	1
2-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 21:17	1
4-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 21:17	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			06/19/17 21:17	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 21:17	1
Dibromochloromethane	<2.00		2.00		ug/L			06/19/17 21:17	1
Dibromomethane	<1.00		1.00		ug/L			06/19/17 21:17	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 21:17	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 21:17	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 21:17	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			06/19/17 21:17	1
1,1-Dichloroethane	<1.00		1.00		ug/L			06/19/17 21:17	1
1,1-Dichloroethene	<2.00		2.00		ug/L			06/19/17 21:17	1
Dichlorofluoromethane	<1.00		1.00		ug/L			06/19/17 21:17	1
1,2-Dichloropropane	<1.00		1.00		ug/L			06/19/17 21:17	1
1,3-Dichloropropane	<1.00		1.00		ug/L			06/19/17 21:17	1
2,2-Dichloropropane	<4.00		4.00		ug/L			06/19/17 21:17	1
1,1-Dichloropropene	<1.00		1.00		ug/L			06/19/17 21:17	1
Diethyl ether	<2.00		2.00		ug/L			06/19/17 21:17	1
Ethylbenzene	<1.00		1.00		ug/L			06/19/17 21:17	1
Hexachlorobutadiene	<1.00		1.00		ug/L			06/19/17 21:17	1
Isopropylbenzene	<1.00		1.00		ug/L			06/19/17 21:17	1

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: Equipment Blank 3

Lab Sample ID: 310-108069-27

Date Collected: 06/14/17 14:19

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Isopropyltoluene	<1.00		1.00		ug/L			06/19/17 21:17	1
Methylene Chloride	<1.00		1.00		ug/L			06/19/17 21:17	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			06/19/17 21:17	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			06/19/17 21:17	1
Naphthalene	<5.00		5.00		ug/L			06/19/17 21:17	1
n-Butylbenzene	<1.00		1.00		ug/L			06/19/17 21:17	1
n-Propylbenzene	<1.00		1.00		ug/L			06/19/17 21:17	1
sec-Butylbenzene	<1.00		1.00		ug/L			06/19/17 21:17	1
Styrene	<1.00		1.00		ug/L			06/19/17 21:17	1
tert-Butylbenzene	<1.00		1.00		ug/L			06/19/17 21:17	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			06/19/17 21:17	1
1,1,2,2-Tetrachloroethane	<0.500		0.500		ug/L			06/19/17 21:17	1
Tetrachloroethene	<1.00		1.00		ug/L			06/19/17 21:17	1
Tetrahydrofuran	<10.0		10.0		ug/L			06/19/17 21:17	1
Toluene	<1.00		1.00		ug/L			06/19/17 21:17	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			06/19/17 21:17	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 21:17	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			06/19/17 21:17	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			06/19/17 21:17	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			06/19/17 21:17	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			06/19/17 21:17	1
Trichlorofluoromethane	<4.00		4.00		ug/L			06/19/17 21:17	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			06/19/17 21:17	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 21:17	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 21:17	1
Xylenes, Total	<3.00		3.00		ug/L			06/19/17 21:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		82 - 122		06/19/17 21:17	1
Dibromofluoromethane (Surr)	105		79 - 119		06/19/17 21:17	1
Toluene-d8 (Surr)	99		77 - 117		06/19/17 21:17	1

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: Equipment Blank 4

Lab Sample ID: 310-108069-28

Date Collected: 06/15/17 11:45

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.100		0.100		ug/L			06/22/17 16:41	1
1,2-Dibromo-3-Chloropropane	<0.0500		0.0500		ug/L			06/22/17 16:41	1
1,2-Dibromoethane (EDB)	<0.00500		0.00500		ug/L			06/22/17 16:41	1
1,2-Dichloroethane	<0.100		0.100		ug/L			06/22/17 16:41	1
1,4-Dioxane	1.60		1.00		ug/L			06/22/17 16:41	1
Trichloroethene	<0.100		0.100		ug/L			06/22/17 16:41	1
1,2,3-Trichloropropane	<0.00500		0.00500		ug/L			06/22/17 16:41	1
Vinyl chloride	<0.0400		0.0400		ug/L			06/22/17 16:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		80 - 120		06/22/17 16:41	1
Dibromofluoromethane (Surr)	105		80 - 120		06/22/17 16:41	1
Toluene-d8 (Surr)	92		79 - 119		06/22/17 16:41	1

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			06/19/17 21:40	1
Allyl chloride	<2.00		2.00		ug/L			06/19/17 21:40	1
Benzene	<0.500		0.500		ug/L			06/19/17 21:40	1
Bromobenzene	<1.00		1.00		ug/L			06/19/17 21:40	1
Bromochloromethane	<5.00		5.00		ug/L			06/19/17 21:40	1
Bromodichloromethane	<1.00		1.00		ug/L			06/19/17 21:40	1
Bromoform	<5.00		5.00		ug/L			06/19/17 21:40	1
Bromomethane	<2.00		2.00		ug/L			06/19/17 21:40	1
2-Butanone (MEK)	<10.0		10.0		ug/L			06/19/17 21:40	1
Chlorobenzene	<1.00		1.00		ug/L			06/19/17 21:40	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			06/19/17 21:40	1
Chloroform	<1.00		1.00		ug/L			06/19/17 21:40	1
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			06/19/17 21:40	1
2-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 21:40	1
4-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 21:40	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			06/19/17 21:40	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 21:40	1
Dibromochloromethane	<2.00		2.00		ug/L			06/19/17 21:40	1
Dibromomethane	<1.00		1.00		ug/L			06/19/17 21:40	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 21:40	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 21:40	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 21:40	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			06/19/17 21:40	1
1,1-Dichloroethane	<1.00		1.00		ug/L			06/19/17 21:40	1
1,1-Dichloroethene	<2.00		2.00		ug/L			06/19/17 21:40	1
Dichlorofluoromethane	<1.00		1.00		ug/L			06/19/17 21:40	1
1,2-Dichloropropane	<1.00		1.00		ug/L			06/19/17 21:40	1
1,3-Dichloropropane	<1.00		1.00		ug/L			06/19/17 21:40	1
2,2-Dichloropropane	<4.00		4.00		ug/L			06/19/17 21:40	1
1,1-Dichloropropene	<1.00		1.00		ug/L			06/19/17 21:40	1
Diethyl ether	<2.00		2.00		ug/L			06/19/17 21:40	1
Ethylbenzene	<1.00		1.00		ug/L			06/19/17 21:40	1
Hexachlorobutadiene	<1.00		1.00		ug/L			06/19/17 21:40	1
Isopropylbenzene	<1.00		1.00		ug/L			06/19/17 21:40	1

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: Equipment Blank 4

Lab Sample ID: 310-108069-28

Date Collected: 06/15/17 11:45

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Isopropyltoluene	<1.00		1.00		ug/L			06/19/17 21:40	1
Methylene Chloride	<1.00		1.00		ug/L			06/19/17 21:40	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			06/19/17 21:40	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			06/19/17 21:40	1
Naphthalene	<5.00		5.00		ug/L			06/19/17 21:40	1
n-Butylbenzene	<1.00		1.00		ug/L			06/19/17 21:40	1
n-Propylbenzene	<1.00		1.00		ug/L			06/19/17 21:40	1
sec-Butylbenzene	<1.00		1.00		ug/L			06/19/17 21:40	1
Styrene	<1.00		1.00		ug/L			06/19/17 21:40	1
tert-Butylbenzene	<1.00		1.00		ug/L			06/19/17 21:40	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			06/19/17 21:40	1
1,1,2,2-Tetrachloroethane	<0.500		0.500		ug/L			06/19/17 21:40	1
Tetrachloroethene	<1.00		1.00		ug/L			06/19/17 21:40	1
Tetrahydrofuran	<10.0		10.0		ug/L			06/19/17 21:40	1
Toluene	<1.00		1.00		ug/L			06/19/17 21:40	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			06/19/17 21:40	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 21:40	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			06/19/17 21:40	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			06/19/17 21:40	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			06/19/17 21:40	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			06/19/17 21:40	1
Trichlorofluoromethane	<4.00		4.00		ug/L			06/19/17 21:40	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			06/19/17 21:40	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 21:40	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 21:40	1
Xylenes, Total	<3.00		3.00		ug/L			06/19/17 21:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		82 - 122		06/19/17 21:40	1
Dibromofluoromethane (Surr)	105		79 - 119		06/19/17 21:40	1
Toluene-d8 (Surr)	100		77 - 117		06/19/17 21:40	1

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: Duplicate 1

Lab Sample ID: 310-108069-29

Date Collected: 06/13/17 09:30

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.100		0.100		ug/L			06/22/17 17:04	1
1,2-Dibromo-3-Chloropropane	<0.0500		0.0500		ug/L			06/22/17 17:04	1
1,2-Dibromoethane (EDB)	<0.00500		0.00500		ug/L			06/22/17 17:04	1
1,2-Dichloroethane	<0.100		0.100		ug/L			06/22/17 17:04	1
Trichloroethene	13.1		1.00		ug/L			06/26/17 18:45	10
1,2,3-Trichloropropane	<0.00500		0.00500		ug/L			06/22/17 17:04	1
Vinyl chloride	0.418		0.0400		ug/L			06/22/17 17:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		80 - 120		06/22/17 17:04	1
4-Bromofluorobenzene (Surr)	99		80 - 120		06/26/17 18:45	10
Dibromofluoromethane (Surr)	106		80 - 120		06/22/17 17:04	1
Dibromofluoromethane (Surr)	102		80 - 120		06/26/17 18:45	10
Toluene-d8 (Surr)	92		79 - 119		06/22/17 17:04	1
Toluene-d8 (Surr)	99		79 - 119		06/26/17 18:45	10

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			06/20/17 02:23	1
Allyl chloride	<2.00		2.00		ug/L			06/20/17 02:23	1
Benzene	<0.500		0.500		ug/L			06/20/17 02:23	1
Bromobenzene	<1.00		1.00		ug/L			06/20/17 02:23	1
Bromochloromethane	<5.00		5.00		ug/L			06/20/17 02:23	1
Bromodichloromethane	<1.00		1.00		ug/L			06/20/17 02:23	1
Bromoform	<5.00		5.00		ug/L			06/20/17 02:23	1
Bromomethane	<2.00		2.00		ug/L			06/20/17 02:23	1
2-Butanone (MEK)	<10.0		10.0		ug/L			06/20/17 02:23	1
Chlorobenzene	<1.00		1.00		ug/L			06/20/17 02:23	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			06/20/17 02:23	1
Chloroform	<1.00		1.00		ug/L			06/20/17 02:23	1
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			06/20/17 02:23	1
2-Chlorotoluene	<1.00		1.00		ug/L			06/20/17 02:23	1
4-Chlorotoluene	<1.00		1.00		ug/L			06/20/17 02:23	1
cis-1,2-Dichloroethene	63.1		1.00		ug/L			06/20/17 02:23	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			06/20/17 02:23	1
Dibromochloromethane	<2.00		2.00		ug/L			06/20/17 02:23	1
Dibromomethane	<1.00		1.00		ug/L			06/20/17 02:23	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			06/20/17 02:23	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			06/20/17 02:23	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			06/20/17 02:23	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			06/20/17 02:23	1
1,1-Dichloroethane	<1.00		1.00		ug/L			06/20/17 02:23	1
1,1-Dichloroethene	<2.00		2.00		ug/L			06/20/17 02:23	1
Dichlorofluoromethane	<1.00		1.00		ug/L			06/20/17 02:23	1
1,2-Dichloropropane	<1.00		1.00		ug/L			06/20/17 02:23	1
1,3-Dichloropropane	<1.00		1.00		ug/L			06/20/17 02:23	1
2,2-Dichloropropane	<4.00		4.00		ug/L			06/20/17 02:23	1
1,1-Dichloropropene	<1.00		1.00		ug/L			06/20/17 02:23	1
Diethyl ether	<2.00		2.00		ug/L			06/20/17 02:23	1
Ethylbenzene	<1.00		1.00		ug/L			06/20/17 02:23	1

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: Duplicate 1

Lab Sample ID: 310-108069-29

Date Collected: 06/13/17 09:30

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	<1.00		1.00		ug/L			06/20/17 02:23	1
Isopropylbenzene	<1.00		1.00		ug/L			06/20/17 02:23	1
4-Isopropyltoluene	<1.00		1.00		ug/L			06/20/17 02:23	1
Methylene Chloride	<1.00		1.00		ug/L			06/20/17 02:23	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			06/20/17 02:23	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			06/20/17 02:23	1
Naphthalene	<5.00		5.00		ug/L			06/20/17 02:23	1
n-Butylbenzene	<1.00		1.00		ug/L			06/20/17 02:23	1
n-Propylbenzene	<1.00		1.00		ug/L			06/20/17 02:23	1
sec-Butylbenzene	<1.00		1.00		ug/L			06/20/17 02:23	1
Styrene	<1.00		1.00		ug/L			06/20/17 02:23	1
tert-Butylbenzene	<1.00		1.00		ug/L			06/20/17 02:23	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			06/20/17 02:23	1
1,1,1,2-Tetrachloroethane	<0.500		0.500		ug/L			06/20/17 02:23	1
Tetrachloroethene	<1.00		1.00		ug/L			06/20/17 02:23	1
Tetrahydrofuran	<10.0		10.0		ug/L			06/20/17 02:23	1
Toluene	<1.00		1.00		ug/L			06/20/17 02:23	1
trans-1,2-Dichloroethene	199		1.00		ug/L			06/20/17 02:23	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			06/20/17 02:23	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			06/20/17 02:23	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			06/20/17 02:23	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			06/20/17 02:23	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			06/20/17 02:23	1
Trichlorofluoromethane	<4.00		4.00		ug/L			06/20/17 02:23	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			06/20/17 02:23	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			06/20/17 02:23	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			06/20/17 02:23	1
Xylenes, Total	<3.00		3.00		ug/L			06/20/17 02:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		82 - 122		06/20/17 02:23	1
Dibromofluoromethane (Surr)	106		79 - 119		06/20/17 02:23	1
Toluene-d8 (Surr)	96		77 - 117		06/20/17 02:23	1

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: Duplicate 2

Lab Sample ID: 310-108069-30

Date Collected: 06/13/17 17:04

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.100		0.100		ug/L			06/22/17 17:28	1
1,2-Dibromo-3-Chloropropane	<0.0500		0.0500		ug/L			06/22/17 17:28	1
1,2-Dibromoethane (EDB)	<0.00500		0.00500		ug/L			06/22/17 17:28	1
1,2-Dichloroethane	<0.100		0.100		ug/L			06/22/17 17:28	1
Trichloroethene	133		10.0		ug/L			06/26/17 19:09	100
1,2,3-Trichloropropane	<0.00500		0.00500		ug/L			06/22/17 17:28	1
Vinyl chloride	0.0706		0.0400		ug/L			06/22/17 17:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		80 - 120		06/22/17 17:28	1
4-Bromofluorobenzene (Surr)	99		80 - 120		06/26/17 19:09	100
Dibromofluoromethane (Surr)	106		80 - 120		06/22/17 17:28	1
Dibromofluoromethane (Surr)	101		80 - 120		06/26/17 19:09	100
Toluene-d8 (Surr)	92		79 - 119		06/22/17 17:28	1
Toluene-d8 (Surr)	100		79 - 119		06/26/17 19:09	100

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			06/20/17 02:46	1
Allyl chloride	<2.00		2.00		ug/L			06/20/17 02:46	1
Benzene	<0.500		0.500		ug/L			06/20/17 02:46	1
Bromobenzene	<1.00		1.00		ug/L			06/20/17 02:46	1
Bromochloromethane	<5.00		5.00		ug/L			06/20/17 02:46	1
Bromodichloromethane	<1.00		1.00		ug/L			06/20/17 02:46	1
Bromoform	<5.00		5.00		ug/L			06/20/17 02:46	1
Bromomethane	<2.00		2.00		ug/L			06/20/17 02:46	1
2-Butanone (MEK)	<10.0		10.0		ug/L			06/20/17 02:46	1
Chlorobenzene	<1.00		1.00		ug/L			06/20/17 02:46	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			06/20/17 02:46	1
Chloroform	<1.00		1.00		ug/L			06/20/17 02:46	1
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			06/20/17 02:46	1
2-Chlorotoluene	<1.00		1.00		ug/L			06/20/17 02:46	1
4-Chlorotoluene	<1.00		1.00		ug/L			06/20/17 02:46	1
cis-1,2-Dichloroethene	64.2		1.00		ug/L			06/20/17 02:46	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			06/20/17 02:46	1
Dibromochloromethane	<2.00		2.00		ug/L			06/20/17 02:46	1
Dibromomethane	<1.00		1.00		ug/L			06/20/17 02:46	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			06/20/17 02:46	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			06/20/17 02:46	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			06/20/17 02:46	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			06/20/17 02:46	1
1,1-Dichloroethane	<1.00		1.00		ug/L			06/20/17 02:46	1
1,1-Dichloroethene	<2.00		2.00		ug/L			06/20/17 02:46	1
Dichlorofluoromethane	<1.00		1.00		ug/L			06/20/17 02:46	1
1,2-Dichloropropane	<1.00		1.00		ug/L			06/20/17 02:46	1
1,3-Dichloropropane	<1.00		1.00		ug/L			06/20/17 02:46	1
2,2-Dichloropropane	<4.00		4.00		ug/L			06/20/17 02:46	1
1,1-Dichloropropene	<1.00		1.00		ug/L			06/20/17 02:46	1
Diethyl ether	<2.00		2.00		ug/L			06/20/17 02:46	1
Ethylbenzene	<1.00		1.00		ug/L			06/20/17 02:46	1

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: Duplicate 2

Lab Sample ID: 310-108069-30

Date Collected: 06/13/17 17:04

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	<1.00		1.00		ug/L			06/20/17 02:46	1
Isopropylbenzene	<1.00		1.00		ug/L			06/20/17 02:46	1
4-Isopropyltoluene	<1.00		1.00		ug/L			06/20/17 02:46	1
Methylene Chloride	<1.00		1.00		ug/L			06/20/17 02:46	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			06/20/17 02:46	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			06/20/17 02:46	1
Naphthalene	<5.00		5.00		ug/L			06/20/17 02:46	1
n-Butylbenzene	<1.00		1.00		ug/L			06/20/17 02:46	1
n-Propylbenzene	<1.00		1.00		ug/L			06/20/17 02:46	1
sec-Butylbenzene	<1.00		1.00		ug/L			06/20/17 02:46	1
Styrene	<1.00		1.00		ug/L			06/20/17 02:46	1
tert-Butylbenzene	<1.00		1.00		ug/L			06/20/17 02:46	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			06/20/17 02:46	1
1,1,1,2-Tetrachloroethane	<0.500		0.500		ug/L			06/20/17 02:46	1
Tetrachloroethene	<1.00		1.00		ug/L			06/20/17 02:46	1
Tetrahydrofuran	<10.0		10.0		ug/L			06/20/17 02:46	1
Toluene	<1.00		1.00		ug/L			06/20/17 02:46	1
trans-1,2-Dichloroethene	4.48		1.00		ug/L			06/20/17 02:46	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			06/20/17 02:46	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			06/20/17 02:46	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			06/20/17 02:46	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			06/20/17 02:46	1
1,1,1,2-Trichloroethane	<0.500		0.500		ug/L			06/20/17 02:46	1
Trichlorofluoromethane	<4.00		4.00		ug/L			06/20/17 02:46	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			06/20/17 02:46	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			06/20/17 02:46	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			06/20/17 02:46	1
Xylenes, Total	<3.00		3.00		ug/L			06/20/17 02:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		82 - 122		06/20/17 02:46	1
Dibromofluoromethane (Surr)	106		79 - 119		06/20/17 02:46	1
Toluene-d8 (Surr)	97		77 - 117		06/20/17 02:46	1

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: Duplicate 3

Lab Sample ID: 310-108069-31

Date Collected: 06/14/17 13:56

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.100		0.100		ug/L			06/22/17 18:16	1
1,2-Dibromo-3-Chloropropane	<0.0500		0.0500		ug/L			06/22/17 18:16	1
1,2-Dibromoethane (EDB)	<0.00500		0.00500		ug/L			06/22/17 18:16	1
1,2-Dichloroethane	<0.100		0.100		ug/L			06/22/17 18:16	1
1,4-Dioxane	1.10		1.00		ug/L			06/22/17 18:16	1
Trichloroethene	345		50.0		ug/L			06/26/17 19:57	500
1,2,3-Trichloropropane	<0.00500		0.00500		ug/L			06/22/17 18:16	1
Vinyl chloride	0.117		0.0400		ug/L			06/22/17 18:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		80 - 120		06/22/17 18:16	1
4-Bromofluorobenzene (Surr)	99		80 - 120		06/26/17 19:57	500
Dibromofluoromethane (Surr)	107		80 - 120		06/22/17 18:16	1
Dibromofluoromethane (Surr)	101		80 - 120		06/26/17 19:57	500
Toluene-d8 (Surr)	93		79 - 119		06/22/17 18:16	1
Toluene-d8 (Surr)	99		79 - 119		06/26/17 19:57	500

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			06/20/17 03:10	1
Allyl chloride	<2.00		2.00		ug/L			06/20/17 03:10	1
Benzene	<0.500		0.500		ug/L			06/20/17 03:10	1
Bromobenzene	<1.00		1.00		ug/L			06/20/17 03:10	1
Bromochloromethane	<5.00		5.00		ug/L			06/20/17 03:10	1
Bromodichloromethane	<1.00		1.00		ug/L			06/20/17 03:10	1
Bromoform	<5.00		5.00		ug/L			06/20/17 03:10	1
Bromomethane	<2.00		2.00		ug/L			06/20/17 03:10	1
2-Butanone (MEK)	<10.0		10.0		ug/L			06/20/17 03:10	1
Chlorobenzene	<1.00		1.00		ug/L			06/20/17 03:10	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			06/20/17 03:10	1
Chloroform	<1.00		1.00		ug/L			06/20/17 03:10	1
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			06/20/17 03:10	1
2-Chlorotoluene	<1.00		1.00		ug/L			06/20/17 03:10	1
4-Chlorotoluene	<1.00		1.00		ug/L			06/20/17 03:10	1
cis-1,2-Dichloroethene	271		1.00		ug/L			06/20/17 03:10	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			06/20/17 03:10	1
Dibromochloromethane	<2.00		2.00		ug/L			06/20/17 03:10	1
Dibromomethane	<1.00		1.00		ug/L			06/20/17 03:10	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			06/20/17 03:10	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			06/20/17 03:10	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			06/20/17 03:10	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			06/20/17 03:10	1
1,1-Dichloroethane	<1.00		1.00		ug/L			06/20/17 03:10	1
1,1-Dichloroethene	<2.00		2.00		ug/L			06/20/17 03:10	1
Dichlorofluoromethane	<1.00		1.00		ug/L			06/20/17 03:10	1
1,2-Dichloropropane	<1.00		1.00		ug/L			06/20/17 03:10	1
1,3-Dichloropropane	<1.00		1.00		ug/L			06/20/17 03:10	1
2,2-Dichloropropane	<4.00		4.00		ug/L			06/20/17 03:10	1
1,1-Dichloropropene	<1.00		1.00		ug/L			06/20/17 03:10	1
Diethyl ether	<2.00		2.00		ug/L			06/20/17 03:10	1

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: Duplicate 3

Lab Sample ID: 310-108069-31

Date Collected: 06/14/17 13:56

Matrix: Water

Date Received: 06/16/17 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	<1.00		1.00		ug/L			06/20/17 03:10	1
Hexachlorobutadiene	<1.00		1.00		ug/L			06/20/17 03:10	1
Isopropylbenzene	<1.00		1.00		ug/L			06/20/17 03:10	1
4-Isopropyltoluene	<1.00		1.00		ug/L			06/20/17 03:10	1
Methylene Chloride	<1.00		1.00		ug/L			06/20/17 03:10	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			06/20/17 03:10	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			06/20/17 03:10	1
Naphthalene	<5.00		5.00		ug/L			06/20/17 03:10	1
n-Butylbenzene	<1.00		1.00		ug/L			06/20/17 03:10	1
n-Propylbenzene	<1.00		1.00		ug/L			06/20/17 03:10	1
sec-Butylbenzene	<1.00		1.00		ug/L			06/20/17 03:10	1
Styrene	<1.00		1.00		ug/L			06/20/17 03:10	1
tert-Butylbenzene	<1.00		1.00		ug/L			06/20/17 03:10	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			06/20/17 03:10	1
1,1,1,2-Tetrachloroethane	<0.500		0.500		ug/L			06/20/17 03:10	1
Tetrachloroethene	<1.00		1.00		ug/L			06/20/17 03:10	1
Tetrahydrofuran	<10.0		10.0		ug/L			06/20/17 03:10	1
Toluene	<1.00		1.00		ug/L			06/20/17 03:10	1
trans-1,2-Dichloroethene	30.1		1.00		ug/L			06/20/17 03:10	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			06/20/17 03:10	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			06/20/17 03:10	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			06/20/17 03:10	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			06/20/17 03:10	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			06/20/17 03:10	1
Trichlorofluoromethane	<4.00		4.00		ug/L			06/20/17 03:10	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			06/20/17 03:10	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			06/20/17 03:10	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			06/20/17 03:10	1
Xylenes, Total	<3.00		3.00		ug/L			06/20/17 03:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		82 - 122		06/20/17 03:10	1
Dibromofluoromethane (Surr)	107		79 - 119		06/20/17 03:10	1
Toluene-d8 (Surr)	96		77 - 117		06/20/17 03:10	1

Definitions/Glossary

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F2	MS/MSD RPD exceeds control limits
F1	MS and/or MSD Recovery is outside acceptance limits.
*	LCS or LCSD is outside acceptance limits.
E	Result exceeded calibration range.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
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 (Radiochemistry)
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: Reviva 101-16

TestAmerica Job ID: 310-108069-1

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (82-122)	DBFM (79-119)	TOL (77-117)
310-108069-1	MW-101A	100	104	95
310-108069-2	MW-102A	97	106	95
310-108069-2 MS	MW-102A	96	105	95
310-108069-2 MSD	MW-102A	94	106	95
310-108069-3	MW-102B	98	104	96
310-108069-4	MW-103A	99	105	96
310-108069-5	MW-103B	98	105	96
310-108069-6	MW-104B	99	106	96
310-108069-7	MW-105B	99	106	96
310-108069-8	MW-107A	100	105	98
310-108069-9	MW-107B	100	106	96
310-108069-10	MW-108A	97	106	96
310-108069-11	MW-108B	98	106	96
310-108069-12	MW-108PC	97	105	97
310-108069-13	MW-109B	99	105	96
310-108069-14	MW-110	99	106	96
310-108069-15	MW-111B	100	105	95
310-108069-16	MW-112	99	105	97
310-108069-16 MS	MW-112	93	106	95
310-108069-16 MSD	MW-112	97	106	97
310-108069-17	BNSF-2S	100	105	95
310-108069-18	BNSF-2D	97	104	97
310-108069-19	Trip Blank 2	99	106	97
310-108069-20	REEP-1	99	106	99
310-108069-21	REEP-2S	98	106	95
310-108069-22	REEP-2	98	106	95
310-108069-23	REEP-2PC	99	105	95
310-108069-24	Trip Blank 1	97	105	96
310-108069-25	Equipment Blank 1	98	105	95
310-108069-26	Equipment Blank 2	99	104	96
310-108069-27	Equipment Blank 3	98	105	99
310-108069-28	Equipment Blank 4	98	105	100
310-108069-29	Duplicate 1	100	106	96
310-108069-30	Duplicate 2	97	106	97
310-108069-31	Duplicate 3	99	107	96
LCS 310-169793/6	Lab Control Sample	97	103	95
LCS 310-169793/7	Lab Control Sample	100	105	96
LCS 310-169796/5	Lab Control Sample	96	104	96
LCS 310-169796/6	Lab Control Sample	98	105	97
MB 310-169793/8	Method Blank	99	105	99
MB 310-169796/7	Method Blank	99	104	96

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

Surrogate Summary

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (80-120)	DBFM (80-120)	TOL (79-119)
310-108069-1	MW-101A	100	103	95
310-108069-1	MW-101A	98	104	92
310-108069-2	MW-102A	99	103	95
310-108069-2	MW-102A	100	104	92
310-108069-2 MS	MW-102A	100	105	94
310-108069-2 MSD	MW-102A	101	104	94
310-108069-3	MW-102B	100	106	94
310-108069-3	MW-102B	100	104	92
310-108069-4	MW-103A	100	104	94
310-108069-4	MW-103A	99	103	92
310-108069-5	MW-103B	100	104	93
310-108069-5	MW-103B	99	105	92
310-108069-6	MW-104B	99	104	93
310-108069-6	MW-104B	99	105	91
310-108069-7	MW-105B	100	105	94
310-108069-7	MW-105B	98	104	92
310-108069-8	MW-107A	100	104	94
310-108069-9	MW-107B	102	105	95
310-108069-9	MW-107B	98	103	92
310-108069-10	MW-108A	102	104	95
310-108069-10	MW-108A	100	103	92
310-108069-11	MW-108B	100	104	93
310-108069-11	MW-108B	100	104	92
310-108069-11	MW-108B	99	104	93
310-108069-12	MW-108PC	101	105	93
310-108069-12	MW-108PC	99	102	93
310-108069-13	MW-109B	100	105	93
310-108069-13	MW-109B	99	105	92
310-108069-14	MW-110	100	105	94
310-108069-14	MW-110	100	103	92
310-108069-15	MW-111B	100	104	93
310-108069-16	MW-112	101	105	94
310-108069-16	MW-112	98	104	92
310-108069-17	BNSF-2S	99	104	92
310-108069-17 MS	BNSF-2S	99	104	92
310-108069-17 MSD	BNSF-2S	100	104	92
310-108069-18	BNSF-2D	99	106	92
310-108069-18 MS	BNSF-2D	102	107	91
310-108069-18 MSD	BNSF-2D	99	107	92
310-108069-19	Trip Blank 2	100	103	93
310-108069-20	REEP-1	100	106	92
310-108069-20	REEP-1	98	101	100
310-108069-21	REEP-2S	99	105	92
310-108069-22	REEP-2	100	106	92
310-108069-23	REEP-2PC	99	106	91
310-108069-24	Trip Blank 1	100	104	91
310-108069-25	Equipment Blank 1	100	106	91
310-108069-26	Equipment Blank 2	101	106	91
310-108069-27	Equipment Blank 3	100	105	92

TestAmerica Cedar Falls

Surrogate Summary

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB	DBFM	TOL
		(80-120)	(80-120)	(79-119)
310-108069-28	Equipment Blank 4	99	105	92
310-108069-29	Duplicate 1	100	106	92
310-108069-29	Duplicate 1	99	102	99
310-108069-30	Duplicate 2	99	106	92
310-108069-30	Duplicate 2	99	101	100
310-108069-31	Duplicate 3	102	107	93
310-108069-31	Duplicate 3	99	101	99
LCS 310-169945/7	Lab Control Sample	99	98	95
LCS 310-170058/6	Lab Control Sample	99	102	92
LCS 310-170243/6	Lab Control Sample	99	103	92
LCS 310-170552/19	Lab Control Sample	100	101	100
LCSD 310-170552/20	Lab Control Sample Dup	99	100	100
MB 310-169945/6	Method Blank	99	99	94
MB 310-170058/5	Method Blank	100	102	92
MB 310-170243/5	Method Blank	99	103	91
MB 310-170552/18	Method Blank	99	100	100

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

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

Lab Sample ID: MB 310-169793/8
Matrix: Water
Analysis Batch: 169793

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			06/19/17 07:57	1
Allyl chloride	<2.00		2.00		ug/L			06/19/17 07:57	1
Benzene	<0.500		0.500		ug/L			06/19/17 07:57	1
Bromobenzene	<1.00		1.00		ug/L			06/19/17 07:57	1
Bromochloromethane	<5.00		5.00		ug/L			06/19/17 07:57	1
Bromodichloromethane	<1.00		1.00		ug/L			06/19/17 07:57	1
Bromoform	<5.00		5.00		ug/L			06/19/17 07:57	1
Bromomethane	<2.00		2.00		ug/L			06/19/17 07:57	1
2-Butanone (MEK)	<10.0		10.0		ug/L			06/19/17 07:57	1
Chlorobenzene	<1.00		1.00		ug/L			06/19/17 07:57	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			06/19/17 07:57	1
Chloroform	<1.00		1.00		ug/L			06/19/17 07:57	1
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			06/19/17 07:57	1
2-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 07:57	1
4-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 07:57	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			06/19/17 07:57	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 07:57	1
Dibromochloromethane	<2.00		2.00		ug/L			06/19/17 07:57	1
Dibromomethane	<1.00		1.00		ug/L			06/19/17 07:57	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 07:57	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 07:57	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 07:57	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			06/19/17 07:57	1
1,1-Dichloroethane	<1.00		1.00		ug/L			06/19/17 07:57	1
1,1-Dichloroethene	<2.00		2.00		ug/L			06/19/17 07:57	1
Dichlorofluoromethane	<1.00		1.00		ug/L			06/19/17 07:57	1
1,2-Dichloropropane	<1.00		1.00		ug/L			06/19/17 07:57	1
1,3-Dichloropropane	<1.00		1.00		ug/L			06/19/17 07:57	1
2,2-Dichloropropane	<4.00		4.00		ug/L			06/19/17 07:57	1
1,1-Dichloropropene	<1.00		1.00		ug/L			06/19/17 07:57	1
Diethyl ether	<2.00		2.00		ug/L			06/19/17 07:57	1
Ethylbenzene	<1.00		1.00		ug/L			06/19/17 07:57	1
Hexachlorobutadiene	<1.00		1.00		ug/L			06/19/17 07:57	1
Isopropylbenzene	<1.00		1.00		ug/L			06/19/17 07:57	1
4-Isopropyltoluene	<1.00		1.00		ug/L			06/19/17 07:57	1
Methylene Chloride	<1.00		1.00		ug/L			06/19/17 07:57	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			06/19/17 07:57	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			06/19/17 07:57	1
Naphthalene	<5.00		5.00		ug/L			06/19/17 07:57	1
n-Butylbenzene	<1.00		1.00		ug/L			06/19/17 07:57	1
n-Propylbenzene	<1.00		1.00		ug/L			06/19/17 07:57	1
sec-Butylbenzene	<1.00		1.00		ug/L			06/19/17 07:57	1
Styrene	<1.00		1.00		ug/L			06/19/17 07:57	1
tert-Butylbenzene	<1.00		1.00		ug/L			06/19/17 07:57	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			06/19/17 07:57	1
1,1,1,2,2-Tetrachloroethane	<0.500		0.500		ug/L			06/19/17 07:57	1
Tetrachloroethene	<1.00		1.00		ug/L			06/19/17 07:57	1
Tetrahydrofuran	<10.0		10.0		ug/L			06/19/17 07:57	1

TestAmerica Cedar Falls

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

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

Lab Sample ID: MB 310-169793/8
Matrix: Water
Analysis Batch: 169793

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	<1.00		1.00		ug/L			06/19/17 07:57	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			06/19/17 07:57	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 07:57	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			06/19/17 07:57	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			06/19/17 07:57	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			06/19/17 07:57	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			06/19/17 07:57	1
Trichlorofluoromethane	<4.00		4.00		ug/L			06/19/17 07:57	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			06/19/17 07:57	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 07:57	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 07:57	1
Xylenes, Total	<3.00		3.00		ug/L			06/19/17 07:57	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		82 - 122		06/19/17 07:57	1
Dibromofluoromethane (Surr)	105		79 - 119		06/19/17 07:57	1
Toluene-d8 (Surr)	99		77 - 117		06/19/17 07:57	1

Lab Sample ID: LCS 310-169793/6
Matrix: Water
Analysis Batch: 169793

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	35.59		ug/L		89	55 - 150
Allyl chloride	20.0	19.43		ug/L		97	39 - 150
Benzene	20.0	19.24		ug/L		96	74 - 127
Bromobenzene	20.0	18.50		ug/L		92	72 - 122
Bromochloromethane	20.0	20.66		ug/L		103	73 - 142
Bromodichloromethane	20.0	18.09		ug/L		90	71 - 118
Bromoform	20.0	18.42		ug/L		92	56 - 123
2-Butanone (MEK)	40.0	36.38		ug/L		91	51 - 150
Chlorobenzene	20.0	19.00		ug/L		95	74 - 120
Chloroform	20.0	18.24		ug/L		91	72 - 129
2-Chlorotoluene	20.0	18.13		ug/L		91	67 - 127
4-Chlorotoluene	20.0	18.07		ug/L		90	69 - 123
cis-1,2-Dichloroethene	20.0	18.80		ug/L		94	72 - 130
cis-1,3-Dichloropropene	20.0	18.01		ug/L		90	66 - 124
Dibromochloromethane	20.0	18.93		ug/L		95	59 - 125
Dibromomethane	20.0	18.30		ug/L		91	72 - 135
1,2-Dichlorobenzene	20.0	18.04		ug/L		90	68 - 121
1,3-Dichlorobenzene	20.0	18.92		ug/L		95	66 - 128
1,4-Dichlorobenzene	20.0	18.80		ug/L		94	67 - 120
1,1-Dichloroethane	20.0	19.44		ug/L		97	71 - 135
1,1-Dichloroethene	20.0	19.52		ug/L		98	71 - 137
1,2-Dichloropropane	20.0	19.10		ug/L		95	72 - 126
1,3-Dichloropropane	20.0	18.53		ug/L		93	73 - 129
2,2-Dichloropropane	20.0	19.37		ug/L		97	50 - 150
1,1-Dichloropropene	20.0	19.19		ug/L		96	72 - 131

TestAmerica Cedar Falls

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

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

Lab Sample ID: LCS 310-169793/6

Matrix: Water

Analysis Batch: 169793

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diethyl ether	20.0	17.76		ug/L		89	70 - 133
Ethylbenzene	20.0	18.26		ug/L		91	71 - 122
Hexachlorobutadiene	20.0	18.24		ug/L		91	62 - 134
Isopropylbenzene	20.0	18.34		ug/L		92	70 - 125
4-Isopropyltoluene	20.0	18.68		ug/L		93	65 - 124
Methylene Chloride	20.0	19.21		ug/L		96	66 - 129
4-Methyl-2-pentanone (MIBK)	40.0	36.67		ug/L		92	52 - 137
Methyl tert-butyl ether	20.0	17.80		ug/L		89	72 - 128
Naphthalene	20.0	16.70		ug/L		84	50 - 129
n-Butylbenzene	20.0	17.83		ug/L		89	62 - 126
n-Propylbenzene	20.0	18.58		ug/L		93	70 - 125
sec-Butylbenzene	20.0	18.79		ug/L		94	61 - 133
Styrene	20.0	18.23		ug/L		91	71 - 121
tert-Butylbenzene	20.0	18.18		ug/L		91	64 - 128
1,1,1,2-Tetrachloroethane	20.0	18.70		ug/L		94	72 - 117
1,1,2,2-Tetrachloroethane	20.0	18.43		ug/L		92	62 - 123
Tetrachloroethene	20.0	20.06		ug/L		100	68 - 138
Tetrahydrofuran	40.0	32.98		ug/L		82	56 - 141
Toluene	20.0	19.14		ug/L		96	69 - 128
trans-1,2-Dichloroethene	20.0	18.50		ug/L		92	73 - 132
trans-1,3-Dichloropropene	20.0	17.43		ug/L		87	59 - 129
1,2,3-Trichlorobenzene	20.0	17.58		ug/L		88	62 - 131
1,2,4-Trichlorobenzene	20.0	17.35		ug/L		87	61 - 127
1,1,1-Trichloroethane	20.0	19.82		ug/L		99	73 - 132
1,1,2-Trichloroethane	20.0	18.68		ug/L		93	65 - 131
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	20.23		ug/L		101	69 - 145
1,2,4-Trimethylbenzene	20.0	18.13		ug/L		91	66 - 126
1,3,5-Trimethylbenzene	20.0	18.81		ug/L		94	69 - 128
Xylenes, Total	40.0	36.91		ug/L		92	72 - 121

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	97		82 - 122
Dibromofluoromethane (Surr)	103		79 - 119
Toluene-d8 (Surr)	95		77 - 117

Lab Sample ID: LCS 310-169793/7

Matrix: Water

Analysis Batch: 169793

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	18.95		ug/L		95	18 - 128
Chloroethane (ethyl chloride)	20.0	22.97		ug/L		115	66 - 140
Chloromethane (methyl chloride)	20.0	20.05		ug/L		100	55 - 141
Dichlorodifluoromethane	20.0	21.69		ug/L		108	49 - 150
Dichlorofluoromethane	20.0	22.84		ug/L		114	66 - 142
Trichlorofluoromethane	20.0	23.97		ug/L		120	69 - 139

TestAmerica Cedar Falls

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

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

Lab Sample ID: LCS 310-169793/7
Matrix: Water
Analysis Batch: 169793

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

Surrogate	LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	100		82 - 122
Dibromofluoromethane (Surr)	105		79 - 119
Toluene-d8 (Surr)	96		77 - 117

Lab Sample ID: 310-108069-2 MS
Matrix: Water
Analysis Batch: 169793

Client Sample ID: MW-102A
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec. Limits
				Result	Qualifier				
Acetone	<10.0		40.0	42.40		ug/L		96	36 - 150
Allyl chloride	<2.00		20.0	20.14		ug/L		101	25 - 150
Benzene	<0.500		20.0	19.12		ug/L		96	53 - 128
Bromobenzene	<1.00		20.0	18.60		ug/L		93	54 - 123
Bromochloromethane	<5.00		20.0	20.74		ug/L		104	60 - 142
Bromodichloromethane	<1.00		20.0	18.99		ug/L		95	56 - 119
Bromoform	<5.00		20.0	20.13		ug/L		101	42 - 123
2-Butanone (MEK)	<10.0		40.0	42.22		ug/L		106	38 - 150
Chlorobenzene	<1.00		20.0	19.18		ug/L		96	57 - 120
Chloroform	<1.00		20.0	19.09		ug/L		95	53 - 130
2-Chlorotoluene	<1.00		20.0	16.74		ug/L		84	45 - 127
4-Chlorotoluene	<1.00		20.0	17.13		ug/L		86	47 - 123
cis-1,2-Dichloroethene	322		20.0	303.5	4	ug/L		-92	57 - 130
cis-1,3-Dichloropropene	<0.500		20.0	17.95		ug/L		90	51 - 124
Dibromochloromethane	<2.00		20.0	20.09		ug/L		100	46 - 125
Dibromomethane	<1.00		20.0	19.67		ug/L		98	60 - 135
1,2-Dichlorobenzene	<1.00		20.0	17.88		ug/L		89	50 - 122
1,3-Dichlorobenzene	<1.00		20.0	18.05		ug/L		90	47 - 128
1,4-Dichlorobenzene	<1.00		20.0	18.33		ug/L		92	50 - 120
1,1-Dichloroethane	<1.00		20.0	19.63		ug/L		96	56 - 135
1,1-Dichloroethene	<2.00		20.0	19.03		ug/L		94	46 - 137
1,2-Dichloropropane	<1.00		20.0	19.80		ug/L		99	57 - 127
1,3-Dichloropropane	<1.00		20.0	19.95		ug/L		100	59 - 133
2,2-Dichloropropane	<4.00		20.0	17.49		ug/L		87	32 - 150
1,1-Dichloropropene	<1.00		20.0	17.64		ug/L		88	45 - 131
Diethyl ether	<2.00		20.0	18.84		ug/L		94	59 - 133
Ethylbenzene	<1.00		20.0	16.98		ug/L		85	49 - 122
Hexachlorobutadiene	<1.00		20.0	14.71		ug/L		74	16 - 134
Isopropylbenzene	<1.00		20.0	15.97		ug/L		80	38 - 125
4-Isopropyltoluene	<1.00		20.0	16.09		ug/L		80	34 - 124
Methylene Chloride	<1.00		20.0	20.01		ug/L		100	51 - 134
4-Methyl-2-pentanone (MIBK)	<10.0		40.0	40.83		ug/L		102	35 - 150
Methyl tert-butyl ether	<1.00		20.0	18.45		ug/L		92	59 - 131
Naphthalene	<5.00		20.0	15.50		ug/L		78	33 - 134
n-Butylbenzene	<1.00		20.0	15.13		ug/L		76	31 - 126
n-Propylbenzene	<1.00		20.0	16.47		ug/L		82	32 - 125
sec-Butylbenzene	<1.00		20.0	15.71		ug/L		79	28 - 133
Styrene	<1.00		20.0	18.29		ug/L		91	45 - 121
tert-Butylbenzene	<1.00		20.0	15.84		ug/L		79	38 - 128

TestAmerica Cedar Falls

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

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

Lab Sample ID: 310-108069-2 MS

Matrix: Water

Analysis Batch: 169793

Client Sample ID: MW-102A

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	<1.00		20.0	19.88		ug/L		99	56 - 117
1,1,2,2-Tetrachloroethane	<0.500		20.0	20.18		ug/L		101	48 - 133
Tetrachloroethene	<1.00		20.0	18.17		ug/L		90	33 - 138
Tetrahydrofuran	<10.0		40.0	35.72		ug/L		89	41 - 149
Toluene	<1.00		20.0	18.04		ug/L		90	46 - 128
trans-1,2-Dichloroethene	59.9	F1	20.0	70.44	F1	ug/L		53	55 - 132
trans-1,3-Dichloropropene	<0.500		20.0	18.12		ug/L		91	43 - 129
1,2,3-Trichlorobenzene	<5.00		20.0	15.48		ug/L		77	42 - 131
1,2,4-Trichlorobenzene	<1.00		20.0	15.01		ug/L		75	41 - 127
1,1,1-Trichloroethane	<1.00		20.0	18.80		ug/L		94	48 - 132
1,1,2-Trichloroethane	<0.500		20.0	20.28		ug/L		101	51 - 137
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		20.0	17.11		ug/L		86	32 - 145
1,2,4-Trimethylbenzene	<1.00		20.0	16.64		ug/L		83	41 - 126
1,3,5-Trimethylbenzene	<1.00		20.0	16.85		ug/L		84	41 - 128
Xylenes, Total	<3.00		40.0	34.12		ug/L		85	49 - 121

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	96		82 - 122
Dibromofluoromethane (Surr)	105		79 - 119
Toluene-d8 (Surr)	95		77 - 117

Lab Sample ID: 310-108069-2 MSD

Matrix: Water

Analysis Batch: 169793

Client Sample ID: MW-102A

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	<10.0		40.0	38.47		ug/L		87	36 - 150	10	35
Allyl chloride	<2.00		20.0	18.93		ug/L		95	25 - 150	6	35
Benzene	<0.500		20.0	18.30		ug/L		92	53 - 128	4	15
Bromobenzene	<1.00		20.0	17.93		ug/L		90	54 - 123	4	16
Bromochloromethane	<5.00		20.0	20.33		ug/L		102	60 - 142	2	20
Bromodichloromethane	<1.00		20.0	18.24		ug/L		91	56 - 119	4	15
Bromoform	<5.00		20.0	18.75		ug/L		94	42 - 123	7	20
2-Butanone (MEK)	<10.0		40.0	40.00		ug/L		100	38 - 150	5	25
Chlorobenzene	<1.00		20.0	18.27		ug/L		91	57 - 120	5	20
Chloroform	<1.00		20.0	17.86		ug/L		89	53 - 130	7	15
2-Chlorotoluene	<1.00		20.0	16.48		ug/L		82	45 - 127	2	20
4-Chlorotoluene	<1.00		20.0	16.74		ug/L		84	47 - 123	2	20
cis-1,2-Dichloroethene	322		20.0	288.7	4	ug/L		-166	57 - 130	5	16
cis-1,3-Dichloropropene	<0.500		20.0	17.37		ug/L		87	51 - 124	3	15
Dibromochloromethane	<2.00		20.0	19.22		ug/L		96	46 - 125	4	17
Dibromomethane	<1.00		20.0	18.92		ug/L		95	60 - 135	4	16
1,2-Dichlorobenzene	<1.00		20.0	17.23		ug/L		86	50 - 122	4	17
1,3-Dichlorobenzene	<1.00		20.0	17.91		ug/L		90	47 - 128	1	20
1,4-Dichlorobenzene	<1.00		20.0	17.74		ug/L		89	50 - 120	3	20
1,1-Dichloroethane	<1.00		20.0	18.78		ug/L		92	56 - 135	4	17
1,1-Dichloroethene	<2.00		20.0	17.15		ug/L		85	46 - 137	10	21

TestAmerica Cedar Falls

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

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

Lab Sample ID: 310-108069-2 MSD

Client Sample ID: MW-102A

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 169793

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dichloropropane	<1.00		20.0	18.61		ug/L		93	57 - 127	6	35
1,3-Dichloropropane	<1.00		20.0	19.25		ug/L		96	59 - 133	4	16
2,2-Dichloropropane	<4.00		20.0	16.42		ug/L		82	32 - 150	6	20
1,1-Dichloropropene	<1.00		20.0	16.47		ug/L		82	45 - 131	7	20
Diethyl ether	<2.00		20.0	18.17		ug/L		91	59 - 133	4	20
Ethylbenzene	<1.00		20.0	16.07		ug/L		80	49 - 122	5	20
Hexachlorobutadiene	<1.00		20.0	14.32		ug/L		72	16 - 134	3	29
Isopropylbenzene	<1.00		20.0	15.39		ug/L		77	38 - 125	4	20
4-Isopropyltoluene	<1.00		20.0	16.23		ug/L		81	34 - 124	1	20
Methylene Chloride	<1.00		20.0	18.72		ug/L		94	51 - 134	7	20
4-Methyl-2-pentanone (MIBK)	<10.0		40.0	39.22		ug/L		98	35 - 150	4	21
Methyl tert-butyl ether	<1.00		20.0	17.42		ug/L		87	59 - 131	6	19
Naphthalene	<5.00		20.0	15.42		ug/L		77	33 - 134	1	34
n-Butylbenzene	<1.00		20.0	15.35		ug/L		77	31 - 126	1	25
n-Propylbenzene	<1.00		20.0	16.08		ug/L		80	32 - 125	2	34
sec-Butylbenzene	<1.00		20.0	16.18		ug/L		81	28 - 133	3	25
Styrene	<1.00		20.0	17.38		ug/L		87	45 - 121	5	20
tert-Butylbenzene	<1.00		20.0	15.62		ug/L		78	38 - 128	1	25
1,1,1,2-Tetrachloroethane	<1.00		20.0	18.87		ug/L		94	56 - 117	5	16
1,1,2,2-Tetrachloroethane	<0.500		20.0	19.23		ug/L		96	48 - 133	5	18
Tetrachloroethene	<1.00		20.0	17.13		ug/L		85	33 - 138	6	20
Tetrahydrofuran	<10.0		40.0	32.81		ug/L		82	41 - 149	8	26
Toluene	<1.00		20.0	16.92		ug/L		85	46 - 128	6	15
trans-1,2-Dichloroethene	59.9	F1	20.0	67.16	F1	ug/L		36	55 - 132	5	20
trans-1,3-Dichloropropene	<0.500		20.0	17.66		ug/L		88	43 - 129	3	19
1,2,3-Trichlorobenzene	<5.00		20.0	16.96		ug/L		85	42 - 131	9	25
1,2,4-Trichlorobenzene	<1.00		20.0	15.69		ug/L		78	41 - 127	4	20
1,1,1-Trichloroethane	<1.00		20.0	17.39		ug/L		87	48 - 132	8	16
1,1,2-Trichloroethane	<0.500		20.0	19.35		ug/L		97	51 - 137	5	18
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		20.0	15.87		ug/L		79	32 - 145	7	25
1,2,4-Trimethylbenzene	<1.00		20.0	16.59		ug/L		83	41 - 126	0	20
1,3,5-Trimethylbenzene	<1.00		20.0	16.72		ug/L		84	41 - 128	1	35
Xylenes, Total	<3.00		40.0	32.64		ug/L		82	49 - 121	4	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	94		82 - 122
Dibromofluoromethane (Surr)	106		79 - 119
Toluene-d8 (Surr)	95		77 - 117

Lab Sample ID: MB 310-169796/7

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 169796

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			06/19/17 19:19	1
Allyl chloride	<2.00		2.00		ug/L			06/19/17 19:19	1
Benzene	<0.500		0.500		ug/L			06/19/17 19:19	1

TestAmerica Cedar Falls

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

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

Lab Sample ID: MB 310-169796/7

Matrix: Water

Analysis Batch: 169796

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromobenzene	<1.00		1.00		ug/L			06/19/17 19:19	1
Bromochloromethane	<5.00		5.00		ug/L			06/19/17 19:19	1
Bromodichloromethane	<1.00		1.00		ug/L			06/19/17 19:19	1
Bromoform	<5.00		5.00		ug/L			06/19/17 19:19	1
Bromomethane	<2.00		2.00		ug/L			06/19/17 19:19	1
2-Butanone (MEK)	<10.0		10.0		ug/L			06/19/17 19:19	1
Chlorobenzene	<1.00		1.00		ug/L			06/19/17 19:19	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			06/19/17 19:19	1
Chloroform	<1.00		1.00		ug/L			06/19/17 19:19	1
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			06/19/17 19:19	1
2-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 19:19	1
4-Chlorotoluene	<1.00		1.00		ug/L			06/19/17 19:19	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			06/19/17 19:19	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 19:19	1
Dibromochloromethane	<2.00		2.00		ug/L			06/19/17 19:19	1
Dibromomethane	<1.00		1.00		ug/L			06/19/17 19:19	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 19:19	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 19:19	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			06/19/17 19:19	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			06/19/17 19:19	1
1,1-Dichloroethane	<1.00		1.00		ug/L			06/19/17 19:19	1
1,1-Dichloroethene	<2.00		2.00		ug/L			06/19/17 19:19	1
Dichlorofluoromethane	<1.00		1.00		ug/L			06/19/17 19:19	1
1,2-Dichloropropane	<1.00		1.00		ug/L			06/19/17 19:19	1
1,3-Dichloropropane	<1.00		1.00		ug/L			06/19/17 19:19	1
2,2-Dichloropropane	<4.00		4.00		ug/L			06/19/17 19:19	1
1,1-Dichloropropene	<1.00		1.00		ug/L			06/19/17 19:19	1
Diethyl ether	<2.00		2.00		ug/L			06/19/17 19:19	1
Ethylbenzene	<1.00		1.00		ug/L			06/19/17 19:19	1
Hexachlorobutadiene	<1.00		1.00		ug/L			06/19/17 19:19	1
Isopropylbenzene	<1.00		1.00		ug/L			06/19/17 19:19	1
4-Isopropyltoluene	<1.00		1.00		ug/L			06/19/17 19:19	1
Methylene Chloride	<1.00		1.00		ug/L			06/19/17 19:19	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			06/19/17 19:19	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			06/19/17 19:19	1
Naphthalene	<5.00		5.00		ug/L			06/19/17 19:19	1
n-Butylbenzene	<1.00		1.00		ug/L			06/19/17 19:19	1
n-Propylbenzene	<1.00		1.00		ug/L			06/19/17 19:19	1
sec-Butylbenzene	<1.00		1.00		ug/L			06/19/17 19:19	1
Styrene	<1.00		1.00		ug/L			06/19/17 19:19	1
tert-Butylbenzene	<1.00		1.00		ug/L			06/19/17 19:19	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			06/19/17 19:19	1
1,1,2,2-Tetrachloroethane	<0.500		0.500		ug/L			06/19/17 19:19	1
Tetrachloroethene	<1.00		1.00		ug/L			06/19/17 19:19	1
Tetrahydrofuran	<10.0		10.0		ug/L			06/19/17 19:19	1
Toluene	<1.00		1.00		ug/L			06/19/17 19:19	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			06/19/17 19:19	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			06/19/17 19:19	1

TestAmerica Cedar Falls

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

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

Lab Sample ID: MB 310-169796/7
Matrix: Water
Analysis Batch: 169796

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			06/19/17 19:19	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			06/19/17 19:19	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			06/19/17 19:19	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			06/19/17 19:19	1
Trichlorofluoromethane	<4.00		4.00		ug/L			06/19/17 19:19	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			06/19/17 19:19	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 19:19	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			06/19/17 19:19	1
Xylenes, Total	<3.00		3.00		ug/L			06/19/17 19:19	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		82 - 122		06/19/17 19:19	1
Dibromofluoromethane (Surr)	104		79 - 119		06/19/17 19:19	1
Toluene-d8 (Surr)	96		77 - 117		06/19/17 19:19	1

Lab Sample ID: LCS 310-169796/5
Matrix: Water
Analysis Batch: 169796

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	37.25		ug/L		93	55 - 150
Allyl chloride	20.0	19.07		ug/L		95	39 - 150
Benzene	20.0	18.55		ug/L		93	74 - 127
Bromobenzene	20.0	17.97		ug/L		90	72 - 122
Bromochloromethane	20.0	19.66		ug/L		98	73 - 142
Bromodichloromethane	20.0	17.61		ug/L		88	71 - 118
Bromoform	20.0	18.11		ug/L		91	56 - 123
2-Butanone (MEK)	40.0	36.37		ug/L		91	51 - 150
Chlorobenzene	20.0	18.45		ug/L		92	74 - 120
Chloroform	20.0	18.10		ug/L		90	72 - 129
2-Chlorotoluene	20.0	16.91		ug/L		85	67 - 127
4-Chlorotoluene	20.0	17.28		ug/L		86	69 - 123
cis-1,2-Dichloroethene	20.0	18.27		ug/L		91	72 - 130
cis-1,3-Dichloropropene	20.0	16.74		ug/L		84	66 - 124
Dibromochloromethane	20.0	18.80		ug/L		94	59 - 125
Dibromomethane	20.0	17.96		ug/L		90	72 - 135
1,2-Dichlorobenzene	20.0	16.78		ug/L		84	68 - 121
1,3-Dichlorobenzene	20.0	17.97		ug/L		90	66 - 128
1,4-Dichlorobenzene	20.0	17.60		ug/L		88	67 - 120
1,1-Dichloroethane	20.0	18.70		ug/L		94	71 - 135
1,1-Dichloroethene	20.0	17.93		ug/L		90	71 - 137
1,2-Dichloropropane	20.0	18.61		ug/L		93	72 - 126
1,3-Dichloropropane	20.0	18.10		ug/L		91	73 - 129
2,2-Dichloropropane	20.0	16.11		ug/L		81	50 - 150
1,1-Dichloropropene	20.0	17.71		ug/L		89	72 - 131
Diethyl ether	20.0	17.24		ug/L		86	70 - 133
Ethylbenzene	20.0	17.19		ug/L		86	71 - 122
Hexachlorobutadiene	20.0	16.25		ug/L		81	62 - 134

TestAmerica Cedar Falls

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

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

Lab Sample ID: LCS 310-169796/5
Matrix: Water
Analysis Batch: 169796

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Isopropylbenzene	20.0	16.74		ug/L		84	70 - 125
4-Isopropyltoluene	20.0	16.78		ug/L		84	65 - 124
Methylene Chloride	20.0	18.45		ug/L		92	66 - 129
4-Methyl-2-pentanone (MIBK)	40.0	33.84		ug/L		85	52 - 137
Methyl tert-butyl ether	20.0	16.73		ug/L		84	72 - 128
Naphthalene	20.0	14.53		ug/L		73	50 - 129
n-Butylbenzene	20.0	15.91		ug/L		80	62 - 126
n-Propylbenzene	20.0	17.16		ug/L		86	70 - 125
sec-Butylbenzene	20.0	16.92		ug/L		85	61 - 133
Styrene	20.0	17.54		ug/L		88	71 - 121
tert-Butylbenzene	20.0	16.48		ug/L		82	64 - 128
1,1,1,2-Tetrachloroethane	20.0	18.06		ug/L		90	72 - 117
1,1,2,2-Tetrachloroethane	20.0	18.14		ug/L		91	62 - 123
Tetrachloroethene	20.0	18.72		ug/L		94	68 - 138
Tetrahydrofuran	40.0	32.08		ug/L		80	56 - 141
Toluene	20.0	17.64		ug/L		88	69 - 128
trans-1,2-Dichloroethene	20.0	18.10		ug/L		91	73 - 132
trans-1,3-Dichloropropene	20.0	16.41		ug/L		82	59 - 129
1,2,3-Trichlorobenzene	20.0	15.34		ug/L		77	62 - 131
1,2,4-Trichlorobenzene	20.0	15.24		ug/L		76	61 - 127
1,1,1-Trichloroethane	20.0	18.59		ug/L		93	73 - 132
1,1,2-Trichloroethane	20.0	18.21		ug/L		91	65 - 131
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	18.36		ug/L		92	69 - 145
1,2,4-Trimethylbenzene	20.0	16.90		ug/L		85	66 - 126
1,3,5-Trimethylbenzene	20.0	17.63		ug/L		88	69 - 128
Xylenes, Total	40.0	34.14		ug/L		85	72 - 121

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	96		82 - 122
Dibromofluoromethane (Surr)	104		79 - 119
Toluene-d8 (Surr)	96		77 - 117

Lab Sample ID: LCS 310-169796/6
Matrix: Water
Analysis Batch: 169796

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	10.13		ug/L		51	18 - 128
Chloroethane (ethyl chloride)	20.0	18.10		ug/L		90	66 - 140
Chloromethane (methyl chloride)	20.0	13.31		ug/L		67	55 - 141
Dichlorodifluoromethane	20.0	15.59		ug/L		78	49 - 150
Dichlorofluoromethane	20.0	17.96		ug/L		90	66 - 142
Trichlorofluoromethane	20.0	18.20		ug/L		91	69 - 139

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		82 - 122
Dibromofluoromethane (Surr)	105		79 - 119

TestAmerica Cedar Falls

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

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

Lab Sample ID: LCS 310-169796/6
Matrix: Water
Analysis Batch: 169796

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

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	97		77 - 117

Lab Sample ID: 310-108069-16 MS
Matrix: Water
Analysis Batch: 169796

Client Sample ID: MW-112
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	<10.0		40.0	42.68		ug/L		101	36 - 150
Allyl chloride	<2.00		20.0	18.58		ug/L		93	25 - 150
Benzene	<0.500		20.0	19.17		ug/L		96	53 - 128
Bromobenzene	<1.00		20.0	18.48		ug/L		92	54 - 123
Bromochloromethane	<5.00		20.0	21.05		ug/L		105	60 - 142
Bromodichloromethane	<1.00		20.0	19.05		ug/L		95	56 - 119
Bromoform	<5.00		20.0	19.24		ug/L		96	42 - 123
2-Butanone (MEK)	<10.0		40.0	40.23		ug/L		101	38 - 150
Chlorobenzene	<1.00		20.0	19.08		ug/L		95	57 - 120
Chloroform	<1.00		20.0	19.33		ug/L		97	53 - 130
2-Chlorotoluene	<1.00		20.0	16.89		ug/L		84	45 - 127
4-Chlorotoluene	<1.00		20.0	17.14		ug/L		86	47 - 123
cis-1,2-Dichloroethene	90.9		20.0	101.7	4	ug/L		54	57 - 130
cis-1,3-Dichloropropene	<0.500		20.0	17.26		ug/L		86	51 - 124
Dibromochloromethane	<2.00		20.0	20.15		ug/L		101	46 - 125
Dibromomethane	<1.00		20.0	18.91		ug/L		95	60 - 135
1,2-Dichlorobenzene	<1.00		20.0	17.58		ug/L		88	50 - 122
1,3-Dichlorobenzene	<1.00		20.0	18.51		ug/L		93	47 - 128
1,4-Dichlorobenzene	<1.00		20.0	18.36		ug/L		92	50 - 120
1,1-Dichloroethane	<1.00		20.0	19.22		ug/L		96	56 - 135
1,1-Dichloroethene	<2.00		20.0	17.58		ug/L		86	46 - 137
1,2-Dichloropropane	<1.00		20.0	19.34		ug/L		97	57 - 127
1,3-Dichloropropane	<1.00		20.0	19.59		ug/L		98	59 - 133
2,2-Dichloropropane	<4.00		20.0	14.71		ug/L		74	32 - 150
1,1-Dichloropropene	<1.00		20.0	16.46		ug/L		82	45 - 131
Diethyl ether	<2.00		20.0	17.80		ug/L		89	59 - 133
Ethylbenzene	<1.00		20.0	16.46		ug/L		82	49 - 122
Hexachlorobutadiene	<1.00		20.0	13.76		ug/L		69	16 - 134
Isopropylbenzene	<1.00		20.0	15.65		ug/L		78	38 - 125
4-Isopropyltoluene	<1.00		20.0	15.50		ug/L		78	34 - 124
Methylene Chloride	<1.00		20.0	19.72		ug/L		99	51 - 134
4-Methyl-2-pentanone (MIBK)	<10.0		40.0	37.11		ug/L		93	35 - 150
Methyl tert-butyl ether	<1.00		20.0	17.78		ug/L		89	59 - 131
Naphthalene	<5.00		20.0	13.18		ug/L		66	33 - 134
n-Butylbenzene	<1.00		20.0	13.89		ug/L		69	31 - 126
n-Propylbenzene	<1.00		20.0	16.08		ug/L		80	32 - 125
sec-Butylbenzene	<1.00		20.0	15.30		ug/L		77	28 - 133
Styrene	<1.00		20.0	18.27		ug/L		91	45 - 121
tert-Butylbenzene	<1.00		20.0	15.37		ug/L		77	38 - 128
1,1,1,2-Tetrachloroethane	<1.00		20.0	19.52		ug/L		98	56 - 117
1,1,1,2,2-Tetrachloroethane	<0.500		20.0	19.36		ug/L		97	48 - 133

TestAmerica Cedar Falls

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

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

Lab Sample ID: 310-108069-16 MS

Matrix: Water

Analysis Batch: 169796

Client Sample ID: MW-112

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrachloroethene	<1.00		20.0	18.17		ug/L		91	33 - 138
Tetrahydrofuran	<10.0		40.0	32.16		ug/L		80	41 - 149
Toluene	<1.00		20.0	18.23		ug/L		91	46 - 128
trans-1,2-Dichloroethene	41.6		20.0	54.02		ug/L		62	55 - 132
trans-1,3-Dichloropropene	<0.500		20.0	17.32		ug/L		87	43 - 129
1,2,3-Trichlorobenzene	<5.00		20.0	15.24		ug/L		76	42 - 131
1,2,4-Trichlorobenzene	<1.00		20.0	14.12		ug/L		71	41 - 127
1,1,1-Trichloroethane	<1.00		20.0	18.20		ug/L		91	48 - 132
1,1,2-Trichloroethane	<0.500		20.0	19.31		ug/L		97	51 - 137
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		20.0	14.66		ug/L		73	32 - 145
1,2,4-Trimethylbenzene	<1.00		20.0	16.70		ug/L		83	41 - 126
1,3,5-Trimethylbenzene	<1.00		20.0	16.75		ug/L		84	41 - 128
Xylenes, Total	<3.00		40.0	33.62		ug/L		84	49 - 121

Surrogate	MS %Recovery	MS Qualifier	MS Limits
4-Bromofluorobenzene (Surr)	93		82 - 122
Dibromofluoromethane (Surr)	106		79 - 119
Toluene-d8 (Surr)	95		77 - 117

Lab Sample ID: 310-108069-16 MSD

Matrix: Water

Analysis Batch: 169796

Client Sample ID: MW-112

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	<10.0		40.0	41.66		ug/L		98	36 - 150	2	35
Allyl chloride	<2.00		20.0	18.66		ug/L		93	25 - 150	0	35
Benzene	<0.500		20.0	19.31		ug/L		97	53 - 128	1	15
Bromobenzene	<1.00		20.0	19.42		ug/L		97	54 - 123	5	16
Bromochloromethane	<5.00		20.0	21.76		ug/L		109	60 - 142	3	20
Bromodichloromethane	<1.00		20.0	19.79		ug/L		99	56 - 119	4	15
Bromoform	<5.00		20.0	20.28		ug/L		101	42 - 123	5	20
2-Butanone (MEK)	<10.0		40.0	42.28		ug/L		106	38 - 150	5	25
Chlorobenzene	<1.00		20.0	19.70		ug/L		98	57 - 120	3	20
Chloroform	<1.00		20.0	19.64		ug/L		98	53 - 130	2	15
2-Chlorotoluene	<1.00		20.0	17.91		ug/L		90	45 - 127	6	20
4-Chlorotoluene	<1.00		20.0	18.30		ug/L		92	47 - 123	7	20
cis-1,2-Dichloroethene	90.9		20.0	102.2	4	ug/L		56	57 - 130	0	16
cis-1,3-Dichloropropene	<0.500		20.0	17.74		ug/L		89	51 - 124	3	15
Dibromochloromethane	<2.00		20.0	20.49		ug/L		102	46 - 125	2	17
Dibromomethane	<1.00		20.0	19.65		ug/L		98	60 - 135	4	16
1,2-Dichlorobenzene	<1.00		20.0	19.64		ug/L		98	50 - 122	11	17
1,3-Dichlorobenzene	<1.00		20.0	19.50		ug/L		97	47 - 128	5	20
1,4-Dichlorobenzene	<1.00		20.0	19.77		ug/L		99	50 - 120	7	20
1,1-Dichloroethane	<1.00		20.0	19.67		ug/L		98	56 - 135	2	17
1,1-Dichloroethene	<2.00		20.0	17.16		ug/L		84	46 - 137	2	21
1,2-Dichloropropane	<1.00		20.0	19.84		ug/L		99	57 - 127	3	35
1,3-Dichloropropane	<1.00		20.0	20.28		ug/L		101	59 - 133	3	16

TestAmerica Cedar Falls

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

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

Lab Sample ID: 310-108069-16 MSD

Matrix: Water

Analysis Batch: 169796

Client Sample ID: MW-112

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,2-Dichloropropane	<4.00		20.0	14.98		ug/L		75	32 - 150	2	20
1,1-Dichloropropene	<1.00		20.0	16.38		ug/L		82	45 - 131	0	20
Diethyl ether	<2.00		20.0	18.63		ug/L		93	59 - 133	5	20
Ethylbenzene	<1.00		20.0	17.03		ug/L		85	49 - 122	3	20
Hexachlorobutadiene	<1.00		20.0	15.08		ug/L		75	16 - 134	9	29
Isopropylbenzene	<1.00		20.0	16.38		ug/L		82	38 - 125	5	20
4-Isopropyltoluene	<1.00		20.0	17.69		ug/L		88	34 - 124	13	20
Methylene Chloride	<1.00		20.0	20.07		ug/L		100	51 - 134	2	20
4-Methyl-2-pentanone (MIBK)	<10.0		40.0	37.88		ug/L		95	35 - 150	2	21
Methyl tert-butyl ether	<1.00		20.0	18.74		ug/L		94	59 - 131	5	19
Naphthalene	<5.00		20.0	15.70		ug/L		78	33 - 134	17	34
n-Butylbenzene	<1.00		20.0	16.33		ug/L		82	31 - 126	16	25
n-Propylbenzene	<1.00		20.0	17.34		ug/L		87	32 - 125	8	34
sec-Butylbenzene	<1.00		20.0	16.85		ug/L		84	28 - 133	10	25
Styrene	<1.00		20.0	18.54		ug/L		93	45 - 121	1	20
tert-Butylbenzene	<1.00		20.0	16.74		ug/L		84	38 - 128	9	25
1,1,1,2-Tetrachloroethane	<1.00		20.0	19.99		ug/L		100	56 - 117	2	16
1,1,1,2,2-Tetrachloroethane	<0.500		20.0	20.15		ug/L		101	48 - 133	4	18
Tetrachloroethene	<1.00		20.0	18.32		ug/L		92	33 - 138	1	20
Tetrahydrofuran	<10.0		40.0	34.97		ug/L		87	41 - 149	8	26
Toluene	<1.00		20.0	18.44		ug/L		92	46 - 128	1	15
trans-1,2-Dichloroethene	41.6		20.0	53.69		ug/L		60	55 - 132	1	20
trans-1,3-Dichloropropene	<0.500		20.0	17.55		ug/L		88	43 - 129	1	19
1,2,3-Trichlorobenzene	<5.00		20.0	18.26		ug/L		91	42 - 131	18	25
1,2,4-Trichlorobenzene	<1.00		20.0	17.06		ug/L		85	41 - 127	19	20
1,1,1-Trichloroethane	<1.00		20.0	18.04		ug/L		90	48 - 132	1	16
1,1,2-Trichloroethane	<0.500		20.0	21.06		ug/L		105	51 - 137	9	18
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		20.0	14.77		ug/L		74	32 - 145	1	25
1,2,4-Trimethylbenzene	<1.00		20.0	17.87		ug/L		89	41 - 126	7	20
1,3,5-Trimethylbenzene	<1.00		20.0	18.06		ug/L		90	41 - 128	7	35
Xylenes, Total	<3.00		40.0	35.37		ug/L		88	49 - 121	5	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	97		82 - 122
Dibromofluoromethane (Surr)	106		79 - 119
Toluene-d8 (Surr)	97		77 - 117

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

Lab Sample ID: MB 310-169945/6

Matrix: Water

Analysis Batch: 169945

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.100		0.100		ug/L			06/20/17 11:24	1
1,2-Dibromo-3-Chloropropane	<0.0500		0.0500		ug/L			06/20/17 11:24	1
1,2-Dibromoethane (EDB)	<0.00500		0.00500		ug/L			06/20/17 11:24	1

TestAmerica Cedar Falls

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

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

Lab Sample ID: MB 310-169945/6
Matrix: Water
Analysis Batch: 169945

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	<0.100		0.100		ug/L			06/20/17 11:24	1
1,4-Dioxane	<1.00		1.00		ug/L			06/20/17 11:24	1
Trichloroethene	<0.100		0.100		ug/L			06/20/17 11:24	1
1,2,3-Trichloropropane	<0.00500		0.00500		ug/L			06/20/17 11:24	1
Vinyl chloride	<0.0400		0.0400		ug/L			06/20/17 11:24	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		80 - 120		06/20/17 11:24	1
Dibromofluoromethane (Surr)	99		80 - 120		06/20/17 11:24	1
Toluene-d8 (Surr)	94		79 - 119		06/20/17 11:24	1

Lab Sample ID: LCS 310-169945/7
Matrix: Water
Analysis Batch: 169945

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon tetrachloride	0.504	0.5789		ug/L		115	70 - 130
1,2-Dibromo-3-Chloropropane	0.501	0.4999		ug/L		100	55 - 125
1,2-Dibromoethane (EDB)	0.502	0.5092		ug/L		102	65 - 120
1,2-Dichloroethane	0.504	0.5996		ug/L		119	70 - 130
1,4-Dioxane	2.50	2.509		ug/L		100	50 - 145
Trichloroethene	0.503	0.5731		ug/L		114	70 - 130
1,2,3-Trichloropropane	0.502	0.5531		ug/L		110	70 - 130
Vinyl chloride	0.500	0.5544		ug/L		111	64 - 124

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	98		80 - 120
Toluene-d8 (Surr)	95		79 - 119

Lab Sample ID: 310-108069-2 MS
Matrix: Water
Analysis Batch: 169945

Client Sample ID: MW-102A
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon tetrachloride	<0.100		0.202	0.2267		ug/L		112	70 - 130
1,2-Dibromo-3-Chloropropane	<0.0500		0.200	0.2417		ug/L		121	55 - 125
1,2-Dibromoethane (EDB)	<0.00500		0.201	0.2383		ug/L		117	65 - 120
1,2-Dichloroethane	<0.100		0.201	0.2427		ug/L		120	70 - 130
1,4-Dioxane	<1.00	F1	1.00	1.258		ug/L		126	50 - 145
Trichloroethene	29.8	E	0.201	25.12	E 4	ug/L		-2351	70 - 130
1,2,3-Trichloropropane	<0.00500		0.201	0.2356		ug/L		117	70 - 130
Vinyl chloride	0.245	F1	0.200	0.3705	F1	ug/L		63	64 - 124

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		80 - 120
Dibromofluoromethane (Surr)	105		80 - 120

TestAmerica Cedar Falls

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

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

Lab Sample ID: 310-108069-2 MS
Matrix: Water
Analysis Batch: 169945

Client Sample ID: MW-102A
Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
Toluene-d8 (Surr)	94		79 - 119

Lab Sample ID: 310-108069-2 MSD
Matrix: Water
Analysis Batch: 169945

Client Sample ID: MW-102A
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Carbon tetrachloride	<0.100		0.202	0.2403		ug/L		119	70 - 130	6	20
1,2-Dibromo-3-Chloropropane	<0.0500		0.200	0.1994		ug/L		100	55 - 125	19	20
1,2-Dibromoethane (EDB)	<0.00500		0.201	0.2024		ug/L		100	65 - 120	16	20
1,2-Dichloroethane	<0.100		0.201	0.2329		ug/L		116	70 - 130	4	20
1,4-Dioxane	<1.00	F1	1.00	1.535	F1	ug/L		153	50 - 145	20	20
Trichloroethene	29.8	E	0.201	26.20	E 4	ug/L		-1815	70 - 130	4	20
1,2,3-Trichloropropane	<0.00500		0.201	0.2198		ug/L		110	70 - 130	7	20
Vinyl chloride	0.245	F1	0.200	0.3942		ug/L		75	64 - 124	6	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		80 - 120
Dibromofluoromethane (Surr)	104		80 - 120
Toluene-d8 (Surr)	94		79 - 119

Lab Sample ID: MB 310-170058/5
Matrix: Water
Analysis Batch: 170058

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.100		0.100		ug/L			06/21/17 08:52	1
1,2-Dibromo-3-Chloropropane	<0.0500		0.0500		ug/L			06/21/17 08:52	1
1,2-Dibromoethane (EDB)	<0.00500		0.00500		ug/L			06/21/17 08:52	1
1,2-Dichloroethane	<0.100		0.100		ug/L			06/21/17 08:52	1
1,4-Dioxane	<1.00		1.00		ug/L			06/21/17 08:52	1
Trichloroethene	<0.100		0.100		ug/L			06/21/17 08:52	1
1,2,3-Trichloropropane	<0.00500		0.00500		ug/L			06/21/17 08:52	1
Vinyl chloride	<0.0400		0.0400		ug/L			06/21/17 08:52	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		80 - 120		06/21/17 08:52	1
Dibromofluoromethane (Surr)	102		80 - 120		06/21/17 08:52	1
Toluene-d8 (Surr)	92		79 - 119		06/21/17 08:52	1

Lab Sample ID: LCS 310-170058/6
Matrix: Water
Analysis Batch: 170058

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon tetrachloride	0.504	0.6651	*	ug/L		132	70 - 130
1,2-Dibromo-3-Chloropropane	0.501	0.5000		ug/L		100	55 - 125

TestAmerica Cedar Falls

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

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

Lab Sample ID: LCS 310-170058/6
Matrix: Water
Analysis Batch: 170058

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)	0.502	0.5552		ug/L		111	65 - 120
1,2-Dichloroethane	0.504	0.6091		ug/L		121	70 - 130
1,4-Dioxane	2.50	2.843		ug/L		114	50 - 145
Trichloroethene	0.503	0.6450		ug/L		128	70 - 130
1,2,3-Trichloropropane	0.502	0.5598		ug/L		112	70 - 130
Vinyl chloride	0.500	0.5759		ug/L		115	64 - 124

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	102		80 - 120
Toluene-d8 (Surr)	92		79 - 119

Lab Sample ID: 310-108069-17 MS
Matrix: Water
Analysis Batch: 170058

Client Sample ID: BNSF-2S
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon tetrachloride	<0.100	*	0.202	0.2532		ug/L		126	70 - 130
1,2-Dibromo-3-Chloropropane	<0.0500	F2	0.200	0.2494		ug/L		125	55 - 125
1,2-Dibromoethane (EDB)	<0.00500	F1 F2	0.201	0.2572	F1	ug/L		127	65 - 120
1,2-Dichloroethane	<0.100		0.201	0.2555		ug/L		127	70 - 130
1,4-Dioxane	2.21	F1 F2	1.00	4.225	F1	ug/L		202	50 - 145
Trichloroethene	<0.100		0.201	0.2491		ug/L		113	70 - 130
1,2,3-Trichloropropane	<0.00500	F2	0.201	0.2581		ug/L		129	70 - 130
Vinyl chloride	<0.0400		0.200	0.2362		ug/L		118	64 - 124

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	104		80 - 120
Toluene-d8 (Surr)	92		79 - 119

Lab Sample ID: 310-108069-17 MSD
Matrix: Water
Analysis Batch: 170058

Client Sample ID: BNSF-2S
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Carbon tetrachloride	<0.100	*	0.202	0.2325		ug/L		115	70 - 130	9	20
1,2-Dibromo-3-Chloropropane	<0.0500	F2	0.200	0.1857	F2	ug/L		93	55 - 125	29	20
1,2-Dibromoethane (EDB)	<0.00500	F1 F2	0.201	0.2001	F2	ug/L		99	65 - 120	25	20
1,2-Dichloroethane	<0.100		0.201	0.2197		ug/L		109	70 - 130	15	20
1,4-Dioxane	2.21	F1 F2	1.00	2.558	F1 F2	ug/L		35	50 - 145	49	20
Trichloroethene	<0.100		0.201	0.2162		ug/L		96	70 - 130	14	20
1,2,3-Trichloropropane	<0.00500	F2	0.201	0.2082	F2	ug/L		104	70 - 130	21	20
Vinyl chloride	<0.0400		0.200	0.2004		ug/L		100	64 - 124	16	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		80 - 120

TestAmerica Cedar Falls

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

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

Lab Sample ID: 310-108069-17 MSD
Matrix: Water
Analysis Batch: 170058

Client Sample ID: BNSF-2S
Prep Type: Total/NA

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
Dibromofluoromethane (Surr)	104		80 - 120
Toluene-d8 (Surr)	92		79 - 119

Lab Sample ID: MB 310-170243/5
Matrix: Water
Analysis Batch: 170243

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

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Carbon tetrachloride	<0.100		0.100		ug/L			06/22/17 12:00	1
1,2-Dibromo-3-Chloropropane	<0.0500		0.0500		ug/L			06/22/17 12:00	1
1,2-Dibromoethane (EDB)	<0.00500		0.00500		ug/L			06/22/17 12:00	1
1,2-Dichloroethane	<0.100		0.100		ug/L			06/22/17 12:00	1
1,4-Dioxane	<1.00		1.00		ug/L			06/22/17 12:00	1
Trichloroethene	<0.100		0.100		ug/L			06/22/17 12:00	1
1,2,3-Trichloropropane	<0.00500		0.00500		ug/L			06/22/17 12:00	1
Vinyl chloride	<0.0400		0.0400		ug/L			06/22/17 12:00	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	99		80 - 120		06/22/17 12:00	1
Dibromofluoromethane (Surr)	103		80 - 120		06/22/17 12:00	1
Toluene-d8 (Surr)	91		79 - 119		06/22/17 12:00	1

Lab Sample ID: LCS 310-170243/6
Matrix: Water
Analysis Batch: 170243

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dibromo-3-Chloropropane	0.501	0.4997		ug/L		100	55 - 125
1,2-Dibromoethane (EDB)	0.502	0.5376		ug/L		107	65 - 120
1,2-Dichloroethane	0.504	0.5984		ug/L		119	70 - 130
1,4-Dioxane	2.50	2.942		ug/L		118	50 - 145
Trichloroethene	0.503	0.6016		ug/L		120	70 - 130
1,2,3-Trichloropropane	0.502	0.5661		ug/L		113	70 - 130
Vinyl chloride	0.500	0.5506		ug/L		110	64 - 124

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	103		80 - 120
Toluene-d8 (Surr)	92		79 - 119

Lab Sample ID: 310-108069-18 MS
Matrix: Water
Analysis Batch: 170243

Client Sample ID: BNSF-2D
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits

TestAmerica Cedar Falls

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

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

Lab Sample ID: 310-108069-18 MS

Matrix: Water

Analysis Batch: 170243

Client Sample ID: BNSF-2D

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
1,2-Dibromo-3-Chloropropane	<0.0500		0.200	0.2103		ug/L		105	55 - 125
1,2-Dibromoethane (EDB)	<0.00500	F1 F2	0.201	0.1867		ug/L		92	65 - 120
1,2-Dichloroethane	<0.100	F1 F2	0.201	0.2124		ug/L		105	70 - 130
1,4-Dioxane	1.91		1.00	2.801		ug/L		89	50 - 145
Trichloroethene	<0.100	F1 F2	0.201	1.054	F1	ug/L		524	70 - 130
1,2,3-Trichloropropane	<0.00500	F2	0.201	0.1873		ug/L		93	70 - 130
Vinyl chloride	<0.0400		0.200	0.1924		ug/L		96	64 - 124
MS MS									
Surrogate	%Recovery	Qualifier	Limits						
4-Bromofluorobenzene (Surr)	102		80 - 120						
Dibromofluoromethane (Surr)	107		80 - 120						
Toluene-d8 (Surr)	91		79 - 119						

Lab Sample ID: 310-108069-18 MSD

Matrix: Water

Analysis Batch: 170243

Client Sample ID: BNSF-2D

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
	Result	Qualifier	Added	Result	Qualifier						
Carbon tetrachloride	<0.100		0.202	0.2444		ug/L		121	70 - 130	6	20
1,2-Dibromo-3-Chloropropane	<0.0500		0.200	0.2502		ug/L		125	55 - 125	17	20
1,2-Dibromoethane (EDB)	<0.00500	F1 F2	0.201	0.2631	F1 F2	ug/L		130	65 - 120	34	20
1,2-Dichloroethane	<0.100	F1 F2	0.201	0.2770	F1 F2	ug/L		138	70 - 130	26	20
1,4-Dioxane	1.91		1.00	2.934		ug/L		102	50 - 145	5	20
Trichloroethene	<0.100	F1 F2	0.201	0.5750	F1 F2	ug/L		286	70 - 130	59	20
1,2,3-Trichloropropane	<0.00500	F2	0.201	0.2521	F2	ug/L		126	70 - 130	30	20
Vinyl chloride	<0.0400		0.200	0.2009		ug/L		100	64 - 124	4	20
MSD MSD											
Surrogate	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene (Surr)	99		80 - 120								
Dibromofluoromethane (Surr)	107		80 - 120								
Toluene-d8 (Surr)	92		79 - 119								

Lab Sample ID: MB 310-170552/18

Matrix: Water

Analysis Batch: 170552

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Carbon tetrachloride	<0.100		0.100		ug/L			06/26/17 17:10	1
1,2-Dibromo-3-Chloropropane	<0.0500		0.0500		ug/L			06/26/17 17:10	1
1,2-Dibromoethane (EDB)	<0.00500		0.00500		ug/L			06/26/17 17:10	1
1,2-Dichloroethane	<0.100		0.100		ug/L			06/26/17 17:10	1
1,4-Dioxane	<1.00		1.00		ug/L			06/26/17 17:10	1
Trichloroethene	<0.100		0.100		ug/L			06/26/17 17:10	1
1,2,3-Trichloropropane	<0.00500		0.00500		ug/L			06/26/17 17:10	1
Vinyl chloride	<0.0400		0.0400		ug/L			06/26/17 17:10	1

TestAmerica Cedar Falls

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

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

Lab Sample ID: MB 310-170552/18
Matrix: Water
Analysis Batch: 170552

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

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	99		80 - 120		06/26/17 17:10	1
Dibromofluoromethane (Surr)	100		80 - 120		06/26/17 17:10	1
Toluene-d8 (Surr)	100		79 - 119		06/26/17 17:10	1

Lab Sample ID: LCS 310-170552/19
Matrix: Water
Analysis Batch: 170552

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dibromo-3-Chloropropane	0.501	0.4792		ug/L		96	55 - 125
1,2-Dibromoethane (EDB)	0.502	0.4884		ug/L		97	65 - 120
1,2-Dichloroethane	0.504	0.5051		ug/L		100	70 - 130
1,4-Dioxane	2.50	2.719		ug/L		109	50 - 145
Trichloroethene	0.503	0.5016		ug/L		100	70 - 130
1,2,3-Trichloropropane	0.502	0.5063		ug/L		101	70 - 130
Vinyl chloride	0.500	0.4971		ug/L		99	64 - 124

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	100		80 - 120
Dibromofluoromethane (Surr)	101		80 - 120
Toluene-d8 (Surr)	100		79 - 119

Lab Sample ID: LCSD 310-170552/20
Matrix: Water
Analysis Batch: 170552

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
Carbon tetrachloride	0.504	0.4525		ug/L		90	70 - 130	6	20
1,2-Dibromo-3-Chloropropane	0.501	0.4906		ug/L		98	55 - 125	2	20
1,2-Dibromoethane (EDB)	0.502	0.4782		ug/L		95	65 - 120	2	20
1,2-Dichloroethane	0.504	0.4946		ug/L		98	70 - 130	2	20
1,4-Dioxane	2.50	2.891		ug/L		116	50 - 145	6	20
Trichloroethene	0.503	0.4658		ug/L		93	70 - 130	7	20
1,2,3-Trichloropropane	0.502	0.4927		ug/L		98	70 - 130	3	20
Vinyl chloride	0.500	0.4655		ug/L		93	64 - 124	7	20

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	100		80 - 120
Toluene-d8 (Surr)	100		79 - 119

TestAmerica Cedar Falls

QC Association Summary

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

GC/MS VOA

Analysis Batch: 169793

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-108069-1	MW-101A	Total/NA	Water	8260B	
310-108069-2	MW-102A	Total/NA	Water	8260B	
310-108069-3	MW-102B	Total/NA	Water	8260B	
310-108069-4	MW-103A	Total/NA	Water	8260B	
310-108069-5	MW-103B	Total/NA	Water	8260B	
310-108069-6	MW-104B	Total/NA	Water	8260B	
310-108069-7	MW-105B	Total/NA	Water	8260B	
310-108069-8	MW-107A	Total/NA	Water	8260B	
310-108069-9	MW-107B	Total/NA	Water	8260B	
310-108069-10	MW-108A	Total/NA	Water	8260B	
310-108069-11	MW-108B	Total/NA	Water	8260B	
MB 310-169793/8	Method Blank	Total/NA	Water	8260B	
LCS 310-169793/6	Lab Control Sample	Total/NA	Water	8260B	
LCS 310-169793/7	Lab Control Sample	Total/NA	Water	8260B	
310-108069-2 MS	MW-102A	Total/NA	Water	8260B	
310-108069-2 MSD	MW-102A	Total/NA	Water	8260B	

Analysis Batch: 169796

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-108069-12	MW-108PC	Total/NA	Water	8260B	
310-108069-13	MW-109B	Total/NA	Water	8260B	
310-108069-14	MW-110	Total/NA	Water	8260B	
310-108069-15	MW-111B	Total/NA	Water	8260B	
310-108069-16	MW-112	Total/NA	Water	8260B	
310-108069-17	BNSF-2S	Total/NA	Water	8260B	
310-108069-18	BNSF-2D	Total/NA	Water	8260B	
310-108069-19	Trip Blank 2	Total/NA	Water	8260B	
310-108069-20	REEP-1	Total/NA	Water	8260B	
310-108069-21	REEP-2S	Total/NA	Water	8260B	
310-108069-22	REEP-2	Total/NA	Water	8260B	
310-108069-23	REEP-2PC	Total/NA	Water	8260B	
310-108069-24	Trip Blank 1	Total/NA	Water	8260B	
310-108069-25	Equipment Blank 1	Total/NA	Water	8260B	
310-108069-26	Equipment Blank 2	Total/NA	Water	8260B	
310-108069-27	Equipment Blank 3	Total/NA	Water	8260B	
310-108069-28	Equipment Blank 4	Total/NA	Water	8260B	
310-108069-29	Duplicate 1	Total/NA	Water	8260B	
310-108069-30	Duplicate 2	Total/NA	Water	8260B	
310-108069-31	Duplicate 3	Total/NA	Water	8260B	
MB 310-169796/7	Method Blank	Total/NA	Water	8260B	
LCS 310-169796/5	Lab Control Sample	Total/NA	Water	8260B	
LCS 310-169796/6	Lab Control Sample	Total/NA	Water	8260B	
310-108069-16 MS	MW-112	Total/NA	Water	8260B	
310-108069-16 MSD	MW-112	Total/NA	Water	8260B	

Analysis Batch: 169945

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-108069-1	MW-101A	Total/NA	Water	8260B SIM	
310-108069-2	MW-102A	Total/NA	Water	8260B SIM	
310-108069-3	MW-102B	Total/NA	Water	8260B SIM	
310-108069-4	MW-103A	Total/NA	Water	8260B SIM	

TestAmerica Cedar Falls

QC Association Summary

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

GC/MS VOA (Continued)

Analysis Batch: 169945 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-108069-5	MW-103B	Total/NA	Water	8260B SIM	
310-108069-6	MW-104B	Total/NA	Water	8260B SIM	
310-108069-7	MW-105B	Total/NA	Water	8260B SIM	
310-108069-8	MW-107A	Total/NA	Water	8260B SIM	
310-108069-9	MW-107B	Total/NA	Water	8260B SIM	
310-108069-10	MW-108A	Total/NA	Water	8260B SIM	
310-108069-11	MW-108B	Total/NA	Water	8260B SIM	
310-108069-12	MW-108PC	Total/NA	Water	8260B SIM	
310-108069-13	MW-109B	Total/NA	Water	8260B SIM	
310-108069-14	MW-110	Total/NA	Water	8260B SIM	
310-108069-15	MW-111B	Total/NA	Water	8260B SIM	
310-108069-16	MW-112	Total/NA	Water	8260B SIM	
MB 310-169945/6	Method Blank	Total/NA	Water	8260B SIM	
LCS 310-169945/7	Lab Control Sample	Total/NA	Water	8260B SIM	
310-108069-2 MS	MW-102A	Total/NA	Water	8260B SIM	
310-108069-2 MSD	MW-102A	Total/NA	Water	8260B SIM	

Analysis Batch: 170058

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-108069-1	MW-101A	Total/NA	Water	8260B SIM	
310-108069-2	MW-102A	Total/NA	Water	8260B SIM	
310-108069-3	MW-102B	Total/NA	Water	8260B SIM	
310-108069-4	MW-103A	Total/NA	Water	8260B SIM	
310-108069-5	MW-103B	Total/NA	Water	8260B SIM	
310-108069-6	MW-104B	Total/NA	Water	8260B SIM	
310-108069-7	MW-105B	Total/NA	Water	8260B SIM	
310-108069-9	MW-107B	Total/NA	Water	8260B SIM	
310-108069-10	MW-108A	Total/NA	Water	8260B SIM	
310-108069-11	MW-108B	Total/NA	Water	8260B SIM	
310-108069-11	MW-108B	Total/NA	Water	8260B SIM	
310-108069-12	MW-108PC	Total/NA	Water	8260B SIM	
310-108069-13	MW-109B	Total/NA	Water	8260B SIM	
310-108069-14	MW-110	Total/NA	Water	8260B SIM	
310-108069-16	MW-112	Total/NA	Water	8260B SIM	
310-108069-17	BNSF-2S	Total/NA	Water	8260B SIM	
310-108069-19	Trip Blank 2	Total/NA	Water	8260B SIM	
MB 310-170058/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 310-170058/6	Lab Control Sample	Total/NA	Water	8260B SIM	
310-108069-17 MS	BNSF-2S	Total/NA	Water	8260B SIM	
310-108069-17 MSD	BNSF-2S	Total/NA	Water	8260B SIM	

Analysis Batch: 170243

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-108069-18	BNSF-2D	Total/NA	Water	8260B SIM	
310-108069-20	REEP-1	Total/NA	Water	8260B SIM	
310-108069-21	REEP-2S	Total/NA	Water	8260B SIM	
310-108069-22	REEP-2	Total/NA	Water	8260B SIM	
310-108069-23	REEP-2PC	Total/NA	Water	8260B SIM	
310-108069-24	Trip Blank 1	Total/NA	Water	8260B SIM	
310-108069-25	Equipment Blank 1	Total/NA	Water	8260B SIM	
310-108069-26	Equipment Blank 2	Total/NA	Water	8260B SIM	

TestAmerica Cedar Falls

QC Association Summary

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

GC/MS VOA (Continued)

Analysis Batch: 170243 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-108069-27	Equipment Blank 3	Total/NA	Water	8260B SIM	
310-108069-28	Equipment Blank 4	Total/NA	Water	8260B SIM	
310-108069-29	Duplicate 1	Total/NA	Water	8260B SIM	
310-108069-30	Duplicate 2	Total/NA	Water	8260B SIM	
310-108069-31	Duplicate 3	Total/NA	Water	8260B SIM	
MB 310-170243/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 310-170243/6	Lab Control Sample	Total/NA	Water	8260B SIM	
310-108069-18 MS	BNSF-2D	Total/NA	Water	8260B SIM	
310-108069-18 MSD	BNSF-2D	Total/NA	Water	8260B SIM	

Analysis Batch: 170552

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-108069-20	REEP-1	Total/NA	Water	8260B SIM	
310-108069-29	Duplicate 1	Total/NA	Water	8260B SIM	
310-108069-30	Duplicate 2	Total/NA	Water	8260B SIM	
310-108069-31	Duplicate 3	Total/NA	Water	8260B SIM	
MB 310-170552/18	Method Blank	Total/NA	Water	8260B SIM	
LCS 310-170552/19	Lab Control Sample	Total/NA	Water	8260B SIM	
LCSD 310-170552/20	Lab Control Sample Dup	Total/NA	Water	8260B SIM	

Lab Chronicle

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: MW-101A

Date Collected: 06/13/17 08:46

Date Received: 06/16/17 09:40

Lab Sample ID: 310-108069-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	169793	06/19/17 09:54	SJN	TAL CF
Total/NA	Analysis	8260B SIM		1	169945	06/20/17 12:31	TRZ	TAL CF
Total/NA	Analysis	8260B SIM		50	170058	06/21/17 14:02	TRZ	TAL CF

Client Sample ID: MW-102A

Date Collected: 06/13/17 13:55

Date Received: 06/16/17 09:40

Lab Sample ID: 310-108069-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	169793	06/19/17 10:18	SJN	TAL CF
Total/NA	Analysis	8260B SIM		1	169945	06/20/17 12:55	TRZ	TAL CF
Total/NA	Analysis	8260B SIM		10	170058	06/21/17 12:03	TRZ	TAL CF

Client Sample ID: MW-102B

Date Collected: 06/13/17 15:30

Date Received: 06/16/17 09:40

Lab Sample ID: 310-108069-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	169793	06/19/17 10:42	SJN	TAL CF
Total/NA	Analysis	8260B SIM		1	169945	06/20/17 13:19	TRZ	TAL CF
Total/NA	Analysis	8260B SIM		5	170058	06/21/17 11:15	TRZ	TAL CF

Client Sample ID: MW-103A

Date Collected: 06/13/17 16:59

Date Received: 06/16/17 09:40

Lab Sample ID: 310-108069-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	169793	06/19/17 11:05	SJN	TAL CF
Total/NA	Analysis	8260B SIM		1	169945	06/20/17 13:43	TRZ	TAL CF
Total/NA	Analysis	8260B SIM		100	170058	06/21/17 15:39	TRZ	TAL CF

Client Sample ID: MW-103B

Date Collected: 06/13/17 15:50

Date Received: 06/16/17 09:40

Lab Sample ID: 310-108069-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	169793	06/19/17 11:29	SJN	TAL CF
Total/NA	Analysis	8260B SIM		1	169945	06/20/17 14:07	TRZ	TAL CF
Total/NA	Analysis	8260B SIM		10	170058	06/21/17 12:27	TRZ	TAL CF

TestAmerica Cedar Falls

Lab Chronicle

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: MW-104B

Lab Sample ID: 310-108069-6

Date Collected: 06/12/17 14:32

Matrix: Water

Date Received: 06/16/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	169793	06/19/17 11:52	SJN	TAL CF
Total/NA	Analysis	8260B SIM		1	169945	06/20/17 14:30	TRZ	TAL CF
Total/NA	Analysis	8260B SIM		5	170058	06/21/17 11:39	TRZ	TAL CF

Client Sample ID: MW-105B

Lab Sample ID: 310-108069-7

Date Collected: 06/13/17 11:28

Matrix: Water

Date Received: 06/16/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	169793	06/19/17 12:15	SJN	TAL CF
Total/NA	Analysis	8260B SIM		1	169945	06/20/17 14:54	TRZ	TAL CF
Total/NA	Analysis	8260B SIM		10	170058	06/21/17 12:51	TRZ	TAL CF

Client Sample ID: MW-107A

Lab Sample ID: 310-108069-8

Date Collected: 06/13/17 11:00

Matrix: Water

Date Received: 06/16/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	169793	06/19/17 12:39	SJN	TAL CF
Total/NA	Analysis	8260B SIM		1	169945	06/20/17 15:18	TRZ	TAL CF

Client Sample ID: MW-107B

Lab Sample ID: 310-108069-9

Date Collected: 06/13/17 13:27

Matrix: Water

Date Received: 06/16/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	169793	06/19/17 13:03	SJN	TAL CF
Total/NA	Analysis	8260B SIM		1	169945	06/20/17 15:42	TRZ	TAL CF
Total/NA	Analysis	8260B SIM		50	170058	06/21/17 14:27	TRZ	TAL CF

Client Sample ID: MW-108A

Lab Sample ID: 310-108069-10

Date Collected: 06/14/17 13:52

Matrix: Water

Date Received: 06/16/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	169793	06/19/17 13:26	SJN	TAL CF
Total/NA	Analysis	8260B SIM		1	169945	06/20/17 16:07	TRZ	TAL CF
Total/NA	Analysis	8260B SIM		500	170058	06/21/17 16:02	TRZ	TAL CF

TestAmerica Cedar Falls

Lab Chronicle

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: MW-108B

Lab Sample ID: 310-108069-11

Date Collected: 06/14/17 14:40

Matrix: Water

Date Received: 06/16/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	169793	06/19/17 13:50	SJN	TAL CF
Total/NA	Analysis	8260B SIM		1	169945	06/20/17 16:30	TRZ	TAL CF
Total/NA	Analysis	8260B SIM		1	170058	06/21/17 10:03	TRZ	TAL CF
Total/NA	Analysis	8260B SIM		5	170058	06/21/17 10:51	TRZ	TAL CF

Client Sample ID: MW-108PC

Lab Sample ID: 310-108069-12

Date Collected: 06/14/17 12:45

Matrix: Water

Date Received: 06/16/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	169796	06/19/17 22:04	SJN	TAL CF
Total/NA	Analysis	8260B SIM		1	169945	06/20/17 16:54	TRZ	TAL CF
Total/NA	Analysis	8260B SIM		100	170058	06/21/17 15:15	TRZ	TAL CF

Client Sample ID: MW-109B

Lab Sample ID: 310-108069-13

Date Collected: 06/13/17 09:25

Matrix: Water

Date Received: 06/16/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	169796	06/19/17 22:27	SJN	TAL CF
Total/NA	Analysis	8260B SIM		1	169945	06/20/17 17:18	TRZ	TAL CF
Total/NA	Analysis	8260B SIM		10	170058	06/21/17 13:15	TRZ	TAL CF

Client Sample ID: MW-110

Lab Sample ID: 310-108069-14

Date Collected: 06/12/17 13:48

Matrix: Water

Date Received: 06/16/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	169796	06/19/17 22:51	SJN	TAL CF
Total/NA	Analysis	8260B SIM		1	169945	06/20/17 17:42	TRZ	TAL CF
Total/NA	Analysis	8260B SIM		20	170058	06/21/17 13:38	TRZ	TAL CF

Client Sample ID: MW-111B

Lab Sample ID: 310-108069-15

Date Collected: 06/12/17 18:09

Matrix: Water

Date Received: 06/16/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	169796	06/19/17 23:14	SJN	TAL CF
Total/NA	Analysis	8260B SIM		1	169945	06/20/17 18:05	TRZ	TAL CF

TestAmerica Cedar Falls

Lab Chronicle

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: MW-112

Lab Sample ID: 310-108069-16

Date Collected: 06/14/17 12:36

Matrix: Water

Date Received: 06/16/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	169796	06/19/17 23:38	SJN	TAL CF
Total/NA	Analysis	8260B SIM		1	169945	06/20/17 18:29	TRZ	TAL CF
Total/NA	Analysis	8260B SIM		50	170058	06/21/17 14:51	TRZ	TAL CF

Client Sample ID: BNSF-2S

Lab Sample ID: 310-108069-17

Date Collected: 06/14/17 11:08

Matrix: Water

Date Received: 06/16/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	169796	06/20/17 00:02	SJN	TAL CF
Total/NA	Analysis	8260B SIM		1	170058	06/21/17 10:27	TRZ	TAL CF

Client Sample ID: BNSF-2D

Lab Sample ID: 310-108069-18

Date Collected: 06/14/17 10:25

Matrix: Water

Date Received: 06/16/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	169796	06/20/17 00:25	SJN	TAL CF
Total/NA	Analysis	8260B SIM		1	170243	06/22/17 13:53	TRZ	TAL CF

Client Sample ID: Trip Blank 2

Lab Sample ID: 310-108069-19

Date Collected: 06/15/17 00:00

Matrix: Water

Date Received: 06/16/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	169796	06/19/17 19:43	SJN	TAL CF
Total/NA	Analysis	8260B SIM		1	170058	06/21/17 09:39	TRZ	TAL CF

Client Sample ID: REEP-1

Lab Sample ID: 310-108069-20

Date Collected: 06/14/17 16:27

Matrix: Water

Date Received: 06/16/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	169796	06/20/17 00:49	SJN	TAL CF
Total/NA	Analysis	8260B SIM		1	170243	06/22/17 17:52	TRZ	TAL CF
Total/NA	Analysis	8260B SIM		500	170552	06/26/17 19:33	TRZ	TAL CF

Lab Chronicle

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: REEP-2S

Lab Sample ID: 310-108069-21

Date Collected: 06/14/17 16:00

Matrix: Water

Date Received: 06/16/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	169796	06/20/17 01:13	SJN	TAL CF
Total/NA	Analysis	8260B SIM		1	170243	06/22/17 14:17	TRZ	TAL CF

Client Sample ID: REEP-2

Lab Sample ID: 310-108069-22

Date Collected: 06/15/17 10:05

Matrix: Water

Date Received: 06/16/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	169796	06/20/17 01:36	SJN	TAL CF
Total/NA	Analysis	8260B SIM		1	170243	06/22/17 14:41	TRZ	TAL CF

Client Sample ID: REEP-2PC

Lab Sample ID: 310-108069-23

Date Collected: 06/15/17 11:14

Matrix: Water

Date Received: 06/16/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	169796	06/20/17 02:00	SJN	TAL CF
Total/NA	Analysis	8260B SIM		1	170243	06/22/17 15:05	TRZ	TAL CF

Client Sample ID: Trip Blank 1

Lab Sample ID: 310-108069-24

Date Collected: 06/15/17 00:00

Matrix: Water

Date Received: 06/16/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	169796	06/19/17 20:06	SJN	TAL CF
Total/NA	Analysis	8260B SIM		1	170243	06/22/17 13:29	TRZ	TAL CF

Client Sample ID: Equipment Blank 1

Lab Sample ID: 310-108069-25

Date Collected: 06/12/17 18:14

Matrix: Water

Date Received: 06/16/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	169796	06/19/17 20:30	SJN	TAL CF
Total/NA	Analysis	8260B SIM		1	170243	06/22/17 15:29	TRZ	TAL CF

Client Sample ID: Equipment Blank 2

Lab Sample ID: 310-108069-26

Date Collected: 06/13/17 17:16

Matrix: Water

Date Received: 06/16/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	169796	06/19/17 20:53	SJN	TAL CF

TestAmerica Cedar Falls

Lab Chronicle

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: Equipment Blank 2

Lab Sample ID: 310-108069-26

Date Collected: 06/13/17 17:16

Matrix: Water

Date Received: 06/16/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B SIM		1	170243	06/22/17 15:53	TRZ	TAL CF

Client Sample ID: Equipment Blank 3

Lab Sample ID: 310-108069-27

Date Collected: 06/14/17 14:19

Matrix: Water

Date Received: 06/16/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	169796	06/19/17 21:17	SJN	TAL CF
Total/NA	Analysis	8260B SIM		1	170243	06/22/17 16:17	TRZ	TAL CF

Client Sample ID: Equipment Blank 4

Lab Sample ID: 310-108069-28

Date Collected: 06/15/17 11:45

Matrix: Water

Date Received: 06/16/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	169796	06/19/17 21:40	SJN	TAL CF
Total/NA	Analysis	8260B SIM		1	170243	06/22/17 16:41	TRZ	TAL CF

Client Sample ID: Duplicate 1

Lab Sample ID: 310-108069-29

Date Collected: 06/13/17 09:30

Matrix: Water

Date Received: 06/16/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	169796	06/20/17 02:23	SJN	TAL CF
Total/NA	Analysis	8260B SIM		1	170243	06/22/17 17:04	TRZ	TAL CF
Total/NA	Analysis	8260B SIM		10	170552	06/26/17 18:45	TRZ	TAL CF

Client Sample ID: Duplicate 2

Lab Sample ID: 310-108069-30

Date Collected: 06/13/17 17:04

Matrix: Water

Date Received: 06/16/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	169796	06/20/17 02:46	SJN	TAL CF
Total/NA	Analysis	8260B SIM		1	170243	06/22/17 17:28	TRZ	TAL CF
Total/NA	Analysis	8260B SIM		100	170552	06/26/17 19:09	TRZ	TAL CF

TestAmerica Cedar Falls

Lab Chronicle

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Client Sample ID: Duplicate 3

Lab Sample ID: 310-108069-31

Date Collected: 06/14/17 13:56

Matrix: Water

Date Received: 06/16/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	169796	06/20/17 03:10	SJN	TAL CF
Total/NA	Analysis	8260B SIM		1	170243	06/22/17 18:16	TRZ	TAL CF
Total/NA	Analysis	8260B SIM		500	170552	06/26/17 19:57	TRZ	TAL CF

Laboratory References:

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

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Accreditation/Certification Summary

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Laboratory: TestAmerica Cedar Falls

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Minnesota	NELAP	5	019-999-319	12-31-17

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

Analysis Method	Prep Method	Matrix	Analyte
8260B		Water	Dichlorofluoromethane

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Method Summary

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-108069-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CF
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CF

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

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





310-108069 Chain of Custody

310502

Cooler/Sample Receipt and Temperature Record

Client Information			
Client: <u>Carlson McCain</u>			
City/State: <u>Plymouth MN</u>		Project: <u>Reviva 101-16</u>	
Receipt Information			
Date/Time Received: <u>6-16-17 940</u>		Received By: <u>KP</u>	
Delivery Type: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> TA Courier <input type="checkbox"/> TA Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?		If yes: Cooler ID:	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Multiple Coolers?		If yes: Cooler # <u>1</u> of <u>3</u>	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Cooler Custody Seals Present?		If yes: Cooler custody seals intact?	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?		If yes: Sample custody seals intact?	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?		If yes: Which VOA samples are in cooler? ↓	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<u>Trip Blank 1, Reep-2PC</u>	
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>G</u>		Correction Factor (°C): 0 <u>+0.0</u>	
• Temp Blank Temperature – if no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>5.0</u>		Corrected Temp (°C): <u>5.0</u>	
• Sample Container Temperature			
Sample ID(s) & bottle type used:		CONTAINER 1 CONTAINER 2	
TEMP 1 TEMP 2		TEMP 1 TEMP 2	
Uncorrected Temp (°C):		Corrected Temp (°C):	
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> 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?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			

Cooler/Sample Receipt and Temperature

310302

Client Information	
Client: <u>Carlson McCain</u>	
City/State: <u>Plymouth, MN</u>	Project: <u>Zoviva 101-16</u>
Receipt Information	
Date/Time Received: <u>6.16.17 9:40</u>	Received By: <u>BB</u>
Delivery Type: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> TA Courier <input type="checkbox"/> TA Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____	
Condition of Cooler/Containers	
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes: Cooler ID: _____
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes: Cooler # <u>2</u> of <u>3</u>
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Trip Blank Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes: Which VOA samples are in cooler? ↓
<u>103B, 107A, 108A, 108PC, 110, 112, Eq Blk 1, Eq Blk 2, Eq Blk 3, Eq Blk 4, 12, 13 & TB 2</u>	
Temperature Record	
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE	
Thermometer ID: <u>H</u>	Correction Factor (°C): <u>0.0</u>
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature	
Uncorrected Temp (°C): <u>2.7</u>	Corrected Temp (°C): <u>2.7</u>
• Sample Container Temperature	
Sample ID(s) & bottle type used:	CONTAINER 1 CONTAINER 2
Uncorrected Temp (°C): TEMP 1 TEMP 2	Corrected Temp (°C): TEMP 1 TEMP 2
Exceptions Noted	
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No	
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> 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?) <input type="checkbox"/> Yes <input type="checkbox"/> No	
NOTE: If yes, contact PM before proceeding. If no, proceed with login	
Additional Comments	
<u>18 empty HCl vials in cooler</u>	
<u>4 vials of 103B were received broken</u>	

Cooler/Sample Receipt and Temperature

310302

Client Information	
Client: <u>Carlson McCain</u>	
City/State: <u>Plymouth, MN</u>	Project: <u>RENVA 101-16</u>
Receipt Information	
Date/Time Received: <u>6/16/17 9:40</u>	Received By: <u>BB</u>
Delivery Type: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> TA Courier <input type="checkbox"/> TA Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____	
Condition of Cooler/Containers	
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes: Cooler ID: <u>MPS</u>
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes: Cooler # <u>3</u> of <u>3</u>
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes: Which VOA samples are in cooler? ↓
Temperature Record	
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE	
Thermometer ID: <u>A</u>	Correction Factor (°C): <u>0.0</u>
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature	
Uncorrected Temp (°C): <u>9.6</u>	Corrected Temp (°C): <u>9.6</u>
• Sample Container Temperature	
Sample ID(s) & bottle type used:	CONTAINER 1: <u>40mL Vac- 10713</u> CONTAINER 2: <u>40mL VOA- REEP-2</u>
Uncorrected Temp (°C):	TEMP 1: <u>4.1</u> TEMP 2: <u>5.7</u> Corrected Temp (°C): TEMP 1: <u>4.1</u> TEMP 2: <u>5.7</u>
Exceptions Noted	
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No	
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> 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?) <input type="checkbox"/> Yes <input type="checkbox"/> No	
NOTE: If yes, contact PM before proceeding. If no, proceed with login	
Additional Comments	
<u>2 temp blanks in cooler - both out of temp.</u>	

Chain of Custody Record

Client Information		Lab PM: Bindert, Zach T		Carrier Tracking No(s): 310-23699-8728.1	
Client Contact: Megan Lindstrom		E-Mail: zach.bindert@testamericainc.com		Page: Page 1 of 3	
Company: Carlison McCain, Inc.		Phone: 057-340-3807		Job #:	
Address: 15650 36th Ave North Suite 110		City: Plymouth		State: MN, 55446	
Phone: 55446		PO #: Purchase Order not required		WO #:	
Email: mlindstrom@carlisonmccain.com		Project #: 31008953		SSOW#:	
Site: Reviva 101-16		Due Date Requested:		TAT Requested (days):	
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastebiol, IS=In-situ, A=Air)
MW-101A	6/13/17	846	G	Water	Water
MW-102A	6/13/17	1355	G	Water	Water
MW-102B	6/13/17	1530	G	Water	Water
MW-103A	6/13/17	1659	G	Water	Water
MW-103B	6/13/17	1550	G	Water	Water
MW-104B	6/12/17	1432	G	Water	Water
MW-105B	6/13/17	1128	G	Water	Water
MW-107A	6/13/17	1100	G	Water	Water
MW-107B	6/13/17	1327	G	Water	Water
MW-108A	6/14/17	1352	G	Water	Water
MW-108B	6/14/17	1440	G	Water	Water
Possible Hazard Identification		<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
Deliverable Requested: I, II, III, IV, Other (specify)				<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Empty Kit Relinquished by:		Date/Time: 6/15/17 1335		Company: JSA	
Relinquished by: [Signature]		Date/Time: 6-15-17 1335		Company: [Signature]	
Relinquished by:		Date/Time:		Company:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:	



Chain of Custody Record

Client Information Client Contact: Megan Lindstrom Company: Carlsson McCain, Inc. Address: 15650 36th Ave North Suite 110 City: Plymouth State: MN, Zip: 55446 Phone: [Redacted] Email: mlindstrom@carlssonmccain.com Project Name: Reviva 101-16 Site: [Redacted]		Lab PM: Bindert, Zach T E-Mail: zach.bindert@testamericainc.com Carrier Tracking No(s): Lab No: 310-23699-8728-2 Page: Page 2 of 3 Job #:	
Due Date Requested: TAT Requested (days): PO #: Purchase Order not required WO #:		Analysis Requested	
Sample Identification MW-108PC MW-109B MW-110 MW-111B MW-112 BNSF-2S BNSF-2D BNSF-3S REEP-1 REEP-2S		Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No) 1,4-Dioxane 8260B_LL_8260B_SIM	
Sample Date Sample Time Sample Type (C=comp, G=grab) Matrix (W=water, S=solid, O=wastefoil, BT=titrus, A=lit)		Preservation Code: Special Instructions/Note: Suspected elevated TCE Suspected elevated TCE	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Total Number of containers Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Deliverable Requested: I, II, III, IV, Other (specify)		Empty Kit Relinquished by:	
Relinquished by: [Signature] Date/Time: 6/15/17 1335		Received by: [Signature] Date/Time: 6-15-17 1350 Company: [Redacted]	
Relinquished by: [Signature] Date/Time: 6-15-17 11:19		Received by: [Signature] Date/Time: [Redacted] Company: [Redacted]	
Relinquished by: [Signature]		Received by: [Signature] Date/Time: [Redacted] Company: [Redacted]	
Custody Seals Intact: Δ Yes Δ No		Cooler Temperature(s) °C and Other Remarks:	



Chain of Custody Record

Client Information		Sample: <u>MLCS</u>		Lab PM: Bindert, Zach T		Carrier Tracking No(s):		COC No: 310-23699-8728 3	
Client Contact: Megan Lindstrom		Phone: <u>952-340-3867</u>		E-Mail: zach.bindert@testamericainc.com		Page 3 of 3		Job #:	
Company: Carlson McCain, Inc.		Address: 15650 36th Ave North Suite 110		City: Plymouth		State: MN		Zip: 55446	
Phone:		PO #: Purchase Order not required		WO #:		Project #: 31008953		SSOW#:	
Email: mlindstrom@carlsonmccain.com		TAT Requested (days):		Due Date Requested:		Field Filtered Sample (Yes or No)		Field Filled Sample (Yes or No)	
Reviva 101-16		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=water/oil, BT=Tissue, A=Air)	
Site:		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=water/oil, BT=Tissue, A=Air)	
Sample Identification		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=water/oil, BT=Tissue, A=Air)	
REEP-2	0/15/17	1005	G	Water	X	8260B, 1,4-Dioxane	A	X	6
REEP-2PC	0/15/17	1114	G	Water	X		A	X	6
Trip Blank 1	0/15/17	1814	G	Water	X		A	X	6
Equipment Blank 1	0/13/17	1716	G	Water	X		A	X	6
Equipment Blank 2	0/14/17	1419	G	Water	X		A	X	6
Equipment Blank 3	0/15/17	1145	G	Water	X		A	X	6
Equipment Blank 4	0/13/17	930	G	Water	X		A	X	6
Equipment Blank 5	0/13/17	1704	G	Water	X		A	X	6
Duplicate 1	0/14/17	1356	G	Water	X		A	X	6
Duplicate 2									
Duplicate 3									
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)									
Empty Kit Relinquished by: _____ Date: _____ Relinquished by: <u>[Signature]</u> Date/Time: <u>6/15/17 1335</u> Company: <u>CM</u> Relinquished by: _____ Date/Time: <u>6-15-17 1900</u> Company: _____ Relinquished by: _____ Date/Time: _____ Company: _____									
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months									
Special Instructions/QC Requirements:									
Special Instructions/Note: Total Number of containers: _____ Preservation Codes: A - HCL B - NaOH C - AsNaO2 D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)									
Special Instructions/Note: Suspected elevated TE									
Cooler Temperature(s) °C and Other Remarks:									



Login Sample Receipt Checklist

Client: Carlson McCain, Inc.

Job Number: 310-108069-1

Login Number: 108069

List Source: TestAmerica Cedar Falls

List Number: 1

Creator: Tuladhar, Sushil X

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.	False	MW-103B: 4 vials received broken.
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").	False	Headspace larger than 1/4" in one or more vials, one vial with acct. headspace
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 Cedar Falls
704 Enterprise Drive
Cedar Falls, IA 50613
Tel: (319)277-2401

TestAmerica Job ID: 310-112567-1
Client Project/Site: Reviva 101-16

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

Attn: Wade Carlson



Authorized for release by:
8/28/2017 12:25:44 PM

Zach Bindert, Project Manager I
(319)277-2401
zach.bindert@testamericainc.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:
www.testamericainc.com

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

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

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Case Narrative

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-112567-1

Job ID: 310-112567-1

Laboratory: TestAmerica Cedar Falls

Narrative

Job Narrative
310-112567-1

Comments

No additional comments.

Receipt

The samples were received on 8/19/2017 9:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.2° C.

GC/MS VOA

Method 8260B: The laboratory control sample (LCS) for analytical batch 310-176110 recovered outside control limits for the following analyte: Trichlorofluoromethane. The analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

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

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: Reviva 101-16

TestAmerica Job ID: 310-112567-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-112567-1	BNSF 3S	Water	08/17/17 12:54	08/19/17 09:15
310-112567-2	BNSF 3D	Water	08/17/17 14:38	08/19/17 09:15
310-112567-3	Equipment Blank 5	Water	08/17/17 15:03	08/19/17 09:15
310-112567-4	Duplicate 4	Water	08/17/17 00:00	08/19/17 09:15
310-112567-5	Trip Blank	Water	08/17/17 00:00	08/19/17 09:15

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Detection Summary

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-112567-1

Client Sample ID: BNSF 3S

Lab Sample ID: 310-112567-1

No Detections.

Client Sample ID: BNSF 3D

Lab Sample ID: 310-112567-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	0.763		0.100		ug/L	1		8260B SIM	Total/NA
Vinyl chloride	0.0720		0.0400		ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	11.2		1.00		ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	2.66		1.00		ug/L	1		8260B	Total/NA

Client Sample ID: Equipment Blank 5

Lab Sample ID: 310-112567-3

No Detections.

Client Sample ID: Duplicate 4

Lab Sample ID: 310-112567-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	0.785		0.100		ug/L	1		8260B SIM	Total/NA
Vinyl chloride	0.0752		0.0400		ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	12.1		1.00		ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	3.25		1.00		ug/L	1		8260B	Total/NA

Client Sample ID: Trip Blank

Lab Sample ID: 310-112567-5

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-112567-1

Client Sample ID: BNSF 3S

Lab Sample ID: 310-112567-1

Date Collected: 08/17/17 12:54

Matrix: Water

Date Received: 08/19/17 09:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.100		0.100		ug/L			08/25/17 17:22	1
1,2-Dibromo-3-Chloropropane	<0.0500		0.0500		ug/L			08/25/17 17:22	1
1,2-Dibromoethane (EDB)	<0.00500		0.00500		ug/L			08/25/17 17:22	1
1,2-Dichloroethane	<0.100		0.100		ug/L			08/25/17 17:22	1
1,4-Dioxane	<1.00		1.00		ug/L			08/25/17 17:22	1
Trichloroethene	<0.100		0.100		ug/L			08/25/17 17:22	1
1,2,3-Trichloropropane	<0.00500		0.00500		ug/L			08/25/17 17:22	1
Vinyl chloride	<0.0400		0.0400		ug/L			08/25/17 17:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		80 - 120					08/25/17 17:22	1
Dibromofluoromethane (Surr)	101		80 - 120					08/25/17 17:22	1
Toluene-d8 (Surr)	106		79 - 119					08/25/17 17:22	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			08/22/17 13:47	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			08/22/17 13:47	1
1,1,2,2-Tetrachloroethane	<0.500		0.500		ug/L			08/22/17 13:47	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			08/22/17 13:47	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			08/22/17 13:47	1
1,1-Dichloroethane	<1.00		1.00		ug/L			08/22/17 13:47	1
1,1-Dichloroethene	<2.00		2.00		ug/L			08/22/17 13:47	1
1,1-Dichloropropene	<1.00		1.00		ug/L			08/22/17 13:47	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			08/22/17 13:47	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			08/22/17 13:47	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			08/22/17 13:47	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			08/22/17 13:47	1
1,2-Dichloropropane	<1.00		1.00		ug/L			08/22/17 13:47	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			08/22/17 13:47	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			08/22/17 13:47	1
1,3-Dichloropropane	<1.00		1.00		ug/L			08/22/17 13:47	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			08/22/17 13:47	1
2,2-Dichloropropane	<4.00		4.00		ug/L			08/22/17 13:47	1
2-Butanone (MEK)	<10.0		10.0		ug/L			08/22/17 13:47	1
2-Chlorotoluene	<1.00		1.00		ug/L			08/22/17 13:47	1
4-Chlorotoluene	<1.00		1.00		ug/L			08/22/17 13:47	1
4-Isopropyltoluene	<1.00		1.00		ug/L			08/22/17 13:47	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			08/22/17 13:47	1
Acetone	<10.0		10.0		ug/L			08/22/17 13:47	1
Allyl chloride	<2.00		2.00		ug/L			08/22/17 13:47	1
Benzene	<0.500		0.500		ug/L			08/22/17 13:47	1
Bromobenzene	<1.00		1.00		ug/L			08/22/17 13:47	1
Bromochloromethane	<5.00		5.00		ug/L			08/22/17 13:47	1
Bromodichloromethane	<1.00		1.00		ug/L			08/22/17 13:47	1
Bromoform	<5.00		5.00		ug/L			08/22/17 13:47	1
Bromomethane	<2.00		2.00		ug/L			08/22/17 13:47	1
Chlorobenzene	<1.00		1.00		ug/L			08/22/17 13:47	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			08/22/17 13:47	1
Chloroform	<1.00		1.00		ug/L			08/22/17 13:47	1

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-112567-1

Client Sample ID: BNSF 3S

Lab Sample ID: 310-112567-1

Date Collected: 08/17/17 12:54

Matrix: Water

Date Received: 08/19/17 09:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			08/22/17 13:47	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			08/22/17 13:47	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			08/22/17 13:47	1
Dibromochloromethane	<2.00		2.00		ug/L			08/22/17 13:47	1
Dibromomethane	<1.00		1.00		ug/L			08/22/17 13:47	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			08/22/17 13:47	1
Dichlorofluoromethane	<1.00		1.00		ug/L			08/22/17 13:47	1
Diethyl ether	<2.00		2.00		ug/L			08/22/17 13:47	1
Ethylbenzene	<1.00		1.00		ug/L			08/22/17 13:47	1
Hexachlorobutadiene	<1.00		1.00		ug/L			08/22/17 13:47	1
Isopropylbenzene	<1.00		1.00		ug/L			08/22/17 13:47	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			08/22/17 13:47	1
Methylene Chloride	<1.00		1.00		ug/L			08/22/17 13:47	1
Naphthalene	<5.00		5.00		ug/L			08/22/17 13:47	1
n-Butylbenzene	<1.00		1.00		ug/L			08/22/17 13:47	1
n-Propylbenzene	<1.00		1.00		ug/L			08/22/17 13:47	1
sec-Butylbenzene	<1.00		1.00		ug/L			08/22/17 13:47	1
Styrene	<1.00		1.00		ug/L			08/22/17 13:47	1
tert-Butylbenzene	<1.00		1.00		ug/L			08/22/17 13:47	1
Tetrachloroethene	<1.00		1.00		ug/L			08/23/17 08:28	1
Tetrahydrofuran	<10.0		10.0		ug/L			08/22/17 13:47	1
Toluene	<1.00		1.00		ug/L			08/22/17 13:47	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			08/22/17 13:47	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			08/22/17 13:47	1
Trichlorofluoromethane	<4.00 *		4.00		ug/L			08/22/17 13:47	1
Xylenes, Total	<3.00		3.00		ug/L			08/22/17 13:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		82 - 122		08/22/17 13:47	1
4-Bromofluorobenzene (Surr)	109		82 - 122		08/23/17 08:28	1
Dibromofluoromethane (Surr)	101		79 - 119		08/22/17 13:47	1
Dibromofluoromethane (Surr)	104		79 - 119		08/23/17 08:28	1
Toluene-d8 (Surr)	89		77 - 117		08/22/17 13:47	1
Toluene-d8 (Surr)	95		77 - 117		08/23/17 08:28	1

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-112567-1

Client Sample ID: BNSF 3D

Lab Sample ID: 310-112567-2

Date Collected: 08/17/17 14:38

Matrix: Water

Date Received: 08/19/17 09:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.100		0.100		ug/L			08/25/17 17:46	1
1,2-Dibromo-3-Chloropropane	<0.0500		0.0500		ug/L			08/25/17 17:46	1
1,2-Dibromoethane (EDB)	<0.00500		0.00500		ug/L			08/25/17 17:46	1
1,2-Dichloroethane	<0.100		0.100		ug/L			08/25/17 17:46	1
1,4-Dioxane	<1.00		1.00		ug/L			08/25/17 17:46	1
Trichloroethene	0.763		0.100		ug/L			08/25/17 17:46	1
1,2,3-Trichloropropane	<0.00500		0.00500		ug/L			08/25/17 17:46	1
Vinyl chloride	0.0720		0.0400		ug/L			08/25/17 17:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		80 - 120		08/25/17 17:46	1
Dibromofluoromethane (Surr)	102		80 - 120		08/25/17 17:46	1
Toluene-d8 (Surr)	107		79 - 119		08/25/17 17:46	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			08/22/17 14:08	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			08/22/17 14:08	1
1,1,2,2-Tetrachloroethane	<0.500		0.500		ug/L			08/22/17 14:08	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			08/22/17 14:08	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			08/22/17 14:08	1
1,1-Dichloroethane	<1.00		1.00		ug/L			08/22/17 14:08	1
1,1-Dichloroethene	<2.00		2.00		ug/L			08/22/17 14:08	1
1,1-Dichloropropene	<1.00		1.00		ug/L			08/22/17 14:08	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			08/22/17 14:08	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			08/22/17 14:08	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			08/22/17 14:08	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			08/22/17 14:08	1
1,2-Dichloropropane	<1.00		1.00		ug/L			08/22/17 14:08	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			08/22/17 14:08	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			08/22/17 14:08	1
1,3-Dichloropropane	<1.00		1.00		ug/L			08/22/17 14:08	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			08/22/17 14:08	1
2,2-Dichloropropane	<4.00		4.00		ug/L			08/22/17 14:08	1
2-Butanone (MEK)	<10.0		10.0		ug/L			08/22/17 14:08	1
2-Chlorotoluene	<1.00		1.00		ug/L			08/22/17 14:08	1
4-Chlorotoluene	<1.00		1.00		ug/L			08/22/17 14:08	1
4-Isopropyltoluene	<1.00		1.00		ug/L			08/22/17 14:08	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			08/22/17 14:08	1
Acetone	<10.0		10.0		ug/L			08/22/17 14:08	1
Allyl chloride	<2.00		2.00		ug/L			08/22/17 14:08	1
Benzene	<0.500		0.500		ug/L			08/22/17 14:08	1
Bromobenzene	<1.00		1.00		ug/L			08/22/17 14:08	1
Bromochloromethane	<5.00		5.00		ug/L			08/22/17 14:08	1
Bromodichloromethane	<1.00		1.00		ug/L			08/22/17 14:08	1
Bromoform	<5.00		5.00		ug/L			08/22/17 14:08	1
Bromomethane	<2.00		2.00		ug/L			08/22/17 14:08	1
Chlorobenzene	<1.00		1.00		ug/L			08/22/17 14:08	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			08/22/17 14:08	1
Chloroform	<1.00		1.00		ug/L			08/22/17 14:08	1

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-112567-1

Client Sample ID: BNSF 3D

Lab Sample ID: 310-112567-2

Date Collected: 08/17/17 14:38

Matrix: Water

Date Received: 08/19/17 09:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			08/22/17 14:08	1
cis-1,2-Dichloroethene	11.2		1.00		ug/L			08/22/17 14:08	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			08/22/17 14:08	1
Dibromochloromethane	<2.00		2.00		ug/L			08/22/17 14:08	1
Dibromomethane	<1.00		1.00		ug/L			08/22/17 14:08	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			08/22/17 14:08	1
Dichlorofluoromethane	<1.00		1.00		ug/L			08/22/17 14:08	1
Diethyl ether	<2.00		2.00		ug/L			08/22/17 14:08	1
Ethylbenzene	<1.00		1.00		ug/L			08/22/17 14:08	1
Hexachlorobutadiene	<1.00		1.00		ug/L			08/22/17 14:08	1
Isopropylbenzene	<1.00		1.00		ug/L			08/22/17 14:08	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			08/22/17 14:08	1
Methylene Chloride	<1.00		1.00		ug/L			08/22/17 14:08	1
Naphthalene	<5.00		5.00		ug/L			08/22/17 14:08	1
n-Butylbenzene	<1.00		1.00		ug/L			08/22/17 14:08	1
n-Propylbenzene	<1.00		1.00		ug/L			08/22/17 14:08	1
sec-Butylbenzene	<1.00		1.00		ug/L			08/22/17 14:08	1
Styrene	<1.00		1.00		ug/L			08/22/17 14:08	1
tert-Butylbenzene	<1.00		1.00		ug/L			08/22/17 14:08	1
Tetrachloroethene	<1.00		1.00		ug/L			08/23/17 08:51	1
Tetrahydrofuran	<10.0		10.0		ug/L			08/22/17 14:08	1
Toluene	<1.00		1.00		ug/L			08/22/17 14:08	1
trans-1,2-Dichloroethene	2.66		1.00		ug/L			08/22/17 14:08	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			08/22/17 14:08	1
Trichlorofluoromethane	<4.00 *		4.00		ug/L			08/22/17 14:08	1
Xylenes, Total	<3.00		3.00		ug/L			08/22/17 14:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		82 - 122		08/22/17 14:08	1
4-Bromofluorobenzene (Surr)	106		82 - 122		08/23/17 08:51	1
Dibromofluoromethane (Surr)	102		79 - 119		08/22/17 14:08	1
Dibromofluoromethane (Surr)	106		79 - 119		08/23/17 08:51	1
Toluene-d8 (Surr)	89		77 - 117		08/22/17 14:08	1
Toluene-d8 (Surr)	98		77 - 117		08/23/17 08:51	1

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-112567-1

Client Sample ID: Equipment Blank 5

Lab Sample ID: 310-112567-3

Date Collected: 08/17/17 15:03

Matrix: Water

Date Received: 08/19/17 09:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.100		0.100		ug/L			08/25/17 18:10	1
1,2-Dibromo-3-Chloropropane	<0.0500	F1	0.0500		ug/L			08/25/17 18:10	1
1,2-Dibromoethane (EDB)	<0.00500	F1	0.00500		ug/L			08/25/17 18:10	1
1,2-Dichloroethane	<0.100		0.100		ug/L			08/25/17 18:10	1
1,4-Dioxane	<1.00	F1	1.00		ug/L			08/25/17 18:10	1
Trichloroethene	<0.100		0.100		ug/L			08/25/17 18:10	1
1,2,3-Trichloropropane	<0.00500	F1	0.00500		ug/L			08/25/17 18:10	1
Vinyl chloride	<0.0400		0.0400		ug/L			08/25/17 18:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		80 - 120					08/25/17 18:10	1
Dibromofluoromethane (Surr)	102		80 - 120					08/25/17 18:10	1
Toluene-d8 (Surr)	106		79 - 119					08/25/17 18:10	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			08/22/17 08:23	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			08/22/17 08:23	1
1,1,2,2-Tetrachloroethane	<0.500		0.500		ug/L			08/22/17 08:23	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			08/22/17 08:23	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			08/22/17 08:23	1
1,1-Dichloroethane	<1.00		1.00		ug/L			08/22/17 08:23	1
1,1-Dichloroethene	<2.00		2.00		ug/L			08/22/17 08:23	1
1,1-Dichloropropene	<1.00		1.00		ug/L			08/22/17 08:23	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			08/22/17 08:23	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			08/22/17 08:23	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			08/22/17 08:23	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			08/22/17 08:23	1
1,2-Dichloropropane	<1.00		1.00		ug/L			08/22/17 08:23	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			08/22/17 08:23	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			08/22/17 08:23	1
1,3-Dichloropropane	<1.00		1.00		ug/L			08/22/17 08:23	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			08/22/17 08:23	1
2,2-Dichloropropane	<4.00		4.00		ug/L			08/22/17 08:23	1
2-Butanone (MEK)	<10.0		10.0		ug/L			08/22/17 08:23	1
2-Chlorotoluene	<1.00		1.00		ug/L			08/22/17 08:23	1
4-Chlorotoluene	<1.00		1.00		ug/L			08/22/17 08:23	1
4-Isopropyltoluene	<1.00		1.00		ug/L			08/22/17 08:23	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			08/22/17 08:23	1
Acetone	<10.0		10.0		ug/L			08/22/17 08:23	1
Allyl chloride	<2.00		2.00		ug/L			08/22/17 08:23	1
Benzene	<0.500		0.500		ug/L			08/22/17 08:23	1
Bromobenzene	<1.00		1.00		ug/L			08/22/17 08:23	1
Bromochloromethane	<5.00		5.00		ug/L			08/22/17 08:23	1
Bromodichloromethane	<1.00		1.00		ug/L			08/22/17 08:23	1
Bromoform	<5.00		5.00		ug/L			08/22/17 08:23	1
Bromomethane	<2.00		2.00		ug/L			08/22/17 08:23	1
Chlorobenzene	<1.00		1.00		ug/L			08/22/17 08:23	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			08/22/17 08:23	1
Chloroform	<1.00		1.00		ug/L			08/22/17 08:23	1

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-112567-1

Client Sample ID: Equipment Blank 5

Lab Sample ID: 310-112567-3

Date Collected: 08/17/17 15:03

Matrix: Water

Date Received: 08/19/17 09:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			08/22/17 08:23	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			08/22/17 08:23	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			08/22/17 08:23	1
Dibromochloromethane	<2.00		2.00		ug/L			08/22/17 08:23	1
Dibromomethane	<1.00		1.00		ug/L			08/22/17 08:23	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			08/22/17 08:23	1
Dichlorofluoromethane	<1.00		1.00		ug/L			08/22/17 08:23	1
Diethyl ether	<2.00		2.00		ug/L			08/22/17 08:23	1
Ethylbenzene	<1.00		1.00		ug/L			08/22/17 08:23	1
Hexachlorobutadiene	<1.00		1.00		ug/L			08/22/17 08:23	1
Isopropylbenzene	<1.00		1.00		ug/L			08/22/17 08:23	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			08/22/17 08:23	1
Methylene Chloride	<1.00		1.00		ug/L			08/22/17 08:23	1
Naphthalene	<5.00		5.00		ug/L			08/22/17 08:23	1
n-Butylbenzene	<1.00		1.00		ug/L			08/22/17 08:23	1
n-Propylbenzene	<1.00		1.00		ug/L			08/22/17 08:23	1
sec-Butylbenzene	<1.00		1.00		ug/L			08/22/17 08:23	1
Styrene	<1.00		1.00		ug/L			08/22/17 08:23	1
tert-Butylbenzene	<1.00		1.00		ug/L			08/22/17 08:23	1
Tetrachloroethene	<1.00		1.00		ug/L			08/22/17 08:23	1
Tetrahydrofuran	<10.0		10.0		ug/L			08/22/17 08:23	1
Toluene	<1.00		1.00		ug/L			08/22/17 08:23	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			08/22/17 08:23	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			08/22/17 08:23	1
Trichlorofluoromethane	<4.00 *		4.00		ug/L			08/22/17 08:23	1
Xylenes, Total	<3.00		3.00		ug/L			08/22/17 08:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		82 - 122		08/22/17 08:23	1
Dibromofluoromethane (Surr)	102		79 - 119		08/22/17 08:23	1
Toluene-d8 (Surr)	92		77 - 117		08/22/17 08:23	1

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-112567-1

Client Sample ID: Duplicate 4

Lab Sample ID: 310-112567-4

Date Collected: 08/17/17 00:00

Matrix: Water

Date Received: 08/19/17 09:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.100		0.100		ug/L			08/25/17 18:34	1
1,2-Dibromo-3-Chloropropane	<0.0500		0.0500		ug/L			08/25/17 18:34	1
1,2-Dibromoethane (EDB)	<0.00500		0.00500		ug/L			08/25/17 18:34	1
1,2-Dichloroethane	<0.100		0.100		ug/L			08/25/17 18:34	1
1,4-Dioxane	<1.00		1.00		ug/L			08/25/17 18:34	1
Trichloroethene	0.785		0.100		ug/L			08/25/17 18:34	1
1,2,3-Trichloropropane	<0.00500		0.00500		ug/L			08/25/17 18:34	1
Vinyl chloride	0.0752		0.0400		ug/L			08/25/17 18:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		80 - 120		08/25/17 18:34	1
Dibromofluoromethane (Surr)	102		80 - 120		08/25/17 18:34	1
Toluene-d8 (Surr)	107		79 - 119		08/25/17 18:34	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			08/22/17 14:30	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			08/22/17 14:30	1
1,1,2,2-Tetrachloroethane	<0.500		0.500		ug/L			08/22/17 14:30	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			08/22/17 14:30	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			08/22/17 14:30	1
1,1-Dichloroethane	<1.00		1.00		ug/L			08/22/17 14:30	1
1,1-Dichloroethene	<2.00		2.00		ug/L			08/22/17 14:30	1
1,1-Dichloropropene	<1.00		1.00		ug/L			08/22/17 14:30	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			08/22/17 14:30	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			08/22/17 14:30	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			08/22/17 14:30	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			08/22/17 14:30	1
1,2-Dichloropropane	<1.00		1.00		ug/L			08/22/17 14:30	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			08/22/17 14:30	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			08/22/17 14:30	1
1,3-Dichloropropane	<1.00		1.00		ug/L			08/22/17 14:30	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			08/22/17 14:30	1
2,2-Dichloropropane	<4.00		4.00		ug/L			08/22/17 14:30	1
2-Butanone (MEK)	<10.0		10.0		ug/L			08/22/17 14:30	1
2-Chlorotoluene	<1.00		1.00		ug/L			08/22/17 14:30	1
4-Chlorotoluene	<1.00		1.00		ug/L			08/22/17 14:30	1
4-Isopropyltoluene	<1.00		1.00		ug/L			08/22/17 14:30	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			08/22/17 14:30	1
Acetone	<10.0		10.0		ug/L			08/22/17 14:30	1
Allyl chloride	<2.00		2.00		ug/L			08/22/17 14:30	1
Benzene	<0.500		0.500		ug/L			08/22/17 14:30	1
Bromobenzene	<1.00		1.00		ug/L			08/22/17 14:30	1
Bromochloromethane	<5.00		5.00		ug/L			08/22/17 14:30	1
Bromodichloromethane	<1.00		1.00		ug/L			08/22/17 14:30	1
Bromoform	<5.00		5.00		ug/L			08/22/17 14:30	1
Bromomethane	<2.00		2.00		ug/L			08/22/17 14:30	1
Chlorobenzene	<1.00		1.00		ug/L			08/22/17 14:30	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			08/22/17 14:30	1
Chloroform	<1.00		1.00		ug/L			08/22/17 14:30	1

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-112567-1

Client Sample ID: Duplicate 4

Lab Sample ID: 310-112567-4

Date Collected: 08/17/17 00:00

Matrix: Water

Date Received: 08/19/17 09:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			08/22/17 14:30	1
cis-1,2-Dichloroethene	12.1		1.00		ug/L			08/22/17 14:30	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			08/22/17 14:30	1
Dibromochloromethane	<2.00		2.00		ug/L			08/22/17 14:30	1
Dibromomethane	<1.00		1.00		ug/L			08/22/17 14:30	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			08/22/17 14:30	1
Dichlorofluoromethane	<1.00		1.00		ug/L			08/22/17 14:30	1
Diethyl ether	<2.00		2.00		ug/L			08/22/17 14:30	1
Ethylbenzene	<1.00		1.00		ug/L			08/22/17 14:30	1
Hexachlorobutadiene	<1.00		1.00		ug/L			08/22/17 14:30	1
Isopropylbenzene	<1.00		1.00		ug/L			08/22/17 14:30	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			08/22/17 14:30	1
Methylene Chloride	<1.00		1.00		ug/L			08/22/17 14:30	1
Naphthalene	<5.00		5.00		ug/L			08/22/17 14:30	1
n-Butylbenzene	<1.00		1.00		ug/L			08/22/17 14:30	1
n-Propylbenzene	<1.00		1.00		ug/L			08/22/17 14:30	1
sec-Butylbenzene	<1.00		1.00		ug/L			08/22/17 14:30	1
Styrene	<1.00		1.00		ug/L			08/22/17 14:30	1
tert-Butylbenzene	<1.00		1.00		ug/L			08/22/17 14:30	1
Tetrachloroethene	<1.00		1.00		ug/L			08/23/17 09:15	1
Tetrahydrofuran	<10.0		10.0		ug/L			08/22/17 14:30	1
Toluene	<1.00		1.00		ug/L			08/22/17 14:30	1
trans-1,2-Dichloroethene	3.25		1.00		ug/L			08/22/17 14:30	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			08/22/17 14:30	1
Trichlorofluoromethane	<4.00 *		4.00		ug/L			08/22/17 14:30	1
Xylenes, Total	<3.00		3.00		ug/L			08/22/17 14:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		82 - 122		08/22/17 14:30	1
4-Bromofluorobenzene (Surr)	106		82 - 122		08/23/17 09:15	1
Dibromofluoromethane (Surr)	104		79 - 119		08/22/17 14:30	1
Dibromofluoromethane (Surr)	105		79 - 119		08/23/17 09:15	1
Toluene-d8 (Surr)	89		77 - 117		08/22/17 14:30	1
Toluene-d8 (Surr)	95		77 - 117		08/23/17 09:15	1

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-112567-1

Client Sample ID: Trip Blank

Lab Sample ID: 310-112567-5

Date Collected: 08/17/17 00:00

Matrix: Water

Date Received: 08/19/17 09:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.100		0.100		ug/L			08/25/17 16:59	1
1,2-Dibromo-3-Chloropropane	<0.0500		0.0500		ug/L			08/25/17 16:59	1
1,2-Dibromoethane (EDB)	<0.00500		0.00500		ug/L			08/25/17 16:59	1
1,2-Dichloroethane	<0.100		0.100		ug/L			08/25/17 16:59	1
1,4-Dioxane	<1.00		1.00		ug/L			08/25/17 16:59	1
Trichloroethene	<0.100		0.100		ug/L			08/25/17 16:59	1
1,2,3-Trichloropropane	<0.00500		0.00500		ug/L			08/25/17 16:59	1
Vinyl chloride	<0.0400		0.0400		ug/L			08/25/17 16:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		80 - 120		08/25/17 16:59	1
Dibromofluoromethane (Surr)	101		80 - 120		08/25/17 16:59	1
Toluene-d8 (Surr)	106		79 - 119		08/25/17 16:59	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			08/22/17 07:40	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			08/22/17 07:40	1
1,1,2,2-Tetrachloroethane	<0.500		0.500		ug/L			08/22/17 07:40	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			08/22/17 07:40	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			08/22/17 07:40	1
1,1-Dichloroethane	<1.00		1.00		ug/L			08/22/17 07:40	1
1,1-Dichloroethene	<2.00		2.00		ug/L			08/22/17 07:40	1
1,1-Dichloropropene	<1.00		1.00		ug/L			08/22/17 07:40	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			08/22/17 07:40	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			08/22/17 07:40	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			08/22/17 07:40	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			08/22/17 07:40	1
1,2-Dichloropropane	<1.00		1.00		ug/L			08/22/17 07:40	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			08/22/17 07:40	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			08/22/17 07:40	1
1,3-Dichloropropane	<1.00		1.00		ug/L			08/22/17 07:40	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			08/22/17 07:40	1
2,2-Dichloropropane	<4.00		4.00		ug/L			08/22/17 07:40	1
2-Butanone (MEK)	<10.0		10.0		ug/L			08/22/17 07:40	1
2-Chlorotoluene	<1.00		1.00		ug/L			08/22/17 07:40	1
4-Chlorotoluene	<1.00		1.00		ug/L			08/22/17 07:40	1
4-Isopropyltoluene	<1.00		1.00		ug/L			08/22/17 07:40	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			08/22/17 07:40	1
Acetone	<10.0		10.0		ug/L			08/22/17 07:40	1
Allyl chloride	<2.00		2.00		ug/L			08/22/17 07:40	1
Benzene	<0.500		0.500		ug/L			08/22/17 07:40	1
Bromobenzene	<1.00		1.00		ug/L			08/22/17 07:40	1
Bromochloromethane	<5.00		5.00		ug/L			08/22/17 07:40	1
Bromodichloromethane	<1.00		1.00		ug/L			08/22/17 07:40	1
Bromoform	<5.00		5.00		ug/L			08/22/17 07:40	1
Bromomethane	<2.00		2.00		ug/L			08/22/17 07:40	1
Chlorobenzene	<1.00		1.00		ug/L			08/22/17 07:40	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			08/22/17 07:40	1
Chloroform	<1.00		1.00		ug/L			08/22/17 07:40	1

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-112567-1

Client Sample ID: Trip Blank

Lab Sample ID: 310-112567-5

Date Collected: 08/17/17 00:00

Matrix: Water

Date Received: 08/19/17 09:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			08/22/17 07:40	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			08/22/17 07:40	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			08/22/17 07:40	1
Dibromochloromethane	<2.00		2.00		ug/L			08/22/17 07:40	1
Dibromomethane	<1.00		1.00		ug/L			08/22/17 07:40	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			08/22/17 07:40	1
Dichlorofluoromethane	<1.00		1.00		ug/L			08/22/17 07:40	1
Diethyl ether	<2.00		2.00		ug/L			08/22/17 07:40	1
Ethylbenzene	<1.00		1.00		ug/L			08/22/17 07:40	1
Hexachlorobutadiene	<1.00		1.00		ug/L			08/22/17 07:40	1
Isopropylbenzene	<1.00		1.00		ug/L			08/22/17 07:40	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			08/22/17 07:40	1
Methylene Chloride	<1.00		1.00		ug/L			08/22/17 07:40	1
Naphthalene	<5.00		5.00		ug/L			08/22/17 07:40	1
n-Butylbenzene	<1.00		1.00		ug/L			08/22/17 07:40	1
n-Propylbenzene	<1.00		1.00		ug/L			08/22/17 07:40	1
sec-Butylbenzene	<1.00		1.00		ug/L			08/22/17 07:40	1
Styrene	<1.00		1.00		ug/L			08/22/17 07:40	1
tert-Butylbenzene	<1.00		1.00		ug/L			08/22/17 07:40	1
Tetrachloroethene	<1.00		1.00		ug/L			08/22/17 07:40	1
Tetrahydrofuran	<10.0		10.0		ug/L			08/22/17 07:40	1
Toluene	<1.00		1.00		ug/L			08/22/17 07:40	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			08/22/17 07:40	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			08/22/17 07:40	1
Trichlorofluoromethane	<4.00 *		4.00		ug/L			08/22/17 07:40	1
Xylenes, Total	<3.00		3.00		ug/L			08/22/17 07:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		82 - 122		08/22/17 07:40	1
Dibromofluoromethane (Surr)	104		79 - 119		08/22/17 07:40	1
Toluene-d8 (Surr)	90		77 - 117		08/22/17 07:40	1

Definitions/Glossary

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-112567-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
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 (Radiochemistry)
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: Reviva 101-16

TestAmerica Job ID: 310-112567-1

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (82-122)	DBFM (79-119)	TOL (77-117)
310-112567-1	BNSF 3S	104	101	89
310-112567-1	BNSF 3S	109	104	95
310-112567-1 MS	BNSF 3S	99	107	96
310-112567-1 MSD	BNSF 3S	98	106	94
310-112567-2	BNSF 3D	98	102	89
310-112567-2	BNSF 3D	106	106	98
310-112567-3	Equipment Blank 5	101	102	92
310-112567-4	Duplicate 4	107	104	89
310-112567-4	Duplicate 4	106	105	95
310-112567-5	Trip Blank	103	104	90
LCS 310-176110/5	Lab Control Sample	99	103	92
LCS 310-176110/6	Lab Control Sample	101	102	92
LCS 310-176260/5	Lab Control Sample	98	105	102
MB 310-176110/7	Method Blank	101	101	90
MB 310-176260/7	Method Blank	104	106	99

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (80-120)	DBFM (80-120)	TOL (79-119)
310-112567-1	BNSF 3S	102	101	106
310-112567-2	BNSF 3D	104	102	107
310-112567-3	Equipment Blank 5	103	102	106
310-112567-3 MS	Equipment Blank 5	103	100	107
310-112567-3 MSD	Equipment Blank 5	102	101	106
310-112567-4	Duplicate 4	103	102	107
310-112567-5	Trip Blank	102	101	106
LCS 310-176758/21	Lab Control Sample	103	99	106
MB 310-176758/20	Method Blank	101	101	106

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-112567-1

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

Lab Sample ID: MB 310-176110/7

Matrix: Water

Analysis Batch: 176110

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			08/22/17 07:18	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			08/22/17 07:18	1
1,1,2,2-Tetrachloroethane	<0.500		0.500		ug/L			08/22/17 07:18	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			08/22/17 07:18	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			08/22/17 07:18	1
1,1-Dichloroethane	<1.00		1.00		ug/L			08/22/17 07:18	1
1,1-Dichloroethene	<2.00		2.00		ug/L			08/22/17 07:18	1
1,1-Dichloropropene	<1.00		1.00		ug/L			08/22/17 07:18	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			08/22/17 07:18	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			08/22/17 07:18	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			08/22/17 07:18	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			08/22/17 07:18	1
1,2-Dichloropropane	<1.00		1.00		ug/L			08/22/17 07:18	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			08/22/17 07:18	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			08/22/17 07:18	1
1,3-Dichloropropane	<1.00		1.00		ug/L			08/22/17 07:18	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			08/22/17 07:18	1
2,2-Dichloropropane	<4.00		4.00		ug/L			08/22/17 07:18	1
2-Butanone (MEK)	<10.0		10.0		ug/L			08/22/17 07:18	1
2-Chlorotoluene	<1.00		1.00		ug/L			08/22/17 07:18	1
4-Chlorotoluene	<1.00		1.00		ug/L			08/22/17 07:18	1
4-Isopropyltoluene	<1.00		1.00		ug/L			08/22/17 07:18	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			08/22/17 07:18	1
Acetone	<10.0		10.0		ug/L			08/22/17 07:18	1
Allyl chloride	<2.00		2.00		ug/L			08/22/17 07:18	1
Benzene	<0.500		0.500		ug/L			08/22/17 07:18	1
Bromobenzene	<1.00		1.00		ug/L			08/22/17 07:18	1
Bromochloromethane	<5.00		5.00		ug/L			08/22/17 07:18	1
Bromodichloromethane	<1.00		1.00		ug/L			08/22/17 07:18	1
Bromoform	<5.00		5.00		ug/L			08/22/17 07:18	1
Bromomethane	<2.00		2.00		ug/L			08/22/17 07:18	1
Chlorobenzene	<1.00		1.00		ug/L			08/22/17 07:18	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			08/22/17 07:18	1
Chloroform	<1.00		1.00		ug/L			08/22/17 07:18	1
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			08/22/17 07:18	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			08/22/17 07:18	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			08/22/17 07:18	1
Dibromochloromethane	<2.00		2.00		ug/L			08/22/17 07:18	1
Dibromomethane	<1.00		1.00		ug/L			08/22/17 07:18	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			08/22/17 07:18	1
Dichlorofluoromethane	<1.00		1.00		ug/L			08/22/17 07:18	1
Diethyl ether	<2.00		2.00		ug/L			08/22/17 07:18	1
Ethylbenzene	<1.00		1.00		ug/L			08/22/17 07:18	1
Hexachlorobutadiene	<1.00		1.00		ug/L			08/22/17 07:18	1
Isopropylbenzene	<1.00		1.00		ug/L			08/22/17 07:18	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			08/22/17 07:18	1
Methylene Chloride	<1.00		1.00		ug/L			08/22/17 07:18	1
Naphthalene	<5.00		5.00		ug/L			08/22/17 07:18	1

TestAmerica Cedar Falls

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-112567-1

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

Lab Sample ID: MB 310-176110/7
Matrix: Water
Analysis Batch: 176110

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	<1.00		1.00		ug/L			08/22/17 07:18	1
n-Propylbenzene	<1.00		1.00		ug/L			08/22/17 07:18	1
sec-Butylbenzene	<1.00		1.00		ug/L			08/22/17 07:18	1
Styrene	<1.00		1.00		ug/L			08/22/17 07:18	1
tert-Butylbenzene	<1.00		1.00		ug/L			08/22/17 07:18	1
Tetrachloroethene	<1.00		1.00		ug/L			08/22/17 07:18	1
Tetrahydrofuran	<10.0		10.0		ug/L			08/22/17 07:18	1
Toluene	<1.00		1.00		ug/L			08/22/17 07:18	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			08/22/17 07:18	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			08/22/17 07:18	1
Trichlorofluoromethane	<4.00		4.00		ug/L			08/22/17 07:18	1
Xylenes, Total	<3.00		3.00		ug/L			08/22/17 07:18	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		82 - 122		08/22/17 07:18	1
Dibromofluoromethane (Surr)	101		79 - 119		08/22/17 07:18	1
Toluene-d8 (Surr)	90		77 - 117		08/22/17 07:18	1

Lab Sample ID: LCS 310-176110/5
Matrix: Water
Analysis Batch: 176110

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	20.0	18.41		ug/L		92	72 - 117
1,1,1-Trichloroethane	20.0	22.60		ug/L		113	73 - 132
1,1,2,2-Tetrachloroethane	20.0	17.25		ug/L		86	62 - 123
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	21.63		ug/L		108	69 - 145
1,1,2-Trichloroethane	20.0	19.57		ug/L		98	65 - 131
1,1-Dichloroethane	20.0	20.51		ug/L		103	71 - 135
1,1-Dichloroethene	20.0	20.32		ug/L		102	71 - 137
1,1-Dichloropropene	20.0	22.69		ug/L		113	72 - 131
1,2,3-Trichlorobenzene	20.0	15.74		ug/L		79	62 - 131
1,2,4-Trichlorobenzene	20.0	16.91		ug/L		85	61 - 127
1,2,4-Trimethylbenzene	20.0	18.67		ug/L		93	66 - 126
1,2-Dichlorobenzene	20.0	16.95		ug/L		85	68 - 121
1,2-Dichloropropane	20.0	20.86		ug/L		104	72 - 126
1,3,5-Trimethylbenzene	20.0	19.15		ug/L		96	69 - 128
1,3-Dichlorobenzene	20.0	18.78		ug/L		94	66 - 128
1,3-Dichloropropane	20.0	20.18		ug/L		101	73 - 129
1,4-Dichlorobenzene	20.0	16.95		ug/L		85	67 - 120
2,2-Dichloropropane	20.0	21.29		ug/L		106	50 - 150
2-Butanone (MEK)	40.0	38.74		ug/L		97	51 - 150
2-Chlorotoluene	20.0	18.91		ug/L		95	67 - 127
4-Chlorotoluene	20.0	18.85		ug/L		94	69 - 123
4-Isopropyltoluene	20.0	18.13		ug/L		91	65 - 124
4-Methyl-2-pentanone (MIBK)	40.0	36.53		ug/L		91	52 - 137
Acetone	40.0	47.23		ug/L		118	55 - 150

TestAmerica Cedar Falls

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-112567-1

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

Lab Sample ID: LCS 310-176110/5

Matrix: Water

Analysis Batch: 176110

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Allyl chloride	20.0	21.75		ug/L		109	39 - 150
Benzene	20.0	21.08		ug/L		105	74 - 127
Bromobenzene	20.0	18.31		ug/L		92	72 - 122
Bromochloromethane	20.0	20.23		ug/L		101	73 - 142
Bromodichloromethane	20.0	19.90		ug/L		100	71 - 118
Bromoform	20.0	16.36		ug/L		82	56 - 123
Chlorobenzene	20.0	18.91		ug/L		95	74 - 120
Chloroform	20.0	21.56		ug/L		108	72 - 129
cis-1,2-Dichloroethene	20.0	19.67		ug/L		98	72 - 130
cis-1,3-Dichloropropene	20.0	20.00		ug/L		100	66 - 124
Dibromochloromethane	20.0	19.47		ug/L		97	59 - 125
Dibromomethane	20.0	20.07		ug/L		100	72 - 135
Diethyl ether	20.0	18.43		ug/L		92	70 - 133
Ethylbenzene	20.0	19.45		ug/L		97	71 - 122
Hexachlorobutadiene	20.0	18.16		ug/L		91	62 - 134
Isopropylbenzene	20.0	19.25		ug/L		96	70 - 125
Methyl tert-butyl ether	20.0	18.78		ug/L		94	72 - 128
Methylene Chloride	20.0	21.62		ug/L		108	66 - 129
Naphthalene	20.0	14.91		ug/L		75	50 - 129
n-Butylbenzene	20.0	18.88		ug/L		94	62 - 126
n-Propylbenzene	20.0	19.25		ug/L		96	70 - 125
sec-Butylbenzene	20.0	18.10		ug/L		90	61 - 133
Styrene	20.0	18.02		ug/L		90	71 - 121
tert-Butylbenzene	20.0	18.55		ug/L		93	64 - 128
Tetrachloroethene	20.0	22.86		ug/L		114	68 - 138
Tetrahydrofuran	40.0	40.72		ug/L		102	56 - 141
Toluene	20.0	20.85		ug/L		104	69 - 128
trans-1,2-Dichloroethene	20.0	20.04		ug/L		100	73 - 132
trans-1,3-Dichloropropene	20.0	19.34		ug/L		97	59 - 129
Xylenes, Total	40.0	36.78		ug/L		92	72 - 121

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		82 - 122
Dibromofluoromethane (Surr)	103		79 - 119
Toluene-d8 (Surr)	92		77 - 117

Lab Sample ID: LCS 310-176110/6

Matrix: Water

Analysis Batch: 176110

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	21.13		ug/L		106	18 - 128
Chloroethane (ethyl chloride)	20.0	26.49		ug/L		132	66 - 140
Chloromethane (methyl chloride)	20.0	24.78		ug/L		124	55 - 141
Dichlorodifluoromethane	20.0	30.00		ug/L		150	49 - 150
Dichlorofluoromethane	20.0	27.83		ug/L		139	66 - 142
Trichlorofluoromethane	20.0	29.24	*	ug/L		146	69 - 139

TestAmerica Cedar Falls

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-112567-1

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

Lab Sample ID: LCS 310-176110/6
Matrix: Water
Analysis Batch: 176110

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

Surrogate	LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	101		82 - 122
Dibromofluoromethane (Surr)	102		79 - 119
Toluene-d8 (Surr)	92		77 - 117

Lab Sample ID: MB 310-176260/7
Matrix: Water
Analysis Batch: 176260

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	<1.00		1.00		ug/L			08/23/17 08:04	1

Surrogate	MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	104		82 - 122		08/23/17 08:04	1
Dibromofluoromethane (Surr)	106		79 - 119		08/23/17 08:04	1
Toluene-d8 (Surr)	99		77 - 117		08/23/17 08:04	1

Lab Sample ID: LCS 310-176260/5
Matrix: Water
Analysis Batch: 176260

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrachloroethene	20.0	22.69		ug/L		113	68 - 138

Surrogate	LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	98		82 - 122
Dibromofluoromethane (Surr)	105		79 - 119
Toluene-d8 (Surr)	102		77 - 117

Lab Sample ID: 310-112567-1 MS
Matrix: Water
Analysis Batch: 176260

Client Sample ID: BNSF 3S
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrachloroethene	<1.00		20.0	21.80		ug/L		109	33 - 138

Surrogate	MS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	99		82 - 122
Dibromofluoromethane (Surr)	107		79 - 119
Toluene-d8 (Surr)	96		77 - 117

Lab Sample ID: 310-112567-1 MSD
Matrix: Water
Analysis Batch: 176260

Client Sample ID: BNSF 3S
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Tetrachloroethene	<1.00		20.0	21.70		ug/L		108	33 - 138	0	20

TestAmerica Cedar Falls

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-112567-1

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

Lab Sample ID: 310-112567-1 MSD
Matrix: Water
Analysis Batch: 176260

Client Sample ID: BNSF 3S
Prep Type: Total/NA

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	98		82 - 122
Dibromofluoromethane (Surr)	106		79 - 119
Toluene-d8 (Surr)	94		77 - 117

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

Lab Sample ID: MB 310-176758/20
Matrix: Water
Analysis Batch: 176758

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.100		0.100		ug/L			08/25/17 16:11	1
1,2-Dibromo-3-Chloropropane	<0.0500		0.0500		ug/L			08/25/17 16:11	1
1,2-Dibromoethane (EDB)	<0.00500		0.00500		ug/L			08/25/17 16:11	1
1,2-Dichloroethane	<0.100		0.100		ug/L			08/25/17 16:11	1
1,4-Dioxane	<1.00		1.00		ug/L			08/25/17 16:11	1
Trichloroethene	<0.100		0.100		ug/L			08/25/17 16:11	1
1,2,3-Trichloropropane	<0.00500		0.00500		ug/L			08/25/17 16:11	1
Vinyl chloride	<0.0400		0.0400		ug/L			08/25/17 16:11	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	101		80 - 120		08/25/17 16:11	1
Dibromofluoromethane (Surr)	101		80 - 120		08/25/17 16:11	1
Toluene-d8 (Surr)	106		79 - 119		08/25/17 16:11	1

Lab Sample ID: LCS 310-176758/21
Matrix: Water
Analysis Batch: 176758

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dibromo-3-Chloropropane	0.250	0.2689		ug/L		107	55 - 125
1,2-Dibromoethane (EDB)	0.251	0.2888		ug/L		115	65 - 120
1,2-Dichloroethane	0.252	0.2804		ug/L		111	70 - 130
1,4-Dioxane	1.25	1.654		ug/L		132	50 - 145
Trichloroethene	0.251	0.2880		ug/L		115	70 - 130
1,2,3-Trichloropropane	0.251	0.2533		ug/L		101	70 - 130
Vinyl chloride	0.250	0.2621		ug/L		105	64 - 124

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	103		80 - 120
Dibromofluoromethane (Surr)	99		80 - 120
Toluene-d8 (Surr)	106		79 - 119

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-112567-1

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

Lab Sample ID: 310-112567-3 MS

Matrix: Water

Analysis Batch: 176758

Client Sample ID: Equipment Blank 5

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon tetrachloride	<0.100		0.202	0.1983		ug/L		98	70 - 130
1,2-Dibromo-3-Chloropropane	<0.0500	F1	0.200	0.4112	F1	ug/L		205	55 - 125
1,2-Dibromoethane (EDB)	<0.00500	F1	0.201	0.2324		ug/L		115	65 - 120
1,2-Dichloroethane	<0.100		0.201	0.2324		ug/L		115	70 - 130
1,4-Dioxane	<1.00	F1	1.00	1.627	F1	ug/L		163	50 - 145
Trichloroethene	<0.100		0.201	0.1818		ug/L		90	70 - 130
1,2,3-Trichloropropane	<0.00500	F1	0.201	0.2808	F1	ug/L		140	70 - 130
Vinyl chloride	<0.0400		0.200	0.1947		ug/L		97	64 - 124

Surrogate	MS %Recovery	MS Qualifier	MS Limits
4-Bromofluorobenzene (Surr)	103		80 - 120
Dibromofluoromethane (Surr)	100		80 - 120
Toluene-d8 (Surr)	107		79 - 119

Lab Sample ID: 310-112567-3 MSD

Matrix: Water

Analysis Batch: 176758

Client Sample ID: Equipment Blank 5

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Carbon tetrachloride	<0.100		0.202	0.2034		ug/L		101	70 - 130	3	20
1,2-Dibromo-3-Chloropropane	<0.0500	F1	0.200	0.3870	F1	ug/L		193	55 - 125	6	20
1,2-Dibromoethane (EDB)	<0.00500	F1	0.201	0.2479	F1	ug/L		123	65 - 120	6	20
1,2-Dichloroethane	<0.100		0.201	0.2313		ug/L		115	70 - 130	0	20
1,4-Dioxane	<1.00	F1	1.00	1.428		ug/L		143	50 - 145	13	20
Trichloroethene	<0.100		0.201	0.1875		ug/L		93	70 - 130	3	20
1,2,3-Trichloropropane	<0.00500	F1	0.201	0.2889	F1	ug/L		144	70 - 130	3	20
Vinyl chloride	<0.0400		0.200	0.2054		ug/L		103	64 - 124	5	20

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
4-Bromofluorobenzene (Surr)	102		80 - 120
Dibromofluoromethane (Surr)	101		80 - 120
Toluene-d8 (Surr)	106		79 - 119

QC Association Summary

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-112567-1

GC/MS VOA

Analysis Batch: 176110

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-112567-1	BNSF 3S	Total/NA	Water	8260B	
310-112567-2	BNSF 3D	Total/NA	Water	8260B	
310-112567-3	Equipment Blank 5	Total/NA	Water	8260B	
310-112567-4	Duplicate 4	Total/NA	Water	8260B	
310-112567-5	Trip Blank	Total/NA	Water	8260B	
MB 310-176110/7	Method Blank	Total/NA	Water	8260B	
LCS 310-176110/5	Lab Control Sample	Total/NA	Water	8260B	
LCS 310-176110/6	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 176260

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-112567-1	BNSF 3S	Total/NA	Water	8260B	
310-112567-2	BNSF 3D	Total/NA	Water	8260B	
310-112567-4	Duplicate 4	Total/NA	Water	8260B	
MB 310-176260/7	Method Blank	Total/NA	Water	8260B	
LCS 310-176260/5	Lab Control Sample	Total/NA	Water	8260B	
310-112567-1 MS	BNSF 3S	Total/NA	Water	8260B	
310-112567-1 MSD	BNSF 3S	Total/NA	Water	8260B	

Analysis Batch: 176758

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-112567-1	BNSF 3S	Total/NA	Water	8260B SIM	
310-112567-2	BNSF 3D	Total/NA	Water	8260B SIM	
310-112567-3	Equipment Blank 5	Total/NA	Water	8260B SIM	
310-112567-4	Duplicate 4	Total/NA	Water	8260B SIM	
310-112567-5	Trip Blank	Total/NA	Water	8260B SIM	
MB 310-176758/20	Method Blank	Total/NA	Water	8260B SIM	
LCS 310-176758/21	Lab Control Sample	Total/NA	Water	8260B SIM	
310-112567-3 MS	Equipment Blank 5	Total/NA	Water	8260B SIM	
310-112567-3 MSD	Equipment Blank 5	Total/NA	Water	8260B SIM	

Lab Chronicle

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-112567-1

Client Sample ID: BNSF 3S

Date Collected: 08/17/17 12:54

Date Received: 08/19/17 09:15

Lab Sample ID: 310-112567-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	176260	08/23/17 08:28	SJN	TAL CF
Total/NA	Analysis	8260B		1	176110	08/22/17 13:47	SJN	TAL CF
Total/NA	Analysis	8260B SIM		1	176758	08/25/17 17:22	TRZ	TAL CF

Client Sample ID: BNSF 3D

Date Collected: 08/17/17 14:38

Date Received: 08/19/17 09:15

Lab Sample ID: 310-112567-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	176260	08/23/17 08:51	SJN	TAL CF
Total/NA	Analysis	8260B		1	176110	08/22/17 14:08	SJN	TAL CF
Total/NA	Analysis	8260B SIM		1	176758	08/25/17 17:46	TRZ	TAL CF

Client Sample ID: Equipment Blank 5

Date Collected: 08/17/17 15:03

Date Received: 08/19/17 09:15

Lab Sample ID: 310-112567-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	176110	08/22/17 08:23	SJN	TAL CF
Total/NA	Analysis	8260B SIM		1	176758	08/25/17 18:10	TRZ	TAL CF

Client Sample ID: Duplicate 4

Date Collected: 08/17/17 00:00

Date Received: 08/19/17 09:15

Lab Sample ID: 310-112567-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	176260	08/23/17 09:15	SJN	TAL CF
Total/NA	Analysis	8260B		1	176110	08/22/17 14:30	SJN	TAL CF
Total/NA	Analysis	8260B SIM		1	176758	08/25/17 18:34	TRZ	TAL CF

Client Sample ID: Trip Blank

Date Collected: 08/17/17 00:00

Date Received: 08/19/17 09:15

Lab Sample ID: 310-112567-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	176110	08/22/17 07:40	SJN	TAL CF
Total/NA	Analysis	8260B SIM		1	176758	08/25/17 16:59	TRZ	TAL CF

Laboratory References:

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

TestAmerica Cedar Falls

Accreditation/Certification Summary

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-112567-1

Laboratory: TestAmerica Cedar Falls

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Minnesota	NELAP	5	019-999-319	12-31-17

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

Analysis Method	Prep Method	Matrix	Analyte
8260B		Water	Dichlorofluoromethane

- 1
- 2
- 3
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Method Summary

Client: Carlson McCain, Inc.
Project/Site: Reviva 101-16

TestAmerica Job ID: 310-112567-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CF
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CF

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

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





310-112567 Chain of Custody
310302

Cooler/Sample Receipt and Temperature

Client Information	
Client: <u>Carlson McCain</u>	
City/State: <u>Plymouth, MN</u>	Project: <u>Renova 101-16</u>
Receipt Information	
Date/Time Received: <u>8.19.17 9:15</u>	Received By: <u>BKM</u>
Delivery Type: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <u>Sat</u> <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> TA Courier <input type="checkbox"/> TA Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____	
Condition of Cooler/Containers	
Sample(s) received in Cooler? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: <u>MPLS, MN</u>
Multiple Coolers? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler # _____ of _____ <u>BUMBA 17</u>
Cooler Custody Seals Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Sample Custody Seals Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Trip Blank Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓
Temperature Record	
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE	
Thermometer ID: <u>H</u>	Correction Factor (°C): <u>0.0</u>
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature	
Uncorrected Temp (°C): <u>2.2</u>	Corrected Temp (°C): <u>2.2</u>
• Sample Container Temperature	
Sample ID(s) & bottle type used:	CONTAINER 1 _____ CONTAINER 2 _____
Uncorrected Temp (°C):	TEMP 1 _____ TEMP 2 _____
Corrected Temp (°C):	TEMP 1 _____ TEMP 2 _____
Exceptions Noted	
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> 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?) <input type="checkbox"/> Yes <input type="checkbox"/> No	
NOTE: If yes, contact PM before proceeding. If no, proceed with login	
Additional Comments	

Chain of Custody Record

Client Information		Lab P/N: Bindert, Zach T		Carrier Tracking No(s):	
Client Contact: Megan Lindstrom		E-Mail: zach.bindert@testamericainc.com		COC No: 310-25150-9245.1	
Company: Carlison McCain, Inc.		Phone: 452-346-3867		Page: Page 1 of 1	
Address: 15650 36th Ave North Suite 110		City: Plymouth		Job #:	
State, Zip: MN, 55446		PO #: Purchase Order not required		Preservation Codes:	
Phone: Project #: 31008953		WO #: Email: mlindstrom@carlisonmccain.com		M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
Project Name: Reviva 101-16		Site: SSOW#:		Other:	
Due Date Requested:		Analysis Requested		Total Number of Containers	
TAT Requested (days):		Perform MS/MSD (Yes or No)		VOCs - 8260B, LL and 8260B, SIM	
Field Filtered Sample (Yes or No)		Matrix (W=water, S=solid, O=water/soil)		Special Instructions/Note:	
Sample Date		Sample Time		Sample Type (C=comp, G=grab)	
Sample Date		Sample Time		Preservation Code:	
BNSF 3S		1254		G	
BNSF 3D		1438		G	
Equipment Blank 5		1503		G	
Duplicate 4		-		G	
Trip Blank		-		G	
Possible Hazard Identification		Deliverable Requested: 1, II, III, IV, Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological <input type="checkbox"/>		Empty Kit Relinquished by:		Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For <input type="checkbox"/> Months	
Relinquished by: Thomas & Ben		Date: 8/18/17 10:55		Method of Shipment:	
Relinquished by: Thomas & Ben		Date/Time: 8-18-17 10:55		Date/Time: 8-18-17 10:55	
Relinquished by: Thomas & Ben		Date/Time: 8-18-17 17:00		Date/Time: 8-19-17 9:15	
Relinquished by:		Date/Time:		Date/Time:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:	



Login Sample Receipt Checklist

Client: Carlson McCain, Inc.

Job Number: 310-112567-1

Login Number: 112567

List Number: 1

Creator: Hummel, Matt R

List Source: TestAmerica Cedar Falls

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	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 <math><6\text{mm}</math> (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 Cedar Falls
704 Enterprise Drive
Cedar Falls, IA 50613
Tel: (319)277-2401

TestAmerica Job ID: 310-112560-1
Client Project/Site: Reviva

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

Attn: Wade Carlson



Authorized for release by:
8/25/2017 10:54:18 AM

Zach Bindert, Project Manager I
(319)277-2401
zach.bindert@testamericainc.com

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

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

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Sample Summary

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 310-112560-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-112560-1	Drum Sample 1	Wastewater	08/17/17 16:26	08/18/17 17:10
310-112560-2	Trip Blank	Wastewater	08/17/17 00:00	08/18/17 17:10

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Detection Summary

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 310-112560-1

Client Sample ID: Drum Sample 1

Lab Sample ID: 310-112560-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chemical Oxygen Demand	42.3		25.0		mg/L	5		SM 5220D	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	8.26	HF	0.100		SU	1		9040C	Total/NA

Client Sample ID: Trip Blank

Lab Sample ID: 310-112560-2

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Cedar Falls



Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 310-112560-1

Client Sample ID: Drum Sample 1

Lab Sample ID: 310-112560-1

Date Collected: 08/17/17 16:26

Matrix: Wastewater

Date Received: 08/18/17 17:10

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			08/22/17 13:25	1
Allyl chloride	<2.00		2.00		ug/L			08/22/17 13:25	1
Benzene	<0.500		0.500		ug/L			08/22/17 13:25	1
Bromobenzene	<1.00		1.00		ug/L			08/22/17 13:25	1
Bromochloromethane	<5.00		5.00		ug/L			08/22/17 13:25	1
Bromodichloromethane	<1.00		1.00		ug/L			08/22/17 13:25	1
Bromoform	<5.00		5.00		ug/L			08/22/17 13:25	1
Bromomethane	<2.00		2.00		ug/L			08/22/17 13:25	1
2-Butanone (MEK)	<10.0		10.0		ug/L			08/22/17 13:25	1
Carbon tetrachloride	<2.00		2.00		ug/L			08/22/17 13:25	1
Chlorobenzene	<1.00		1.00		ug/L			08/22/17 13:25	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			08/22/17 13:25	1
Chloroform	<1.00		1.00		ug/L			08/22/17 13:25	1
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			08/22/17 13:25	1
2-Chlorotoluene	<1.00		1.00		ug/L			08/22/17 13:25	1
4-Chlorotoluene	<1.00		1.00		ug/L			08/22/17 13:25	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			08/22/17 13:25	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			08/22/17 13:25	1
Dibromochloromethane	<2.00		2.00		ug/L			08/22/17 13:25	1
1,2-Dibromo-3-Chloropropane	<5.00		5.00		ug/L			08/22/17 13:25	1
1,2-Dibromoethane (EDB)	<1.00		1.00		ug/L			08/22/17 13:25	1
Dibromomethane	<1.00		1.00		ug/L			08/22/17 13:25	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			08/22/17 13:25	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			08/22/17 13:25	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			08/22/17 13:25	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			08/22/17 13:25	1
1,1-Dichloroethane	<1.00		1.00		ug/L			08/22/17 13:25	1
1,2-Dichloroethane	<1.00		1.00		ug/L			08/22/17 13:25	1
1,1-Dichloroethene	<2.00		2.00		ug/L			08/22/17 13:25	1
Dichlorofluoromethane	<1.00		1.00		ug/L			08/22/17 13:25	1
1,2-Dichloropropane	<1.00		1.00		ug/L			08/22/17 13:25	1
1,3-Dichloropropane	<1.00		1.00		ug/L			08/22/17 13:25	1
2,2-Dichloropropane	<4.00		4.00		ug/L			08/22/17 13:25	1
1,1-Dichloropropene	<1.00		1.00		ug/L			08/22/17 13:25	1
Diethyl ether	<2.00		2.00		ug/L			08/22/17 13:25	1
Ethylbenzene	<1.00		1.00		ug/L			08/22/17 13:25	1
Hexachlorobutadiene	<1.00		1.00		ug/L			08/22/17 13:25	1
Isopropylbenzene	<1.00		1.00		ug/L			08/22/17 13:25	1
4-Isopropyltoluene	<1.00		1.00		ug/L			08/22/17 13:25	1
Methylene Chloride	<1.00		1.00		ug/L			08/22/17 13:25	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			08/22/17 13:25	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			08/22/17 13:25	1
Naphthalene	<5.00		5.00		ug/L			08/22/17 13:25	1
n-Butylbenzene	<1.00		1.00		ug/L			08/22/17 13:25	1
n-Propylbenzene	<1.00		1.00		ug/L			08/22/17 13:25	1
sec-Butylbenzene	<1.00		1.00		ug/L			08/22/17 13:25	1
Styrene	<1.00		1.00		ug/L			08/22/17 13:25	1
tert-Butylbenzene	<1.00		1.00		ug/L			08/22/17 13:25	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			08/22/17 13:25	1

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 310-112560-1

Client Sample ID: Drum Sample 1

Lab Sample ID: 310-112560-1

Date Collected: 08/17/17 16:26

Matrix: Wastewater

Date Received: 08/18/17 17:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<0.500		0.500		ug/L			08/22/17 13:25	1
Tetrachloroethene	<1.00		1.00		ug/L			08/23/17 08:36	1
Tetrahydrofuran	<10.0		10.0		ug/L			08/22/17 13:25	1
Toluene	<1.00		1.00		ug/L			08/22/17 13:25	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			08/22/17 13:25	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			08/22/17 13:25	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			08/22/17 13:25	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			08/22/17 13:25	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			08/22/17 13:25	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			08/22/17 13:25	1
Trichloroethene	<1.00		1.00		ug/L			08/22/17 13:25	1
Trichlorofluoromethane	<4.00	*	4.00		ug/L			08/22/17 13:25	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			08/22/17 13:25	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			08/22/17 13:25	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			08/22/17 13:25	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			08/22/17 13:25	1
Vinyl chloride	<1.00		1.00		ug/L			08/22/17 13:25	1
Xylenes, Total	<3.00		3.00		ug/L			08/22/17 13:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		82 - 122		08/22/17 13:25	1
4-Bromofluorobenzene (Surr)	102		82 - 122		08/23/17 08:36	1
Dibromofluoromethane (Surr)	101		79 - 119		08/22/17 13:25	1
Dibromofluoromethane (Surr)	92		79 - 119		08/23/17 08:36	1
Toluene-d8 (Surr)	87		77 - 117		08/22/17 13:25	1
Toluene-d8 (Surr)	89		77 - 117		08/23/17 08:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.00		5.00		mg/L			08/22/17 13:36	1
Chemical Oxygen Demand	42.3		25.0		mg/L			08/22/17 08:19	5
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.26	HF	0.100		SU			08/19/17 11:02	1

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 310-112560-1

Client Sample ID: Trip Blank

Lab Sample ID: 310-112560-2

Date Collected: 08/17/17 00:00

Matrix: Wastewater

Date Received: 08/18/17 17:10

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			08/22/17 08:01	1
Allyl chloride	<2.00		2.00		ug/L			08/22/17 08:01	1
Benzene	<0.500		0.500		ug/L			08/22/17 08:01	1
Bromobenzene	<1.00		1.00		ug/L			08/22/17 08:01	1
Bromochloromethane	<5.00		5.00		ug/L			08/22/17 08:01	1
Bromodichloromethane	<1.00		1.00		ug/L			08/22/17 08:01	1
Bromoform	<5.00		5.00		ug/L			08/22/17 08:01	1
Bromomethane	<2.00		2.00		ug/L			08/22/17 08:01	1
2-Butanone (MEK)	<10.0		10.0		ug/L			08/22/17 08:01	1
Carbon tetrachloride	<2.00		2.00		ug/L			08/22/17 08:01	1
Chlorobenzene	<1.00		1.00		ug/L			08/22/17 08:01	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			08/22/17 08:01	1
Chloroform	<1.00		1.00		ug/L			08/22/17 08:01	1
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			08/22/17 08:01	1
2-Chlorotoluene	<1.00		1.00		ug/L			08/22/17 08:01	1
4-Chlorotoluene	<1.00		1.00		ug/L			08/22/17 08:01	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			08/22/17 08:01	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			08/22/17 08:01	1
Dibromochloromethane	<2.00		2.00		ug/L			08/22/17 08:01	1
1,2-Dibromo-3-Chloropropane	<5.00		5.00		ug/L			08/22/17 08:01	1
1,2-Dibromoethane (EDB)	<1.00		1.00		ug/L			08/22/17 08:01	1
Dibromomethane	<1.00		1.00		ug/L			08/22/17 08:01	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			08/22/17 08:01	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			08/22/17 08:01	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			08/22/17 08:01	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			08/22/17 08:01	1
1,1-Dichloroethane	<1.00		1.00		ug/L			08/22/17 08:01	1
1,2-Dichloroethane	<1.00		1.00		ug/L			08/22/17 08:01	1
1,1-Dichloroethene	<2.00		2.00		ug/L			08/22/17 08:01	1
Dichlorofluoromethane	<1.00		1.00		ug/L			08/22/17 08:01	1
1,2-Dichloropropane	<1.00		1.00		ug/L			08/22/17 08:01	1
1,3-Dichloropropane	<1.00		1.00		ug/L			08/22/17 08:01	1
2,2-Dichloropropane	<4.00		4.00		ug/L			08/22/17 08:01	1
1,1-Dichloropropene	<1.00		1.00		ug/L			08/22/17 08:01	1
Diethyl ether	<2.00		2.00		ug/L			08/22/17 08:01	1
Ethylbenzene	<1.00		1.00		ug/L			08/22/17 08:01	1
Hexachlorobutadiene	<1.00		1.00		ug/L			08/22/17 08:01	1
Isopropylbenzene	<1.00		1.00		ug/L			08/22/17 08:01	1
4-Isopropyltoluene	<1.00		1.00		ug/L			08/22/17 08:01	1
Methylene Chloride	<1.00		1.00		ug/L			08/22/17 08:01	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			08/22/17 08:01	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			08/22/17 08:01	1
Naphthalene	<5.00		5.00		ug/L			08/22/17 08:01	1
n-Butylbenzene	<1.00		1.00		ug/L			08/22/17 08:01	1
n-Propylbenzene	<1.00		1.00		ug/L			08/22/17 08:01	1
sec-Butylbenzene	<1.00		1.00		ug/L			08/22/17 08:01	1
Styrene	<1.00		1.00		ug/L			08/22/17 08:01	1
tert-Butylbenzene	<1.00		1.00		ug/L			08/22/17 08:01	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			08/22/17 08:01	1

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 310-112560-1

Client Sample ID: Trip Blank

Lab Sample ID: 310-112560-2

Date Collected: 08/17/17 00:00

Matrix: Wastewater

Date Received: 08/18/17 17:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<0.500		0.500		ug/L			08/22/17 08:01	1
Tetrachloroethene	<1.00		1.00		ug/L			08/22/17 08:01	1
Tetrahydrofuran	<10.0		10.0		ug/L			08/22/17 08:01	1
Toluene	<1.00		1.00		ug/L			08/22/17 08:01	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			08/22/17 08:01	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			08/22/17 08:01	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			08/22/17 08:01	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			08/22/17 08:01	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			08/22/17 08:01	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			08/22/17 08:01	1
Trichloroethene	<1.00		1.00		ug/L			08/22/17 08:01	1
Trichlorofluoromethane	<4.00	*	4.00		ug/L			08/22/17 08:01	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			08/22/17 08:01	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			08/22/17 08:01	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			08/22/17 08:01	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			08/22/17 08:01	1
Vinyl chloride	<1.00		1.00		ug/L			08/22/17 08:01	1
Xylenes, Total	<3.00		3.00		ug/L			08/22/17 08:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		82 - 122					08/22/17 08:01	1
Dibromofluoromethane (Surr)	100		79 - 119					08/22/17 08:01	1
Toluene-d8 (Surr)	92		77 - 117					08/22/17 08:01	1

Definitions/Glossary

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 310-112560-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
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 (Radiochemistry)
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: Reviva

TestAmerica Job ID: 310-112560-1

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

Matrix: Wastewater

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (82-122)	DBFM (79-119)	TOL (77-117)
310-112560-1	Drum Sample 1	102	101	87
310-112560-1	Drum Sample 1	102	92	89
310-112560-2	Trip Blank	103	100	92

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

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (82-122)	DBFM (79-119)	TOL (77-117)
LCS 310-176110/5	Lab Control Sample	99	103	92
LCS 310-176110/6	Lab Control Sample	101	102	92
LCS 310-176254/6	Lab Control Sample	106	98	92
LCS 310-176254/7	Lab Control Sample	103	94	90
MB 310-176110/7	Method Blank	101	101	90
MB 310-176254/8	Method Blank	103	93	89

Surrogate Legend

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

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 310-112560-1

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

Lab Sample ID: MB 310-176110/7

Matrix: Water

Analysis Batch: 176110

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			08/22/17 07:18	1
Allyl chloride	<2.00		2.00		ug/L			08/22/17 07:18	1
Benzene	<0.500		0.500		ug/L			08/22/17 07:18	1
Bromobenzene	<1.00		1.00		ug/L			08/22/17 07:18	1
Bromochloromethane	<5.00		5.00		ug/L			08/22/17 07:18	1
Bromodichloromethane	<1.00		1.00		ug/L			08/22/17 07:18	1
Bromoform	<5.00		5.00		ug/L			08/22/17 07:18	1
Bromomethane	<2.00		2.00		ug/L			08/22/17 07:18	1
2-Butanone (MEK)	<10.0		10.0		ug/L			08/22/17 07:18	1
Carbon tetrachloride	<2.00		2.00		ug/L			08/22/17 07:18	1
Chlorobenzene	<1.00		1.00		ug/L			08/22/17 07:18	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			08/22/17 07:18	1
Chloroform	<1.00		1.00		ug/L			08/22/17 07:18	1
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			08/22/17 07:18	1
2-Chlorotoluene	<1.00		1.00		ug/L			08/22/17 07:18	1
4-Chlorotoluene	<1.00		1.00		ug/L			08/22/17 07:18	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			08/22/17 07:18	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			08/22/17 07:18	1
Dibromochloromethane	<2.00		2.00		ug/L			08/22/17 07:18	1
1,2-Dibromo-3-Chloropropane	<5.00		5.00		ug/L			08/22/17 07:18	1
1,2-Dibromoethane (EDB)	<1.00		1.00		ug/L			08/22/17 07:18	1
Dibromomethane	<1.00		1.00		ug/L			08/22/17 07:18	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			08/22/17 07:18	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			08/22/17 07:18	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			08/22/17 07:18	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			08/22/17 07:18	1
1,1-Dichloroethane	<1.00		1.00		ug/L			08/22/17 07:18	1
1,2-Dichloroethane	<1.00		1.00		ug/L			08/22/17 07:18	1
1,1-Dichloroethene	<2.00		2.00		ug/L			08/22/17 07:18	1
Dichlorofluoromethane	<1.00		1.00		ug/L			08/22/17 07:18	1
1,2-Dichloropropane	<1.00		1.00		ug/L			08/22/17 07:18	1
1,3-Dichloropropane	<1.00		1.00		ug/L			08/22/17 07:18	1
2,2-Dichloropropane	<4.00		4.00		ug/L			08/22/17 07:18	1
1,1-Dichloropropene	<1.00		1.00		ug/L			08/22/17 07:18	1
Diethyl ether	<2.00		2.00		ug/L			08/22/17 07:18	1
Ethylbenzene	<1.00		1.00		ug/L			08/22/17 07:18	1
Hexachlorobutadiene	<1.00		1.00		ug/L			08/22/17 07:18	1
Isopropylbenzene	<1.00		1.00		ug/L			08/22/17 07:18	1
4-Isopropyltoluene	<1.00		1.00		ug/L			08/22/17 07:18	1
Methylene Chloride	<1.00		1.00		ug/L			08/22/17 07:18	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			08/22/17 07:18	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			08/22/17 07:18	1
Naphthalene	<5.00		5.00		ug/L			08/22/17 07:18	1
n-Butylbenzene	<1.00		1.00		ug/L			08/22/17 07:18	1
n-Propylbenzene	<1.00		1.00		ug/L			08/22/17 07:18	1
sec-Butylbenzene	<1.00		1.00		ug/L			08/22/17 07:18	1
Styrene	<1.00		1.00		ug/L			08/22/17 07:18	1
tert-Butylbenzene	<1.00		1.00		ug/L			08/22/17 07:18	1

TestAmerica Cedar Falls

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 310-112560-1

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

Lab Sample ID: MB 310-176110/7

Matrix: Water

Analysis Batch: 176110

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			08/22/17 07:18	1
1,1,2,2-Tetrachloroethane	<0.500		0.500		ug/L			08/22/17 07:18	1
Tetrachloroethene	<1.00		1.00		ug/L			08/22/17 07:18	1
Tetrahydrofuran	<10.0		10.0		ug/L			08/22/17 07:18	1
Toluene	<1.00		1.00		ug/L			08/22/17 07:18	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			08/22/17 07:18	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			08/22/17 07:18	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			08/22/17 07:18	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			08/22/17 07:18	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			08/22/17 07:18	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			08/22/17 07:18	1
Trichloroethene	<1.00		1.00		ug/L			08/22/17 07:18	1
Trichlorofluoromethane	<4.00		4.00		ug/L			08/22/17 07:18	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			08/22/17 07:18	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			08/22/17 07:18	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			08/22/17 07:18	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			08/22/17 07:18	1
Vinyl chloride	<1.00		1.00		ug/L			08/22/17 07:18	1
Xylenes, Total	<3.00		3.00		ug/L			08/22/17 07:18	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	101		82 - 122		08/22/17 07:18	1
Dibromofluoromethane (Surr)	101		79 - 119		08/22/17 07:18	1
Toluene-d8 (Surr)	90		77 - 117		08/22/17 07:18	1

Lab Sample ID: LCS 310-176110/5

Matrix: Water

Analysis Batch: 176110

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Acetone	40.0	47.23		ug/L		118	55 - 150
Allyl chloride	20.0	21.75		ug/L		109	39 - 150
Benzene	20.0	21.08		ug/L		105	74 - 127
Bromobenzene	20.0	18.31		ug/L		92	72 - 122
Bromochloromethane	20.0	20.23		ug/L		101	73 - 142
Bromodichloromethane	20.0	19.90		ug/L		100	71 - 118
Bromoform	20.0	16.36		ug/L		82	56 - 123
2-Butanone (MEK)	40.0	38.74		ug/L		97	51 - 150
Carbon tetrachloride	20.0	20.76		ug/L		104	71 - 131
Chlorobenzene	20.0	18.91		ug/L		95	74 - 120
Chloroform	20.0	21.56		ug/L		108	72 - 129
2-Chlorotoluene	20.0	18.91		ug/L		95	67 - 127
4-Chlorotoluene	20.0	18.85		ug/L		94	69 - 123
cis-1,2-Dichloroethene	20.0	19.67		ug/L		98	72 - 130
cis-1,3-Dichloropropene	20.0	20.00		ug/L		100	66 - 124
Dibromochloromethane	20.0	19.47		ug/L		97	59 - 125
1,2-Dibromo-3-Chloropropane	20.0	15.42		ug/L		77	45 - 131
1,2-Dibromoethane (EDB)	20.0	20.35		ug/L		102	69 - 127

TestAmerica Cedar Falls

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 310-112560-1

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

Lab Sample ID: LCS 310-176110/5

Matrix: Water

Analysis Batch: 176110

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibromomethane	20.0	20.07		ug/L		100	72 - 135
1,2-Dichlorobenzene	20.0	16.95		ug/L		85	68 - 121
1,3-Dichlorobenzene	20.0	18.78		ug/L		94	66 - 128
1,4-Dichlorobenzene	20.0	16.95		ug/L		85	67 - 120
1,1-Dichloroethane	20.0	20.51		ug/L		103	71 - 135
1,2-Dichloroethane	20.0	20.17		ug/L		101	71 - 131
1,1-Dichloroethene	20.0	20.32		ug/L		102	71 - 137
1,2-Dichloropropane	20.0	20.86		ug/L		104	72 - 126
1,3-Dichloropropane	20.0	20.18		ug/L		101	73 - 129
2,2-Dichloropropane	20.0	21.29		ug/L		106	50 - 150
1,1-Dichloropropene	20.0	22.69		ug/L		113	72 - 131
Diethyl ether	20.0	18.43		ug/L		92	70 - 133
Ethylbenzene	20.0	19.45		ug/L		97	71 - 122
Hexachlorobutadiene	20.0	18.16		ug/L		91	62 - 134
Isopropylbenzene	20.0	19.25		ug/L		96	70 - 125
4-Isopropyltoluene	20.0	18.13		ug/L		91	65 - 124
Methylene Chloride	20.0	21.62		ug/L		108	66 - 129
4-Methyl-2-pentanone (MIBK)	40.0	36.53		ug/L		91	52 - 137
Methyl tert-butyl ether	20.0	18.78		ug/L		94	72 - 128
Naphthalene	20.0	14.91		ug/L		75	50 - 129
n-Butylbenzene	20.0	18.88		ug/L		94	62 - 126
n-Propylbenzene	20.0	19.25		ug/L		96	70 - 125
sec-Butylbenzene	20.0	18.10		ug/L		90	61 - 133
Styrene	20.0	18.02		ug/L		90	71 - 121
tert-Butylbenzene	20.0	18.55		ug/L		93	64 - 128
1,1,1,2-Tetrachloroethane	20.0	18.41		ug/L		92	72 - 117
1,1,1,2,2-Tetrachloroethane	20.0	17.25		ug/L		86	62 - 123
Tetrachloroethene	20.0	22.86		ug/L		114	68 - 138
Tetrahydrofuran	40.0	40.72		ug/L		102	56 - 141
Toluene	20.0	20.85		ug/L		104	69 - 128
trans-1,2-Dichloroethene	20.0	20.04		ug/L		100	73 - 132
trans-1,3-Dichloropropene	20.0	19.34		ug/L		97	59 - 129
1,2,3-Trichlorobenzene	20.0	15.74		ug/L		79	62 - 131
1,2,4-Trichlorobenzene	20.0	16.91		ug/L		85	61 - 127
1,1,1-Trichloroethane	20.0	22.60		ug/L		113	73 - 132
1,1,2-Trichloroethane	20.0	19.57		ug/L		98	65 - 131
Trichloroethene	20.0	20.74		ug/L		104	73 - 132
1,2,3-Trichloropropane	20.0	17.83		ug/L		89	66 - 124
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	21.63		ug/L		108	69 - 145
1,2,4-Trimethylbenzene	20.0	18.67		ug/L		93	66 - 126
1,3,5-Trimethylbenzene	20.0	19.15		ug/L		96	69 - 128
Xylenes, Total	40.0	36.78		ug/L		92	72 - 121

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		82 - 122
Dibromofluoromethane (Surr)	103		79 - 119
Toluene-d8 (Surr)	92		77 - 117

TestAmerica Cedar Falls

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 310-112560-1

Lab Sample ID: LCS 310-176110/6

Matrix: Water

Analysis Batch: 176110

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	21.13		ug/L		106	18 - 128
Chloroethane (ethyl chloride)	20.0	26.49		ug/L		132	66 - 140
Chloromethane (methyl chloride)	20.0	24.78		ug/L		124	55 - 141
Dichlorodifluoromethane	20.0	30.00		ug/L		150	49 - 150
Dichlorofluoromethane	20.0	27.83		ug/L		139	66 - 142
Trichlorofluoromethane	20.0	29.24	*	ug/L		146	69 - 139
Vinyl chloride	20.0	27.16		ug/L		136	67 - 139

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		82 - 122
Dibromofluoromethane (Surr)	102		79 - 119
Toluene-d8 (Surr)	92		77 - 117

Lab Sample ID: MB 310-176254/8

Matrix: Water

Analysis Batch: 176254

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	<1.00		1.00		ug/L			08/23/17 08:14	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		82 - 122		08/23/17 08:14	1
Dibromofluoromethane (Surr)	93		79 - 119		08/23/17 08:14	1
Toluene-d8 (Surr)	89		77 - 117		08/23/17 08:14	1

Lab Sample ID: LCS 310-176254/6

Matrix: Water

Analysis Batch: 176254

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrachloroethene	20.0	23.46		ug/L		117	68 - 138

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		82 - 122
Dibromofluoromethane (Surr)	98		79 - 119
Toluene-d8 (Surr)	92		77 - 117

Lab Sample ID: LCS 310-176254/7

Matrix: Water

Analysis Batch: 176254

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	103		82 - 122
Dibromofluoromethane (Surr)	94		79 - 119
Toluene-d8 (Surr)	90		77 - 117

TestAmerica Cedar Falls

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 310-112560-1

Method: 9040C - pH

Lab Sample ID: LCS 310-176106/1
Matrix: Water
Analysis Batch: 176106

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.020		SU		100	98 - 102

Lab Sample ID: 310-112560-1 DU
Matrix: Wastewater
Analysis Batch: 176106

Client Sample ID: Drum Sample 1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	8.26	HF	8.310		SU		0.6	20

Method: I-3765-85 - Residue, Non-filterable (TSS)

Lab Sample ID: MB 310-176371/1
Matrix: Water
Analysis Batch: 176371

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.00		5.00		mg/L			08/22/17 13:36	1

Lab Sample ID: LCS 310-176371/2
Matrix: Water
Analysis Batch: 176371

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	100	107.0		mg/L		107	74 - 114

Lab Sample ID: 310-112560-1 DU
Matrix: Wastewater
Analysis Batch: 176371

Client Sample ID: Drum Sample 1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	<5.00		<5.00		mg/L		NC	30

Method: SM 5220D - COD

Lab Sample ID: MB 310-176282/60
Matrix: Water
Analysis Batch: 176282

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	<5.00		5.00		mg/L			08/22/17 08:19	1

Lab Sample ID: LCS 310-176282/63
Matrix: Water
Analysis Batch: 176282

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	125	130.9		mg/L		104	85 - 115

TestAmerica Cedar Falls

QC Association Summary

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 310-112560-1

GC/MS VOA

Analysis Batch: 176110

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-112560-1	Drum Sample 1	Total/NA	Wastewater	8260B	
310-112560-2	Trip Blank	Total/NA	Wastewater	8260B	
MB 310-176110/7	Method Blank	Total/NA	Water	8260B	
LCS 310-176110/5	Lab Control Sample	Total/NA	Water	8260B	
LCS 310-176110/6	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 176254

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-112560-1	Drum Sample 1	Total/NA	Wastewater	8260B	
MB 310-176254/8	Method Blank	Total/NA	Water	8260B	
LCS 310-176254/6	Lab Control Sample	Total/NA	Water	8260B	
LCS 310-176254/7	Lab Control Sample	Total/NA	Water	8260B	

General Chemistry

Analysis Batch: 176106

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-112560-1	Drum Sample 1	Total/NA	Wastewater	9040C	
LCS 310-176106/1	Lab Control Sample	Total/NA	Water	9040C	
310-112560-1 DU	Drum Sample 1	Total/NA	Wastewater	9040C	

Analysis Batch: 176282

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-112560-1	Drum Sample 1	Total/NA	Wastewater	SM 5220D	
MB 310-176282/60	Method Blank	Total/NA	Water	SM 5220D	
LCS 310-176282/63	Lab Control Sample	Total/NA	Water	SM 5220D	

Analysis Batch: 176371

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-112560-1	Drum Sample 1	Total/NA	Wastewater	I-3765-85	
MB 310-176371/1	Method Blank	Total/NA	Water	I-3765-85	
LCS 310-176371/2	Lab Control Sample	Total/NA	Water	I-3765-85	
310-112560-1 DU	Drum Sample 1	Total/NA	Wastewater	I-3765-85	

Lab Chronicle

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 310-112560-1

Client Sample ID: Drum Sample 1

Date Collected: 08/17/17 16:26

Date Received: 08/18/17 17:10

Lab Sample ID: 310-112560-1

Matrix: Wastewater

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	176110	08/22/17 13:25	SJN	TAL CF
Total/NA	Analysis	8260B		1	176254	08/23/17 08:36	SJN	TAL CF
Total/NA	Analysis	9040C		1	176106	08/19/17 11:02	JDK	TAL CF
Total/NA	Analysis	I-3765-85		1	176371	08/22/17 13:36	SAS	TAL CF
Total/NA	Analysis	SM 5220D		5	176282	08/22/17 08:19	LBB	TAL CF

Client Sample ID: Trip Blank

Date Collected: 08/17/17 00:00

Date Received: 08/18/17 17:10

Lab Sample ID: 310-112560-2

Matrix: Wastewater

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	176110	08/22/17 08:01	SJN	TAL CF

Laboratory References:

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

Accreditation/Certification Summary

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 310-112560-1

Laboratory: TestAmerica Cedar Falls

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Minnesota	NELAP	5	019-999-319	12-31-17

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

Analysis Method	Prep Method	Matrix	Analyte
8260B		Wastewater	Dichlorofluoromethane



Method Summary

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 310-112560-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CF
9040C	pH	SW846	TAL CF
I-3765-85	Residue, Non-filterable (TSS)	USGS	TAL CF
SM 5220D	COD	SM	TAL CF

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

USGS = "Methods For Analysis Of Water And Fluvial Sediments", USGS, 1989

Laboratory References:

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





Cooler/Sample Receipt and Temperature

Client Information			
Client: <u>Carlson McCain</u>			
City/State: <u>Blaine, MN</u>		Project: <u>Reviva</u>	
Receipt Information			
Date/Time Received: <u>8.19.17 9:15</u>		Received By: <u>BKM</u>	
Delivery Type: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <u>Sat</u> <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> TA Courier <input type="checkbox"/> TA Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: <u>MPLS, MN</u>	
Multiple Coolers?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler # _____ of _____ <u>BLMBA.17</u>	
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>H</u>		Correction Factor (°C): <u>0.0</u>	
• Temp Blank Temperature – if no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>2.2</u>		Corrected Temp (°C): <u>2.2</u>	
• Sample Container Temperature			
Sample ID(s) & bottle type used:		CONTAINER 1	CONTAINER 2
Uncorrected Temp (°C):		TEMP 1	TEMP 2
Corrected Temp (°C):		TEMP 1	TEMP 2
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> 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?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			

Login Sample Receipt Checklist

Client: Carlson McCain, Inc.

Job Number: 310-112560-1

Login Number: 112560

List Source: TestAmerica Cedar Falls

List Number: 1

Creator: Hummel, Matt R

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 Cedar Falls

704 Enterprise Drive

Cedar Falls, IA 50613

Tel: (319)277-2401

TestAmerica Job ID: 310-113869-1

TestAmerica Sample Delivery Group: 101-17

Client Project/Site: Reviva

For:

Carlson McCain, Inc.

3890 Pheasant Ridge Drive NE, #100

Blaine, Minnesota 55449

Attn: Wade Carlson



Authorized for release by:

9/14/2017 9:17:06 AM

Zach Bindert, Project Manager I

(319)277-2401

zach.bindert@testamericainc.com

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

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

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Case Narrative

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 310-113869-1
SDG: 101-17

Job ID: 310-113869-1

Laboratory: TestAmerica Cedar Falls

Narrative

Job Narrative 310-113869-1

Comments

No additional comments.

Receipt

The samples were received on 9/9/2017 9:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 6.5° C.

Receipt Exceptions

The following samples was received at the laboratory outside the required temperature criteria: Drum Sample 2 (310-113869-1) and Trip Blank (310-113869-2). The client was contacted regarding this issue, and the laboratory was instructed to proceed with analysis.

GC/MS VOA

Method 8260B: The following sample was collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, the pH was outside the required criteria when verified by the laboratory, and corrective action was not possible: Drum Sample 2 (310-113869-1).

Method 8260B: The continuing calibration verification (CCV) associated with batch 310-178332 recovered above the upper control limit for Acetone (51.3 %D), 1,1,2-Trichloro-1,2,2-trifluoroethane (22.6 %D) and Diethyl ether (20.7 %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 310-178332/4).

Method 8260B: The laboratory control sample (LCS) for analytical batch 310-178332 recovered outside control limits for the following analyte: Acetone. The analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

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

General Chemistry

Method 9040C: Sample pH exceed greatest available CCV

Drum Sample 2 (310-113869-1) and (310-113869-B-1 DU)

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

VOA Prep

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

Sample Summary

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 310-113869-1
SDG: 101-17

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-113869-1	Drum Sample 2	Ground Water	09/07/17 14:02	09/09/17 09:30
310-113869-2	Trip Blank	Water	09/07/17 00:00	09/09/17 09:30

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Detection Summary

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 310-113869-1
SDG: 101-17

Client Sample ID: Drum Sample 2

Lab Sample ID: 310-113869-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	84.3		10.0		ug/L	1		8260B	Total/NA
Total Suspended Solids	8.67		5.00		mg/L	1		I-3765-85	Total/NA
Chemical Oxygen Demand	241		25.0		mg/L	5		SM 5220D	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	13.3	HF	0.100		SU	1		9040C	Total/NA

Client Sample ID: Trip Blank

Lab Sample ID: 310-113869-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methylene Chloride	1.06		1.00		ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 310-113869-1
SDG: 101-17

Client Sample ID: Drum Sample 2

Lab Sample ID: 310-113869-1

Date Collected: 09/07/17 14:02

Matrix: Ground Water

Date Received: 09/09/17 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	84.3		10.0		ug/L			09/12/17 14:54	1
Allyl chloride	<2.00		2.00		ug/L			09/12/17 08:42	1
Benzene	<0.500		0.500		ug/L			09/12/17 08:42	1
Bromobenzene	<1.00		1.00		ug/L			09/12/17 08:42	1
Bromochloromethane	<5.00		5.00		ug/L			09/12/17 08:42	1
Bromodichloromethane	<1.00		1.00		ug/L			09/12/17 08:42	1
Bromoform	<5.00		5.00		ug/L			09/12/17 08:42	1
Bromomethane	<2.00		2.00		ug/L			09/12/17 08:42	1
2-Butanone (MEK)	<10.0		10.0		ug/L			09/12/17 08:42	1
Carbon tetrachloride	<2.00		2.00		ug/L			09/12/17 08:42	1
Chlorobenzene	<1.00		1.00		ug/L			09/12/17 08:42	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			09/12/17 08:42	1
Chloroform	<1.00		1.00		ug/L			09/12/17 08:42	1
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			09/12/17 08:42	1
2-Chlorotoluene	<1.00		1.00		ug/L			09/12/17 08:42	1
4-Chlorotoluene	<1.00		1.00		ug/L			09/12/17 08:42	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			09/12/17 08:42	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			09/12/17 08:42	1
Dibromochloromethane	<2.00		2.00		ug/L			09/12/17 08:42	1
1,2-Dibromo-3-Chloropropane	<5.00		5.00		ug/L			09/12/17 08:42	1
1,2-Dibromoethane (EDB)	<1.00		1.00		ug/L			09/12/17 08:42	1
Dibromomethane	<1.00		1.00		ug/L			09/12/17 08:42	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			09/12/17 08:42	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			09/12/17 08:42	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			09/12/17 08:42	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			09/12/17 08:42	1
1,1-Dichloroethane	<1.00		1.00		ug/L			09/12/17 08:42	1
1,2-Dichloroethane	<1.00		1.00		ug/L			09/12/17 08:42	1
1,1-Dichloroethene	<2.00		2.00		ug/L			09/12/17 08:42	1
Dichlorofluoromethane	<1.00		1.00		ug/L			09/12/17 08:42	1
1,2-Dichloropropane	<1.00		1.00		ug/L			09/12/17 08:42	1
1,3-Dichloropropane	<1.00		1.00		ug/L			09/12/17 08:42	1
2,2-Dichloropropane	<4.00		4.00		ug/L			09/12/17 08:42	1
1,1-Dichloropropene	<1.00		1.00		ug/L			09/12/17 08:42	1
Diethyl ether	<2.00		2.00		ug/L			09/12/17 08:42	1
Ethylbenzene	<1.00		1.00		ug/L			09/12/17 08:42	1
Hexachlorobutadiene	<1.00		1.00		ug/L			09/12/17 08:42	1
Isopropylbenzene	<1.00		1.00		ug/L			09/12/17 08:42	1
4-Isopropyltoluene	<1.00		1.00		ug/L			09/12/17 08:42	1
Methylene Chloride	<1.00		1.00		ug/L			09/12/17 08:42	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			09/12/17 08:42	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			09/12/17 08:42	1
Naphthalene	<5.00		5.00		ug/L			09/12/17 08:42	1
n-Butylbenzene	<1.00		1.00		ug/L			09/12/17 08:42	1
n-Propylbenzene	<1.00		1.00		ug/L			09/12/17 08:42	1
sec-Butylbenzene	<1.00		1.00		ug/L			09/12/17 08:42	1
Styrene	<1.00		1.00		ug/L			09/12/17 08:42	1
tert-Butylbenzene	<1.00		1.00		ug/L			09/12/17 08:42	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			09/12/17 08:42	1

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 310-113869-1
SDG: 101-17

Client Sample ID: Drum Sample 2

Lab Sample ID: 310-113869-1

Date Collected: 09/07/17 14:02

Matrix: Ground Water

Date Received: 09/09/17 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<0.500		0.500		ug/L			09/12/17 08:42	1
Tetrachloroethene	<1.00		1.00		ug/L			09/12/17 08:42	1
Tetrahydrofuran	<10.0		10.0		ug/L			09/12/17 08:42	1
Toluene	<1.00		1.00		ug/L			09/12/17 08:42	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			09/12/17 08:42	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			09/12/17 08:42	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			09/12/17 08:42	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			09/12/17 08:42	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			09/12/17 08:42	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			09/12/17 08:42	1
Trichloroethene	<1.00		1.00		ug/L			09/12/17 08:42	1
Trichlorofluoromethane	<4.00		4.00		ug/L			09/12/17 08:42	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			09/12/17 08:42	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			09/12/17 08:42	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			09/12/17 08:42	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			09/12/17 08:42	1
Vinyl chloride	<1.00		1.00		ug/L			09/12/17 08:42	1
Xylenes, Total	<3.00		3.00		ug/L			09/12/17 08:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		82 - 122		09/12/17 08:42	1
4-Bromofluorobenzene (Surr)	102		82 - 122		09/12/17 14:54	1
Dibromofluoromethane (Surr)	79		79 - 119		09/12/17 08:42	1
Dibromofluoromethane (Surr)	90		79 - 119		09/12/17 14:54	1
Toluene-d8 (Surr)	96		77 - 117		09/12/17 08:42	1
Toluene-d8 (Surr)	95		77 - 117		09/12/17 14:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	8.67		5.00		mg/L			09/11/17 12:38	1
Chemical Oxygen Demand	241		25.0		mg/L			09/12/17 09:55	5
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	13.3	HF	0.100		SU			09/09/17 11:12	1

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 310-113869-1
SDG: 101-17

Client Sample ID: Trip Blank

Lab Sample ID: 310-113869-2

Date Collected: 09/07/17 00:00

Matrix: Water

Date Received: 09/09/17 09:30

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			09/12/17 09:05	1
Allyl chloride	<2.00		2.00		ug/L			09/12/17 09:05	1
Benzene	<0.500		0.500		ug/L			09/12/17 09:05	1
Bromobenzene	<1.00		1.00		ug/L			09/12/17 09:05	1
Bromochloromethane	<5.00		5.00		ug/L			09/12/17 09:05	1
Bromodichloromethane	<1.00		1.00		ug/L			09/12/17 09:05	1
Bromoform	<5.00		5.00		ug/L			09/12/17 09:05	1
Bromomethane	<2.00		2.00		ug/L			09/12/17 09:05	1
2-Butanone (MEK)	<10.0		10.0		ug/L			09/12/17 09:05	1
Carbon tetrachloride	<2.00		2.00		ug/L			09/12/17 09:05	1
Chlorobenzene	<1.00		1.00		ug/L			09/12/17 09:05	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			09/12/17 09:05	1
Chloroform	<1.00		1.00		ug/L			09/12/17 09:05	1
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			09/12/17 09:05	1
2-Chlorotoluene	<1.00		1.00		ug/L			09/12/17 09:05	1
4-Chlorotoluene	<1.00		1.00		ug/L			09/12/17 09:05	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			09/12/17 09:05	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			09/12/17 09:05	1
Dibromochloromethane	<2.00		2.00		ug/L			09/12/17 09:05	1
1,2-Dibromo-3-Chloropropane	<5.00		5.00		ug/L			09/12/17 09:05	1
1,2-Dibromoethane (EDB)	<1.00		1.00		ug/L			09/12/17 09:05	1
Dibromomethane	<1.00		1.00		ug/L			09/12/17 09:05	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			09/12/17 09:05	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			09/12/17 09:05	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			09/12/17 09:05	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			09/12/17 09:05	1
1,1-Dichloroethane	<1.00		1.00		ug/L			09/12/17 09:05	1
1,2-Dichloroethane	<1.00		1.00		ug/L			09/12/17 09:05	1
1,1-Dichloroethene	<2.00		2.00		ug/L			09/12/17 09:05	1
Dichlorofluoromethane	<1.00		1.00		ug/L			09/12/17 09:05	1
1,2-Dichloropropane	<1.00		1.00		ug/L			09/12/17 09:05	1
1,3-Dichloropropane	<1.00		1.00		ug/L			09/12/17 09:05	1
2,2-Dichloropropane	<4.00		4.00		ug/L			09/12/17 09:05	1
1,1-Dichloropropene	<1.00		1.00		ug/L			09/12/17 09:05	1
Diethyl ether	<2.00		2.00		ug/L			09/12/17 09:05	1
Ethylbenzene	<1.00		1.00		ug/L			09/12/17 09:05	1
Hexachlorobutadiene	<1.00		1.00		ug/L			09/12/17 09:05	1
Isopropylbenzene	<1.00		1.00		ug/L			09/12/17 09:05	1
4-Isopropyltoluene	<1.00		1.00		ug/L			09/12/17 09:05	1
Methylene Chloride	1.06		1.00		ug/L			09/12/17 09:05	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			09/12/17 09:05	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			09/12/17 09:05	1
Naphthalene	<5.00		5.00		ug/L			09/12/17 09:05	1
n-Butylbenzene	<1.00		1.00		ug/L			09/12/17 09:05	1
n-Propylbenzene	<1.00		1.00		ug/L			09/12/17 09:05	1
sec-Butylbenzene	<1.00		1.00		ug/L			09/12/17 09:05	1
Styrene	<1.00		1.00		ug/L			09/12/17 09:05	1
tert-Butylbenzene	<1.00		1.00		ug/L			09/12/17 09:05	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			09/12/17 09:05	1

TestAmerica Cedar Falls

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 310-113869-1
SDG: 101-17

Client Sample ID: Trip Blank

Lab Sample ID: 310-113869-2

Date Collected: 09/07/17 00:00

Matrix: Water

Date Received: 09/09/17 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<0.500		0.500		ug/L			09/12/17 09:05	1
Tetrachloroethene	<1.00		1.00		ug/L			09/12/17 09:05	1
Tetrahydrofuran	<10.0		10.0		ug/L			09/12/17 09:05	1
Toluene	<1.00		1.00		ug/L			09/12/17 09:05	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			09/12/17 09:05	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			09/12/17 09:05	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			09/12/17 09:05	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			09/12/17 09:05	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			09/12/17 09:05	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			09/12/17 09:05	1
Trichloroethene	<1.00		1.00		ug/L			09/12/17 09:05	1
Trichlorofluoromethane	<4.00		4.00		ug/L			09/12/17 09:05	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			09/12/17 09:05	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			09/12/17 09:05	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			09/12/17 09:05	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			09/12/17 09:05	1
Vinyl chloride	<1.00		1.00		ug/L			09/12/17 09:05	1
Xylenes, Total	<3.00		3.00		ug/L			09/12/17 09:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		82 - 122					09/12/17 09:05	1
Dibromofluoromethane (Surr)	102		79 - 119					09/12/17 09:05	1
Toluene-d8 (Surr)	94		77 - 117					09/12/17 09:05	1

Definitions/Glossary

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 310-113869-1
SDG: 101-17

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
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 (Radiochemistry)
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: Reviva

TestAmerica Job ID: 310-113869-1
SDG: 101-17

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

Matrix: Ground Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (82-122)	DBFM (79-119)	TOL (77-117)
310-113869-1	Drum Sample 2	102	90	95
310-113869-1	Drum Sample 2	105	79	96

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)

Lab Sample ID	Client Sample ID	BFB (82-122)	DBFM (79-119)	TOL (77-117)
310-113869-2	Trip Blank	103	102	94
LCS 310-178328/5	Lab Control Sample	100	103	98
LCS 310-178328/6	Lab Control Sample	102	99	96
LCS 310-178332/6	Lab Control Sample	103	100	97
LCS 310-178332/7	Lab Control Sample	104	101	98
MB 310-178328/7	Method Blank	106	103	96
MB 310-178332/8	Method Blank	105	102	99

Surrogate Legend

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

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 310-113869-1
SDG: 101-17

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

Lab Sample ID: MB 310-178328/7

Matrix: Water

Analysis Batch: 178328

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			09/12/17 07:42	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		82 - 122					09/12/17 07:42	1
Dibromofluoromethane (Surr)	103		79 - 119					09/12/17 07:42	1
Toluene-d8 (Surr)	96		77 - 117					09/12/17 07:42	1

Lab Sample ID: LCS 310-178328/5

Matrix: Water

Analysis Batch: 178328

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	54.77		ug/L		137	55 - 150
Surrogate	%Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	100		82 - 122				
Dibromofluoromethane (Surr)	103		79 - 119				
Toluene-d8 (Surr)	98		77 - 117				

Lab Sample ID: LCS 310-178328/6

Matrix: Water

Analysis Batch: 178328

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Surrogate	%Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		82 - 122
Dibromofluoromethane (Surr)	99		79 - 119
Toluene-d8 (Surr)	96		77 - 117

Lab Sample ID: MB 310-178332/8

Matrix: Water

Analysis Batch: 178332

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			09/12/17 08:18	1
Allyl chloride	<2.00		2.00		ug/L			09/12/17 08:18	1
Benzene	<0.500		0.500		ug/L			09/12/17 08:18	1
Bromobenzene	<1.00		1.00		ug/L			09/12/17 08:18	1
Bromochloromethane	<5.00		5.00		ug/L			09/12/17 08:18	1
Bromodichloromethane	<1.00		1.00		ug/L			09/12/17 08:18	1
Bromoform	<5.00		5.00		ug/L			09/12/17 08:18	1
Bromomethane	<2.00		2.00		ug/L			09/12/17 08:18	1
2-Butanone (MEK)	<10.0		10.0		ug/L			09/12/17 08:18	1
Carbon tetrachloride	<2.00		2.00		ug/L			09/12/17 08:18	1
Chlorobenzene	<1.00		1.00		ug/L			09/12/17 08:18	1
Chloroethane (ethyl chloride)	<4.00		4.00		ug/L			09/12/17 08:18	1
Chloroform	<1.00		1.00		ug/L			09/12/17 08:18	1
Chloromethane (methyl chloride)	<3.00		3.00		ug/L			09/12/17 08:18	1

TestAmerica Cedar Falls

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 310-113869-1
SDG: 101-17

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

Lab Sample ID: MB 310-178332/8

Matrix: Water

Analysis Batch: 178332

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
2-Chlorotoluene	<1.00		1.00		ug/L			09/12/17 08:18	1
4-Chlorotoluene	<1.00		1.00		ug/L			09/12/17 08:18	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			09/12/17 08:18	1
cis-1,3-Dichloropropene	<0.500		0.500		ug/L			09/12/17 08:18	1
Dibromochloromethane	<2.00		2.00		ug/L			09/12/17 08:18	1
1,2-Dibromo-3-Chloropropane	<5.00		5.00		ug/L			09/12/17 08:18	1
1,2-Dibromoethane (EDB)	<1.00		1.00		ug/L			09/12/17 08:18	1
Dibromomethane	<1.00		1.00		ug/L			09/12/17 08:18	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			09/12/17 08:18	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			09/12/17 08:18	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			09/12/17 08:18	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			09/12/17 08:18	1
1,1-Dichloroethane	<1.00		1.00		ug/L			09/12/17 08:18	1
1,2-Dichloroethane	<1.00		1.00		ug/L			09/12/17 08:18	1
1,1-Dichloroethene	<2.00		2.00		ug/L			09/12/17 08:18	1
Dichlorofluoromethane	<1.00		1.00		ug/L			09/12/17 08:18	1
1,2-Dichloropropane	<1.00		1.00		ug/L			09/12/17 08:18	1
1,3-Dichloropropane	<1.00		1.00		ug/L			09/12/17 08:18	1
2,2-Dichloropropane	<4.00		4.00		ug/L			09/12/17 08:18	1
1,1-Dichloropropene	<1.00		1.00		ug/L			09/12/17 08:18	1
Diethyl ether	<2.00		2.00		ug/L			09/12/17 08:18	1
Ethylbenzene	<1.00		1.00		ug/L			09/12/17 08:18	1
Hexachlorobutadiene	<1.00		1.00		ug/L			09/12/17 08:18	1
Isopropylbenzene	<1.00		1.00		ug/L			09/12/17 08:18	1
4-Isopropyltoluene	<1.00		1.00		ug/L			09/12/17 08:18	1
Methylene Chloride	<1.00		1.00		ug/L			09/12/17 08:18	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0		ug/L			09/12/17 08:18	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			09/12/17 08:18	1
Naphthalene	<5.00		5.00		ug/L			09/12/17 08:18	1
n-Butylbenzene	<1.00		1.00		ug/L			09/12/17 08:18	1
n-Propylbenzene	<1.00		1.00		ug/L			09/12/17 08:18	1
sec-Butylbenzene	<1.00		1.00		ug/L			09/12/17 08:18	1
Styrene	<1.00		1.00		ug/L			09/12/17 08:18	1
tert-Butylbenzene	<1.00		1.00		ug/L			09/12/17 08:18	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			09/12/17 08:18	1
1,1,2,2-Tetrachloroethane	<0.500		0.500		ug/L			09/12/17 08:18	1
Tetrachloroethene	<1.00		1.00		ug/L			09/12/17 08:18	1
Tetrahydrofuran	<10.0		10.0		ug/L			09/12/17 08:18	1
Toluene	<1.00		1.00		ug/L			09/12/17 08:18	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			09/12/17 08:18	1
trans-1,3-Dichloropropene	<0.500		0.500		ug/L			09/12/17 08:18	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			09/12/17 08:18	1
1,2,4-Trichlorobenzene	<1.00		1.00		ug/L			09/12/17 08:18	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			09/12/17 08:18	1
1,1,2-Trichloroethane	<0.500		0.500		ug/L			09/12/17 08:18	1
Trichloroethene	<1.00		1.00		ug/L			09/12/17 08:18	1
Trichlorofluoromethane	<4.00		4.00		ug/L			09/12/17 08:18	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			09/12/17 08:18	1

TestAmerica Cedar Falls

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 310-113869-1
SDG: 101-17

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

Lab Sample ID: MB 310-178332/8

Matrix: Water

Analysis Batch: 178332

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.00		2.00		ug/L			09/12/17 08:18	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			09/12/17 08:18	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			09/12/17 08:18	1
Vinyl chloride	<1.00		1.00		ug/L			09/12/17 08:18	1
Xylenes, Total	<3.00		3.00		ug/L			09/12/17 08:18	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		82 - 122		09/12/17 08:18	1
Dibromofluoromethane (Surr)	102		79 - 119		09/12/17 08:18	1
Toluene-d8 (Surr)	99		77 - 117		09/12/17 08:18	1

Lab Sample ID: LCS 310-178332/6

Matrix: Water

Analysis Batch: 178332

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	60.21	*	ug/L		151	55 - 150
Allyl chloride	20.0	23.71		ug/L		119	39 - 150
Benzene	20.0	21.80		ug/L		109	74 - 127
Bromobenzene	20.0	18.73		ug/L		94	72 - 122
Bromochloromethane	20.0	21.93		ug/L		110	73 - 142
Bromodichloromethane	20.0	20.61		ug/L		103	71 - 118
Bromoform	20.0	17.53		ug/L		88	56 - 123
2-Butanone (MEK)	40.0	57.89		ug/L		145	51 - 150
Carbon tetrachloride	20.0	20.38		ug/L		102	71 - 131
Chlorobenzene	20.0	20.21		ug/L		101	74 - 120
Chloroform	20.0	21.29		ug/L		106	72 - 129
2-Chlorotoluene	20.0	19.44		ug/L		97	67 - 127
4-Chlorotoluene	20.0	19.60		ug/L		98	69 - 123
cis-1,2-Dichloroethane	20.0	21.24		ug/L		106	72 - 130
cis-1,3-Dichloropropene	20.0	22.44		ug/L		112	66 - 124
Dibromochloromethane	20.0	20.27		ug/L		101	59 - 125
1,2-Dibromo-3-Chloropropane	20.0	22.60		ug/L		113	45 - 131
1,2-Dibromoethane (EDB)	20.0	21.66		ug/L		108	69 - 127
Dibromomethane	20.0	23.10		ug/L		115	72 - 135
1,2-Dichlorobenzene	20.0	20.14		ug/L		101	68 - 121
1,3-Dichlorobenzene	20.0	18.16		ug/L		91	66 - 128
1,4-Dichlorobenzene	20.0	20.24		ug/L		101	67 - 120
1,1-Dichloroethane	20.0	23.02		ug/L		115	71 - 135
1,2-Dichloroethane	20.0	22.95		ug/L		115	71 - 131
1,1-Dichloroethane	20.0	21.77		ug/L		109	71 - 137
1,2-Dichloropropane	20.0	23.38		ug/L		117	72 - 126
1,3-Dichloropropane	20.0	22.81		ug/L		114	73 - 129
2,2-Dichloropropane	20.0	24.05		ug/L		120	50 - 150
1,1-Dichloropropene	20.0	22.49		ug/L		112	72 - 131
Diethyl ether	20.0	24.84		ug/L		124	70 - 133
Ethylbenzene	20.0	20.09		ug/L		100	71 - 122
Hexachlorobutadiene	20.0	18.28		ug/L		91	62 - 134

TestAmerica Cedar Falls

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 310-113869-1
SDG: 101-17

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

Lab Sample ID: LCS 310-178332/6

Matrix: Water

Analysis Batch: 178332

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Isopropylbenzene	20.0	19.12		ug/L		96	70 - 125
4-Isopropyltoluene	20.0	19.67		ug/L		98	65 - 124
Methylene Chloride	20.0	21.83		ug/L		109	66 - 129
4-Methyl-2-pentanone (MIBK)	40.0	51.74		ug/L		129	52 - 137
Methyl tert-butyl ether	20.0	22.81		ug/L		114	72 - 128
Naphthalene	20.0	18.95		ug/L		95	50 - 129
n-Butylbenzene	20.0	20.42		ug/L		102	62 - 126
n-Propylbenzene	20.0	19.77		ug/L		99	70 - 125
sec-Butylbenzene	20.0	18.90		ug/L		94	61 - 133
Styrene	20.0	20.58		ug/L		103	71 - 121
tert-Butylbenzene	20.0	17.58		ug/L		88	64 - 128
1,1,1,2-Tetrachloroethane	20.0	20.58		ug/L		103	72 - 117
1,1,2,2-Tetrachloroethane	20.0	22.40		ug/L		112	62 - 123
Tetrachloroethene	20.0	19.92		ug/L		100	68 - 138
Tetrahydrofuran	40.0	43.67		ug/L		109	56 - 141
Toluene	20.0	20.55		ug/L		103	69 - 128
trans-1,2-Dichloroethene	20.0	20.87		ug/L		104	73 - 132
trans-1,3-Dichloropropene	20.0	23.41		ug/L		117	59 - 129
1,2,3-Trichlorobenzene	20.0	18.32		ug/L		92	62 - 131
1,2,4-Trichlorobenzene	20.0	17.90		ug/L		89	61 - 127
1,1,1-Trichloroethane	20.0	22.20		ug/L		111	73 - 132
1,1,2-Trichloroethane	20.0	22.22		ug/L		111	65 - 131
Trichloroethene	20.0	21.25		ug/L		106	73 - 132
1,2,3-Trichloropropane	20.0	22.64		ug/L		113	66 - 124
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	24.33		ug/L		122	69 - 145
1,2,4-Trimethylbenzene	20.0	18.51		ug/L		93	66 - 126
1,3,5-Trimethylbenzene	20.0	18.70		ug/L		94	69 - 128
Xylenes, Total	40.0	36.65		ug/L		92	72 - 121

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	103		82 - 122
Dibromofluoromethane (Surr)	100		79 - 119
Toluene-d8 (Surr)	97		77 - 117

Lab Sample ID: LCS 310-178332/7

Matrix: Water

Analysis Batch: 178332

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	14.09		ug/L		70	18 - 128
Chloroethane (ethyl chloride)	20.0	20.47		ug/L		102	66 - 140
Chloromethane (methyl chloride)	20.0	22.19		ug/L		111	55 - 141
Dichlorodifluoromethane	20.0	22.99		ug/L		115	49 - 150
Dichlorofluoromethane	20.0	21.17		ug/L		106	66 - 142
Trichlorofluoromethane	20.0	22.03		ug/L		110	69 - 139
Vinyl chloride	20.0	22.41		ug/L		112	67 - 139

TestAmerica Cedar Falls

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 310-113869-1
SDG: 101-17

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

Lab Sample ID: LCS 310-178332/7
Matrix: Water
Analysis Batch: 178332

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

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		82 - 122
Dibromofluoromethane (Surr)	101		79 - 119
Toluene-d8 (Surr)	98		77 - 117

Method: 9040C - pH

Lab Sample ID: LCS 310-178266/1
Matrix: Water
Analysis Batch: 178266

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.030		SU		100	98 - 102

Lab Sample ID: 310-113869-1 DU
Matrix: Ground Water
Analysis Batch: 178266

Client Sample ID: Drum Sample 2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	13.3	HF	13.26		SU		0.08	20

Method: I-3765-85 - Residue, Non-filterable (TSS)

Lab Sample ID: MB 310-178355/1
Matrix: Water
Analysis Batch: 178355

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.00		5.00		mg/L			09/11/17 12:38	1

Lab Sample ID: LCS 310-178355/2
Matrix: Water
Analysis Batch: 178355

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	100	88.00		mg/L		88	74 - 114

Method: SM 5220D - COD

Lab Sample ID: MB 310-178475/5
Matrix: Water
Analysis Batch: 178475

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	<5.00		5.00		mg/L			09/12/17 09:52	1

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 310-113869-1
SDG: 101-17

Method: SM 5220D - COD (Continued)

Lab Sample ID: LCS 310-178475/3

Matrix: Water

Analysis Batch: 178475

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	125	132.9		mg/L		106	85 - 115

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QC Association Summary

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 310-113869-1
SDG: 101-17

GC/MS VOA

Analysis Batch: 178328

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-113869-1	Drum Sample 2	Total/NA	Ground Water	8260B	
MB 310-178328/7	Method Blank	Total/NA	Water	8260B	
LCS 310-178328/5	Lab Control Sample	Total/NA	Water	8260B	
LCS 310-178328/6	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 178332

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-113869-1	Drum Sample 2	Total/NA	Ground Water	8260B	
310-113869-2	Trip Blank	Total/NA	Water	8260B	
MB 310-178332/8	Method Blank	Total/NA	Water	8260B	
LCS 310-178332/6	Lab Control Sample	Total/NA	Water	8260B	
LCS 310-178332/7	Lab Control Sample	Total/NA	Water	8260B	

General Chemistry

Analysis Batch: 178266

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-113869-1	Drum Sample 2	Total/NA	Ground Water	9040C	
LCS 310-178266/1	Lab Control Sample	Total/NA	Water	9040C	
310-113869-1 DU	Drum Sample 2	Total/NA	Ground Water	9040C	

Analysis Batch: 178355

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-113869-1	Drum Sample 2	Total/NA	Ground Water	I-3765-85	
MB 310-178355/1	Method Blank	Total/NA	Water	I-3765-85	
LCS 310-178355/2	Lab Control Sample	Total/NA	Water	I-3765-85	

Analysis Batch: 178475

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-113869-1	Drum Sample 2	Total/NA	Ground Water	SM 5220D	
MB 310-178475/5	Method Blank	Total/NA	Water	SM 5220D	
LCS 310-178475/3	Lab Control Sample	Total/NA	Water	SM 5220D	

Lab Chronicle

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 310-113869-1
SDG: 101-17

Client Sample ID: Drum Sample 2

Date Collected: 09/07/17 14:02

Date Received: 09/09/17 09:30

Lab Sample ID: 310-113869-1

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	178332	09/12/17 08:42	SJN	TAL CF
Total/NA	Analysis	8260B		1	178328	09/12/17 14:54	SJN	TAL CF
Total/NA	Analysis	9040C		1	178266	09/09/17 11:12	JDK	TAL CF
Total/NA	Analysis	I-3765-85		1	178355	09/11/17 12:38	SAS	TAL CF
Total/NA	Analysis	SM 5220D		5	178475	09/12/17 09:55	LBB	TAL CF

Client Sample ID: Trip Blank

Date Collected: 09/07/17 00:00

Date Received: 09/09/17 09:30

Lab Sample ID: 310-113869-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	178332	09/12/17 09:05	SJN	TAL CF

Laboratory References:

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

Accreditation/Certification Summary

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 310-113869-1
SDG: 101-17

Laboratory: TestAmerica Cedar Falls

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Minnesota	NELAP	5	019-999-319	12-31-17

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

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

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Method Summary

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 310-113869-1
SDG: 101-17

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CF
9040C	pH	SW846	TAL CF
I-3765-85	Residue, Non-filterable (TSS)	USGS	TAL CF
SM 5220D	COD	SM	TAL CF

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

USGS = "Methods For Analysis Of Water And Fluvial Sediments", USGS, 1989

Laboratory References:

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



Cooler/Sample Receipt and Temperature

310-113869 Chain of Custody

Client Information	
Client: <u>Carlson McCain</u>	
City/State: <u>Blaine MN</u>	Project: <u>Reviva</u>
Receipt Information	
Date/Time Received: <u>9-9-17 9:30</u>	Received By: <u>KIP</u>
Delivery Type: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <u>Sat</u> <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> TA Courier <input type="checkbox"/> TA Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____	
Condition of Cooler/Containers	
Sample(s) received in Cooler? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____
Multiple Coolers? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler # _____ of _____
Cooler Custody Seals Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Sample Custody Seals Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Trip Blank Present? <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓
<u>KIP 9-9-17 all</u>	
Temperature Record	
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE	
Thermometer ID: <u>5</u>	Correction Factor (°C): <u>+0.1</u>
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature	
Uncorrected Temp (°C): <u>9.6</u>	Corrected Temp (°C): <u>9.7</u>
• Sample Container Temperature	
Sample ID(s) & bottle type used: <u>CONTAINER 1: AMBER LWT Drum Sample 2</u> <u>CONTAINER 2: P1 1L H₂SO₄ Drum Sample 2</u>	
Uncorrected Temp (°C): <u>TEMP 1: 10.3</u> <u>TEMP 2: 6.4</u>	Corrected Temp (°C): <u>TEMP 1: 10.4</u> <u>TEMP 2: 6.5</u>
Exceptions Noted	
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> 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?) <input type="checkbox"/> Yes <input type="checkbox"/> No	
NOTE: If yes, contact PM before proceeding. If no, proceed with login	
Additional Comments	
<u>Very little ice in cooler</u>	
<u>received 6 unused HCl vials</u>	

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Login Container Summary Report

Temperature readings:

<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container pH</u>	<u>Preservative Added (mls)</u>	<u>Lot #</u>
Drum Sample 2	310-113869-A-1	Plastic 1 liter - Sulfuric Acid	>2	2mL	

H2SO4
Lot #
1691613



Login Sample Receipt Checklist

Client: Carlson McCain, Inc.

Job Number: 310-113869-1

SDG Number: 101-17

Login Number: 113869

List Number: 1

Creator: Leitz, Gemma H

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.	False	Cooler temperature outside required temperature criteria.
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: 200-38743-1

TestAmerica Sample Delivery Group: 200-38743-1

Client Project/Site: Reviva

For:

Carlson McCain, Inc.

3890 Pheasant Ridge Drive NE, #100

Blaine, Minnesota 55449

Attn: Wade Carlson



Authorized for release by:

6/6/2017 7:55:58 AM

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LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

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

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Definitions/Glossary

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-38743-1
SDG: 200-38743-1

Qualifiers

Air - GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.

Air - GC/MS VOA TICs

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
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 (Radiochemistry)
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)

Case Narrative

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-38743-1
SDG: 200-38743-1

Job ID: 200-38743-1

Laboratory: TestAmerica Burlington

Narrative

CASE NARRATIVE

Client: Carlson McCain, Inc.

Project: Reviva

Report Number: 200-38743-1

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 samples were received on 05/30/2017; the samples arrived in good condition.

VOLATILE ORGANIC COMPOUNDS

Samples AS-1, AS-4, AS-2, AS-3, AS-5, AS-6, AS-9, AS-8, AS-7 and AS-10 were analyzed for Volatile Organic Compounds in accordance with EPA Method TO-15. The samples were analyzed on 05/31/2017 and 06/01/2017.

The laboratory control sample (LCS) for 117144 recovered outside control limits for vinyl acetate. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Samples AS-1[44.2X], AS-4[301X], AS-2[6.06X], AS-3[70.4X], AS-5[4X], AS-6[15X], AS-9[2.5X], AS-8[4X], AS-7[4X] and AS-10[2.99X] require dilution prior to analysis. The reporting limits have been adjusted accordingly.

No additional 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: Reviva

TestAmerica Job ID: 200-38743-1
SDG: 200-38743-1

Client Sample ID: AS-1

Lab Sample ID: 200-38743-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Dichlorodifluoromethane	1380		109	ug/m3	44.2		TO-15	Total/NA
trans-1,2-Dichloroethene	45.1		35.0	ug/m3	44.2		TO-15	Total/NA
cis-1,2-Dichloroethene	213		35.0	ug/m3	44.2		TO-15	Total/NA
1,1,1-Trichloroethane	468		48.2	ug/m3	44.2		TO-15	Total/NA
Benzene	44.1		28.2	ug/m3	44.2		TO-15	Total/NA
Trichloroethene	4540		47.5	ug/m3	44.2		TO-15	Total/NA
Tetrachloroethene	129		60.0	ug/m3	44.2		TO-15	Total/NA
Ethylbenzene	61.2		38.4	ug/m3	44.2		TO-15	Total/NA
m,p-Xylene	230		96.0	ug/m3	44.2		TO-15	Total/NA

Client Sample ID: AS-4

Lab Sample ID: 200-38743-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	28500		324	ug/m3	301		TO-15	Total/NA

Client Sample ID: AS-2

Lab Sample ID: 200-38743-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Acetone	95.7		72.0	ug/m3	6.06		TO-15	Total/NA
Isopropyl alcohol	171		74.5	ug/m3	6.06		TO-15	Total/NA
trans-1,2-Dichloroethene	6.10		4.81	ug/m3	6.06		TO-15	Total/NA
cis-1,2-Dichloroethene	5.57		4.81	ug/m3	6.06		TO-15	Total/NA
Chloroform	20.1		5.92	ug/m3	6.06		TO-15	Total/NA
1,1,1-Trichloroethane	7.40		6.61	ug/m3	6.06		TO-15	Total/NA
Cyclohexane	12.4		4.17	ug/m3	6.06		TO-15	Total/NA
Trichloroethene	534		6.51	ug/m3	6.06		TO-15	Total/NA
Toluene	10.7		4.57	ug/m3	6.06		TO-15	Total/NA
Tetrachloroethene	21.4		8.22	ug/m3	6.06		TO-15	Total/NA
m,p-Xylene	13.3		13.2	ug/m3	6.06		TO-15	Total/NA
Xylene, o-	5.51		5.26	ug/m3	6.06		TO-15	Total/NA

Client Sample ID: AS-3

Lab Sample ID: 200-38743-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Dichlorodifluoromethane	615		174	ug/m3	70.4		TO-15	Total/NA
1,1-Dichloroethane	69.0		57.0	ug/m3	70.4		TO-15	Total/NA
cis-1,2-Dichloroethene	8010		55.8	ug/m3	70.4		TO-15	Total/NA
Chloroform	458		68.7	ug/m3	70.4		TO-15	Total/NA
1,1,1-Trichloroethane	118		76.8	ug/m3	70.4		TO-15	Total/NA
Trichloroethene	3300		75.7	ug/m3	70.4		TO-15	Total/NA
Tetrachloroethene	396		95.5	ug/m3	70.4		TO-15	Total/NA

Client Sample ID: AS-5

Lab Sample ID: 200-38743-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Ethanol	58.0		37.7	ug/m3	4		TO-15	Total/NA
Acetone	217		47.5	ug/m3	4		TO-15	Total/NA
Isopropyl alcohol	218		49.2	ug/m3	4		TO-15	Total/NA
trans-1,2-Dichloroethene	3.64		3.17	ug/m3	4		TO-15	Total/NA
Methyl Ethyl Ketone	15.1		5.90	ug/m3	4		TO-15	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Burlington

Detection Summary

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-38743-1
SDG: 200-38743-1

Client Sample ID: AS-5 (Continued)

Lab Sample ID: 200-38743-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	16.3		3.91	ug/m3	4		TO-15	Total/NA
Trichloroethene	266		4.30	ug/m3	4		TO-15	Total/NA
Toluene	8.90		3.01	ug/m3	4		TO-15	Total/NA
Tetrachloroethene	8.28		5.43	ug/m3	4		TO-15	Total/NA
Ethylbenzene	3.61		3.47	ug/m3	4		TO-15	Total/NA
m,p-Xylene	13.0		8.68	ug/m3	4		TO-15	Total/NA
Xylene, o-	6.07		3.47	ug/m3	4		TO-15	Total/NA
1,2,4-Trimethylbenzene	4.39		3.93	ug/m3	4		TO-15	Total/NA

Client Sample ID: AS-6

Lab Sample ID: 200-38743-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Acetone	235		178	ug/m3	15		TO-15	Total/NA
Isopropyl alcohol	725		184	ug/m3	15		TO-15	Total/NA
Chloroform	106		14.6	ug/m3	15		TO-15	Total/NA
Trichloroethene	1410		16.1	ug/m3	15		TO-15	Total/NA
Toluene	20.5		11.3	ug/m3	15		TO-15	Total/NA
Xylene, o-	13.6		13.0	ug/m3	15		TO-15	Total/NA

Client Sample ID: AS-9

Lab Sample ID: 200-38743-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Ethanol	44.3		23.6	ug/m3	2.5		TO-15	Total/NA
Acetone	117		29.7	ug/m3	2.5		TO-15	Total/NA
Isopropyl alcohol	129		30.7	ug/m3	2.5		TO-15	Total/NA
n-Hexane	2.04		1.76	ug/m3	2.5		TO-15	Total/NA
Methyl Ethyl Ketone	19.7		3.69	ug/m3	2.5		TO-15	Total/NA
Methyl isobutyl ketone	6.72		5.12	ug/m3	2.5		TO-15	Total/NA
Toluene	9.91		1.88	ug/m3	2.5		TO-15	Total/NA
Tetrachloroethene	8.13		3.39	ug/m3	2.5		TO-15	Total/NA
Ethylbenzene	3.43		2.17	ug/m3	2.5		TO-15	Total/NA
m,p-Xylene	12.4		5.43	ug/m3	2.5		TO-15	Total/NA
Xylene, o-	4.93		2.17	ug/m3	2.5		TO-15	Total/NA
1,2,4-Trimethylbenzene	6.85		2.46	ug/m3	2.5		TO-15	Total/NA

Client Sample ID: AS-8

Lab Sample ID: 200-38743-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Ethanol	50.2		37.7	ug/m3	4		TO-15	Total/NA
Acetone	130		47.5	ug/m3	4		TO-15	Total/NA
Isopropyl alcohol	218		49.2	ug/m3	4		TO-15	Total/NA
n-Hexane	3.16		2.82	ug/m3	4		TO-15	Total/NA
Methyl Ethyl Ketone	40.6		5.90	ug/m3	4		TO-15	Total/NA
Toluene	8.73		3.01	ug/m3	4		TO-15	Total/NA

Client Sample ID: AS-7

Lab Sample ID: 200-38743-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Acetone	81.7		47.5	ug/m3	4		TO-15	Total/NA
Isopropyl alcohol	191		49.2	ug/m3	4		TO-15	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Burlington

Detection Summary

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-38743-1
SDG: 200-38743-1

Client Sample ID: AS-7 (Continued)

Lab Sample ID: 200-38743-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Methyl Ethyl Ketone	17.4		5.90	ug/m3	4		TO-15	Total/NA
Toluene	10.2		3.01	ug/m3	4		TO-15	Total/NA
Ethylbenzene	3.66		3.47	ug/m3	4		TO-15	Total/NA
m,p-Xylene	12.7		8.68	ug/m3	4		TO-15	Total/NA
Xylene, o-	5.00		3.47	ug/m3	4		TO-15	Total/NA
1,2,4-Trimethylbenzene	6.96		3.93	ug/m3	4		TO-15	Total/NA

Client Sample ID: AS-10

Lab Sample ID: 200-38743-10

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Ethanol	30.4		28.2	ug/m3	2.99		TO-15	Total/NA
Acetone	105		35.5	ug/m3	2.99		TO-15	Total/NA
Isopropyl alcohol	169		36.7	ug/m3	2.99		TO-15	Total/NA
Methyl Ethyl Ketone	58.9		4.41	ug/m3	2.99		TO-15	Total/NA
Chloroform	125		2.92	ug/m3	2.99		TO-15	Total/NA
Bromodichloromethane	8.21		4.01	ug/m3	2.99		TO-15	Total/NA
Toluene	8.90		2.25	ug/m3	2.99		TO-15	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Burlington

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-38743-1
SDG: 200-38743-1

Client Sample ID: AS-1

Date Collected: 05/25/17 15:07

Date Received: 05/30/17 09:50

Sample Container: Summa Canister 6L

Lab Sample ID: 200-38743-1

Matrix: Air

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Propylene	<380		380	ug/m3			05/31/17 16:51	44.2
Dichlorodifluoromethane	1380		109	ug/m3			05/31/17 16:51	44.2
1,2-Dichlorotetrafluoroethane	<61.8		61.8	ug/m3			05/31/17 16:51	44.2
Chloromethane	<45.6		45.6	ug/m3			05/31/17 16:51	44.2
Vinyl chloride	<22.6		22.6	ug/m3			05/31/17 16:51	44.2
1,3-Butadiene	<19.6		19.6	ug/m3			05/31/17 16:51	44.2
Bromomethane	<34.3		34.3	ug/m3			05/31/17 16:51	44.2
Chloroethane	<58.3		58.3	ug/m3			05/31/17 16:51	44.2
Trichlorofluoromethane	<49.7		49.7	ug/m3			05/31/17 16:51	44.2
Ethanol	<416		416	ug/m3			05/31/17 16:51	44.2
Freon TF	<67.7		67.7	ug/m3			05/31/17 16:51	44.2
1,1-Dichloroethene	<35.0		35.0	ug/m3			05/31/17 16:51	44.2
Acetone	<525		525	ug/m3			05/31/17 16:51	44.2
Isopropyl alcohol	<543		543	ug/m3			05/31/17 16:51	44.2
Carbon disulfide	<68.8		68.8	ug/m3			05/31/17 16:51	44.2
Methylene Chloride	<76.8		76.8	ug/m3			05/31/17 16:51	44.2
Methyl tert-butyl ether	<31.9		31.9	ug/m3			05/31/17 16:51	44.2
trans-1,2-Dichloroethene	45.1		35.0	ug/m3			05/31/17 16:51	44.2
n-Hexane	<31.2		31.2	ug/m3			05/31/17 16:51	44.2
1,1-Dichloroethane	<35.8		35.8	ug/m3			05/31/17 16:51	44.2
Vinyl acetate	<778 *		778	ug/m3			05/31/17 16:51	44.2
Ethyl acetate	<796		796	ug/m3			05/31/17 16:51	44.2
Methyl Ethyl Ketone	<65.2		65.2	ug/m3			05/31/17 16:51	44.2
cis-1,2-Dichloroethene	213		35.0	ug/m3			05/31/17 16:51	44.2
Chloroform	<43.2		43.2	ug/m3			05/31/17 16:51	44.2
Tetrahydrofuran	<652		652	ug/m3			05/31/17 16:51	44.2
1,1,1-Trichloroethane	468		48.2	ug/m3			05/31/17 16:51	44.2
Cyclohexane	<30.4		30.4	ug/m3			05/31/17 16:51	44.2
Carbon tetrachloride	<55.6		55.6	ug/m3			05/31/17 16:51	44.2
Benzene	44.1		28.2	ug/m3			05/31/17 16:51	44.2
1,2-Dichloroethane	<35.8		35.8	ug/m3			05/31/17 16:51	44.2
n-Heptane	<36.2		36.2	ug/m3			05/31/17 16:51	44.2
Trichloroethene	4540		47.5	ug/m3			05/31/17 16:51	44.2
1,2-Dichloropropane	<40.9		40.9	ug/m3			05/31/17 16:51	44.2
Bromodichloromethane	<59.2		59.2	ug/m3			05/31/17 16:51	44.2
cis-1,3-Dichloropropene	<40.1		40.1	ug/m3			05/31/17 16:51	44.2
Methyl isobutyl ketone	<90.5		90.5	ug/m3			05/31/17 16:51	44.2
Toluene	<33.3		33.3	ug/m3			05/31/17 16:51	44.2
trans-1,3-Dichloropropene	<40.1		40.1	ug/m3			05/31/17 16:51	44.2
1,1,2-Trichloroethane	<48.2		48.2	ug/m3			05/31/17 16:51	44.2
Tetrachloroethene	129		60.0	ug/m3			05/31/17 16:51	44.2
Methyl Butyl Ketone (2-Hexanone)	<90.6		90.6	ug/m3			05/31/17 16:51	44.2
1,2-Dibromoethane	<67.9		67.9	ug/m3			05/31/17 16:51	44.2
Chlorobenzene	<40.7		40.7	ug/m3			05/31/17 16:51	44.2
Ethylbenzene	61.2		38.4	ug/m3			05/31/17 16:51	44.2
m,p-Xylene	230		96.0	ug/m3			05/31/17 16:51	44.2
Xylene, o-	<38.4		38.4	ug/m3			05/31/17 16:51	44.2
Styrene	<37.7		37.7	ug/m3			05/31/17 16:51	44.2

TestAmerica Burlington

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-38743-1
SDG: 200-38743-1

Client Sample ID: AS-1

Lab Sample ID: 200-38743-1

Date Collected: 05/25/17 15:07

Matrix: Air

Date Received: 05/30/17 09:50

Sample Container: Summa Canister 6L

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Bromoform	<91.4		91.4	ug/m3			05/31/17 16:51	44.2	
1,1,2,2-Tetrachloroethane	<60.7		60.7	ug/m3			05/31/17 16:51	44.2	
4-Ethyltoluene	<43.5		43.5	ug/m3			05/31/17 16:51	44.2	
1,3,5-Trimethylbenzene	<43.5		43.5	ug/m3			05/31/17 16:51	44.2	
1,2,4-Trimethylbenzene	<43.5		43.5	ug/m3			05/31/17 16:51	44.2	
1,3-Dichlorobenzene	<53.2		53.2	ug/m3			05/31/17 16:51	44.2	
1,4-Dichlorobenzene	<53.2		53.2	ug/m3			05/31/17 16:51	44.2	
Benzyl chloride	<45.8		45.8	ug/m3			05/31/17 16:51	44.2	
1,2-Dichlorobenzene	<53.2		53.2	ug/m3			05/31/17 16:51	44.2	
1,2,4-Trichlorobenzene	<164		164	ug/m3			05/31/17 16:51	44.2	
Hexachlorobutadiene	<94.3		94.3	ug/m3			05/31/17 16:51	44.2	
Naphthalene	<116		116	ug/m3			05/31/17 16:51	44.2	
Dibromochloromethane	<75.3		75.3	ug/m3			05/31/17 16:51	44.2	
Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	77.5	T J	ppb v/v		9.09			05/31/17 16:51	44.2

Client Sample ID: AS-4

Lab Sample ID: 200-38743-2

Date Collected: 05/25/17 14:59

Matrix: Air

Date Received: 05/30/17 09:50

Sample Container: Summa Canister 6L

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Propylene	<2590		2590	ug/m3			05/31/17 18:36	301
Dichlorodifluoromethane	<744		744	ug/m3			05/31/17 18:36	301
1,2-Dichlorotetrafluoroethane	<421		421	ug/m3			05/31/17 18:36	301
Chloromethane	<311		311	ug/m3			05/31/17 18:36	301
Vinyl chloride	<154		154	ug/m3			05/31/17 18:36	301
1,3-Butadiene	<133		133	ug/m3			05/31/17 18:36	301
Bromomethane	<234		234	ug/m3			05/31/17 18:36	301
Chloroethane	<397		397	ug/m3			05/31/17 18:36	301
Trichlorofluoromethane	<338		338	ug/m3			05/31/17 18:36	301
Ethanol	<2840		2840	ug/m3			05/31/17 18:36	301
Freon TF	<461		461	ug/m3			05/31/17 18:36	301
1,1-Dichloroethene	<239		239	ug/m3			05/31/17 18:36	301
Acetone	<3570		3570	ug/m3			05/31/17 18:36	301
Isopropyl alcohol	<3700		3700	ug/m3			05/31/17 18:36	301
Carbon disulfide	<469		469	ug/m3			05/31/17 18:36	301
Methylene Chloride	<523		523	ug/m3			05/31/17 18:36	301
Methyl tert-butyl ether	<217		217	ug/m3			05/31/17 18:36	301
trans-1,2-Dichloroethene	<239		239	ug/m3			05/31/17 18:36	301
n-Hexane	<212		212	ug/m3			05/31/17 18:36	301
1,1-Dichloroethane	<244		244	ug/m3			05/31/17 18:36	301
Vinyl acetate	<5300 *		5300	ug/m3			05/31/17 18:36	301
Ethyl acetate	<5420		5420	ug/m3			05/31/17 18:36	301
Methyl Ethyl Ketone	<444		444	ug/m3			05/31/17 18:36	301
cis-1,2-Dichloroethene	<239		239	ug/m3			05/31/17 18:36	301
Chloroform	<294		294	ug/m3			05/31/17 18:36	301

TestAmerica Burlington

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-38743-1
SDG: 200-38743-1

Client Sample ID: AS-4

Lab Sample ID: 200-38743-2

Date Collected: 05/25/17 14:59

Matrix: Air

Date Received: 05/30/17 09:50

Sample Container: Summa Canister 6L

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Tetrahydrofuran	<4440		4440	ug/m3			05/31/17 18:36	301	
1,1,1-Trichloroethane	<328		328	ug/m3			05/31/17 18:36	301	
Cyclohexane	<207		207	ug/m3			05/31/17 18:36	301	
Carbon tetrachloride	<379		379	ug/m3			05/31/17 18:36	301	
Benzene	<192		192	ug/m3			05/31/17 18:36	301	
1,2-Dichloroethane	<244		244	ug/m3			05/31/17 18:36	301	
n-Heptane	<247		247	ug/m3			05/31/17 18:36	301	
Trichloroethene	28500		324	ug/m3			05/31/17 18:36	301	
1,2-Dichloropropane	<278		278	ug/m3			05/31/17 18:36	301	
Bromodichloromethane	<403		403	ug/m3			05/31/17 18:36	301	
cis-1,3-Dichloropropene	<273		273	ug/m3			05/31/17 18:36	301	
Methyl isobutyl ketone	<617		617	ug/m3			05/31/17 18:36	301	
Toluene	<227		227	ug/m3			05/31/17 18:36	301	
trans-1,3-Dichloropropene	<273		273	ug/m3			05/31/17 18:36	301	
1,1,2-Trichloroethane	<328		328	ug/m3			05/31/17 18:36	301	
Tetrachloroethene	<408		408	ug/m3			05/31/17 18:36	301	
Methyl Butyl Ketone (2-Hexanone)	<617		617	ug/m3			05/31/17 18:36	301	
1,2-Dibromoethane	<463		463	ug/m3			05/31/17 18:36	301	
Chlorobenzene	<277		277	ug/m3			05/31/17 18:36	301	
Ethylbenzene	<261		261	ug/m3			05/31/17 18:36	301	
m,p-Xylene	<654		654	ug/m3			05/31/17 18:36	301	
Xylene, o-	<261		261	ug/m3			05/31/17 18:36	301	
Styrene	<256		256	ug/m3			05/31/17 18:36	301	
Bromoform	<622		622	ug/m3			05/31/17 18:36	301	
1,1,2,2-Tetrachloroethane	<413		413	ug/m3			05/31/17 18:36	301	
4-Ethyltoluene	<296		296	ug/m3			05/31/17 18:36	301	
1,3,5-Trimethylbenzene	<296		296	ug/m3			05/31/17 18:36	301	
1,2,4-Trimethylbenzene	<296		296	ug/m3			05/31/17 18:36	301	
1,3-Dichlorobenzene	<362		362	ug/m3			05/31/17 18:36	301	
1,4-Dichlorobenzene	<362		362	ug/m3			05/31/17 18:36	301	
Benzyl chloride	<312		312	ug/m3			05/31/17 18:36	301	
1,2-Dichlorobenzene	<362		362	ug/m3			05/31/17 18:36	301	
1,2,4-Trichlorobenzene	<1120		1120	ug/m3			05/31/17 18:36	301	
Hexachlorobutadiene	<642		642	ug/m3			05/31/17 18:36	301	
Naphthalene	<789		789	ug/m3			05/31/17 18:36	301	
Dibromochloromethane	<513		513	ug/m3			05/31/17 18:36	301	
<i>Tentatively Identified Compound</i>	<i>Est. Result</i>	<i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>RT</i>	<i>CAS No.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>Tentatively Identified Compound</i>	<i>None</i>		<i>ppb v/v</i>					<i>05/31/17 18:36</i>	<i>301</i>

Client Sample ID: AS-2

Lab Sample ID: 200-38743-3

Date Collected: 05/25/17 15:17

Matrix: Air

Date Received: 05/30/17 09:50

Sample Container: Summa Canister 6L

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Propylene	<52.1		52.1	ug/m3			05/31/17 19:29	6.06
Dichlorodifluoromethane	<15.0		15.0	ug/m3			05/31/17 19:29	6.06

TestAmerica Burlington

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-38743-1
SDG: 200-38743-1

Client Sample ID: AS-2

Lab Sample ID: 200-38743-3

Date Collected: 05/25/17 15:17

Matrix: Air

Date Received: 05/30/17 09:50

Sample Container: Summa Canister 6L

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorotetrafluoroethane	<8.47		8.47	ug/m3			05/31/17 19:29	6.06
Chloromethane	<6.26		6.26	ug/m3			05/31/17 19:29	6.06
Vinyl chloride	<3.10		3.10	ug/m3			05/31/17 19:29	6.06
1,3-Butadiene	<2.68		2.68	ug/m3			05/31/17 19:29	6.06
Bromomethane	<4.71		4.71	ug/m3			05/31/17 19:29	6.06
Chloroethane	<8.00		8.00	ug/m3			05/31/17 19:29	6.06
Trichlorofluoromethane	<6.81		6.81	ug/m3			05/31/17 19:29	6.06
Ethanol	<57.1		57.1	ug/m3			05/31/17 19:29	6.06
Freon TF	<9.29		9.29	ug/m3			05/31/17 19:29	6.06
1,1-Dichloroethene	<4.81		4.81	ug/m3			05/31/17 19:29	6.06
Acetone	95.7		72.0	ug/m3			05/31/17 19:29	6.06
Isopropyl alcohol	171		74.5	ug/m3			05/31/17 19:29	6.06
Carbon disulfide	<9.44		9.44	ug/m3			05/31/17 19:29	6.06
Methylene Chloride	<10.5		10.5	ug/m3			05/31/17 19:29	6.06
Methyl tert-butyl ether	<4.37		4.37	ug/m3			05/31/17 19:29	6.06
trans-1,2-Dichloroethene	6.10		4.81	ug/m3			05/31/17 19:29	6.06
n-Hexane	<4.27		4.27	ug/m3			05/31/17 19:29	6.06
1,1-Dichloroethane	<4.91		4.91	ug/m3			05/31/17 19:29	6.06
Vinyl acetate	<107 *		107	ug/m3			05/31/17 19:29	6.06
Ethyl acetate	<109		109	ug/m3			05/31/17 19:29	6.06
Methyl Ethyl Ketone	<8.94		8.94	ug/m3			05/31/17 19:29	6.06
cis-1,2-Dichloroethene	5.57		4.81	ug/m3			05/31/17 19:29	6.06
Chloroform	20.1		5.92	ug/m3			05/31/17 19:29	6.06
Tetrahydrofuran	<89.4		89.4	ug/m3			05/31/17 19:29	6.06
1,1,1-Trichloroethane	7.40		6.61	ug/m3			05/31/17 19:29	6.06
Cyclohexane	12.4		4.17	ug/m3			05/31/17 19:29	6.06
Carbon tetrachloride	<7.62		7.62	ug/m3			05/31/17 19:29	6.06
Benzene	<3.87		3.87	ug/m3			05/31/17 19:29	6.06
1,2-Dichloroethane	<4.91		4.91	ug/m3			05/31/17 19:29	6.06
n-Heptane	<4.97		4.97	ug/m3			05/31/17 19:29	6.06
Trichloroethene	534		6.51	ug/m3			05/31/17 19:29	6.06
1,2-Dichloropropane	<5.60		5.60	ug/m3			05/31/17 19:29	6.06
Bromodichloromethane	<8.12		8.12	ug/m3			05/31/17 19:29	6.06
cis-1,3-Dichloropropene	<5.50		5.50	ug/m3			05/31/17 19:29	6.06
Methyl isobutyl ketone	<12.4		12.4	ug/m3			05/31/17 19:29	6.06
Toluene	10.7		4.57	ug/m3			05/31/17 19:29	6.06
trans-1,3-Dichloropropene	<5.50		5.50	ug/m3			05/31/17 19:29	6.06
1,1,2-Trichloroethane	<6.61		6.61	ug/m3			05/31/17 19:29	6.06
Tetrachloroethene	21.4		8.22	ug/m3			05/31/17 19:29	6.06
Methyl Butyl Ketone (2-Hexanone)	<12.4		12.4	ug/m3			05/31/17 19:29	6.06
1,2-Dibromoethane	<9.31		9.31	ug/m3			05/31/17 19:29	6.06
Chlorobenzene	<5.58		5.58	ug/m3			05/31/17 19:29	6.06
Ethylbenzene	<5.26		5.26	ug/m3			05/31/17 19:29	6.06
m,p-Xylene	13.3		13.2	ug/m3			05/31/17 19:29	6.06
Xylene, o-	5.51		5.26	ug/m3			05/31/17 19:29	6.06
Styrene	<5.16		5.16	ug/m3			05/31/17 19:29	6.06
Bromoform	<12.5		12.5	ug/m3			05/31/17 19:29	6.06
1,1,2,2-Tetrachloroethane	<8.32		8.32	ug/m3			05/31/17 19:29	6.06

TestAmerica Burlington

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-38743-1
SDG: 200-38743-1

Client Sample ID: AS-2

Lab Sample ID: 200-38743-3

Date Collected: 05/25/17 15:17

Matrix: Air

Date Received: 05/30/17 09:50

Sample Container: Summa Canister 6L

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4-Ethyltoluene	<5.96		5.96	ug/m3			05/31/17 19:29	6.06
1,3,5-Trimethylbenzene	<5.96		5.96	ug/m3			05/31/17 19:29	6.06
1,2,4-Trimethylbenzene	<5.96		5.96	ug/m3			05/31/17 19:29	6.06
1,3-Dichlorobenzene	<7.29		7.29	ug/m3			05/31/17 19:29	6.06
1,4-Dichlorobenzene	<7.29		7.29	ug/m3			05/31/17 19:29	6.06
Benzyl chloride	<6.27		6.27	ug/m3			05/31/17 19:29	6.06
1,2-Dichlorobenzene	<7.29		7.29	ug/m3			05/31/17 19:29	6.06
1,2,4-Trichlorobenzene	<22.5		22.5	ug/m3			05/31/17 19:29	6.06
Hexachlorobutadiene	<12.9		12.9	ug/m3			05/31/17 19:29	6.06
Naphthalene	<15.9		15.9	ug/m3			05/31/17 19:29	6.06
Dibromochloromethane	<10.3		10.3	ug/m3			05/31/17 19:29	6.06

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	99.0	T J	ppb v/v		3.48			05/31/17 19:29	6.06
Unknown	34.3	T J	ppb v/v		6.26			05/31/17 19:29	6.06
Butane, 2,3-dimethyl-	10.7	T J N	ppb v/v		7.10	79-29-8		05/31/17 19:29	6.06
Silanol, trimethyl-	70.5	T J N	ppb v/v		9.08	1066-40-6		05/31/17 19:29	6.06
Unknown	16.8	T J	ppb v/v		9.61			05/31/17 19:29	6.06
Cyclotrisiloxane, hexamethyl-	11.4	T J N	ppb v/v		13.54	541-05-9		05/31/17 19:29	6.06
(1S)-2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene	6.11	T J N	ppb v/v		16.37	7785-26-4		05/31/17 19:29	6.06

Client Sample ID: AS-3

Lab Sample ID: 200-38743-4

Date Collected: 05/25/17 15:06

Matrix: Air

Date Received: 05/30/17 09:50

Sample Container: Summa Canister 6L

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Propylene	<606		606	ug/m3			05/31/17 20:22	70.4
Dichlorodifluoromethane	615		174	ug/m3			05/31/17 20:22	70.4
1,2-Dichlorotetrafluoroethane	<98.4		98.4	ug/m3			05/31/17 20:22	70.4
Chloromethane	<72.7		72.7	ug/m3			05/31/17 20:22	70.4
Vinyl chloride	<36.0		36.0	ug/m3			05/31/17 20:22	70.4
1,3-Butadiene	<31.1		31.1	ug/m3			05/31/17 20:22	70.4
Bromomethane	<54.7		54.7	ug/m3			05/31/17 20:22	70.4
Chloroethane	<92.9		92.9	ug/m3			05/31/17 20:22	70.4
Trichlorofluoromethane	<79.1		79.1	ug/m3			05/31/17 20:22	70.4
Ethanol	<663		663	ug/m3			05/31/17 20:22	70.4
Freon TF	<108		108	ug/m3			05/31/17 20:22	70.4
1,1-Dichloroethene	<55.8		55.8	ug/m3			05/31/17 20:22	70.4
Acetone	<836		836	ug/m3			05/31/17 20:22	70.4
Isopropyl alcohol	<865		865	ug/m3			05/31/17 20:22	70.4
Carbon disulfide	<110		110	ug/m3			05/31/17 20:22	70.4
Methylene Chloride	<122		122	ug/m3			05/31/17 20:22	70.4
Methyl tert-butyl ether	<50.8		50.8	ug/m3			05/31/17 20:22	70.4
trans-1,2-Dichloroethene	<55.8		55.8	ug/m3			05/31/17 20:22	70.4
n-Hexane	<49.6		49.6	ug/m3			05/31/17 20:22	70.4

TestAmerica Burlington

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-38743-1
SDG: 200-38743-1

Client Sample ID: AS-3

Lab Sample ID: 200-38743-4

Date Collected: 05/25/17 15:06

Matrix: Air

Date Received: 05/30/17 09:50

Sample Container: Summa Canister 6L

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	69.0		57.0	ug/m3			05/31/17 20:22	70.4
Vinyl acetate	<1240	*	1240	ug/m3			05/31/17 20:22	70.4
Ethyl acetate	<1270		1270	ug/m3			05/31/17 20:22	70.4
Methyl Ethyl Ketone	<104		104	ug/m3			05/31/17 20:22	70.4
cis-1,2-Dichloroethene	8010		55.8	ug/m3			05/31/17 20:22	70.4
Chloroform	458		68.7	ug/m3			05/31/17 20:22	70.4
Tetrahydrofuran	<1040		1040	ug/m3			05/31/17 20:22	70.4
1,1,1-Trichloroethane	118		76.8	ug/m3			05/31/17 20:22	70.4
Cyclohexane	<48.5		48.5	ug/m3			05/31/17 20:22	70.4
Carbon tetrachloride	<88.6		88.6	ug/m3			05/31/17 20:22	70.4
Benzene	<45.0		45.0	ug/m3			05/31/17 20:22	70.4
1,2-Dichloroethane	<57.0		57.0	ug/m3			05/31/17 20:22	70.4
n-Heptane	<57.7		57.7	ug/m3			05/31/17 20:22	70.4
Trichloroethene	3300		75.7	ug/m3			05/31/17 20:22	70.4
1,2-Dichloropropane	<65.1		65.1	ug/m3			05/31/17 20:22	70.4
Bromodichloromethane	<94.3		94.3	ug/m3			05/31/17 20:22	70.4
cis-1,3-Dichloropropene	<63.9		63.9	ug/m3			05/31/17 20:22	70.4
Methyl isobutyl ketone	<144		144	ug/m3			05/31/17 20:22	70.4
Toluene	<53.1		53.1	ug/m3			05/31/17 20:22	70.4
trans-1,3-Dichloropropene	<63.9		63.9	ug/m3			05/31/17 20:22	70.4
1,1,2-Trichloroethane	<76.8		76.8	ug/m3			05/31/17 20:22	70.4
Tetrachloroethene	396		95.5	ug/m3			05/31/17 20:22	70.4
Methyl Butyl Ketone (2-Hexanone)	<144		144	ug/m3			05/31/17 20:22	70.4
1,2-Dibromoethane	<108		108	ug/m3			05/31/17 20:22	70.4
Chlorobenzene	<64.8		64.8	ug/m3			05/31/17 20:22	70.4
Ethylbenzene	<61.1		61.1	ug/m3			05/31/17 20:22	70.4
m,p-Xylene	<153		153	ug/m3			05/31/17 20:22	70.4
Xylene, o-	<61.1		61.1	ug/m3			05/31/17 20:22	70.4
Styrene	<60.0		60.0	ug/m3			05/31/17 20:22	70.4
Bromoform	<146		146	ug/m3			05/31/17 20:22	70.4
1,1,2,2-Tetrachloroethane	<96.7		96.7	ug/m3			05/31/17 20:22	70.4
4-Ethyltoluene	<69.2		69.2	ug/m3			05/31/17 20:22	70.4
1,3,5-Trimethylbenzene	<69.2		69.2	ug/m3			05/31/17 20:22	70.4
1,2,4-Trimethylbenzene	<69.2		69.2	ug/m3			05/31/17 20:22	70.4
1,3-Dichlorobenzene	<84.7		84.7	ug/m3			05/31/17 20:22	70.4
1,4-Dichlorobenzene	<84.7		84.7	ug/m3			05/31/17 20:22	70.4
Benzyl chloride	<72.9		72.9	ug/m3			05/31/17 20:22	70.4
1,2-Dichlorobenzene	<84.7		84.7	ug/m3			05/31/17 20:22	70.4
1,2,4-Trichlorobenzene	<261		261	ug/m3			05/31/17 20:22	70.4
Hexachlorobutadiene	<150		150	ug/m3			05/31/17 20:22	70.4
Naphthalene	<185		185	ug/m3			05/31/17 20:22	70.4
Dibromochloromethane	<120		120	ug/m3			05/31/17 20:22	70.4

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	81.9	T J	ppb v/v		9.09			05/31/17 20:22	70.4

TestAmerica Burlington

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-38743-1
SDG: 200-38743-1

Client Sample ID: AS-5

Lab Sample ID: 200-38743-5

Date Collected: 05/25/17 14:50

Matrix: Air

Date Received: 05/30/17 09:50

Sample Container: Summa Canister 6L

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Propylene	<34.4		34.4	ug/m3			05/31/17 21:14	4
Dichlorodifluoromethane	<9.89		9.89	ug/m3			05/31/17 21:14	4
1,2-Dichlorotetrafluoroethane	<5.59		5.59	ug/m3			05/31/17 21:14	4
Chloromethane	<4.13		4.13	ug/m3			05/31/17 21:14	4
Vinyl chloride	<2.05		2.05	ug/m3			05/31/17 21:14	4
1,3-Butadiene	<1.77		1.77	ug/m3			05/31/17 21:14	4
Bromomethane	<3.11		3.11	ug/m3			05/31/17 21:14	4
Chloroethane	<5.28		5.28	ug/m3			05/31/17 21:14	4
Trichlorofluoromethane	<4.49		4.49	ug/m3			05/31/17 21:14	4
Ethanol	58.0		37.7	ug/m3			05/31/17 21:14	4
Freon TF	<6.13		6.13	ug/m3			05/31/17 21:14	4
1,1-Dichloroethene	<3.17		3.17	ug/m3			05/31/17 21:14	4
Acetone	217		47.5	ug/m3			05/31/17 21:14	4
Isopropyl alcohol	218		49.2	ug/m3			05/31/17 21:14	4
Carbon disulfide	<6.23		6.23	ug/m3			05/31/17 21:14	4
Methylene Chloride	<6.95		6.95	ug/m3			05/31/17 21:14	4
Methyl tert-butyl ether	<2.88		2.88	ug/m3			05/31/17 21:14	4
trans-1,2-Dichloroethene	3.64		3.17	ug/m3			05/31/17 21:14	4
n-Hexane	<2.82		2.82	ug/m3			05/31/17 21:14	4
1,1-Dichloroethane	<3.24		3.24	ug/m3			05/31/17 21:14	4
Vinyl acetate	<70.4 *		70.4	ug/m3			05/31/17 21:14	4
Ethyl acetate	<72.1		72.1	ug/m3			05/31/17 21:14	4
Methyl Ethyl Ketone	15.1		5.90	ug/m3			05/31/17 21:14	4
cis-1,2-Dichloroethene	<3.17		3.17	ug/m3			05/31/17 21:14	4
Chloroform	16.3		3.91	ug/m3			05/31/17 21:14	4
Tetrahydrofuran	<59.0		59.0	ug/m3			05/31/17 21:14	4
1,1,1-Trichloroethane	<4.37		4.37	ug/m3			05/31/17 21:14	4
Cyclohexane	<2.75		2.75	ug/m3			05/31/17 21:14	4
Carbon tetrachloride	<5.03		5.03	ug/m3			05/31/17 21:14	4
Benzene	<2.56		2.56	ug/m3			05/31/17 21:14	4
1,2-Dichloroethane	<3.24		3.24	ug/m3			05/31/17 21:14	4
n-Heptane	<3.28		3.28	ug/m3			05/31/17 21:14	4
Trichloroethene	266		4.30	ug/m3			05/31/17 21:14	4
1,2-Dichloropropane	<3.70		3.70	ug/m3			05/31/17 21:14	4
Bromodichloromethane	<5.36		5.36	ug/m3			05/31/17 21:14	4
cis-1,3-Dichloropropene	<3.63		3.63	ug/m3			05/31/17 21:14	4
Methyl isobutyl ketone	<8.19		8.19	ug/m3			05/31/17 21:14	4
Toluene	8.90		3.01	ug/m3			05/31/17 21:14	4
trans-1,3-Dichloropropene	<3.63		3.63	ug/m3			05/31/17 21:14	4
1,1,2-Trichloroethane	<4.37		4.37	ug/m3			05/31/17 21:14	4
Tetrachloroethene	8.28		5.43	ug/m3			05/31/17 21:14	4
Methyl Butyl Ketone (2-Hexanone)	<8.20		8.20	ug/m3			05/31/17 21:14	4
1,2-Dibromoethane	<6.15		6.15	ug/m3			05/31/17 21:14	4
Chlorobenzene	<3.68		3.68	ug/m3			05/31/17 21:14	4
Ethylbenzene	3.61		3.47	ug/m3			05/31/17 21:14	4
m,p-Xylene	13.0		8.68	ug/m3			05/31/17 21:14	4
Xylene, o-	6.07		3.47	ug/m3			05/31/17 21:14	4
Styrene	<3.41		3.41	ug/m3			05/31/17 21:14	4

TestAmerica Burlington

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-38743-1
SDG: 200-38743-1

Client Sample ID: AS-5

Lab Sample ID: 200-38743-5

Date Collected: 05/25/17 14:50

Matrix: Air

Date Received: 05/30/17 09:50

Sample Container: Summa Canister 6L

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Bromoform	<8.27		8.27	ug/m3			05/31/17 21:14	4
1,1,2,2-Tetrachloroethane	<5.49		5.49	ug/m3			05/31/17 21:14	4
4-Ethyltoluene	<3.93		3.93	ug/m3			05/31/17 21:14	4
1,3,5-Trimethylbenzene	<3.93		3.93	ug/m3			05/31/17 21:14	4
1,2,4-Trimethylbenzene	4.39		3.93	ug/m3			05/31/17 21:14	4
1,3-Dichlorobenzene	<4.81		4.81	ug/m3			05/31/17 21:14	4
1,4-Dichlorobenzene	<4.81		4.81	ug/m3			05/31/17 21:14	4
Benzyl chloride	<4.14		4.14	ug/m3			05/31/17 21:14	4
1,2-Dichlorobenzene	<4.81		4.81	ug/m3			05/31/17 21:14	4
1,2,4-Trichlorobenzene	<14.8		14.8	ug/m3			05/31/17 21:14	4
Hexachlorobutadiene	<8.53		8.53	ug/m3			05/31/17 21:14	4
Naphthalene	<10.5		10.5	ug/m3			05/31/17 21:14	4
Dibromochloromethane	<6.82		6.82	ug/m3			05/31/17 21:14	4

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	7.71	T J	ppb v/v		3.47			05/31/17 21:14	4
Unknown	51.7	T J	ppb v/v		9.09			05/31/17 21:14	4
Unknown	12.6	T J	ppb v/v		9.61			05/31/17 21:14	4
1-Butanol	5.58	T J N	ppb v/v		11.31	71-36-3		05/31/17 21:14	4
Cyclotrisiloxane, hexamethyl-	13.4	T J N	ppb v/v		13.54	541-05-9		05/31/17 21:14	4
(1R)-2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene	5.18	T J N	ppb v/v		16.37	7785-70-8		05/31/17 21:14	4
Unknown	4.86	T J	ppb v/v		16.51			05/31/17 21:14	4
Unknown	6.25	T J	ppb v/v		18.67			05/31/17 21:14	4

Client Sample ID: AS-6

Lab Sample ID: 200-38743-6

Date Collected: 05/25/17 16:30

Matrix: Air

Date Received: 05/30/17 09:50

Sample Container: Summa Canister 6L

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Propylene	<129		129	ug/m3			05/31/17 22:07	15
Dichlorodifluoromethane	<37.1		37.1	ug/m3			05/31/17 22:07	15
1,2-Dichlorotetrafluoroethane	<21.0		21.0	ug/m3			05/31/17 22:07	15
Chloromethane	<15.5		15.5	ug/m3			05/31/17 22:07	15
Vinyl chloride	<7.67		7.67	ug/m3			05/31/17 22:07	15
1,3-Butadiene	<6.64		6.64	ug/m3			05/31/17 22:07	15
Bromomethane	<11.6		11.6	ug/m3			05/31/17 22:07	15
Chloroethane	<19.8		19.8	ug/m3			05/31/17 22:07	15
Trichlorofluoromethane	<16.9		16.9	ug/m3			05/31/17 22:07	15
Ethanol	<141		141	ug/m3			05/31/17 22:07	15
Freon TF	<23.0		23.0	ug/m3			05/31/17 22:07	15
1,1-Dichloroethene	<11.9		11.9	ug/m3			05/31/17 22:07	15
Acetone	235		178	ug/m3			05/31/17 22:07	15
Isopropyl alcohol	725		184	ug/m3			05/31/17 22:07	15
Carbon disulfide	<23.4		23.4	ug/m3			05/31/17 22:07	15
Methylene Chloride	<26.1		26.1	ug/m3			05/31/17 22:07	15

TestAmerica Burlington

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-38743-1
SDG: 200-38743-1

Client Sample ID: AS-6

Lab Sample ID: 200-38743-6

Date Collected: 05/25/17 16:30

Matrix: Air

Date Received: 05/30/17 09:50

Sample Container: Summa Canister 6L

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	<10.8		10.8	ug/m3			05/31/17 22:07	15
trans-1,2-Dichloroethene	<11.9		11.9	ug/m3			05/31/17 22:07	15
n-Hexane	<10.6		10.6	ug/m3			05/31/17 22:07	15
1,1-Dichloroethane	<12.1		12.1	ug/m3			05/31/17 22:07	15
Vinyl acetate	<264 *		264	ug/m3			05/31/17 22:07	15
Ethyl acetate	<270		270	ug/m3			05/31/17 22:07	15
Methyl Ethyl Ketone	<22.1		22.1	ug/m3			05/31/17 22:07	15
cis-1,2-Dichloroethene	<11.9		11.9	ug/m3			05/31/17 22:07	15
Chloroform	106		14.6	ug/m3			05/31/17 22:07	15
Tetrahydrofuran	<221		221	ug/m3			05/31/17 22:07	15
1,1,1-Trichloroethane	<16.4		16.4	ug/m3			05/31/17 22:07	15
Cyclohexane	<10.3		10.3	ug/m3			05/31/17 22:07	15
Carbon tetrachloride	<18.9		18.9	ug/m3			05/31/17 22:07	15
Benzene	<9.58		9.58	ug/m3			05/31/17 22:07	15
1,2-Dichloroethane	<12.1		12.1	ug/m3			05/31/17 22:07	15
n-Heptane	<12.3		12.3	ug/m3			05/31/17 22:07	15
Trichloroethene	1410		16.1	ug/m3			05/31/17 22:07	15
1,2-Dichloropropane	<13.9		13.9	ug/m3			05/31/17 22:07	15
Bromodichloromethane	<20.1		20.1	ug/m3			05/31/17 22:07	15
cis-1,3-Dichloropropene	<13.6		13.6	ug/m3			05/31/17 22:07	15
Methyl isobutyl ketone	<30.7		30.7	ug/m3			05/31/17 22:07	15
Toluene	20.5		11.3	ug/m3			05/31/17 22:07	15
trans-1,3-Dichloropropene	<13.6		13.6	ug/m3			05/31/17 22:07	15
1,1,2-Trichloroethane	<16.4		16.4	ug/m3			05/31/17 22:07	15
Tetrachloroethene	<20.3		20.3	ug/m3			05/31/17 22:07	15
Methyl Butyl Ketone (2-Hexanone)	<30.7		30.7	ug/m3			05/31/17 22:07	15
1,2-Dibromoethane	<23.1		23.1	ug/m3			05/31/17 22:07	15
Chlorobenzene	<13.8		13.8	ug/m3			05/31/17 22:07	15
Ethylbenzene	<13.0		13.0	ug/m3			05/31/17 22:07	15
m,p-Xylene	<32.6		32.6	ug/m3			05/31/17 22:07	15
Xylene, o-	13.6		13.0	ug/m3			05/31/17 22:07	15
Styrene	<12.8		12.8	ug/m3			05/31/17 22:07	15
Bromoform	<31.0		31.0	ug/m3			05/31/17 22:07	15
1,1,2,2-Tetrachloroethane	<20.6		20.6	ug/m3			05/31/17 22:07	15
4-Ethyltoluene	<14.7		14.7	ug/m3			05/31/17 22:07	15
1,3,5-Trimethylbenzene	<14.7		14.7	ug/m3			05/31/17 22:07	15
1,2,4-Trimethylbenzene	<14.7		14.7	ug/m3			05/31/17 22:07	15
1,3-Dichlorobenzene	<18.0		18.0	ug/m3			05/31/17 22:07	15
1,4-Dichlorobenzene	<18.0		18.0	ug/m3			05/31/17 22:07	15
Benzyl chloride	<15.5		15.5	ug/m3			05/31/17 22:07	15
1,2-Dichlorobenzene	<18.0		18.0	ug/m3			05/31/17 22:07	15
1,2,4-Trichlorobenzene	<55.7		55.7	ug/m3			05/31/17 22:07	15
Hexachlorobutadiene	<32.0		32.0	ug/m3			05/31/17 22:07	15
Naphthalene	<39.3		39.3	ug/m3			05/31/17 22:07	15
Dibromochloromethane	<25.6		25.6	ug/m3			05/31/17 22:07	15

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Silanol, trimethyl-	237	T J N	ppb v/v		9.09	1066-40-6		05/31/17 22:07	15
Unknown	46.0	T J	ppb v/v		9.61			05/31/17 22:07	15

TestAmerica Burlington

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-38743-1
SDG: 200-38743-1

Client Sample ID: AS-6

Lab Sample ID: 200-38743-6

Date Collected: 05/25/17 16:30

Matrix: Air

Date Received: 05/30/17 09:50

Sample Container: Summa Canister 6L

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

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Cyclotrisiloxane, hexamethyl-	62.9	T J N	ppb v/v		13.54	541-05-9		05/31/17 22:07	15

Client Sample ID: AS-9

Lab Sample ID: 200-38743-7

Date Collected: 05/26/17 09:34

Matrix: Air

Date Received: 05/30/17 09:50

Sample Container: Summa Canister 6L

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Propylene	<21.5		21.5	ug/m3			05/31/17 22:59	2.5
Dichlorodifluoromethane	<6.18		6.18	ug/m3			05/31/17 22:59	2.5
1,2-Dichlorotetrafluoroethane	<3.50		3.50	ug/m3			05/31/17 22:59	2.5
Chloromethane	<2.58		2.58	ug/m3			05/31/17 22:59	2.5
Vinyl chloride	<1.28		1.28	ug/m3			05/31/17 22:59	2.5
1,3-Butadiene	<1.11		1.11	ug/m3			05/31/17 22:59	2.5
Bromomethane	<1.94		1.94	ug/m3			05/31/17 22:59	2.5
Chloroethane	<3.30		3.30	ug/m3			05/31/17 22:59	2.5
Trichlorofluoromethane	<2.81		2.81	ug/m3			05/31/17 22:59	2.5
Ethanol	44.3		23.6	ug/m3			05/31/17 22:59	2.5
Freon TF	<3.83		3.83	ug/m3			05/31/17 22:59	2.5
1,1-Dichloroethene	<1.98		1.98	ug/m3			05/31/17 22:59	2.5
Acetone	117		29.7	ug/m3			05/31/17 22:59	2.5
Isopropyl alcohol	129		30.7	ug/m3			05/31/17 22:59	2.5
Carbon disulfide	<3.89		3.89	ug/m3			05/31/17 22:59	2.5
Methylene Chloride	<4.34		4.34	ug/m3			05/31/17 22:59	2.5
Methyl tert-butyl ether	<1.80		1.80	ug/m3			05/31/17 22:59	2.5
trans-1,2-Dichloroethene	<1.98		1.98	ug/m3			05/31/17 22:59	2.5
n-Hexane	2.04		1.76	ug/m3			05/31/17 22:59	2.5
1,1-Dichloroethane	<2.02		2.02	ug/m3			05/31/17 22:59	2.5
Vinyl acetate	<44.0 *		44.0	ug/m3			05/31/17 22:59	2.5
Ethyl acetate	<45.0		45.0	ug/m3			05/31/17 22:59	2.5
Methyl Ethyl Ketone	19.7		3.69	ug/m3			05/31/17 22:59	2.5
cis-1,2-Dichloroethene	<1.98		1.98	ug/m3			05/31/17 22:59	2.5
Chloroform	<2.44		2.44	ug/m3			05/31/17 22:59	2.5
Tetrahydrofuran	<36.9		36.9	ug/m3			05/31/17 22:59	2.5
1,1,1-Trichloroethane	<2.73		2.73	ug/m3			05/31/17 22:59	2.5
Cyclohexane	<1.72		1.72	ug/m3			05/31/17 22:59	2.5
Carbon tetrachloride	<3.15		3.15	ug/m3			05/31/17 22:59	2.5
Benzene	<1.60		1.60	ug/m3			05/31/17 22:59	2.5
1,2-Dichloroethane	<2.02		2.02	ug/m3			05/31/17 22:59	2.5
n-Heptane	<2.05		2.05	ug/m3			05/31/17 22:59	2.5
Trichloroethene	<2.69		2.69	ug/m3			05/31/17 22:59	2.5
1,2-Dichloropropane	<2.31		2.31	ug/m3			05/31/17 22:59	2.5
Bromodichloromethane	<3.35		3.35	ug/m3			05/31/17 22:59	2.5
cis-1,3-Dichloropropene	<2.27		2.27	ug/m3			05/31/17 22:59	2.5
Methyl isobutyl ketone	6.72		5.12	ug/m3			05/31/17 22:59	2.5
Toluene	9.91		1.88	ug/m3			05/31/17 22:59	2.5
trans-1,3-Dichloropropene	<2.27		2.27	ug/m3			05/31/17 22:59	2.5

TestAmerica Burlington

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-38743-1
SDG: 200-38743-1

Client Sample ID: AS-9

Lab Sample ID: 200-38743-7

Date Collected: 05/26/17 09:34

Matrix: Air

Date Received: 05/30/17 09:50

Sample Container: Summa Canister 6L

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<2.73		2.73	ug/m3			05/31/17 22:59	2.5
Tetrachloroethene	8.13		3.39	ug/m3			05/31/17 22:59	2.5
Methyl Butyl Ketone (2-Hexanone)	<5.12		5.12	ug/m3			05/31/17 22:59	2.5
1,2-Dibromoethane	<3.84		3.84	ug/m3			05/31/17 22:59	2.5
Chlorobenzene	<2.30		2.30	ug/m3			05/31/17 22:59	2.5
Ethylbenzene	3.43		2.17	ug/m3			05/31/17 22:59	2.5
m,p-Xylene	12.4		5.43	ug/m3			05/31/17 22:59	2.5
Xylene, o-	4.93		2.17	ug/m3			05/31/17 22:59	2.5
Styrene	<2.13		2.13	ug/m3			05/31/17 22:59	2.5
Bromoform	<5.17		5.17	ug/m3			05/31/17 22:59	2.5
1,1,1,2-Tetrachloroethane	<3.43		3.43	ug/m3			05/31/17 22:59	2.5
4-Ethyltoluene	<2.46		2.46	ug/m3			05/31/17 22:59	2.5
1,3,5-Trimethylbenzene	<2.46		2.46	ug/m3			05/31/17 22:59	2.5
1,2,4-Trimethylbenzene	6.85		2.46	ug/m3			05/31/17 22:59	2.5
1,3-Dichlorobenzene	<3.01		3.01	ug/m3			05/31/17 22:59	2.5
1,4-Dichlorobenzene	<3.01		3.01	ug/m3			05/31/17 22:59	2.5
Benzyl chloride	<2.59		2.59	ug/m3			05/31/17 22:59	2.5
1,2-Dichlorobenzene	<3.01		3.01	ug/m3			05/31/17 22:59	2.5
1,2,4-Trichlorobenzene	<9.28		9.28	ug/m3			05/31/17 22:59	2.5
Hexachlorobutadiene	<5.33		5.33	ug/m3			05/31/17 22:59	2.5
Naphthalene	<6.55		6.55	ug/m3			05/31/17 22:59	2.5
Dibromochloromethane	<4.26		4.26	ug/m3			05/31/17 22:59	2.5

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	831	T J	ppb v/v		3.47			05/31/17 22:59	2.5
Unknown	888	T J	ppb v/v		3.49			05/31/17 22:59	2.5
Unknown	3.42	T J	ppb v/v		6.33			05/31/17 22:59	2.5
Silanol, trimethyl-	43.7	T J N	ppb v/v		9.09	1066-40-6		05/31/17 22:59	2.5
Unknown	7.16	T J	ppb v/v		9.61			05/31/17 22:59	2.5
Cyclotrisiloxane, hexamethyl-	10.8	T J N	ppb v/v		13.54	541-05-9		05/31/17 22:59	2.5
(1R)-2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene	5.60	T J N	ppb v/v		16.37	7785-70-8		05/31/17 22:59	2.5
Unknown	4.68	T J	ppb v/v		16.51			05/31/17 22:59	2.5
Unknown	6.20	T J	ppb v/v		18.67			05/31/17 22:59	2.5

Client Sample ID: AS-8

Lab Sample ID: 200-38743-8

Date Collected: 05/26/17 11:48

Matrix: Air

Date Received: 05/30/17 09:50

Sample Container: Summa Canister 6L

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Propylene	<34.4		34.4	ug/m3			05/31/17 23:52	4
Dichlorodifluoromethane	<9.89		9.89	ug/m3			05/31/17 23:52	4
1,2-Dichlorotetrafluoroethane	<5.59		5.59	ug/m3			05/31/17 23:52	4
Chloromethane	<4.13		4.13	ug/m3			05/31/17 23:52	4
Vinyl chloride	<2.05		2.05	ug/m3			05/31/17 23:52	4
1,3-Butadiene	<1.77		1.77	ug/m3			05/31/17 23:52	4

TestAmerica Burlington

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-38743-1
SDG: 200-38743-1

Client Sample ID: AS-8

Lab Sample ID: 200-38743-8

Date Collected: 05/26/17 11:48

Matrix: Air

Date Received: 05/30/17 09:50

Sample Container: Summa Canister 6L

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Bromomethane	<3.11		3.11	ug/m3			05/31/17 23:52	4
Chloroethane	<5.28		5.28	ug/m3			05/31/17 23:52	4
Trichlorofluoromethane	<4.49		4.49	ug/m3			05/31/17 23:52	4
Ethanol	50.2		37.7	ug/m3			05/31/17 23:52	4
Freon TF	<6.13		6.13	ug/m3			05/31/17 23:52	4
1,1-Dichloroethene	<3.17		3.17	ug/m3			05/31/17 23:52	4
Acetone	130		47.5	ug/m3			05/31/17 23:52	4
Isopropyl alcohol	218		49.2	ug/m3			05/31/17 23:52	4
Carbon disulfide	<6.23		6.23	ug/m3			05/31/17 23:52	4
Methylene Chloride	<6.95		6.95	ug/m3			05/31/17 23:52	4
Methyl tert-butyl ether	<2.88		2.88	ug/m3			05/31/17 23:52	4
trans-1,2-Dichloroethene	<3.17		3.17	ug/m3			05/31/17 23:52	4
n-Hexane	3.16		2.82	ug/m3			05/31/17 23:52	4
1,1-Dichloroethane	<3.24		3.24	ug/m3			05/31/17 23:52	4
Vinyl acetate	<70.4 *		70.4	ug/m3			05/31/17 23:52	4
Ethyl acetate	<72.1		72.1	ug/m3			05/31/17 23:52	4
Methyl Ethyl Ketone	40.6		5.90	ug/m3			05/31/17 23:52	4
cis-1,2-Dichloroethene	<3.17		3.17	ug/m3			05/31/17 23:52	4
Chloroform	<3.91		3.91	ug/m3			05/31/17 23:52	4
Tetrahydrofuran	<59.0		59.0	ug/m3			05/31/17 23:52	4
1,1,1-Trichloroethane	<4.37		4.37	ug/m3			05/31/17 23:52	4
Cyclohexane	<2.75		2.75	ug/m3			05/31/17 23:52	4
Carbon tetrachloride	<5.03		5.03	ug/m3			05/31/17 23:52	4
Benzene	<2.56		2.56	ug/m3			05/31/17 23:52	4
1,2-Dichloroethane	<3.24		3.24	ug/m3			05/31/17 23:52	4
n-Heptane	<3.28		3.28	ug/m3			05/31/17 23:52	4
Trichloroethene	<4.30		4.30	ug/m3			05/31/17 23:52	4
1,2-Dichloropropane	<3.70		3.70	ug/m3			05/31/17 23:52	4
Bromodichloromethane	<5.36		5.36	ug/m3			05/31/17 23:52	4
cis-1,3-Dichloropropene	<3.63		3.63	ug/m3			05/31/17 23:52	4
Methyl isobutyl ketone	<8.19		8.19	ug/m3			05/31/17 23:52	4
Toluene	8.73		3.01	ug/m3			05/31/17 23:52	4
trans-1,3-Dichloropropene	<3.63		3.63	ug/m3			05/31/17 23:52	4
1,1,2-Trichloroethane	<4.37		4.37	ug/m3			05/31/17 23:52	4
Tetrachloroethene	<5.43		5.43	ug/m3			05/31/17 23:52	4
Methyl Butyl Ketone (2-Hexanone)	<8.20		8.20	ug/m3			05/31/17 23:52	4
1,2-Dibromoethane	<6.15		6.15	ug/m3			05/31/17 23:52	4
Chlorobenzene	<3.68		3.68	ug/m3			05/31/17 23:52	4
Ethylbenzene	<3.47		3.47	ug/m3			05/31/17 23:52	4
m,p-Xylene	<8.68		8.68	ug/m3			05/31/17 23:52	4
Xylene, o-	<3.47		3.47	ug/m3			05/31/17 23:52	4
Styrene	<3.41		3.41	ug/m3			05/31/17 23:52	4
Bromoform	<8.27		8.27	ug/m3			05/31/17 23:52	4
1,1,2,2-Tetrachloroethane	<5.49		5.49	ug/m3			05/31/17 23:52	4
4-Ethyltoluene	<3.93		3.93	ug/m3			05/31/17 23:52	4
1,3,5-Trimethylbenzene	<3.93		3.93	ug/m3			05/31/17 23:52	4
1,2,4-Trimethylbenzene	<3.93		3.93	ug/m3			05/31/17 23:52	4
1,3-Dichlorobenzene	<4.81		4.81	ug/m3			05/31/17 23:52	4

TestAmerica Burlington

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-38743-1
SDG: 200-38743-1

Client Sample ID: AS-8

Lab Sample ID: 200-38743-8

Date Collected: 05/26/17 11:48

Matrix: Air

Date Received: 05/30/17 09:50

Sample Container: Summa Canister 6L

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	<4.81		4.81	ug/m3			05/31/17 23:52	4
Benzyl chloride	<4.14		4.14	ug/m3			05/31/17 23:52	4
1,2-Dichlorobenzene	<4.81		4.81	ug/m3			05/31/17 23:52	4
1,2,4-Trichlorobenzene	<14.8		14.8	ug/m3			05/31/17 23:52	4
Hexachlorobutadiene	<8.53		8.53	ug/m3			05/31/17 23:52	4
Naphthalene	<10.5		10.5	ug/m3			05/31/17 23:52	4
Dibromochloromethane	<6.82		6.82	ug/m3			05/31/17 23:52	4

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	2390	T J	ppb v/v		3.47			05/31/17 23:52	4
Unknown	67.1	T J	ppb v/v		9.09			05/31/17 23:52	4
Unknown	7.01	T J	ppb v/v		9.61			05/31/17 23:52	4
Cyclotrisiloxane, hexamethyl-	5.49	T J N	ppb v/v		13.54	541-05-9		05/31/17 23:52	4
(1R) -2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene	4.46	T J N	ppb v/v		16.37	7785-70-8		05/31/17 23:52	4

Client Sample ID: AS-7

Lab Sample ID: 200-38743-9

Date Collected: 05/26/17 12:18

Matrix: Air

Date Received: 05/30/17 09:50

Sample Container: Summa Canister 6L

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Propylene	<34.4		34.4	ug/m3			06/01/17 00:45	4
Dichlorodifluoromethane	<9.89		9.89	ug/m3			06/01/17 00:45	4
1,2-Dichlorotetrafluoroethane	<5.59		5.59	ug/m3			06/01/17 00:45	4
Chloromethane	<4.13		4.13	ug/m3			06/01/17 00:45	4
Vinyl chloride	<2.05		2.05	ug/m3			06/01/17 00:45	4
1,3-Butadiene	<1.77		1.77	ug/m3			06/01/17 00:45	4
Bromomethane	<3.11		3.11	ug/m3			06/01/17 00:45	4
Chloroethane	<5.28		5.28	ug/m3			06/01/17 00:45	4
Trichlorofluoromethane	<4.49		4.49	ug/m3			06/01/17 00:45	4
Ethanol	<37.7		37.7	ug/m3			06/01/17 00:45	4
Freon TF	<6.13		6.13	ug/m3			06/01/17 00:45	4
1,1-Dichloroethene	<3.17		3.17	ug/m3			06/01/17 00:45	4
Acetone	81.7		47.5	ug/m3			06/01/17 00:45	4
Isopropyl alcohol	191		49.2	ug/m3			06/01/17 00:45	4
Carbon disulfide	<6.23		6.23	ug/m3			06/01/17 00:45	4
Methylene Chloride	<6.95		6.95	ug/m3			06/01/17 00:45	4
Methyl tert-butyl ether	<2.88		2.88	ug/m3			06/01/17 00:45	4
trans-1,2-Dichloroethene	<3.17		3.17	ug/m3			06/01/17 00:45	4
n-Hexane	<2.82		2.82	ug/m3			06/01/17 00:45	4
1,1-Dichloroethane	<3.24		3.24	ug/m3			06/01/17 00:45	4
Vinyl acetate	<70.4 *		70.4	ug/m3			06/01/17 00:45	4
Ethyl acetate	<72.1		72.1	ug/m3			06/01/17 00:45	4
Methyl Ethyl Ketone	17.4		5.90	ug/m3			06/01/17 00:45	4
cis-1,2-Dichloroethene	<3.17		3.17	ug/m3			06/01/17 00:45	4
Chloroform	<3.91		3.91	ug/m3			06/01/17 00:45	4

TestAmerica Burlington

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-38743-1
SDG: 200-38743-1

Client Sample ID: AS-7

Lab Sample ID: 200-38743-9

Date Collected: 05/26/17 12:18

Matrix: Air

Date Received: 05/30/17 09:50

Sample Container: Summa Canister 6L

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrahydrofuran	<59.0		59.0	ug/m3			06/01/17 00:45	4
1,1,1-Trichloroethane	<4.37		4.37	ug/m3			06/01/17 00:45	4
Cyclohexane	<2.75		2.75	ug/m3			06/01/17 00:45	4
Carbon tetrachloride	<5.03		5.03	ug/m3			06/01/17 00:45	4
Benzene	<2.56		2.56	ug/m3			06/01/17 00:45	4
1,2-Dichloroethane	<3.24		3.24	ug/m3			06/01/17 00:45	4
n-Heptane	<3.28		3.28	ug/m3			06/01/17 00:45	4
Trichloroethene	<4.30		4.30	ug/m3			06/01/17 00:45	4
1,2-Dichloropropane	<3.70		3.70	ug/m3			06/01/17 00:45	4
Bromodichloromethane	<5.36		5.36	ug/m3			06/01/17 00:45	4
cis-1,3-Dichloropropene	<3.63		3.63	ug/m3			06/01/17 00:45	4
Methyl isobutyl ketone	<8.19		8.19	ug/m3			06/01/17 00:45	4
Toluene	10.2		3.01	ug/m3			06/01/17 00:45	4
trans-1,3-Dichloropropene	<3.63		3.63	ug/m3			06/01/17 00:45	4
1,1,2-Trichloroethane	<4.37		4.37	ug/m3			06/01/17 00:45	4
Tetrachloroethene	<5.43		5.43	ug/m3			06/01/17 00:45	4
Methyl Butyl Ketone (2-Hexanone)	<8.20		8.20	ug/m3			06/01/17 00:45	4
1,2-Dibromoethane	<6.15		6.15	ug/m3			06/01/17 00:45	4
Chlorobenzene	<3.68		3.68	ug/m3			06/01/17 00:45	4
Ethylbenzene	3.66		3.47	ug/m3			06/01/17 00:45	4
m,p-Xylene	12.7		8.68	ug/m3			06/01/17 00:45	4
Xylene, o-	5.00		3.47	ug/m3			06/01/17 00:45	4
Styrene	<3.41		3.41	ug/m3			06/01/17 00:45	4
Bromoform	<8.27		8.27	ug/m3			06/01/17 00:45	4
1,1,2,2-Tetrachloroethane	<5.49		5.49	ug/m3			06/01/17 00:45	4
4-Ethyltoluene	<3.93		3.93	ug/m3			06/01/17 00:45	4
1,3,5-Trimethylbenzene	<3.93		3.93	ug/m3			06/01/17 00:45	4
1,2,4-Trimethylbenzene	6.96		3.93	ug/m3			06/01/17 00:45	4
1,3-Dichlorobenzene	<4.81		4.81	ug/m3			06/01/17 00:45	4
1,4-Dichlorobenzene	<4.81		4.81	ug/m3			06/01/17 00:45	4
Benzyl chloride	<4.14		4.14	ug/m3			06/01/17 00:45	4
1,2-Dichlorobenzene	<4.81		4.81	ug/m3			06/01/17 00:45	4
1,2,4-Trichlorobenzene	<14.8		14.8	ug/m3			06/01/17 00:45	4
Hexachlorobutadiene	<8.53		8.53	ug/m3			06/01/17 00:45	4
Naphthalene	<10.5		10.5	ug/m3			06/01/17 00:45	4
Dibromochloromethane	<6.82		6.82	ug/m3			06/01/17 00:45	4

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Ethane, 1,1-difluoro-	8.72	T J N	ppb v/v		3.15	75-37-6		06/01/17 00:45	4
Unknown	1520	T J	ppb v/v		3.48			06/01/17 00:45	4
Silanol, trimethyl-	54.2	T J N	ppb v/v		9.08	1066-40-6		06/01/17 00:45	4
Unknown	6.02	T J	ppb v/v		9.61			06/01/17 00:45	4
Cyclotrisiloxane, hexamethyl-	14.6	T J N	ppb v/v		13.54	541-05-9		06/01/17 00:45	4
Unknown	4.70	T J	ppb v/v		14.17			06/01/17 00:45	4
(1R)-2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene	6.82	T J N	ppb v/v		16.37	7785-70-8		06/01/17 00:45	4
Unknown	6.14	T J	ppb v/v		16.52			06/01/17 00:45	4
Unknown	6.88	T J	ppb v/v		18.67			06/01/17 00:45	4

TestAmerica Burlington

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-38743-1
SDG: 200-38743-1

Client Sample ID: AS-10

Lab Sample ID: 200-38743-10

Date Collected: 05/26/17 14:02

Matrix: Air

Date Received: 05/30/17 09:50

Sample Container: Summa Canister 6L

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Propylene	<25.7		25.7	ug/m3			06/01/17 01:37	2.99
Dichlorodifluoromethane	<7.39		7.39	ug/m3			06/01/17 01:37	2.99
1,2-Dichlorotetrafluoroethane	<4.18		4.18	ug/m3			06/01/17 01:37	2.99
Chloromethane	<3.09		3.09	ug/m3			06/01/17 01:37	2.99
Vinyl chloride	<1.53		1.53	ug/m3			06/01/17 01:37	2.99
1,3-Butadiene	<1.32		1.32	ug/m3			06/01/17 01:37	2.99
Bromomethane	<2.32		2.32	ug/m3			06/01/17 01:37	2.99
Chloroethane	<3.95		3.95	ug/m3			06/01/17 01:37	2.99
Trichlorofluoromethane	<3.36		3.36	ug/m3			06/01/17 01:37	2.99
Ethanol	30.4		28.2	ug/m3			06/01/17 01:37	2.99
Freon TF	<4.58		4.58	ug/m3			06/01/17 01:37	2.99
1,1-Dichloroethene	<2.37		2.37	ug/m3			06/01/17 01:37	2.99
Acetone	105		35.5	ug/m3			06/01/17 01:37	2.99
Isopropyl alcohol	169		36.7	ug/m3			06/01/17 01:37	2.99
Carbon disulfide	<4.66		4.66	ug/m3			06/01/17 01:37	2.99
Methylene Chloride	<5.19		5.19	ug/m3			06/01/17 01:37	2.99
Methyl tert-butyl ether	<2.16		2.16	ug/m3			06/01/17 01:37	2.99
trans-1,2-Dichloroethene	<2.37		2.37	ug/m3			06/01/17 01:37	2.99
n-Hexane	<2.11		2.11	ug/m3			06/01/17 01:37	2.99
1,1-Dichloroethane	<2.42		2.42	ug/m3			06/01/17 01:37	2.99
Vinyl acetate	<52.6 *		52.6	ug/m3			06/01/17 01:37	2.99
Ethyl acetate	<53.9		53.9	ug/m3			06/01/17 01:37	2.99
Methyl Ethyl Ketone	58.9		4.41	ug/m3			06/01/17 01:37	2.99
cis-1,2-Dichloroethene	<2.37		2.37	ug/m3			06/01/17 01:37	2.99
Chloroform	125		2.92	ug/m3			06/01/17 01:37	2.99
Tetrahydrofuran	<44.1		44.1	ug/m3			06/01/17 01:37	2.99
1,1,1-Trichloroethane	<3.26		3.26	ug/m3			06/01/17 01:37	2.99
Cyclohexane	<2.06		2.06	ug/m3			06/01/17 01:37	2.99
Carbon tetrachloride	<3.76		3.76	ug/m3			06/01/17 01:37	2.99
Benzene	<1.91		1.91	ug/m3			06/01/17 01:37	2.99
1,2-Dichloroethane	<2.42		2.42	ug/m3			06/01/17 01:37	2.99
n-Heptane	<2.45		2.45	ug/m3			06/01/17 01:37	2.99
Trichloroethene	<3.21		3.21	ug/m3			06/01/17 01:37	2.99
1,2-Dichloropropane	<2.76		2.76	ug/m3			06/01/17 01:37	2.99
Bromodichloromethane	8.21		4.01	ug/m3			06/01/17 01:37	2.99
cis-1,3-Dichloropropene	<2.71		2.71	ug/m3			06/01/17 01:37	2.99
Methyl isobutyl ketone	<6.12		6.12	ug/m3			06/01/17 01:37	2.99
Toluene	8.90		2.25	ug/m3			06/01/17 01:37	2.99
trans-1,3-Dichloropropene	<2.71		2.71	ug/m3			06/01/17 01:37	2.99
1,1,2-Trichloroethane	<3.26		3.26	ug/m3			06/01/17 01:37	2.99
Tetrachloroethene	<4.06		4.06	ug/m3			06/01/17 01:37	2.99
Methyl Butyl Ketone (2-Hexanone)	<6.13		6.13	ug/m3			06/01/17 01:37	2.99
1,2-Dibromoethane	<4.60		4.60	ug/m3			06/01/17 01:37	2.99
Chlorobenzene	<2.75		2.75	ug/m3			06/01/17 01:37	2.99
Ethylbenzene	<2.60		2.60	ug/m3			06/01/17 01:37	2.99
m,p-Xylene	<6.49		6.49	ug/m3			06/01/17 01:37	2.99
Xylene, o-	<2.60		2.60	ug/m3			06/01/17 01:37	2.99
Styrene	<2.55		2.55	ug/m3			06/01/17 01:37	2.99

TestAmerica Burlington

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-38743-1
SDG: 200-38743-1

Client Sample ID: AS-10

Lab Sample ID: 200-38743-10

Date Collected: 05/26/17 14:02

Matrix: Air

Date Received: 05/30/17 09:50

Sample Container: Summa Canister 6L

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Bromoform	<6.18		6.18	ug/m3			06/01/17 01:37	2.99
1,1,2,2-Tetrachloroethane	<4.11		4.11	ug/m3			06/01/17 01:37	2.99
4-Ethyltoluene	<2.94		2.94	ug/m3			06/01/17 01:37	2.99
1,3,5-Trimethylbenzene	<2.94		2.94	ug/m3			06/01/17 01:37	2.99
1,2,4-Trimethylbenzene	<2.94		2.94	ug/m3			06/01/17 01:37	2.99
1,3-Dichlorobenzene	<3.60		3.60	ug/m3			06/01/17 01:37	2.99
1,4-Dichlorobenzene	<3.60		3.60	ug/m3			06/01/17 01:37	2.99
Benzyl chloride	<3.10		3.10	ug/m3			06/01/17 01:37	2.99
1,2-Dichlorobenzene	<3.60		3.60	ug/m3			06/01/17 01:37	2.99
1,2,4-Trichlorobenzene	<11.1		11.1	ug/m3			06/01/17 01:37	2.99
Hexachlorobutadiene	<6.38		6.38	ug/m3			06/01/17 01:37	2.99
Naphthalene	<7.84		7.84	ug/m3			06/01/17 01:37	2.99
Dibromochloromethane	<5.09		5.09	ug/m3			06/01/17 01:37	2.99

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	265	T J	ppb v/v		3.48			06/01/17 01:37	2.99
Unknown	3.62	T J	ppb v/v		4.02			06/01/17 01:37	2.99
Silanol, trimethyl-	57.1	T J N	ppb v/v		9.09	1066-40-6		06/01/17 01:37	2.99
Unknown	5.94	T J	ppb v/v		9.61			06/01/17 01:37	2.99
Cyclotrisiloxane, hexamethyl-	3.77	T J N	ppb v/v		13.54	541-05-9		06/01/17 01:37	2.99
(1S)-2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene	4.14	T J N	ppb v/v		16.37	7785-26-4		06/01/17 01:37	2.99

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-38743-1
SDG: 200-38743-1

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

Lab Sample ID: MB 200-117144/4

Matrix: Air

Analysis Batch: 117144

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			05/31/17 12:47	1
Dichlorodifluoromethane	<2.47		2.47	ug/m3			05/31/17 12:47	1
1,2-Dichlorotetrafluoroethane	<1.40		1.40	ug/m3			05/31/17 12:47	1
Chloromethane	<1.03		1.03	ug/m3			05/31/17 12:47	1
Vinyl chloride	<0.511		0.511	ug/m3			05/31/17 12:47	1
1,3-Butadiene	<0.442		0.442	ug/m3			05/31/17 12:47	1
Bromomethane	<0.777		0.777	ug/m3			05/31/17 12:47	1
Chloroethane	<1.32		1.32	ug/m3			05/31/17 12:47	1
Trichlorofluoromethane	<1.12		1.12	ug/m3			05/31/17 12:47	1
Ethanol	<9.42		9.42	ug/m3			05/31/17 12:47	1
Freon TF	<1.53		1.53	ug/m3			05/31/17 12:47	1
1,1-Dichloroethene	<0.793		0.793	ug/m3			05/31/17 12:47	1
Acetone	<11.9		11.9	ug/m3			05/31/17 12:47	1
Isopropyl alcohol	<12.3		12.3	ug/m3			05/31/17 12:47	1
Carbon disulfide	<1.56		1.56	ug/m3			05/31/17 12:47	1
Methylene Chloride	<1.74		1.74	ug/m3			05/31/17 12:47	1
Methyl tert-butyl ether	<0.721		0.721	ug/m3			05/31/17 12:47	1
trans-1,2-Dichloroethene	<0.793		0.793	ug/m3			05/31/17 12:47	1
n-Hexane	<0.705		0.705	ug/m3			05/31/17 12:47	1
1,1-Dichloroethane	<0.809		0.809	ug/m3			05/31/17 12:47	1
Vinyl acetate	<17.6		17.6	ug/m3			05/31/17 12:47	1
Ethyl acetate	<18.0		18.0	ug/m3			05/31/17 12:47	1
Methyl Ethyl Ketone	<1.47		1.47	ug/m3			05/31/17 12:47	1
cis-1,2-Dichloroethene	<0.793		0.793	ug/m3			05/31/17 12:47	1
Chloroform	<0.977		0.977	ug/m3			05/31/17 12:47	1
Tetrahydrofuran	<14.7		14.7	ug/m3			05/31/17 12:47	1
1,1,1-Trichloroethane	<1.09		1.09	ug/m3			05/31/17 12:47	1
Cyclohexane	<0.688		0.688	ug/m3			05/31/17 12:47	1
Carbon tetrachloride	<1.26		1.26	ug/m3			05/31/17 12:47	1
Benzene	<0.639		0.639	ug/m3			05/31/17 12:47	1
1,2-Dichloroethane	<0.809		0.809	ug/m3			05/31/17 12:47	1
n-Heptane	<0.820		0.820	ug/m3			05/31/17 12:47	1
Trichloroethene	<1.07		1.07	ug/m3			05/31/17 12:47	1
1,2-Dichloropropane	<0.924		0.924	ug/m3			05/31/17 12:47	1
Bromodichloromethane	<1.34		1.34	ug/m3			05/31/17 12:47	1
cis-1,3-Dichloropropene	<0.908		0.908	ug/m3			05/31/17 12:47	1
Methyl isobutyl ketone	<2.05		2.05	ug/m3			05/31/17 12:47	1
Toluene	<0.754		0.754	ug/m3			05/31/17 12:47	1
trans-1,3-Dichloropropene	<0.908		0.908	ug/m3			05/31/17 12:47	1
1,1,2-Trichloroethane	<1.09		1.09	ug/m3			05/31/17 12:47	1
Tetrachloroethene	<1.36		1.36	ug/m3			05/31/17 12:47	1
Methyl Butyl Ketone (2-Hexanone)	<2.05		2.05	ug/m3			05/31/17 12:47	1
1,2-Dibromoethane	<1.54		1.54	ug/m3			05/31/17 12:47	1
Chlorobenzene	<0.921		0.921	ug/m3			05/31/17 12:47	1
Ethylbenzene	<0.868		0.868	ug/m3			05/31/17 12:47	1
m,p-Xylene	<2.17		2.17	ug/m3			05/31/17 12:47	1
Xylene, o-	<0.868		0.868	ug/m3			05/31/17 12:47	1
Styrene	<0.852		0.852	ug/m3			05/31/17 12:47	1

TestAmerica Burlington

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-38743-1
SDG: 200-38743-1

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

Lab Sample ID: MB 200-117144/4
Matrix: Air
Analysis Batch: 117144

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			05/31/17 12:47	1
1,1,2,2-Tetrachloroethane	<1.37		1.37	ug/m3			05/31/17 12:47	1
4-Ethyltoluene	<0.983		0.983	ug/m3			05/31/17 12:47	1
1,3,5-Trimethylbenzene	<0.983		0.983	ug/m3			05/31/17 12:47	1
1,2,4-Trimethylbenzene	<0.983		0.983	ug/m3			05/31/17 12:47	1
1,3-Dichlorobenzene	<1.20		1.20	ug/m3			05/31/17 12:47	1
1,4-Dichlorobenzene	<1.20		1.20	ug/m3			05/31/17 12:47	1
Benzyl chloride	<1.04		1.04	ug/m3			05/31/17 12:47	1
1,2-Dichlorobenzene	<1.20		1.20	ug/m3			05/31/17 12:47	1
1,2,4-Trichlorobenzene	<3.71		3.71	ug/m3			05/31/17 12:47	1
Hexachlorobutadiene	<2.13		2.13	ug/m3			05/31/17 12:47	1
Naphthalene	<2.62		2.62	ug/m3			05/31/17 12:47	1
Dibromochloromethane	<1.70		1.70	ug/m3			05/31/17 12:47	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ppb v/v					05/31/17 12:47	1

Lab Sample ID: LCS 200-117144/3
Matrix: Air
Analysis Batch: 117144

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	19.40		ug/m3		113	58 - 129
Dichlorodifluoromethane	49.4	58.60		ug/m3		119	68 - 128
1,2-Dichlorotetrafluoroethane	69.9	83.95		ug/m3		120	78 - 138
Chloromethane	20.6	21.41		ug/m3		104	57 - 126
Vinyl chloride	25.6	25.04		ug/m3		98	62 - 125
1,3-Butadiene	22.1	22.00		ug/m3		99	59 - 125
Bromomethane	38.8	38.56		ug/m3		99	68 - 128
Chloroethane	26.4	26.26		ug/m3		100	65 - 125
Trichlorofluoromethane	56.2	60.16		ug/m3		107	67 - 127
Ethanol	28.3	31.87		ug/m3		113	28 - 168
Freon TF	76.6	76.92		ug/m3		100	68 - 128
1,1-Dichloroethene	39.6	37.55		ug/m3		95	67 - 127
Acetone	23.7	29.07		ug/m3		122	64 - 136
Isopropyl alcohol	24.6	24.93		ug/m3		101	55 - 124
Carbon disulfide	31.1	38.77		ug/m3		125	81 - 141
Methylene Chloride	34.7	36.36		ug/m3		105	62 - 122
Methyl tert-butyl ether	36.0	38.63		ug/m3		107	67 - 127
trans-1,2-Dichloroethene	39.6	44.12		ug/m3		111	72 - 132
n-Hexane	35.2	38.43		ug/m3		109	71 - 131
1,1-Dichloroethane	40.5	41.32		ug/m3		102	66 - 126
Vinyl acetate	35.2	45.96 *		ug/m3		131	62 - 130
Ethyl acetate	36.0	36.25		ug/m3		101	75 - 135
Methyl Ethyl Ketone	29.5	30.21		ug/m3		102	62 - 122
cis-1,2-Dichloroethene	39.6	39.66		ug/m3		100	67 - 127
Chloroform	48.8	53.74		ug/m3		110	69 - 129
Tetrahydrofuran	29.5	31.47		ug/m3		107	61 - 136

TestAmerica Burlington

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-38743-1
SDG: 200-38743-1

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

Lab Sample ID: LCS 200-117144/3

Matrix: Air

Analysis Batch: 117144

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	55.41		ug/m3		102	70 - 130
Cyclohexane	34.4	31.68		ug/m3		92	69 - 129
Carbon tetrachloride	62.9	61.74		ug/m3		98	62 - 143
Benzene	31.9	30.78		ug/m3		96	67 - 127
1,2-Dichloroethane	40.5	43.00		ug/m3		106	67 - 132
n-Heptane	41.0	40.15		ug/m3		98	62 - 130
Trichloroethene	53.7	46.36		ug/m3		86	68 - 128
1,2-Dichloropropane	46.2	42.63		ug/m3		92	67 - 127
Bromodichloromethane	67.0	68.27		ug/m3		102	69 - 129
cis-1,3-Dichloropropene	45.4	45.01		ug/m3		99	70 - 130
Methyl isobutyl ketone	41.0	44.64		ug/m3		109	62 - 130
Toluene	37.7	35.18		ug/m3		93	67 - 127
trans-1,3-Dichloropropene	45.4	46.30		ug/m3		102	69 - 129
1,1,2-Trichloroethane	54.6	50.95		ug/m3		93	69 - 129
Tetrachloroethene	67.8	56.59		ug/m3		83	70 - 130
Methyl Butyl Ketone (2-Hexanone)	41.0	45.38		ug/m3		111	61 - 127
1,2-Dibromoethane	76.8	73.24		ug/m3		95	70 - 130
Chlorobenzene	46.0	43.55		ug/m3		95	68 - 128
Ethylbenzene	43.4	43.62		ug/m3		100	68 - 128
m,p-Xylene	86.8	84.07		ug/m3		97	68 - 128
Xylene, o-	43.4	39.75		ug/m3		92	67 - 127
Styrene	42.6	41.54		ug/m3		98	68 - 128
Bromoform	103	105.7		ug/m3		102	34 - 170
1,1,2,2-Tetrachloroethane	68.6	69.78		ug/m3		102	69 - 129
4-Ethyltoluene	49.2	51.06		ug/m3		104	69 - 129
1,3,5-Trimethylbenzene	49.2	49.18		ug/m3		100	65 - 125
1,2,4-Trimethylbenzene	49.2	48.87		ug/m3		99	65 - 125
1,3-Dichlorobenzene	60.1	59.34		ug/m3		99	67 - 127
1,4-Dichlorobenzene	60.1	59.60		ug/m3		99	66 - 126
Benzyl chloride	51.8	49.16		ug/m3		95	54 - 135
1,2-Dichlorobenzene	60.1	57.02		ug/m3		95	67 - 127
1,2,4-Trichlorobenzene	74.2	73.07		ug/m3		98	59 - 126
Hexachlorobutadiene	107	93.89		ug/m3		88	62 - 130
Naphthalene	52.4	46.28		ug/m3		88	50 - 121
Dibromochloromethane	85.2	81.39		ug/m3		96	66 - 130

Lab Sample ID: 200-38743-1 DU

Matrix: Air

Analysis Batch: 117144

Client Sample ID: AS-1

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Propylene	<380		<380		ug/m3		NC	25
Dichlorodifluoromethane	1380		1346		ug/m3		3	25
1,2-Dichlorotetrafluoroethane	<61.8		<61.8		ug/m3		NC	25
Chloromethane	<45.6		<45.6		ug/m3		NC	25
Vinyl chloride	<22.6		<22.6		ug/m3		NC	25
1,3-Butadiene	<19.6		<19.6		ug/m3		NC	25
Bromomethane	<34.3		<34.3		ug/m3		NC	25

TestAmerica Burlington

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-38743-1
SDG: 200-38743-1

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

Lab Sample ID: 200-38743-1 DU
Matrix: Air
Analysis Batch: 117144

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

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Chloroethane	<58.3		<58.3		ug/m3		NC	25
Trichlorofluoromethane	<49.7		<49.7		ug/m3		NC	25
Ethanol	<416		<416		ug/m3		NC	25
Freon TF	<67.7		<67.7		ug/m3		NC	25
1,1-Dichloroethene	<35.0		<35.0		ug/m3		NC	25
Acetone	<525		<525		ug/m3		NC	25
Isopropyl alcohol	<543		<543		ug/m3		NC	25
Carbon disulfide	<68.8		<68.8		ug/m3		NC	25
Methylene Chloride	<76.8		<76.8		ug/m3		NC	25
Methyl tert-butyl ether	<31.9		<31.9		ug/m3		NC	25
trans-1,2-Dichloroethene	45.1		46.60		ug/m3		3	25
n-Hexane	<31.2		<31.2		ug/m3		NC	25
1,1-Dichloroethane	<35.8		<35.8		ug/m3		NC	25
Vinyl acetate	<778 *		<778 *		ug/m3		NC	25
Ethyl acetate	<796		<796		ug/m3		NC	25
Methyl Ethyl Ketone	<65.2		<65.2		ug/m3		NC	25
cis-1,2-Dichloroethene	213		209.3		ug/m3		2	25
Chloroform	<43.2		<43.2		ug/m3		NC	25
Tetrahydrofuran	<652		<652		ug/m3		NC	25
1,1,1-Trichloroethane	468		452.6		ug/m3		3	25
Cyclohexane	<30.4		<30.4		ug/m3		NC	25
Carbon tetrachloride	<55.6		<55.6		ug/m3		NC	25
Benzene	44.1		42.83		ug/m3		3	25
1,2-Dichloroethane	<35.8		<35.8		ug/m3		NC	25
n-Heptane	<36.2		<36.2		ug/m3		NC	25
Trichloroethene	4540		4426		ug/m3		3	25
1,2-Dichloropropane	<40.9		<40.9		ug/m3		NC	25
Bromodichloromethane	<59.2		<59.2		ug/m3		NC	25
cis-1,3-Dichloropropene	<40.1		<40.1		ug/m3		NC	25
Methyl isobutyl ketone	<90.5		<90.5		ug/m3		NC	25
Toluene	<33.3		<33.3		ug/m3		NC	25
trans-1,3-Dichloropropene	<40.1		<40.1		ug/m3		NC	25
1,1,2-Trichloroethane	<48.2		<48.2		ug/m3		NC	25
Tetrachloroethene	129		125.7		ug/m3		3	25
Methyl Butyl Ketone (2-Hexanone)	<90.6		<90.6		ug/m3		NC	25
1,2-Dibromoethane	<67.9		<67.9		ug/m3		NC	25
Chlorobenzene	<40.7		<40.7		ug/m3		NC	25
Ethylbenzene	61.2		60.68		ug/m3		0.9	25
m,p-Xylene	230		220.0		ug/m3		4	25
Xylene, o-	<38.4		<38.4		ug/m3		NC	25
Styrene	<37.7		<37.7		ug/m3		NC	25
Bromoform	<91.4		<91.4		ug/m3		NC	25
1,1,2,2-Tetrachloroethane	<60.7		<60.7		ug/m3		NC	25
4-Ethyltoluene	<43.5		<43.5		ug/m3		NC	25
1,3,5-Trimethylbenzene	<43.5		<43.5		ug/m3		NC	25
1,2,4-Trimethylbenzene	<43.5		<43.5		ug/m3		NC	25
1,3-Dichlorobenzene	<53.2		<53.2		ug/m3		NC	25

TestAmerica Burlington

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-38743-1
SDG: 200-38743-1

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

Lab Sample ID: 200-38743-1 DU
Matrix: Air
Analysis Batch: 117144

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

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	RPD	Limit
	Result	Qualifier	Result	Qualifier					
1,4-Dichlorobenzene	<53.2		<53.2		ug/m3		NC		25
Benzyl chloride	<45.8		<45.8		ug/m3		NC		25
1,2-Dichlorobenzene	<53.2		<53.2		ug/m3		NC		25
1,2,4-Trichlorobenzene	<164		<164		ug/m3		NC		25
Hexachlorobutadiene	<94.3		<94.3		ug/m3		NC		25
Naphthalene	<116		<116		ug/m3		NC		25
Dibromochloromethane	<75.3		<75.3		ug/m3		NC		25

QC Association Summary

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-38743-1
SDG: 200-38743-1

Air - GC/MS VOA

Analysis Batch: 117144

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-38743-1	AS-1	Total/NA	Air	TO-15	
200-38743-2	AS-4	Total/NA	Air	TO-15	
200-38743-3	AS-2	Total/NA	Air	TO-15	
200-38743-4	AS-3	Total/NA	Air	TO-15	
200-38743-5	AS-5	Total/NA	Air	TO-15	
200-38743-6	AS-6	Total/NA	Air	TO-15	
200-38743-7	AS-9	Total/NA	Air	TO-15	
200-38743-8	AS-8	Total/NA	Air	TO-15	
200-38743-9	AS-7	Total/NA	Air	TO-15	
200-38743-10	AS-10	Total/NA	Air	TO-15	
MB 200-117144/4	Method Blank	Total/NA	Air	TO-15	
LCS 200-117144/3	Lab Control Sample	Total/NA	Air	TO-15	
200-38743-1 DU	AS-1	Total/NA	Air	TO-15	

Lab Chronicle

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-38743-1
SDG: 200-38743-1

Client Sample ID: AS-1
Date Collected: 05/25/17 15:07
Date Received: 05/30/17 09:50

Lab Sample ID: 200-38743-1
Matrix: Air

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		44.2	117144	05/31/17 16:51	K1P	TAL BUR

Client Sample ID: AS-4
Date Collected: 05/25/17 14:59
Date Received: 05/30/17 09:50

Lab Sample ID: 200-38743-2
Matrix: Air

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		301	117144	05/31/17 18:36	K1P	TAL BUR

Client Sample ID: AS-2
Date Collected: 05/25/17 15:17
Date Received: 05/30/17 09:50

Lab Sample ID: 200-38743-3
Matrix: Air

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		6.06	117144	05/31/17 19:29	K1P	TAL BUR

Client Sample ID: AS-3
Date Collected: 05/25/17 15:06
Date Received: 05/30/17 09:50

Lab Sample ID: 200-38743-4
Matrix: Air

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		70.4	117144	05/31/17 20:22	K1P	TAL BUR

Client Sample ID: AS-5
Date Collected: 05/25/17 14:50
Date Received: 05/30/17 09:50

Lab Sample ID: 200-38743-5
Matrix: Air

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		4	117144	05/31/17 21:14	K1P	TAL BUR

Client Sample ID: AS-6
Date Collected: 05/25/17 16:30
Date Received: 05/30/17 09:50

Lab Sample ID: 200-38743-6
Matrix: Air

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		15	117144	05/31/17 22:07	K1P	TAL BUR

Lab Chronicle

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-38743-1
SDG: 200-38743-1

Client Sample ID: AS-9

Date Collected: 05/26/17 09:34

Date Received: 05/30/17 09:50

Lab Sample ID: 200-38743-7

Matrix: Air

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		2.5	117144	05/31/17 22:59	K1P	TAL BUR

Client Sample ID: AS-8

Date Collected: 05/26/17 11:48

Date Received: 05/30/17 09:50

Lab Sample ID: 200-38743-8

Matrix: Air

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		4	117144	05/31/17 23:52	K1P	TAL BUR

Client Sample ID: AS-7

Date Collected: 05/26/17 12:18

Date Received: 05/30/17 09:50

Lab Sample ID: 200-38743-9

Matrix: Air

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		4	117144	06/01/17 00:45	K1P	TAL BUR

Client Sample ID: AS-10

Date Collected: 05/26/17 14:02

Date Received: 05/30/17 09:50

Lab Sample ID: 200-38743-10

Matrix: Air

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		2.99	117144	06/01/17 01:37	K1P	TAL BUR

Laboratory References:

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

Accreditation/Certification Summary

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-38743-1
SDG: 200-38743-1

Laboratory: TestAmerica Burlington

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Minnesota	NELAP	5	050-999-436	12-31-17

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

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

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

Method Summary

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-38743-1
SDG: 200-38743-1

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

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

Sample Summary

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-38743-1
SDG: 200-38743-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
200-38743-1	AS-1	Air	05/25/17 15:07	05/30/17 09:50
200-38743-2	AS-4	Air	05/25/17 14:59	05/30/17 09:50
200-38743-3	AS-2	Air	05/25/17 15:17	05/30/17 09:50
200-38743-4	AS-3	Air	05/25/17 15:06	05/30/17 09:50
200-38743-5	AS-5	Air	05/25/17 14:50	05/30/17 09:50
200-38743-6	AS-6	Air	05/25/17 16:30	05/30/17 09:50
200-38743-7	AS-9	Air	05/26/17 09:34	05/30/17 09:50
200-38743-8	AS-8	Air	05/26/17 11:48	05/30/17 09:50
200-38743-9	AS-7	Air	05/26/17 12:18	05/30/17 09:50
200-38743-10	AS-10	Air	05/26/17 14:02	05/30/17 09:50



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 200-38743 Chain of Custody



Client Contact Information		Project Manager: Wade Carlson		Samples Collected By: WJDM		1 of 1 COCs									
Company: CARLSON McCAIN		Phone: 763-489-7900		EPA 3C		EPA 25C									
Address: 5930 Pleasant Ridge Dr NE		Email: wcarlson@carlsonmccain.com		MA-APH		ASTM D-1946									
City/State/Zip: Blaine, MN 55449		Site Contact:		TO-15		Other (Please specify in notes section)									
Phone: 763-489-7900		TA Contact:		Canister ID		Sample Type									
FAX:		Analysis Turnaround Time		Flow Controller ID		Indoor Air									
Project Name: DENIKA		Standard (Specify) <input checked="" type="checkbox"/>		Canister Vacuum in Field, "Hg (Start)		Ambient Air									
Site: Friedberg, MN		Rush (Specify)		Canister Vacuum in Field, "Hg (Stop)		Soil Gas									
PO #		Time Start		Canister Vacuum in Field, "Hg (Start)		Landfill Gas									
Sample Identification		Time Stop		Canister Vacuum in Field, "Hg (Stop)		Other (Please specify in notes section)									
AS-1	1441	1507	-26	-4	4900	6006									
AS-4	1424	1459	-31	-3	6131	3708									
AS-2	1449	1517	-27	-3	4582	5136									
AS-3	1433	1500	-28	-2	5316	5412									
AS-5	1418	1450	-29	-3	5332	2704									
AS-10	1458	1630	-26	-5.5	6243	4285									
<table border="1"> <thead> <tr> <th colspan="2">Temperature (Fahrenheit)</th> </tr> <tr> <th>Interior</th> <th>Ambient</th> </tr> </thead> <tbody> <tr> <td>Start</td> <td></td> </tr> <tr> <td>Stop</td> <td></td> </tr> </tbody> </table>								Temperature (Fahrenheit)		Interior	Ambient	Start		Stop	
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Interior	Ambient														
Start															
Stop															
Special Instructions/QC Requirements & Comments:															
Samples Shipped by:		Date/Time:		Samples Received by:		Date/Time:									
Relinquished by: <i>[Signature]</i>		5/26/17		Received by: <i>[Signature]</i>		5-26-17 140									
Shipper Name:		Date/Time: 5-26-17 1900		Received by: <i>[Signature]</i>		Date/Time: 5/26/17 0930									
Lab Use Only		Opened by:		Condition:											



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

<p>Client Contact Information Company: <u>CARLSON MCCAIG</u> Address: <u>3890 PINEASANT RIDGE DRIVE</u> City/State/Zip: <u>BLAINE, MN 55449</u> Phone: <u>703-499-7400</u> FAX:</p> <p>Project Name: <u>WINATA peviso</u> Site: PO #</p>	<p>Project Manager: <u>Wade Carlsson</u> Phone: <u>703-499-7900</u> Email: <u>wcarlsson@carlsonmccain.com</u></p> <p>Site Contact: TA Contact:</p> <p>Analysis Turnaround Time Standard (Specify) <input checked="" type="checkbox"/> <u>✓</u> Rush (Specify)</p>	<p>Samples Collected By: <u>Megan Lindstrom</u> of <u>1</u> COCs <u>AND DANNY MARGARIT</u></p>	<p>ASTM D-1946</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Other (Please specify in notes section)</th> <th>Sample Type</th> <th>Indoor Air</th> <th>Ambient Air</th> <th>Soil Gas</th> <th>Landfill Gas</th> <th>Other (Please specify in notes section)</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)																																																																																							
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<p>Shipper Name:</p>						<p>Opened by:</p>			<p>Condition:</p>																																																																																								



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: 23MAY17
ACTWGT: 15.00 LB MAN
CAD: 000890364/CAFE3011
DIMS: 10x10x13 IN

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

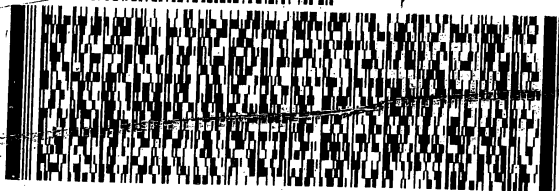
SHIP DATE: 18MAY17
ACTWGT: 5.00 LB MAN
CAD: 000890364/CAFE3011

TO **SAMPLE MANAGEMENT**
TEST AMERICA BURLINGTON
30 COMMUNITY DRIVE
SUITE 11
SOUTH BURLINGTON VT 05403

(802) 923-1068
RMA: S200-17528

REF: S200-17528

RMA: 



FedEx Express




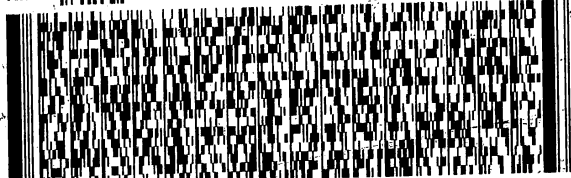
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TO **SAMPLE MANAGEMENT**
TEST AMERICA BURLINGTON
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SOUTH BURLINGTON VT 05403

(802) 923-1068

REF: S200-17527

RMA: 



FedEx Express



AN100101912191

RETURNS MON-FRI

FID 6216191 26MAY17 MICA 546C1/8734/0C8A



BT
VT-US
05403

TC BTVA

0221
7337 0623 6185

TUE - 30 MAY 10:30A
PRIORITY OVERNIGHT

FID 5216191 26MAY17 MICA 546C1/8734/0C8A



BT
VT-US

05403

TC BTVA

0221
7337 0623 4930

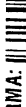
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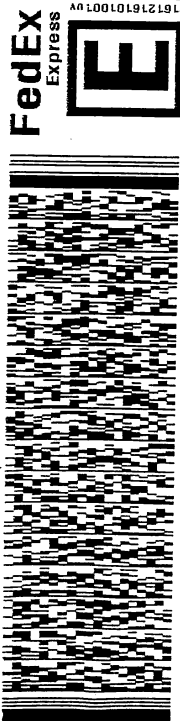
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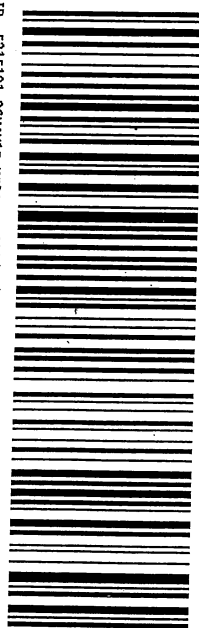
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BT
VT-US

05403

TC BTVA

0221
7337 0623 4940

TUE - 30 MAY 10:30A
PRIORITY OVERNIGHT

Login Sample Receipt Checklist

Client: Carlson McCain, Inc.

Job Number: 200-38743-1
SDG Number: 200-38743-1

Login Number: 38743
List Number: 1
Creator: Cota, Fred P

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	078241, 078242, 078243
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	ML/DM
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:				
Bottom Rack		20		4/4/2017		EJE		6L		Batch Individual				
Port	Can ID	Initial ¹ ("Hg)	Final ("Hg)	Adj. Initial ² ("Hg)	Diff. ³	Gauge:	Date:	Initial Reading Time:	BP:	Temp:	Final Reading Time:	Tech:	BP:	Temp:
1	4290	-28.8	-29.3	-29.3	0	622	4/7/17	12:00	28.7	22	16:30	←	29.2	22
2	4304	-29.5	-29.6	-29.6	0	622	4/5/17	11:00	29.3	22	14:30	←	29.4	22
3	5455	-29.6	-29.6	-29.6	0									
4	5008	-29.6	-29.6	-29.6	0									
5	3257	-29.6	-29.6	-29.6	0									
6	5426	-29.6	-29.6	-29.6	0									
7	6006	-29.6	-29.6	-29.6	0									
8	2908	-29.6	-29.6	-29.6	0									
9	3012	-29.6	-29.6	-29.6	0									
10	3346	-29.7	-29.7	-29.7	-0.1									
11	4543	-29.7	-29.7	-29.7	-0.1									
12	5026	-29.7	-29.7	-29.7	-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

Can ID	Date	Sequence	Analyst	Inventory Level				Secondary Review			
				1	2	3	4	Limited	Review Date	Review	
4290	4/6/17	24616	WRO for Breybach		XXXX					4/2/17	WRO

Comments:

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.

200-38096-A-1
4290
Location: Air-Storage
Bottle: Summa Canister 6L
Sampled: 4/4/2017 12:00 AM 200-1028147

Loc: 200
38096
#1
A



Pre-shipment Clean Canister Certification Report

System ID					# Cycles		Cleaning Date		Technician				Canister Size		Certification Type:			
Bottom Rack					20		4/13/2014		SML				1L		6L		Individual	
Port	Can ID	Initial ¹ ("Hg)	Final ("Hg)	Adj. Initial ² ("Hg)	Diff. ³	Gauge:	Date:	Time:	Tech:	BP:	Temp:	Gauge:	Date:	Time:	Tech:	BP:	Temp:	
1	3733	-30.0	-29.9	-29.9	0	G-22	4/14/17	1145	5-	29.9	22	G-22		1330				
2	5681		-29.9		0													
3	4787		-29.9		0													
4	3429	-30.0	-29.9	-29.9	0	G-22	4/18/17	1240	←	29.9	22	G-22	4/19/17	1300	←	29.8	22	
5	4086	-30.0	-29.9	-29.9	0	G-22	4/14/17	1115	←	29.9	22			1330				
6	4564		-29.9		0													
7	5709		-29.9		0													
8	4447		-29.9		0													
9	6021		-29.9		0													
10	3707		-29.9		0													
11	4289		-29.9		0													
12	3209		-29.9		0													

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

Can ID	Date	Sequence	Analyst	Inventory Level				Secondary Review	
				1	2	3	4		
3429	4/15/17	24735	WWD		XXXX			Review Date 4/12/17	Review WWD

Comments:

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.



200-38229-A-4
3429
Location: AH-Storage
Bottle: Summit Canister, 6L
Sample: 4/14/2017 12:00 AM 200-1030912

Pre-shipment Clean Canister Certification Report

System ID				# Cycles				Cleaning Date				Technician				Canister Size				Certification Type:				
Top Rack				20				4/30/2017				SML				6L				Individual				
Port	Can ID	Initial ¹ ("Hg)	Final ("Hg)	Adj. Initial ² ("Hg)	Diff. ³	Gauge:	Date:	Time:	Tech:	BP:	Temp:	Gauge:	Date:	Time:	Tech:	BP:	Temp:	Gauge:	Date:	Time:	Tech:	BP:	Temp:	
1	5964	-29.5	-29.6	-29.6	0	G-22	5/11/17	11:5	←	29.4	22	G-22	5/11/17	10:30	←	29.5	22							
2	3353		-29.6		0		5/11/17																	
3	5061		-29.6		0																			
4	4781		-29.6		0																			
5	5412		-29.6		0																			
6	5387		-29.6		0																			
7	2712		-29.6		0																			
8	5136		-29.6		0																			
9	5977		-29.6		0																			
10	3254		-29.6		0																			
11	3792		-29.6		0																			
12	5701		-29.6		0	G-22	5/9/17	12:00	←	29.5	22	G-22	5/10/17	12:30	←	29.5	22							

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 PMI 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			Inventory Level				Secondary Review				
Can ID	Date	Analyst	1	2	3	4	Limited	Review Date	Reviewer		
5701	5/2/17	WWD		XXXX				5/3/17	WWD		

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:

200-38411-A-12
 5701
 Location: Air-Storage
 Bottle: Summa Canister 6L
 Sampled: 5/1/2017 12:00 AM 200-1034467

Loc: 200
 38411
 #12
 A



Pre-shipment Clean Canister Certification Report

Canister Cleaning & Pre-shipment Leak Test

System ID			# Cycles			Cleaning Date			Technician			Canister Size			Certification Type:								
Bottom Rack			20			4/30/2017			SML			1L			6L			Batch			Individual		
Port	Can ID	Initial ¹ ("Hg)	Final ("Hg)	Adj. Initial ² ("Hg)	Diff. ³	Gauge	Date	Time	Tech	BP	Temp	Gauge	Date	Time	Tech	BP	Temp						
1	5414	-29.6	-29.6	-29.6	0	0-22	5/9/17	12:00	←	29.5	22	0-22	5/10/17	12:30	←	29.5	22						
2	5441	-29.5	-29.6	-29.6	0	0-22	5/11/17	11:15	←	29.4	22	0-22	5/9/17	15:00	←	29.5	22						
3	5066	↓	-29.6	-29.6	0	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓						
4	5678	↓	-29.6	-29.6	0	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓						
5	2911	↓	-29.6	-29.6	0	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓						
6	4116	↓	-29.6	-29.6	0	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓						
7	4573	↓	-29.4	-29.4	+0.2	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓						
8	2641	↓	-29.6	-29.6	0	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓						
9	5146	↓	-29.6	-29.6	0	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓						
10	3517	↓	-29.2	-29.2	+0.4	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓						
11	5127	↓	-29.6	-29.6	0	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓						
12	5975	↓	-29.6	-29.6	0	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓						

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 PMI must authorize shipment of canister. **PM Authorization Signature:** _____ **Date:** _____

Clean Canister Certification Analysis & Authorization of Release to Inventory

Can ID	Date	Sequence	Analyst	Inventory Level				Secondary Review	
				1	2	3	4		
5414	5/2/17	24942	WAO		XXXX			Review Date: 5/3/17	Reviewer: WAO

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: _____

200-38412-A-1
 5414
 Location: Air-Storage
 Bottle: Summa Canister 6L
 Sampled: 5/1/2017 12:00 AM 200-1034468

Loc: 200
38412
#1
A



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

Lab Name: TestAmerica Burlington Job No.: 200-38096-1
 SDG No.: _____
 Client Sample ID: 4290 Lab Sample ID: 200-38096-1
 Matrix: Air Lab File ID: 24616_11.D
 Analysis Method: TO-15 Date Collected: 04/04/2017 00:00
 Sample wt/vol: 1000 (mL) Date Analyzed: 04/06/2017 19:08
 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.: 115554 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.: 200-38096-1
 SDG No.: _____
 Client Sample ID: 4290 Lab Sample ID: 200-38096-1
 Matrix: Air Lab File ID: 24616_11.D
 Analysis Method: TO-15 Date Collected: 04/04/2017 00:00
 Sample wt/vol: 1000 (mL) Date Analyzed: 04/06/2017 19:08
 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.: 115554 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.: 200-38096-1
 SDG No.: _____
 Client Sample ID: 4290 Lab Sample ID: 200-38096-1
 Matrix: Air Lab File ID: 24616_11.D
 Analysis Method: TO-15 Date Collected: 04/04/2017 00:00
 Sample wt/vol: 1000 (mL) Date Analyzed: 04/06/2017 19:08
 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.: 115554 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\CHX.i\20170406-24616.b\24616_11.D
 Lims ID: 200-38096-A-1
 Client ID: 4290
 Sample Type: Client
 Inject. Date: 06-Apr-2017 19:08:30 ALS Bottle#: 9 Worklist Smp#: 11
 Purge Vol: 200.000 mL Dil. Factor: 0.2000
 Sample Info: 200-0024616-011
 Misc. Info.: 38096-1
 Operator ID: pad Instrument ID: CHX.i
 Method: \\ChromNA\Burlington\ChromData\CHX.i\20170406-24616.b\TO15_MasterMethod_X.m.m
 Limit Group: AI_TO15_ICAL
 Last Update: 07-Apr-2017 08:04:01 Calib Date: 19-Feb-2017 19:03:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\ChromNA\Burlington\ChromData\CHX.i\20170219-23993.b\23993_11.D
 Column 1 : RTX-624 (0.32 mm) Det: MS SCAN
 Process Host: XAWRK032

First Level Reviewer: desjardinsb

Date: 07-Apr-2017 08:04:01

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ppb v/v	Flags
1 Propene	41		3.060				ND	
2 Dichlorodifluoromethane	85		3.129				ND	
3 Chlorodifluoromethane	51		3.178				ND	
4 1,2-Dichloro-1,1,2,2-tetra	85		3.381				ND	
5 Chloromethane	50		3.515				ND	
6 Butane	43		3.697				ND	
7 Vinyl chloride	62		3.745				ND	
8 Butadiene	54		3.814				ND	
10 Bromomethane	94		4.462				ND	
11 Chloroethane	64		4.681				ND	
13 Vinyl bromide	106		5.055				ND	
14 Trichlorofluoromethane	101		5.141				ND	
17 Ethanol	45		5.745				ND	
20 1,1,2-Trichloro-1,2,2-trif	101		6.168				ND	
21 1,1-Dichloroethene	96		6.227				ND	
22 Acetone	43		6.510				ND	
23 Carbon disulfide	76		6.617				ND	
24 Isopropyl alcohol	45		6.815				ND	
25 3-Chloro-1-propene	41		7.008				ND	
27 Methylene Chloride	49		7.308				ND	
28 2-Methyl-2-propanol	59		7.596				ND	
29 Methyl tert-butyl ether	73		7.730				ND	
31 trans-1,2-Dichloroethene	61		7.736				ND	
33 Hexane	57		8.110				ND	
34 1,1-Dichloroethane	63		8.629				ND	
35 Vinyl acetate	43		8.720				ND	
S 30 1,2-Dichloroethene, Total	61		9.665				ND	
37 cis-1,2-Dichloroethene	96		9.774				ND	
38 2-Butanone (MEK)	72		9.870				ND	
39 Ethyl acetate	88		9.897				ND	
* 40 Chlorobromomethane	128	10.260	10.261	-0.001	79	113274	10.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ppb v/v	Flags
41 Tetrahydrofuran	42		10.314				ND	
42 Chloroform	83		10.400				ND	
43 Cyclohexane	84		10.635				ND	
44 1,1,1-Trichloroethane	97		10.673				ND	
45 Carbon tetrachloride	117		10.935				ND	
46 Isooctane	57		11.389				ND	
47 Benzene	78		11.443				ND	
48 1,2-Dichloroethane	62		11.652				ND	
49 n-Heptane	43		11.807				ND	
* 50 1,4-Difluorobenzene	114	12.347	12.352	-0.005	93	639967	10.0	
53 Trichloroethene	95		12.839				ND	
54 1,2-Dichloropropane	63		13.449				ND	
55 Methyl methacrylate	69		13.647				ND	
57 Dibromomethane	174		13.717				ND	
56 1,4-Dioxane	88		13.727				ND	
58 Dichlorobromomethane	83		14.021				ND	
60 cis-1,3-Dichloropropene	75		15.006				ND	
61 4-Methyl-2-pentanone (MIBK)	43		15.354				ND	
65 Toluene	92		15.616				ND	
66 trans-1,3-Dichloropropene	75		16.263				ND	
67 1,1,2-Trichloroethane	83		16.659				ND	
68 Tetrachloroethene	166		16.739				ND	
69 2-Hexanone	43		17.167				ND	
71 Chlorodibromomethane	129		17.456				ND	
72 Ethylene Dibromide	107		17.739				ND	
* 74 Chlorobenzene-d5	117	18.681	18.686	-0.005	83	595483	10.0	
75 Chlorobenzene	112		18.751				ND	
76 Ethylbenzene	91		18.911				ND	
78 m-Xylene & p-Xylene	106		19.179				ND	
S 73 Xylenes, Total	106		19.600				ND	
79 o-Xylene	106		20.072				ND	
80 Styrene	104		20.136				ND	
81 Bromoform	173		20.596				ND	
82 Isopropylbenzene	105		20.821				ND	
84 1,1,2,2-Tetrachloroethane	83		21.538				ND	
85 N-Propylbenzene	91		21.602				ND	
88 4-Ethyltoluene	105		21.805				ND	
89 2-Chlorotoluene	91		21.811				ND	
90 1,3,5-Trimethylbenzene	105		21.918				ND	
92 tert-Butylbenzene	119		22.431				ND	
93 1,2,4-Trimethylbenzene	105		22.533				ND	
94 sec-Butylbenzene	105		22.774				ND	
95 4-Isopropyltoluene	119		22.988				ND	
96 1,3-Dichlorobenzene	146		23.014				ND	
97 1,4-Dichlorobenzene	146		23.153				ND	
98 Benzyl chloride	91		23.367				ND	
100 n-Butylbenzene	91		23.581				ND	
101 1,2-Dichlorobenzene	146		23.710				ND	
103 1,2,4-Trichlorobenzene	180		26.299				ND	
104 Hexachlorobutadiene	225		26.486				ND	
105 Naphthalene	128		26.807				ND	

Reagents:

ATTO15XISs_00002

Amount Added: 20.00

Units: mL

Run Reagent

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

Data File: \\ChromNA\Burlington\ChromData\CHX.i\20170406-24616.b\24616_11.D

Injection Date: 06-Apr-2017 19:08:30

Instrument ID: CHX.i

Operator ID: pad

Lims ID: 200-38096-A-1

Lab Sample ID: 200-38096-1

Worklist Smp#: 11

Client ID: 4290

Purge Vol: 200.000 mL

Dil. Factor: 0.2000

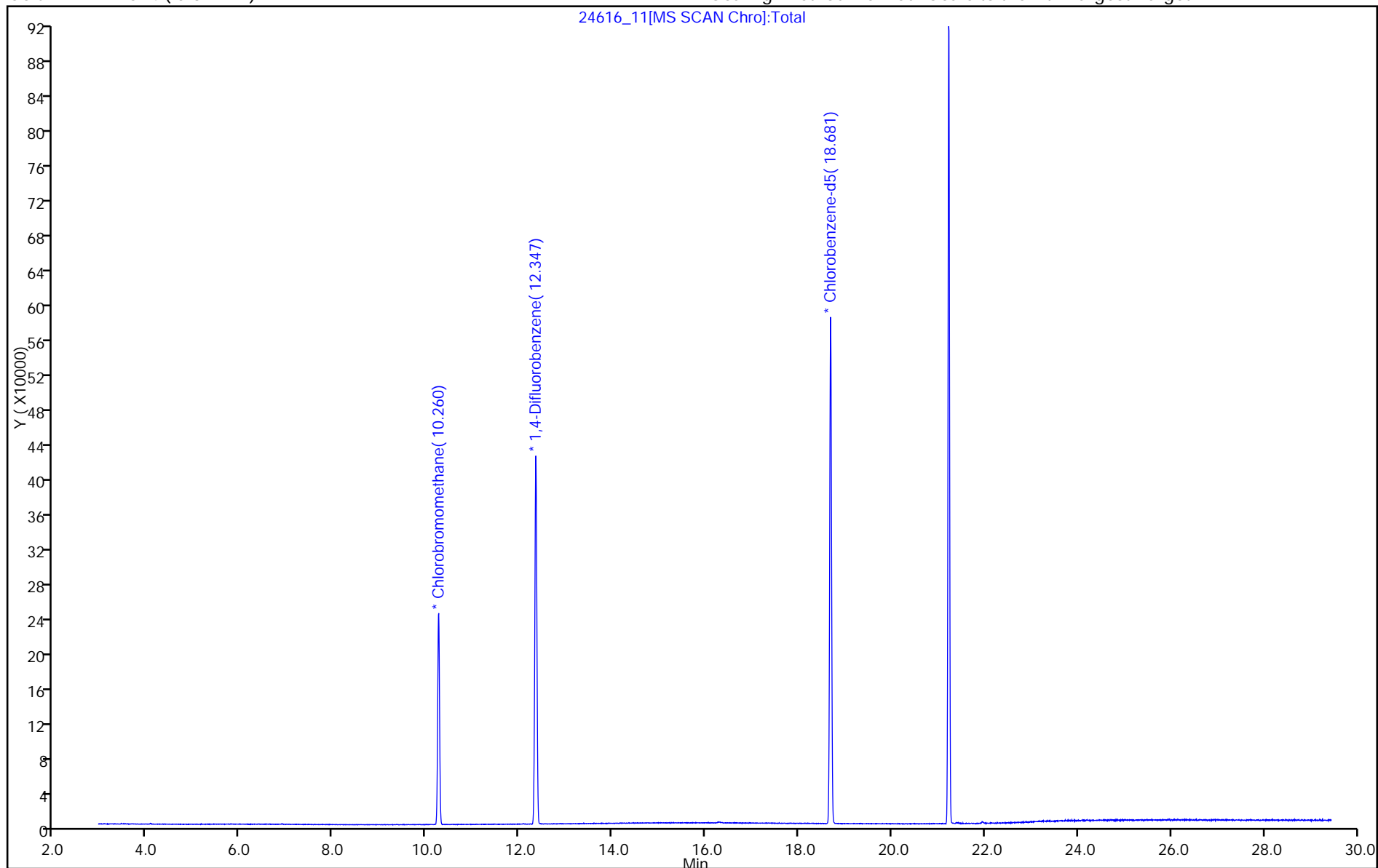
ALS Bottle#: 9

Method: TO15_MasterMethod_X.m

Limit Group: AI_TO15_ICAL

Column: RTX-624 (0.32 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



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

Lab Name: TestAmerica Burlington Job No.: 200-38229-1
 SDG No.: _____
 Client Sample ID: 3429 Lab Sample ID: 200-38229-4
 Matrix: Air Lab File ID: 24739_29.D
 Analysis Method: TO-15 Date Collected: 04/14/2017 00:00
 Sample wt/vol: 1000 (mL) Date Analyzed: 04/15/2017 10:39
 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.: 115825 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.: 200-38229-1
 SDG No.: _____
 Client Sample ID: 3429 Lab Sample ID: 200-38229-4
 Matrix: Air Lab File ID: 24739_29.D
 Analysis Method: TO-15 Date Collected: 04/14/2017 00:00
 Sample wt/vol: 1000 (mL) Date Analyzed: 04/15/2017 10:39
 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.: 115825 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.: 200-38229-1
 SDG No.: _____
 Client Sample ID: 3429 Lab Sample ID: 200-38229-4
 Matrix: Air Lab File ID: 24739_29.D
 Analysis Method: TO-15 Date Collected: 04/14/2017 00:00
 Sample wt/vol: 1000 (mL) Date Analyzed: 04/15/2017 10:39
 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.: 115825 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\CHX.i\20170414-24739.b\24739_29.D
 Lims ID: 200-38229-A-4
 Client ID: 3429
 Sample Type: Client
 Inject. Date: 15-Apr-2017 10:39:30 ALS Bottle#: 10 Worklist Smp#: 29
 Purge Vol: 200.000 mL Dil. Factor: 0.2000
 Sample Info: 200-0024739-029
 Misc. Info.: 38229-4
 Operator ID: wrd Instrument ID: CHX.i
 Method: \\ChromNA\Burlington\ChromData\CHX.i\20170414-24739.b\TO15_MasterMethod_X.m.m
 Limit Group: AI_TO15_ICAL
 Last Update: 17-Apr-2017 09:13:42 Calib Date: 19-Feb-2017 19:03:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\ChromNA\Burlington\ChromData\CHX.i\20170219-23993.b\23993_11.D
 Column 1 : RTX-624 (0.32 mm) Det: MS SCAN
 Process Host: XAWRK023

First Level Reviewer: desjardinsb

Date: 17-Apr-2017 09:13:42

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ppb v/v	Flags
1 Propene	41		3.065				ND	
2 Dichlorodifluoromethane	85		3.129				ND	
3 Chlorodifluoromethane	51		3.177				ND	
4 1,2-Dichloro-1,1,2,2-tetra	85		3.381				ND	
5 Chloromethane	50	3.520	3.515	0.006	93	615	0.0616	
6 Butane	43		3.702				ND	
7 Vinyl chloride	62		3.745				ND	
8 Butadiene	54		3.814				ND	
10 Bromomethane	94		4.461				ND	
11 Chloroethane	64		4.681				ND	
13 Vinyl bromide	106		5.055				ND	
14 Trichlorofluoromethane	101		5.141				ND	
17 Ethanol	45		5.756				ND	
20 1,1,2-Trichloro-1,2,2-trif	101		6.168				ND	
21 1,1-Dichloroethene	96		6.227				ND	
22 Acetone	43	6.537	6.510	0.027	98	9126	0.5236	
23 Carbon disulfide	76		6.617				ND	
24 Isopropyl alcohol	45		6.815				ND	
25 3-Chloro-1-propene	41		7.008				ND	
27 Methylene Chloride	49		7.302				ND	
28 2-Methyl-2-propanol	59		7.596				ND	
31 trans-1,2-Dichloroethene	61		7.730				ND	
29 Methyl tert-butyl ether	73		7.735				ND	
33 Hexane	57		8.110				ND	
34 1,1-Dichloroethane	63		8.629				ND	
35 Vinyl acetate	43		8.720				ND	
S 30 1,2-Dichloroethene, Total	61		9.665				ND	
37 cis-1,2-Dichloroethene	96		9.774				ND	
38 2-Butanone (MEK)	72		9.870				ND	
39 Ethyl acetate	88		9.897				ND	
* 40 Chlorobromomethane	128	10.250	10.260	-0.010	89	131637	10.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ppb v/v	Flags
41 Tetrahydrofuran	42		10.309				ND	
42 Chloroform	83		10.394				ND	
43 Cyclohexane	84		10.630				ND	
44 1,1,1-Trichloroethane	97		10.672				ND	
45 Carbon tetrachloride	117		10.924				ND	
46 Isooctane	57		11.384				ND	
47 Benzene	78	11.437	11.437	0.000	84	1813	0.0402	
48 1,2-Dichloroethane	62		11.646				ND	
49 n-Heptane	43		11.801				ND	
* 50 1,4-Difluorobenzene	114	12.342	12.347	-0.005	94	742325	10.0	
53 Trichloroethene	95		12.834				ND	
54 1,2-Dichloropropane	63		13.444				ND	
55 Methyl methacrylate	69		13.641				ND	
57 Dibromomethane	174		13.711				ND	
56 1,4-Dioxane	88		13.722				ND	
58 Dichlorobromomethane	83		14.021				ND	
60 cis-1,3-Dichloropropene	75		15.000				ND	
61 4-Methyl-2-pentanone (MIBK)	43		15.348				ND	
65 Toluene	92		15.610				ND	
66 trans-1,3-Dichloropropene	75		16.258				ND	
67 1,1,2-Trichloroethane	83		16.653				ND	
68 Tetrachloroethene	166		16.734				ND	
69 2-Hexanone	43		17.162				ND	
71 Chlorodibromomethane	129		17.450				ND	
72 Ethylene Dibromide	107		17.734				ND	
* 74 Chlorobenzene-d5	117	18.676	18.676	0.000	85	665874	10.0	
75 Chlorobenzene	112		18.740				ND	
76 Ethylbenzene	91		18.906				ND	
78 m-Xylene & p-Xylene	106		19.168				ND	
S 73 Xylenes, Total	106		19.600				ND	
79 o-Xylene	106		20.066				ND	
80 Styrene	104		20.125				ND	
81 Bromoform	173		20.591				ND	
82 Isopropylbenzene	105		20.815				ND	
84 1,1,2,2-Tetrachloroethane	83		21.532				ND	
85 N-Propylbenzene	91		21.591				ND	
89 2-Chlorotoluene	91		21.800				ND	
88 4-Ethyltoluene	105		21.800				ND	
90 1,3,5-Trimethylbenzene	105		21.912				ND	
92 tert-Butylbenzene	119		22.426				ND	
93 1,2,4-Trimethylbenzene	105		22.527				ND	
94 sec-Butylbenzene	105		22.768				ND	
95 4-Isopropyltoluene	119		22.982				ND	
96 1,3-Dichlorobenzene	146		23.009				ND	
97 1,4-Dichlorobenzene	146		23.153				ND	
98 Benzyl chloride	91		23.362				ND	
100 n-Butylbenzene	91		23.576				ND	
101 1,2-Dichlorobenzene	146		23.704				ND	
103 1,2,4-Trichlorobenzene	180		26.294				ND	
104 Hexachlorobutadiene	225		26.481				ND	
105 Naphthalene	128		26.796				ND	

Reagents:

ATTO15XISs_00002

Amount Added: 20.00

Units: mL

Run Reagent

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\CHX.i\20170414-24739.b\24739_29.D

Injection Date: 15-Apr-2017 10:39:30

Instrument ID: CHX.i

Operator ID: wrd

Lims ID: 200-38229-A-4

Lab Sample ID: 200-38229-4

Worklist Smp#: 29

Client ID: 3429

Purge Vol: 200.000 mL

Dil. Factor: 0.2000

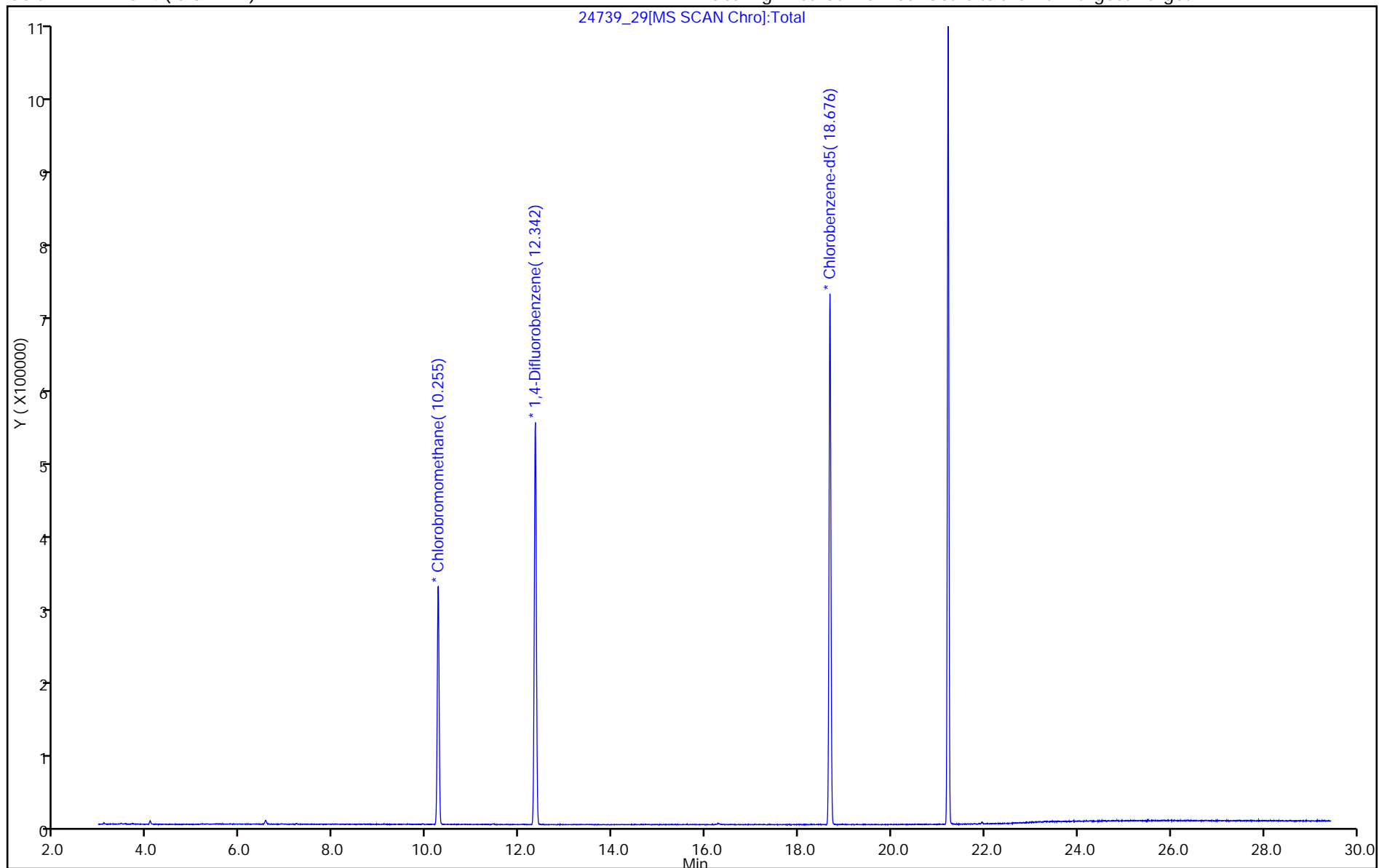
ALS Bottle#: 10

Method: TO15_MasterMethod_X.m

Limit Group: AI_TO15_ICAL

Column: RTX-624 (0.32 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



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

Lab Name: TestAmerica Burlington Job No.: 200-38411-1
 SDG No.: _____
 Client Sample ID: 5701 Lab Sample ID: 200-38411-12
 Matrix: Air Lab File ID: 24942_08.D
 Analysis Method: TO-15 Date Collected: 05/01/2017 00:00
 Sample wt/vol: 1000 (mL) Date Analyzed: 05/02/2017 10:12
 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.: 116262 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.: 200-38411-1
 SDG No.: _____
 Client Sample ID: 5701 Lab Sample ID: 200-38411-12
 Matrix: Air Lab File ID: 24942_08.D
 Analysis Method: TO-15 Date Collected: 05/01/2017 00:00
 Sample wt/vol: 1000 (mL) Date Analyzed: 05/02/2017 10:12
 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.: 116262 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.: 200-38411-1
 SDG No.: _____
 Client Sample ID: 5701 Lab Sample ID: 200-38411-12
 Matrix: Air Lab File ID: 24942_08.D
 Analysis Method: TO-15 Date Collected: 05/01/2017 00:00
 Sample wt/vol: 1000 (mL) Date Analyzed: 05/02/2017 10:12
 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.: 116262 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\20170501-24942.b\24942_08.D
 Lims ID: 200-38411-A-12
 Client ID: 5701
 Sample Type: Client
 Inject. Date: 02-May-2017 10:12:30 ALS Bottle#: 7 Worklist Smp#: 8
 Purge Vol: 200.000 mL Dil. Factor: 0.2000
 Sample Info: 200-0024942-008
 Misc. Info.: 38411-12
 Operator ID: wrd Instrument ID: CHC.i
 Method: \\ChromNA\Burlington\ChromData\CHC.i\20170501-24942.b\TO15_MasterMethod_(v1)_CHC.i.m
 Limit Group: AI_TO15_ICAL
 Last Update: 02-May-2017 16:43:01 Calib Date: 14-Apr-2017 00:49:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\ChromNA\Burlington\ChromData\CHC.i\20170413-24730.b\24730_11.D
 Column 1 : RTX-624 (0.32 mm) Det: MS SCAN
 Process Host: XAWRK005

First Level Reviewer: desjardinsb Date: 02-May-2017 16:43:37

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ppb v/v	Flags
1 Propene	41		2.978				ND	
2 Dichlorodifluoromethane	85		3.047				ND	
3 Chlorodifluoromethane	51		3.101				ND	
4 1,2-Dichloro-1,1,2,2-tetra	85		3.314				ND	
5 Chloromethane	50		3.448				ND	
6 Butane	43		3.650				ND	
7 Vinyl chloride	62		3.688				ND	
8 Butadiene	54		3.768				ND	
10 Bromomethane	94		4.446				ND	
11 Chloroethane	64		4.686				ND	
13 Vinyl bromide	106		5.081				ND	
14 Trichlorofluoromethane	101		5.193				ND	
17 Ethanol	45		5.785				ND	
20 1,1,2-Trichloro-1,2,2-trif	101		6.287				ND	
21 1,1-Dichloroethene	96		6.324				ND	
22 Acetone	43		6.554				ND	
23 Carbon disulfide	76		6.698				ND	
24 Isopropyl alcohol	45		6.885				ND	
25 3-Chloro-1-propene	41		7.119				ND	
27 Methylene Chloride	49		7.418				ND	
28 2-Methyl-2-propanol	59		7.664				ND	
29 Methyl tert-butyl ether	73		7.829				ND	
31 trans-1,2-Dichloroethene	61		7.867				ND	
33 Hexane	57		8.267				ND	
34 1,1-Dichloroethane	63		8.747				ND	
35 Vinyl acetate	43		8.833				ND	
37 cis-1,2-Dichloroethene	96		9.873				ND	
38 2-Butanone (MEK)	72		9.916				ND	
39 Ethyl acetate	88		9.975				ND	
S 30 1,2-Dichloroethene, Total	61		10.200				ND	
* 40 Chlorobromomethane	128	10.338	10.226	0.112	96	322576	10.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ppb v/v	Flags
41 Tetrahydrofuran	42		10.343				ND	
42 Chloroform	83		10.482				ND	
43 Cyclohexane	84		10.722				ND	
44 1,1,1-Trichloroethane	97		10.749				ND	
45 Carbon tetrachloride	117		11.005				ND	
46 Isooctane	57		11.453				ND	
47 Benzene	78		11.464				ND	
48 1,2-Dichloroethane	62		11.650				ND	
49 n-Heptane	43		11.859				ND	
* 50 1,4-Difluorobenzene	114	12.328	12.328	0.000	97	1625943	10.0	
53 Trichloroethene	95		12.798				ND	
54 1,2-Dichloropropane	63		13.353				ND	
55 Methyl methacrylate	69		13.545				ND	
56 1,4-Dioxane	88		13.588				ND	
57 Dibromomethane	174		13.614				ND	
58 Dichlorobromomethane	83		13.929				ND	
60 cis-1,3-Dichloropropene	75		14.879				ND	
61 4-Methyl-2-pentanone (MIBK)	43		15.162				ND	
65 Toluene	92		15.466				ND	
66 trans-1,3-Dichloropropene	75		16.075				ND	
67 1,1,2-Trichloroethane	83		16.448				ND	
68 Tetrachloroethene	166		16.560				ND	
69 2-Hexanone	43		16.897				ND	
71 Chlorodibromomethane	129		17.212				ND	
72 Ethylene Dibromide	107		17.473				ND	
* 74 Chlorobenzene-d5	117	18.370	18.375	-0.005	96	1462432	10.0	
75 Chlorobenzene	112		18.434				ND	
76 Ethylbenzene	91		18.588				ND	
78 m-Xylene & p-Xylene	106		18.839				ND	
79 o-Xylene	106		19.677				ND	
80 Styrene	104		19.731				ND	
S 73 Xylenes, Total	106		20.100				ND	
81 Bromoform	173		20.157				ND	
82 Isopropylbenzene	105		20.376				ND	
84 1,1,1,2,2-Tetrachloroethane	83		21.038				ND	
85 N-Propylbenzene	91		21.107				ND	
88 4-Ethyltoluene	105		21.300				ND	
89 2-Chlorotoluene	91		21.305				ND	
90 1,3,5-Trimethylbenzene	105		21.406				ND	
92 tert-Butylbenzene	119		21.897				ND	
93 1,2,4-Trimethylbenzene	105		21.993				ND	
94 sec-Butylbenzene	105		22.223				ND	
95 4-Isopropyltoluene	119		22.426				ND	
96 1,3-Dichlorobenzene	146		22.458				ND	
97 1,4-Dichlorobenzene	146		22.591				ND	
98 Benzyl chloride	91		22.783				ND	
100 n-Butylbenzene	91		22.991				ND	
101 1,2-Dichlorobenzene	146		23.114				ND	
103 1,2,4-Trichlorobenzene	180		25.548				ND	
104 Hexachlorobutadiene	225		25.735				ND	
105 Naphthalene	128		26.007				ND	

Reagents:

ATTO15CISs_00010

Amount Added: 20.00

Units: mL

Run Reagent

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\CHC.i\20170501-24942.b\24942_08.D

Injection Date: 02-May-2017 10:12:30

Instrument ID: CHC.i

Operator ID: wrd

Lims ID: 200-38411-A-12

Lab Sample ID: 200-38411-12

Worklist Smp#: 8

Client ID: 5701

Purge Vol: 200.000 mL

Dil. Factor: 0.2000

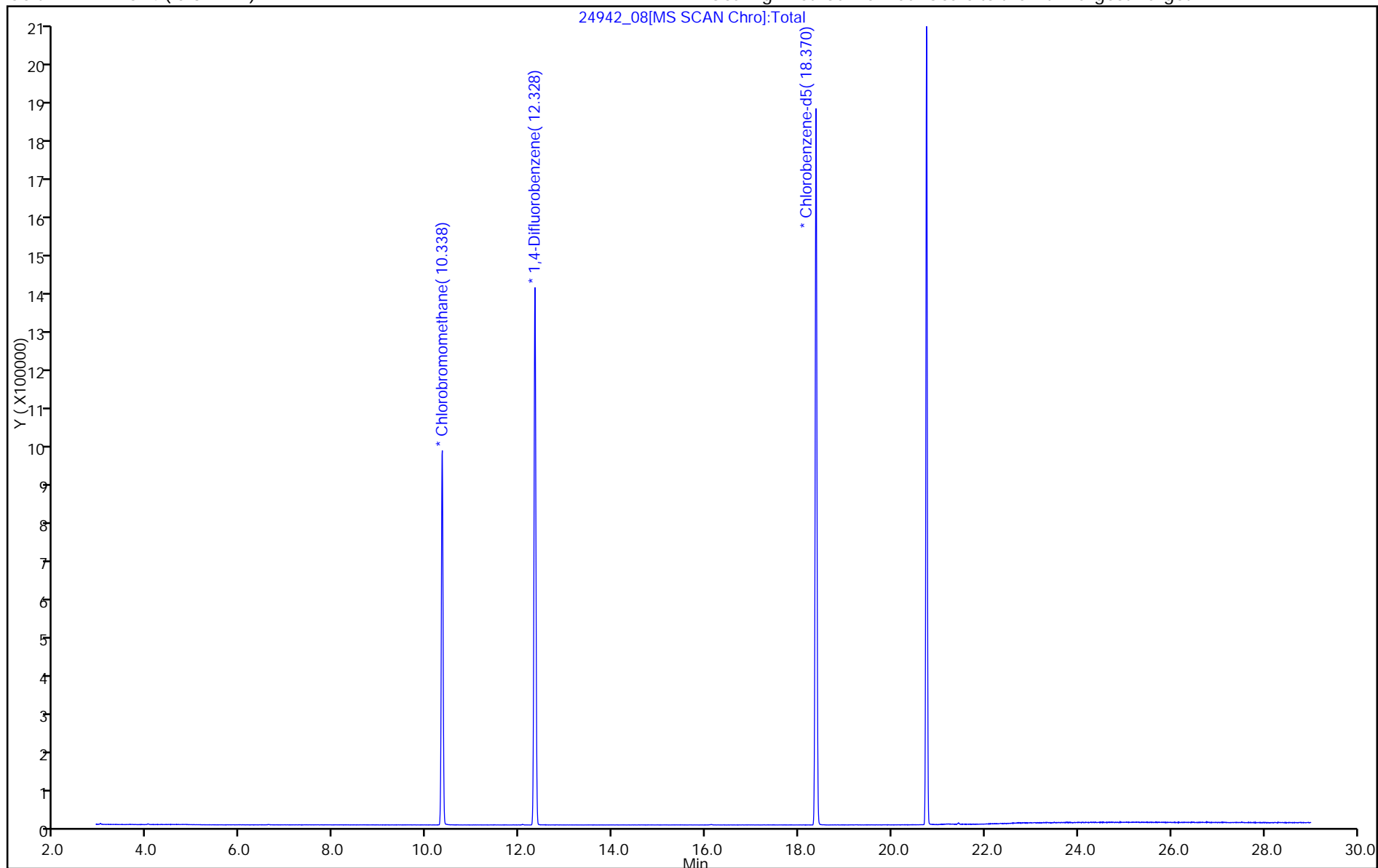
ALS Bottle#: 7

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



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

Lab Name: TestAmerica Burlington Job No.: 200-38412-1
 SDG No.: _____
 Client Sample ID: 5414 Lab Sample ID: 200-38412-1
 Matrix: Air Lab File ID: 24942_09.D
 Analysis Method: TO-15 Date Collected: 05/01/2017 00:00
 Sample wt/vol: 1000 (mL) Date Analyzed: 05/02/2017 11:11
 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.: 116262 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.: 200-38412-1
 SDG No.: _____
 Client Sample ID: 5414 Lab Sample ID: 200-38412-1
 Matrix: Air Lab File ID: 24942_09.D
 Analysis Method: TO-15 Date Collected: 05/01/2017 00:00
 Sample wt/vol: 1000 (mL) Date Analyzed: 05/02/2017 11:11
 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.: 116262 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.: 200-38412-1
 SDG No.: _____
 Client Sample ID: 5414 Lab Sample ID: 200-38412-1
 Matrix: Air Lab File ID: 24942_09.D
 Analysis Method: TO-15 Date Collected: 05/01/2017 00:00
 Sample wt/vol: 1000 (mL) Date Analyzed: 05/02/2017 11:11
 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.: 116262 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\20170501-24942.b\24942_09.D
 Lims ID: 200-38412-A-1
 Client ID: 5414
 Sample Type: Client
 Inject. Date: 02-May-2017 11:11:30 ALS Bottle#: 8 Worklist Smp#: 9
 Purge Vol: 200.000 mL Dil. Factor: 0.2000
 Sample Info: 200-0024942-009
 Misc. Info.: 38412-01
 Operator ID: wrd Instrument ID: CHC.i
 Method: \\ChromNA\Burlington\ChromData\CHC.i\20170501-24942.b\TO15_MasterMethod_(v1)_CHC.i.m
 Limit Group: AI_TO15_ICAL
 Last Update: 02-May-2017 16:43:01 Calib Date: 14-Apr-2017 00:49:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\ChromNA\Burlington\ChromData\CHC.i\20170413-24730.b\24730_11.D
 Column 1 : RTX-624 (0.32 mm) Det: MS SCAN
 Process Host: XAWRK005

First Level Reviewer: desjardinsb

Date:

02-May-2017 16:44:09

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ppb v/v	Flags
1 Propene	41		2.978				ND	
2 Dichlorodifluoromethane	85		3.047				ND	
3 Chlorodifluoromethane	51		3.101				ND	
4 1,2-Dichloro-1,1,2,2-tetra	85		3.314				ND	
5 Chloromethane	50		3.448				ND	
6 Butane	43		3.650				ND	
7 Vinyl chloride	62		3.688				ND	
8 Butadiene	54		3.768				ND	
10 Bromomethane	94		4.446				ND	
11 Chloroethane	64		4.686				ND	
13 Vinyl bromide	106		5.081				ND	
14 Trichlorofluoromethane	101		5.193				ND	
17 Ethanol	45		5.785				ND	
20 1,1,2-Trichloro-1,2,2-trif	101		6.287				ND	
21 1,1-Dichloroethene	96		6.324				ND	
22 Acetone	43		6.554				ND	
23 Carbon disulfide	76		6.698				ND	
24 Isopropyl alcohol	45		6.885				ND	
25 3-Chloro-1-propene	41		7.119				ND	
27 Methylene Chloride	49		7.418				ND	
28 2-Methyl-2-propanol	59		7.664				ND	
29 Methyl tert-butyl ether	73		7.829				ND	
31 trans-1,2-Dichloroethene	61		7.867				ND	
33 Hexane	57		8.267				ND	
34 1,1-Dichloroethane	63		8.747				ND	
35 Vinyl acetate	43		8.833				ND	
37 cis-1,2-Dichloroethene	96		9.873				ND	
38 2-Butanone (MEK)	72		9.916				ND	
39 Ethyl acetate	88		9.975				ND	
S 30 1,2-Dichloroethene, Total	61		10.200				ND	
* 40 Chlorobromomethane	128	10.332	10.226	0.106	97	320175	10.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ppb v/v	Flags
41 Tetrahydrofuran	42		10.343				ND	
42 Chloroform	83		10.482				ND	
43 Cyclohexane	84		10.722				ND	
44 1,1,1-Trichloroethane	97		10.749				ND	
45 Carbon tetrachloride	117		11.005				ND	
46 Isooctane	57		11.453				ND	
47 Benzene	78		11.464				ND	
48 1,2-Dichloroethane	62		11.650				ND	
49 n-Heptane	43		11.859				ND	
* 50 1,4-Difluorobenzene	114	12.328	12.328	0.000	97	1605819	10.0	
53 Trichloroethene	95		12.798				ND	
54 1,2-Dichloropropane	63		13.353				ND	
55 Methyl methacrylate	69		13.545				ND	
56 1,4-Dioxane	88		13.588				ND	
57 Dibromomethane	174		13.614				ND	
58 Dichlorobromomethane	83		13.929				ND	
60 cis-1,3-Dichloropropene	75		14.879				ND	
61 4-Methyl-2-pentanone (MIBK)	43		15.162				ND	
65 Toluene	92		15.466				ND	
66 trans-1,3-Dichloropropene	75		16.075				ND	
67 1,1,2-Trichloroethane	83		16.448				ND	
68 Tetrachloroethene	166		16.560				ND	
69 2-Hexanone	43		16.897				ND	
71 Chlorodibromomethane	129		17.212				ND	
72 Ethylene Dibromide	107		17.473				ND	
* 74 Chlorobenzene-d5	117	18.370	18.375	-0.005	91	1446717	10.0	
75 Chlorobenzene	112		18.434				ND	
76 Ethylbenzene	91		18.588				ND	
78 m-Xylene & p-Xylene	106		18.839				ND	
79 o-Xylene	106		19.677				ND	
80 Styrene	104		19.731				ND	
S 73 Xylenes, Total	106		20.100				ND	
81 Bromoform	173		20.157				ND	
82 Isopropylbenzene	105		20.376				ND	
84 1,1,1,2,2-Tetrachloroethane	83		21.038				ND	
85 N-Propylbenzene	91		21.107				ND	
88 4-Ethyltoluene	105		21.300				ND	
89 2-Chlorotoluene	91		21.305				ND	
90 1,3,5-Trimethylbenzene	105		21.406				ND	
92 tert-Butylbenzene	119		21.897				ND	
93 1,2,4-Trimethylbenzene	105		21.993				ND	
94 sec-Butylbenzene	105		22.223				ND	
95 4-Isopropyltoluene	119		22.426				ND	
96 1,3-Dichlorobenzene	146		22.458				ND	
97 1,4-Dichlorobenzene	146		22.591				ND	
98 Benzyl chloride	91		22.783				ND	
100 n-Butylbenzene	91		22.991				ND	
101 1,2-Dichlorobenzene	146		23.114				ND	
103 1,2,4-Trichlorobenzene	180		25.548				ND	
104 Hexachlorobutadiene	225		25.735				ND	
105 Naphthalene	128		26.007				ND	

Reagents:

ATTO15CISs_00010

Amount Added: 20.00

Units: mL

Run Reagent

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\CHC.i\20170501-24942.b\24942_09.D

Injection Date: 02-May-2017 11:11:30

Instrument ID: CHC.i

Operator ID: wrd

Lims ID: 200-38412-A-1

Lab Sample ID: 200-38412-1

Worklist Smp#: 9

Client ID: 5414

Purge Vol: 200.000 mL

Dil. Factor: 0.2000

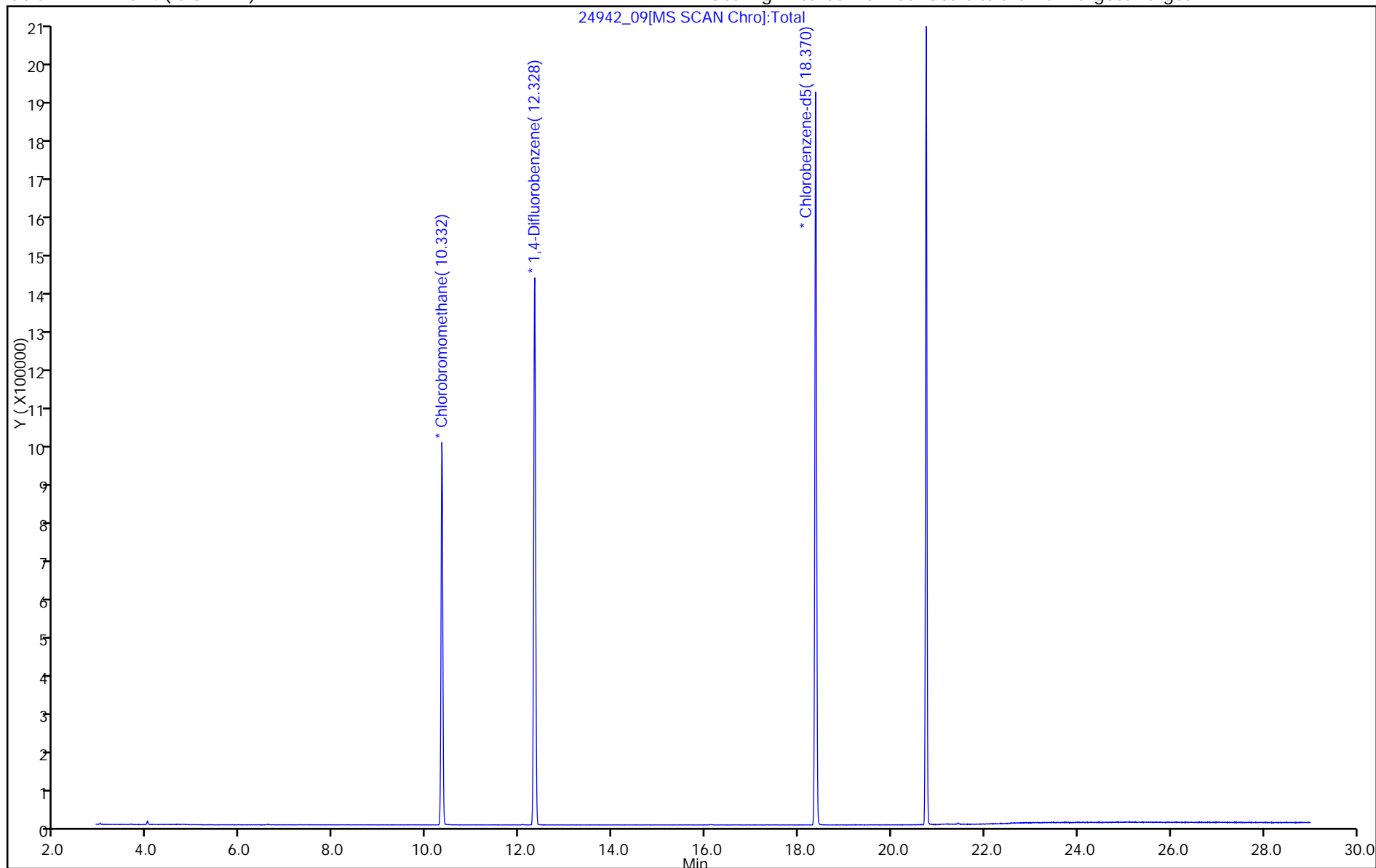
ALS Bottle#: 8

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



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: 200-40305-1

TestAmerica Sample Delivery Group: 200-40305-1

Client Project/Site: Reviva

For:

Carlson McCain, Inc.

3890 Pheasant Ridge Drive NE, #100

Blaine, Minnesota 55449

Attn: Wade Carlson



Authorized for release by:

10/17/2017 4:15:41 PM

Kathryn Kelly, Project Manager I

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

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

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Definitions/Glossary

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-40305-1
SDG: 200-40305-1

Qualifiers

Air - GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
E	Result exceeded calibration range.
H	Sample was prepped or analyzed beyond the specified holding time

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.
H	Sample was prepped or analyzed beyond the specified holding time

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
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 (Radiochemistry)
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)

Case Narrative

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-40305-1
SDG: 200-40305-1

Job ID: 200-40305-1

Laboratory: TestAmerica Burlington

Narrative

CASE NARRATIVE

Client: Carlson McCain, Inc.

Project: Reviva

Report Number: 200-40305-1

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 samples were received on 10/02/2017; the samples arrived in good condition.

VOLATILE ORGANIC COMPOUNDS

Samples VP-1, VP-2, VP-3, VP-4 and VP-5 were analyzed for Volatile Organic Compounds in accordance with EPA Method TO-15. The samples were analyzed on 10/03/2017 and 10/16/2017.

Reanalysis of sample VP-2 was performed outside of the analytical holding time due to the LCS failed high in Naphthalene in the initial analysis from batch 121666. The sample was analysis within holding time at batch 121666. The results of both analyses are presented here in the data package.

1,2,4-Trichlorobenzene and Naphthalene failed the recovery criteria high for LCS 200-121666/3. Refer to the QC report for details.

The concentration(s) of Acetone in the following samples exceeded the calibration range of the instrument: VP-1, VP-2 and VP-3.

No additional 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: Reviva

TestAmerica Job ID: 200-40305-1
SDG: 200-40305-1

Client Sample ID: VP-1

Lab Sample ID: 200-40305-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Dichlorodifluoromethane	2.51		2.47	ug/m3	1		TO-15	Total/NA
Chloromethane	1.09		1.03	ug/m3	1		TO-15	Total/NA
Trichlorofluoromethane	5.64		1.12	ug/m3	1		TO-15	Total/NA
Ethanol	90.5		9.42	ug/m3	1		TO-15	Total/NA
Freon TF	1.55		1.53	ug/m3	1		TO-15	Total/NA
Acetone	97.5	E	11.9	ug/m3	1		TO-15	Total/NA
Isopropyl alcohol	53.4		12.3	ug/m3	1		TO-15	Total/NA
Methylene Chloride	3.86		1.74	ug/m3	1		TO-15	Total/NA
n-Hexane	3.13		0.705	ug/m3	1		TO-15	Total/NA
Methyl Ethyl Ketone	2.58		1.47	ug/m3	1		TO-15	Total/NA
Cyclohexane	2.40		0.688	ug/m3	1		TO-15	Total/NA
Benzene	0.861		0.639	ug/m3	1		TO-15	Total/NA
n-Heptane	0.958		0.820	ug/m3	1		TO-15	Total/NA
Trichloroethene	2.30		1.07	ug/m3	1		TO-15	Total/NA
Toluene	4.89		0.754	ug/m3	1		TO-15	Total/NA
Ethylbenzene	0.897		0.868	ug/m3	1		TO-15	Total/NA
m,p-Xylene	3.62		2.17	ug/m3	1		TO-15	Total/NA
Xylene, o-	1.37		0.868	ug/m3	1		TO-15	Total/NA
1,2,4-Trimethylbenzene	1.41		0.983	ug/m3	1		TO-15	Total/NA

Client Sample ID: VP-2

Lab Sample ID: 200-40305-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloromethane	1.11	H	1.03	ug/m3	1		TO-15	Total/NA
Trichlorofluoromethane	2.53		1.12	ug/m3	1		TO-15	Total/NA
Trichlorofluoromethane	2.30	H	1.12	ug/m3	1		TO-15	Total/NA
Ethanol	34.3		9.42	ug/m3	1		TO-15	Total/NA
Ethanol	28.0	H	9.42	ug/m3	1		TO-15	Total/NA
Acetone	168	E	11.9	ug/m3	1		TO-15	Total/NA
Acetone	149	H E	11.9	ug/m3	1		TO-15	Total/NA
Isopropyl alcohol	98.2		12.3	ug/m3	1		TO-15	Total/NA
Isopropyl alcohol	78.5	H	12.3	ug/m3	1		TO-15	Total/NA
Methylene Chloride	17.4		1.74	ug/m3	1		TO-15	Total/NA
Methylene Chloride	14.8	H	1.74	ug/m3	1		TO-15	Total/NA
n-Hexane	9.49		0.705	ug/m3	1		TO-15	Total/NA
n-Hexane	7.70	H	0.705	ug/m3	1		TO-15	Total/NA
Methyl Ethyl Ketone	3.22		1.47	ug/m3	1		TO-15	Total/NA
Methyl Ethyl Ketone	2.87	H	1.47	ug/m3	1		TO-15	Total/NA
Cyclohexane	12.1		0.688	ug/m3	1		TO-15	Total/NA
Cyclohexane	9.79	H	0.688	ug/m3	1		TO-15	Total/NA
Benzene	1.86		0.639	ug/m3	1		TO-15	Total/NA
Benzene	1.61	H	0.639	ug/m3	1		TO-15	Total/NA
n-Heptane	3.68		0.820	ug/m3	1		TO-15	Total/NA
n-Heptane	3.16	H	0.820	ug/m3	1		TO-15	Total/NA
Trichloroethene	1.53		1.07	ug/m3	1		TO-15	Total/NA
Trichloroethene	1.12	H	1.07	ug/m3	1		TO-15	Total/NA
Toluene	13.5		0.754	ug/m3	1		TO-15	Total/NA
Toluene	10.2	H	0.754	ug/m3	1		TO-15	Total/NA
Tetrachloroethene	2.62		1.36	ug/m3	1		TO-15	Total/NA
Tetrachloroethene	1.81	H	1.36	ug/m3	1		TO-15	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Burlington

Detection Summary

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-40305-1
SDG: 200-40305-1

Client Sample ID: VP-2 (Continued)

Lab Sample ID: 200-40305-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	2.57		0.868	ug/m3	1		TO-15	Total/NA
Ethylbenzene	1.98	H	0.868	ug/m3	1		TO-15	Total/NA
m,p-Xylene	11.0		2.17	ug/m3	1		TO-15	Total/NA
m,p-Xylene	8.39	H	2.17	ug/m3	1		TO-15	Total/NA
Xylene, o-	4.49		0.868	ug/m3	1		TO-15	Total/NA
Xylene, o-	3.41	H	0.868	ug/m3	1		TO-15	Total/NA
4-Ethyltoluene	1.85		0.983	ug/m3	1		TO-15	Total/NA
4-Ethyltoluene	1.63	H	0.983	ug/m3	1		TO-15	Total/NA
1,3,5-Trimethylbenzene	1.89		0.983	ug/m3	1		TO-15	Total/NA
1,3,5-Trimethylbenzene	1.41	H	0.983	ug/m3	1		TO-15	Total/NA
1,2,4-Trimethylbenzene	6.80		0.983	ug/m3	1		TO-15	Total/NA
1,2,4-Trimethylbenzene	5.16	H	0.983	ug/m3	1		TO-15	Total/NA
Naphthalene	17.4	*	2.62	ug/m3	1		TO-15	Total/NA
Naphthalene	10.7	H	2.62	ug/m3	1		TO-15	Total/NA

Client Sample ID: VP-3

Lab Sample ID: 200-40305-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Dichlorodifluoromethane	2.63		2.47	ug/m3	1		TO-15	Total/NA
Chloromethane	1.81		1.03	ug/m3	1		TO-15	Total/NA
Trichlorofluoromethane	2.09		1.12	ug/m3	1		TO-15	Total/NA
Ethanol	19.5		9.42	ug/m3	1		TO-15	Total/NA
Acetone	270	E	11.9	ug/m3	1		TO-15	Total/NA
n-Hexane	4.67		0.705	ug/m3	1		TO-15	Total/NA
Methyl Ethyl Ketone	3.61		1.47	ug/m3	1		TO-15	Total/NA
Cyclohexane	1.46		0.688	ug/m3	1		TO-15	Total/NA
Benzene	2.12		0.639	ug/m3	1		TO-15	Total/NA
n-Heptane	2.58		0.820	ug/m3	1		TO-15	Total/NA
Trichloroethene	1.08		1.07	ug/m3	1		TO-15	Total/NA
Toluene	8.42		0.754	ug/m3	1		TO-15	Total/NA
Ethylbenzene	28.1		0.868	ug/m3	1		TO-15	Total/NA
m,p-Xylene	115		2.17	ug/m3	1		TO-15	Total/NA
Xylene, o-	38.1		0.868	ug/m3	1		TO-15	Total/NA
4-Ethyltoluene	1.97		0.983	ug/m3	1		TO-15	Total/NA
1,3,5-Trimethylbenzene	1.96		0.983	ug/m3	1		TO-15	Total/NA
1,2,4-Trimethylbenzene	6.83		0.983	ug/m3	1		TO-15	Total/NA

Client Sample ID: VP-4

Lab Sample ID: 200-40305-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Dichlorodifluoromethane	2.67		2.47	ug/m3	1		TO-15	Total/NA
Chloromethane	1.15		1.03	ug/m3	1		TO-15	Total/NA
Trichlorofluoromethane	3.37		1.12	ug/m3	1		TO-15	Total/NA
Ethanol	19.0		9.42	ug/m3	1		TO-15	Total/NA
Acetone	22.3		11.9	ug/m3	1		TO-15	Total/NA
n-Hexane	4.09		0.705	ug/m3	1		TO-15	Total/NA
Methyl Ethyl Ketone	2.29		1.47	ug/m3	1		TO-15	Total/NA
Cyclohexane	1.05		0.688	ug/m3	1		TO-15	Total/NA
Benzene	1.52		0.639	ug/m3	1		TO-15	Total/NA
n-Heptane	1.95		0.820	ug/m3	1		TO-15	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Burlington

Detection Summary

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-40305-1
SDG: 200-40305-1

Client Sample ID: VP-4 (Continued)

Lab Sample ID: 200-40305-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	2.95		1.07	ug/m3	1		TO-15	Total/NA
Toluene	6.13		0.754	ug/m3	1		TO-15	Total/NA
Tetrachloroethene	4.07		1.36	ug/m3	1		TO-15	Total/NA
Ethylbenzene	1.83		0.868	ug/m3	1		TO-15	Total/NA
m,p-Xylene	7.15		2.17	ug/m3	1		TO-15	Total/NA
Xylene, o-	2.66		0.868	ug/m3	1		TO-15	Total/NA
4-Ethyltoluene	1.24		0.983	ug/m3	1		TO-15	Total/NA
1,3,5-Trimethylbenzene	1.27		0.983	ug/m3	1		TO-15	Total/NA
1,2,4-Trimethylbenzene	4.85		0.983	ug/m3	1		TO-15	Total/NA

Client Sample ID: VP-5

Lab Sample ID: 200-40305-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Dichlorodifluoromethane	2.79		2.47	ug/m3	1		TO-15	Total/NA
Trichlorofluoromethane	1.50		1.12	ug/m3	1		TO-15	Total/NA
Freon TF	1.94		1.53	ug/m3	1		TO-15	Total/NA
Acetone	33.3		11.9	ug/m3	1		TO-15	Total/NA
Carbon disulfide	1.92		1.56	ug/m3	1		TO-15	Total/NA
n-Hexane	1.34		0.705	ug/m3	1		TO-15	Total/NA
Trichloroethene	1.43		1.07	ug/m3	1		TO-15	Total/NA
Toluene	1.74		0.754	ug/m3	1		TO-15	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Burlington

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-40305-1
SDG: 200-40305-1

Client Sample ID: VP-1

Lab Sample ID: 200-40305-1

Date Collected: 09/27/17 15:10

Matrix: Air

Date Received: 10/02/17 08:45

Sample Container: Summa Canister 6L

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Propylene	<8.61		8.61	ug/m3			10/03/17 18:52	1
Dichlorodifluoromethane	2.51		2.47	ug/m3			10/03/17 18:52	1
1,2-Dichlorotetrafluoroethane	<1.40		1.40	ug/m3			10/03/17 18:52	1
Chloromethane	1.09		1.03	ug/m3			10/03/17 18:52	1
Vinyl chloride	<0.511		0.511	ug/m3			10/03/17 18:52	1
1,3-Butadiene	<0.442		0.442	ug/m3			10/03/17 18:52	1
Bromomethane	<0.777		0.777	ug/m3			10/03/17 18:52	1
Chloroethane	<1.32		1.32	ug/m3			10/03/17 18:52	1
Trichlorofluoromethane	5.64		1.12	ug/m3			10/03/17 18:52	1
Ethanol	90.5		9.42	ug/m3			10/03/17 18:52	1
Freon TF	1.55		1.53	ug/m3			10/03/17 18:52	1
1,1-Dichloroethene	<0.793		0.793	ug/m3			10/03/17 18:52	1
Acetone	97.5	E	11.9	ug/m3			10/03/17 18:52	1
Isopropyl alcohol	53.4		12.3	ug/m3			10/03/17 18:52	1
Carbon disulfide	<1.56		1.56	ug/m3			10/03/17 18:52	1
Methylene Chloride	3.86		1.74	ug/m3			10/03/17 18:52	1
Methyl tert-butyl ether	<0.721		0.721	ug/m3			10/03/17 18:52	1
trans-1,2-Dichloroethene	<0.793		0.793	ug/m3			10/03/17 18:52	1
n-Hexane	3.13		0.705	ug/m3			10/03/17 18:52	1
1,1-Dichloroethane	<0.809		0.809	ug/m3			10/03/17 18:52	1
Vinyl acetate	<17.6		17.6	ug/m3			10/03/17 18:52	1
Ethyl acetate	<18.0		18.0	ug/m3			10/03/17 18:52	1
Methyl Ethyl Ketone	2.58		1.47	ug/m3			10/03/17 18:52	1
cis-1,2-Dichloroethene	<0.793		0.793	ug/m3			10/03/17 18:52	1
Chloroform	<0.977		0.977	ug/m3			10/03/17 18:52	1
Tetrahydrofuran	<14.7		14.7	ug/m3			10/03/17 18:52	1
1,1,1-Trichloroethane	<1.09		1.09	ug/m3			10/03/17 18:52	1
Cyclohexane	2.40		0.688	ug/m3			10/03/17 18:52	1
Carbon tetrachloride	<1.26		1.26	ug/m3			10/03/17 18:52	1
Benzene	0.861		0.639	ug/m3			10/03/17 18:52	1
1,2-Dichloroethane	<0.809		0.809	ug/m3			10/03/17 18:52	1
n-Heptane	0.958		0.820	ug/m3			10/03/17 18:52	1
Trichloroethene	2.30		1.07	ug/m3			10/03/17 18:52	1
1,2-Dichloropropane	<0.924		0.924	ug/m3			10/03/17 18:52	1
Bromodichloromethane	<1.34		1.34	ug/m3			10/03/17 18:52	1
cis-1,3-Dichloropropene	<0.908		0.908	ug/m3			10/03/17 18:52	1
Methyl isobutyl ketone	<2.05		2.05	ug/m3			10/03/17 18:52	1
Toluene	4.89		0.754	ug/m3			10/03/17 18:52	1
trans-1,3-Dichloropropene	<0.908		0.908	ug/m3			10/03/17 18:52	1
1,1,2-Trichloroethane	<1.09		1.09	ug/m3			10/03/17 18:52	1
Tetrachloroethene	<1.36		1.36	ug/m3			10/03/17 18:52	1
Methyl Butyl Ketone (2-Hexanone)	<2.05		2.05	ug/m3			10/03/17 18:52	1
1,2-Dibromoethane	<1.54		1.54	ug/m3			10/03/17 18:52	1
Chlorobenzene	<0.921		0.921	ug/m3			10/03/17 18:52	1
Ethylbenzene	0.897		0.868	ug/m3			10/03/17 18:52	1
m,p-Xylene	3.62		2.17	ug/m3			10/03/17 18:52	1
Xylene, o-	1.37		0.868	ug/m3			10/03/17 18:52	1
Styrene	<0.852		0.852	ug/m3			10/03/17 18:52	1

TestAmerica Burlington

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-40305-1
SDG: 200-40305-1

Client Sample ID: VP-1

Lab Sample ID: 200-40305-1

Date Collected: 09/27/17 15:10

Matrix: Air

Date Received: 10/02/17 08:45

Sample Container: Summa Canister 6L

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Bromoform	<2.07		2.07	ug/m3			10/03/17 18:52	1
1,1,2,2-Tetrachloroethane	<1.37		1.37	ug/m3			10/03/17 18:52	1
4-Ethyltoluene	<0.983		0.983	ug/m3			10/03/17 18:52	1
1,3,5-Trimethylbenzene	<0.983		0.983	ug/m3			10/03/17 18:52	1
1,2,4-Trimethylbenzene	1.41		0.983	ug/m3			10/03/17 18:52	1
1,3-Dichlorobenzene	<1.20		1.20	ug/m3			10/03/17 18:52	1
1,4-Dichlorobenzene	<1.20		1.20	ug/m3			10/03/17 18:52	1
Benzyl chloride	<1.04		1.04	ug/m3			10/03/17 18:52	1
1,2-Dichlorobenzene	<1.20		1.20	ug/m3			10/03/17 18:52	1
1,2,4-Trichlorobenzene	<3.71	*	3.71	ug/m3			10/03/17 18:52	1
Hexachlorobutadiene	<2.13		2.13	ug/m3			10/03/17 18:52	1
Naphthalene	<2.62	*	2.62	ug/m3			10/03/17 18:52	1
Dibromochloromethane	<1.70		1.70	ug/m3			10/03/17 18:52	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Ethane, 1,1-difluoro-	8.09	T J N	ppb v/v		3.13	75-37-6		10/03/17 18:52	1
Unknown	1.05	T J	ppb v/v		3.45			10/03/17 18:52	1
Unknown	1.43	T J	ppb v/v		3.66			10/03/17 18:52	1
Butane, 2-methyl-	1.87	T J N	ppb v/v		4.54	78-78-4		10/03/17 18:52	1
Pentane	2.56	T J N	ppb v/v		4.98	109-66-0		10/03/17 18:52	1
Unknown	2.51	T J	ppb v/v		6.56			10/03/17 18:52	1
Propane, 1-bromo-	40.2	T J N	ppb v/v		9.29	106-94-5		10/03/17 18:52	1
D-Limonene	1.48	T J N	ppb v/v		21.40	5989-27-5		10/03/17 18:52	1

Client Sample ID: VP-2

Lab Sample ID: 200-40305-2

Date Collected: 09/27/17 15:20

Matrix: Air

Date Received: 10/02/17 08:45

Sample Container: Summa Canister 6L

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Propylene	<8.61		8.61	ug/m3			10/03/17 20:32	1
Propylene	<8.61	H	8.61	ug/m3			10/16/17 17:16	1
Dichlorodifluoromethane	<2.47		2.47	ug/m3			10/03/17 20:32	1
Dichlorodifluoromethane	<2.47	H	2.47	ug/m3			10/16/17 17:16	1
1,2-Dichlorotetrafluoroethane	<1.40		1.40	ug/m3			10/03/17 20:32	1
1,2-Dichlorotetrafluoroethane	<1.40	H	1.40	ug/m3			10/16/17 17:16	1
Chloromethane	<1.03		1.03	ug/m3			10/03/17 20:32	1
Chloromethane	1.11	H	1.03	ug/m3			10/16/17 17:16	1
Vinyl chloride	<0.511		0.511	ug/m3			10/03/17 20:32	1
Vinyl chloride	<0.511	H	0.511	ug/m3			10/16/17 17:16	1
1,3-Butadiene	<0.442		0.442	ug/m3			10/03/17 20:32	1
1,3-Butadiene	<0.442	H	0.442	ug/m3			10/16/17 17:16	1
Bromomethane	<0.777		0.777	ug/m3			10/03/17 20:32	1
Bromomethane	<0.777	H	0.777	ug/m3			10/16/17 17:16	1
Chloroethane	<1.32		1.32	ug/m3			10/03/17 20:32	1
Chloroethane	<1.32	H	1.32	ug/m3			10/16/17 17:16	1
Trichlorofluoromethane	2.53		1.12	ug/m3			10/03/17 20:32	1
Trichlorofluoromethane	2.30	H	1.12	ug/m3			10/16/17 17:16	1

TestAmerica Burlington

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-40305-1
SDG: 200-40305-1

Client Sample ID: VP-2

Lab Sample ID: 200-40305-2

Date Collected: 09/27/17 15:20

Matrix: Air

Date Received: 10/02/17 08:45

Sample Container: Summa Canister 6L

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	34.3		9.42	ug/m3			10/03/17 20:32	1
Ethanol	28.0	H	9.42	ug/m3			10/16/17 17:16	1
Freon TF	<1.53		1.53	ug/m3			10/03/17 20:32	1
Freon TF	<1.53	H	1.53	ug/m3			10/16/17 17:16	1
1,1-Dichloroethene	<0.793		0.793	ug/m3			10/03/17 20:32	1
1,1-Dichloroethene	<0.793	H	0.793	ug/m3			10/16/17 17:16	1
Acetone	168	E	11.9	ug/m3			10/03/17 20:32	1
Acetone	149	H E	11.9	ug/m3			10/16/17 17:16	1
Isopropyl alcohol	98.2		12.3	ug/m3			10/03/17 20:32	1
Isopropyl alcohol	78.5	H	12.3	ug/m3			10/16/17 17:16	1
Carbon disulfide	<1.56		1.56	ug/m3			10/03/17 20:32	1
Carbon disulfide	<1.56	H	1.56	ug/m3			10/16/17 17:16	1
Methylene Chloride	17.4		1.74	ug/m3			10/03/17 20:32	1
Methylene Chloride	14.8	H	1.74	ug/m3			10/16/17 17:16	1
Methyl tert-butyl ether	<0.721		0.721	ug/m3			10/03/17 20:32	1
Methyl tert-butyl ether	<0.721	H	0.721	ug/m3			10/16/17 17:16	1
trans-1,2-Dichloroethene	<0.793		0.793	ug/m3			10/03/17 20:32	1
trans-1,2-Dichloroethene	<0.793	H	0.793	ug/m3			10/16/17 17:16	1
n-Hexane	9.49		0.705	ug/m3			10/03/17 20:32	1
n-Hexane	7.70	H	0.705	ug/m3			10/16/17 17:16	1
1,1-Dichloroethane	<0.809		0.809	ug/m3			10/03/17 20:32	1
1,1-Dichloroethane	<0.809	H	0.809	ug/m3			10/16/17 17:16	1
Vinyl acetate	<17.6		17.6	ug/m3			10/03/17 20:32	1
Vinyl acetate	<17.6	H	17.6	ug/m3			10/16/17 17:16	1
Ethyl acetate	<18.0		18.0	ug/m3			10/03/17 20:32	1
Ethyl acetate	<18.0	H	18.0	ug/m3			10/16/17 17:16	1
Methyl Ethyl Ketone	3.22		1.47	ug/m3			10/03/17 20:32	1
Methyl Ethyl Ketone	2.87	H	1.47	ug/m3			10/16/17 17:16	1
cis-1,2-Dichloroethene	<0.793		0.793	ug/m3			10/03/17 20:32	1
cis-1,2-Dichloroethene	<0.793	H	0.793	ug/m3			10/16/17 17:16	1
Chloroform	<0.977		0.977	ug/m3			10/03/17 20:32	1
Chloroform	<0.977	H	0.977	ug/m3			10/16/17 17:16	1
Tetrahydrofuran	<14.7		14.7	ug/m3			10/03/17 20:32	1
Tetrahydrofuran	<14.7	H	14.7	ug/m3			10/16/17 17:16	1
1,1,1-Trichloroethane	<1.09		1.09	ug/m3			10/03/17 20:32	1
1,1,1-Trichloroethane	<1.09	H	1.09	ug/m3			10/16/17 17:16	1
Cyclohexane	12.1		0.688	ug/m3			10/03/17 20:32	1
Cyclohexane	9.79	H	0.688	ug/m3			10/16/17 17:16	1
Carbon tetrachloride	<1.26		1.26	ug/m3			10/03/17 20:32	1
Carbon tetrachloride	<1.26	H	1.26	ug/m3			10/16/17 17:16	1
Benzene	1.86		0.639	ug/m3			10/03/17 20:32	1
Benzene	1.61	H	0.639	ug/m3			10/16/17 17:16	1
1,2-Dichloroethane	<0.809		0.809	ug/m3			10/03/17 20:32	1
1,2-Dichloroethane	<0.809	H	0.809	ug/m3			10/16/17 17:16	1
n-Heptane	3.68		0.820	ug/m3			10/03/17 20:32	1
n-Heptane	3.16	H	0.820	ug/m3			10/16/17 17:16	1
Trichloroethene	1.53		1.07	ug/m3			10/03/17 20:32	1
Trichloroethene	1.12	H	1.07	ug/m3			10/16/17 17:16	1

TestAmerica Burlington

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-40305-1
SDG: 200-40305-1

Client Sample ID: VP-2

Lab Sample ID: 200-40305-2

Date Collected: 09/27/17 15:20

Matrix: Air

Date Received: 10/02/17 08:45

Sample Container: Summa Canister 6L

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	<0.924		0.924	ug/m3			10/03/17 20:32	1
1,2-Dichloropropane	<0.924	H	0.924	ug/m3			10/16/17 17:16	1
Bromodichloromethane	<1.34		1.34	ug/m3			10/03/17 20:32	1
Bromodichloromethane	<1.34	H	1.34	ug/m3			10/16/17 17:16	1
cis-1,3-Dichloropropene	<0.908		0.908	ug/m3			10/03/17 20:32	1
cis-1,3-Dichloropropene	<0.908	H	0.908	ug/m3			10/16/17 17:16	1
Methyl isobutyl ketone	<2.05		2.05	ug/m3			10/03/17 20:32	1
Methyl isobutyl ketone	<2.05	H	2.05	ug/m3			10/16/17 17:16	1
Toluene	13.5		0.754	ug/m3			10/03/17 20:32	1
Toluene	10.2	H	0.754	ug/m3			10/16/17 17:16	1
trans-1,3-Dichloropropene	<0.908		0.908	ug/m3			10/03/17 20:32	1
trans-1,3-Dichloropropene	<0.908	H	0.908	ug/m3			10/16/17 17:16	1
1,1,2-Trichloroethane	<1.09		1.09	ug/m3			10/03/17 20:32	1
1,1,2-Trichloroethane	<1.09	H	1.09	ug/m3			10/16/17 17:16	1
Tetrachloroethene	2.62		1.36	ug/m3			10/03/17 20:32	1
Tetrachloroethene	1.81	H	1.36	ug/m3			10/16/17 17:16	1
Methyl Butyl Ketone (2-Hexanone)	<2.05		2.05	ug/m3			10/03/17 20:32	1
Methyl Butyl Ketone (2-Hexanone)	<2.05	H	2.05	ug/m3			10/16/17 17:16	1
1,2-Dibromoethane	<1.54		1.54	ug/m3			10/03/17 20:32	1
1,2-Dibromoethane	<1.54	H	1.54	ug/m3			10/16/17 17:16	1
Chlorobenzene	<0.921		0.921	ug/m3			10/03/17 20:32	1
Chlorobenzene	<0.921	H	0.921	ug/m3			10/16/17 17:16	1
Ethylbenzene	2.57		0.868	ug/m3			10/03/17 20:32	1
Ethylbenzene	1.98	H	0.868	ug/m3			10/16/17 17:16	1
m,p-Xylene	11.0		2.17	ug/m3			10/03/17 20:32	1
m,p-Xylene	8.39	H	2.17	ug/m3			10/16/17 17:16	1
Xylene, o-	4.49		0.868	ug/m3			10/03/17 20:32	1
Xylene, o-	3.41	H	0.868	ug/m3			10/16/17 17:16	1
Styrene	<0.852		0.852	ug/m3			10/03/17 20:32	1
Styrene	<0.852	H	0.852	ug/m3			10/16/17 17:16	1
Bromoform	<2.07		2.07	ug/m3			10/03/17 20:32	1
Bromoform	<2.07	H	2.07	ug/m3			10/16/17 17:16	1
1,1,2,2-Tetrachloroethane	<1.37		1.37	ug/m3			10/03/17 20:32	1
1,1,2,2-Tetrachloroethane	<1.37	H	1.37	ug/m3			10/16/17 17:16	1
4-Ethyltoluene	1.85		0.983	ug/m3			10/03/17 20:32	1
4-Ethyltoluene	1.63	H	0.983	ug/m3			10/16/17 17:16	1
1,3,5-Trimethylbenzene	1.89		0.983	ug/m3			10/03/17 20:32	1
1,3,5-Trimethylbenzene	1.41	H	0.983	ug/m3			10/16/17 17:16	1
1,2,4-Trimethylbenzene	6.80		0.983	ug/m3			10/03/17 20:32	1
1,2,4-Trimethylbenzene	5.16	H	0.983	ug/m3			10/16/17 17:16	1
1,3-Dichlorobenzene	<1.20		1.20	ug/m3			10/03/17 20:32	1
1,3-Dichlorobenzene	<1.20	H	1.20	ug/m3			10/16/17 17:16	1
1,4-Dichlorobenzene	<1.20		1.20	ug/m3			10/03/17 20:32	1
1,4-Dichlorobenzene	<1.20	H	1.20	ug/m3			10/16/17 17:16	1
Benzyl chloride	<1.04		1.04	ug/m3			10/03/17 20:32	1
Benzyl chloride	<1.04	H	1.04	ug/m3			10/16/17 17:16	1
1,2-Dichlorobenzene	<1.20		1.20	ug/m3			10/03/17 20:32	1
1,2-Dichlorobenzene	<1.20	H	1.20	ug/m3			10/16/17 17:16	1

TestAmerica Burlington

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-40305-1
SDG: 200-40305-1

Client Sample ID: VP-2

Lab Sample ID: 200-40305-2

Date Collected: 09/27/17 15:20

Matrix: Air

Date Received: 10/02/17 08:45

Sample Container: Summa Canister 6L

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	<3.71	*	3.71	ug/m3			10/03/17 20:32	1
1,2,4-Trichlorobenzene	<3.71	H	3.71	ug/m3			10/16/17 17:16	1
Hexachlorobutadiene	<2.13		2.13	ug/m3			10/03/17 20:32	1
Hexachlorobutadiene	<2.13	H	2.13	ug/m3			10/16/17 17:16	1
Naphthalene	17.4	*	2.62	ug/m3			10/03/17 20:32	1
Naphthalene	10.7	H	2.62	ug/m3			10/16/17 17:16	1
Dibromochloromethane	<1.70		1.70	ug/m3			10/03/17 20:32	1
Dibromochloromethane	<1.70	H	1.70	ug/m3			10/16/17 17:16	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Ethane, 1,1-difluoro-	8.03	T J N	ppb v/v		3.13	75-37-6		10/03/17 20:32	1
Ethane, 1,1-difluoro-	6.64	T H J N	ppb v/v		3.13	75-37-6		10/16/17 17:16	1
Butane	4.39	T J N	ppb v/v		3.66	106-97-8		10/03/17 20:32	1
Unknown	2.23	T H J	ppb v/v		6.99			10/16/17 17:16	1
Unknown	2.95	T J	ppb v/v		7.00			10/03/17 20:32	1
Unknown	1.85	T H J	ppb v/v		8.18			10/16/17 17:16	1
Unknown	2.75	T H J	ppb v/v		8.87			10/16/17 17:16	1
Unknown	2.92	T J	ppb v/v		8.88			10/03/17 20:32	1
Propane, 1-bromo-	157	T H J N	ppb v/v		9.30	106-94-5		10/16/17 17:16	1
Propane, 1-bromo-	184	T J N	ppb v/v		9.31	106-94-5		10/03/17 20:32	1
Unknown	2.70	T J	ppb v/v		22.02			10/03/17 20:32	1
Undecane	6.36	T J N	ppb v/v		22.10	1120-21-4		10/03/17 20:32	1
Undecane	5.41	T H J N	ppb v/v		22.10	1120-21-4		10/16/17 17:16	1
Unknown	2.18	T H J	ppb v/v		22.38			10/16/17 17:16	1
trans-Decalin, 2-methyl-	2.18	T H J N	ppb v/v		22.93	1000152-47-3		10/16/17 17:16	1
Naphthalene, decahydro-2-methyl-	2.80	T J N	ppb v/v		22.94	2958-76-1		10/03/17 20:32	1
Unknown	2.94	T J	ppb v/v		22.99			10/03/17 20:32	1
Unknown	2.41	T H J	ppb v/v		22.99			10/16/17 17:16	1
Dodecane	3.21	T J N	ppb v/v		23.67	112-40-3		10/03/17 20:32	1
Dodecane	2.30	T H J N	ppb v/v		23.67	112-40-3		10/16/17 17:16	1

Client Sample ID: VP-3

Lab Sample ID: 200-40305-3

Date Collected: 09/27/17 15:24

Matrix: Air

Date Received: 10/02/17 08:45

Sample Container: Summa Canister 6L

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Propylene	<8.61		8.61	ug/m3			10/03/17 21:22	1
Dichlorodifluoromethane	2.63		2.47	ug/m3			10/03/17 21:22	1
1,2-Dichlorotetrafluoroethane	<1.40		1.40	ug/m3			10/03/17 21:22	1
Chloromethane	1.81		1.03	ug/m3			10/03/17 21:22	1
Vinyl chloride	<0.511		0.511	ug/m3			10/03/17 21:22	1
1,3-Butadiene	<0.442		0.442	ug/m3			10/03/17 21:22	1
Bromomethane	<0.777		0.777	ug/m3			10/03/17 21:22	1
Chloroethane	<1.32		1.32	ug/m3			10/03/17 21:22	1
Trichlorofluoromethane	2.09		1.12	ug/m3			10/03/17 21:22	1
Ethanol	19.5		9.42	ug/m3			10/03/17 21:22	1

TestAmerica Burlington

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-40305-1
SDG: 200-40305-1

Client Sample ID: VP-3

Lab Sample ID: 200-40305-3

Date Collected: 09/27/17 15:24

Matrix: Air

Date Received: 10/02/17 08:45

Sample Container: Summa Canister 6L

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Freon TF	<1.53		1.53	ug/m3			10/03/17 21:22	1
1,1-Dichloroethene	<0.793		0.793	ug/m3			10/03/17 21:22	1
Acetone	270	E	11.9	ug/m3			10/03/17 21:22	1
Isopropyl alcohol	<12.3		12.3	ug/m3			10/03/17 21:22	1
Carbon disulfide	<1.56		1.56	ug/m3			10/03/17 21:22	1
Methylene Chloride	<1.74		1.74	ug/m3			10/03/17 21:22	1
Methyl tert-butyl ether	<0.721		0.721	ug/m3			10/03/17 21:22	1
trans-1,2-Dichloroethene	<0.793		0.793	ug/m3			10/03/17 21:22	1
n-Hexane	4.67		0.705	ug/m3			10/03/17 21:22	1
1,1-Dichloroethane	<0.809		0.809	ug/m3			10/03/17 21:22	1
Vinyl acetate	<17.6		17.6	ug/m3			10/03/17 21:22	1
Ethyl acetate	<18.0		18.0	ug/m3			10/03/17 21:22	1
Methyl Ethyl Ketone	3.61		1.47	ug/m3			10/03/17 21:22	1
cis-1,2-Dichloroethene	<0.793		0.793	ug/m3			10/03/17 21:22	1
Chloroform	<0.977		0.977	ug/m3			10/03/17 21:22	1
Tetrahydrofuran	<14.7		14.7	ug/m3			10/03/17 21:22	1
1,1,1-Trichloroethane	<1.09		1.09	ug/m3			10/03/17 21:22	1
Cyclohexane	1.46		0.688	ug/m3			10/03/17 21:22	1
Carbon tetrachloride	<1.26		1.26	ug/m3			10/03/17 21:22	1
Benzene	2.12		0.639	ug/m3			10/03/17 21:22	1
1,2-Dichloroethane	<0.809		0.809	ug/m3			10/03/17 21:22	1
n-Heptane	2.58		0.820	ug/m3			10/03/17 21:22	1
Trichloroethene	1.08		1.07	ug/m3			10/03/17 21:22	1
1,2-Dichloropropane	<0.924		0.924	ug/m3			10/03/17 21:22	1
Bromodichloromethane	<1.34		1.34	ug/m3			10/03/17 21:22	1
cis-1,3-Dichloropropene	<0.908		0.908	ug/m3			10/03/17 21:22	1
Methyl isobutyl ketone	<2.05		2.05	ug/m3			10/03/17 21:22	1
Toluene	8.42		0.754	ug/m3			10/03/17 21:22	1
trans-1,3-Dichloropropene	<0.908		0.908	ug/m3			10/03/17 21:22	1
1,1,2-Trichloroethane	<1.09		1.09	ug/m3			10/03/17 21:22	1
Tetrachloroethene	<1.36		1.36	ug/m3			10/03/17 21:22	1
Methyl Butyl Ketone (2-Hexanone)	<2.05		2.05	ug/m3			10/03/17 21:22	1
1,2-Dibromoethane	<1.54		1.54	ug/m3			10/03/17 21:22	1
Chlorobenzene	<0.921		0.921	ug/m3			10/03/17 21:22	1
Ethylbenzene	28.1		0.868	ug/m3			10/03/17 21:22	1
m,p-Xylene	115		2.17	ug/m3			10/03/17 21:22	1
Xylene, o-	38.1		0.868	ug/m3			10/03/17 21:22	1
Styrene	<0.852		0.852	ug/m3			10/03/17 21:22	1
Bromoform	<2.07		2.07	ug/m3			10/03/17 21:22	1
1,1,2,2-Tetrachloroethane	<1.37		1.37	ug/m3			10/03/17 21:22	1
4-Ethyltoluene	1.97		0.983	ug/m3			10/03/17 21:22	1
1,3,5-Trimethylbenzene	1.96		0.983	ug/m3			10/03/17 21:22	1
1,2,4-Trimethylbenzene	6.83		0.983	ug/m3			10/03/17 21:22	1
1,3-Dichlorobenzene	<1.20		1.20	ug/m3			10/03/17 21:22	1
1,4-Dichlorobenzene	<1.20		1.20	ug/m3			10/03/17 21:22	1
Benzyl chloride	<1.04		1.04	ug/m3			10/03/17 21:22	1
1,2-Dichlorobenzene	<1.20		1.20	ug/m3			10/03/17 21:22	1
1,2,4-Trichlorobenzene	<3.71	*	3.71	ug/m3			10/03/17 21:22	1

TestAmerica Burlington

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-40305-1
SDG: 200-40305-1

Client Sample ID: VP-3

Lab Sample ID: 200-40305-3

Date Collected: 09/27/17 15:24

Matrix: Air

Date Received: 10/02/17 08:45

Sample Container: Summa Canister 6L

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Hexachlorobutadiene	<2.13		2.13	ug/m3			10/03/17 21:22	1	
Naphthalene	<2.62	*	2.62	ug/m3			10/03/17 21:22	1	
Dibromochloromethane	<1.70		1.70	ug/m3			10/03/17 21:22	1	
<i>Tentatively Identified Compound</i>	<i>Est. Result</i>	<i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>RT</i>	<i>CAS No.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
Unknown	12.4	T J	ppb v/v		3.12			10/03/17 21:22	1
Unknown	1.11	T J	ppb v/v		3.41			10/03/17 21:22	1
Butane	11.9	T J N	ppb v/v		3.66	106-97-8		10/03/17 21:22	1
Butane, 2-methyl-	1.58	T J N	ppb v/v		4.54	78-78-4		10/03/17 21:22	1
Unknown	1.93	T J	ppb v/v		8.87			10/03/17 21:22	1
Propane, 1-bromo-	76.0	T J N	ppb v/v		9.29	106-94-5		10/03/17 21:22	1
Unknown	9.18	T J	ppb v/v		16.03			10/03/17 21:22	1
Nonane	1.16	T J N	ppb v/v		17.64	111-84-2		10/03/17 21:22	1
Undecane	3.64	T J N	ppb v/v		22.10	1120-21-4		10/03/17 21:22	1
Dodecane	1.40	T J N	ppb v/v		23.67	112-40-3		10/03/17 21:22	1

Client Sample ID: VP-4

Lab Sample ID: 200-40305-4

Date Collected: 09/27/17 15:29

Matrix: Air

Date Received: 10/02/17 08:45

Sample Container: Summa Canister 6L

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Propylene	<8.61		8.61	ug/m3			10/03/17 22:12	1
Dichlorodifluoromethane	2.67		2.47	ug/m3			10/03/17 22:12	1
1,2-Dichlorotetrafluoroethane	<1.40		1.40	ug/m3			10/03/17 22:12	1
Chloromethane	1.15		1.03	ug/m3			10/03/17 22:12	1
Vinyl chloride	<0.511		0.511	ug/m3			10/03/17 22:12	1
1,3-Butadiene	<0.442		0.442	ug/m3			10/03/17 22:12	1
Bromomethane	<0.777		0.777	ug/m3			10/03/17 22:12	1
Chloroethane	<1.32		1.32	ug/m3			10/03/17 22:12	1
Trichlorofluoromethane	3.37		1.12	ug/m3			10/03/17 22:12	1
Ethanol	19.0		9.42	ug/m3			10/03/17 22:12	1
Freon TF	<1.53		1.53	ug/m3			10/03/17 22:12	1
1,1-Dichloroethene	<0.793		0.793	ug/m3			10/03/17 22:12	1
Acetone	22.3		11.9	ug/m3			10/03/17 22:12	1
Isopropyl alcohol	<12.3		12.3	ug/m3			10/03/17 22:12	1
Carbon disulfide	<1.56		1.56	ug/m3			10/03/17 22:12	1
Methylene Chloride	<1.74		1.74	ug/m3			10/03/17 22:12	1
Methyl tert-butyl ether	<0.721		0.721	ug/m3			10/03/17 22:12	1
trans-1,2-Dichloroethene	<0.793		0.793	ug/m3			10/03/17 22:12	1
n-Hexane	4.09		0.705	ug/m3			10/03/17 22:12	1
1,1-Dichloroethane	<0.809		0.809	ug/m3			10/03/17 22:12	1
Vinyl acetate	<17.6		17.6	ug/m3			10/03/17 22:12	1
Ethyl acetate	<18.0		18.0	ug/m3			10/03/17 22:12	1
Methyl Ethyl Ketone	2.29		1.47	ug/m3			10/03/17 22:12	1
cis-1,2-Dichloroethene	<0.793		0.793	ug/m3			10/03/17 22:12	1
Chloroform	<0.977		0.977	ug/m3			10/03/17 22:12	1
Tetrahydrofuran	<14.7		14.7	ug/m3			10/03/17 22:12	1

TestAmerica Burlington

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-40305-1
SDG: 200-40305-1

Client Sample ID: VP-4

Lab Sample ID: 200-40305-4

Date Collected: 09/27/17 15:29

Matrix: Air

Date Received: 10/02/17 08:45

Sample Container: Summa Canister 6L

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<1.09		1.09	ug/m3			10/03/17 22:12	1
Cyclohexane	1.05		0.688	ug/m3			10/03/17 22:12	1
Carbon tetrachloride	<1.26		1.26	ug/m3			10/03/17 22:12	1
Benzene	1.52		0.639	ug/m3			10/03/17 22:12	1
1,2-Dichloroethane	<0.809		0.809	ug/m3			10/03/17 22:12	1
n-Heptane	1.95		0.820	ug/m3			10/03/17 22:12	1
Trichloroethene	2.95		1.07	ug/m3			10/03/17 22:12	1
1,2-Dichloropropane	<0.924		0.924	ug/m3			10/03/17 22:12	1
Bromodichloromethane	<1.34		1.34	ug/m3			10/03/17 22:12	1
cis-1,3-Dichloropropene	<0.908		0.908	ug/m3			10/03/17 22:12	1
Methyl isobutyl ketone	<2.05		2.05	ug/m3			10/03/17 22:12	1
Toluene	6.13		0.754	ug/m3			10/03/17 22:12	1
trans-1,3-Dichloropropene	<0.908		0.908	ug/m3			10/03/17 22:12	1
1,1,2-Trichloroethane	<1.09		1.09	ug/m3			10/03/17 22:12	1
Tetrachloroethene	4.07		1.36	ug/m3			10/03/17 22:12	1
Methyl Butyl Ketone (2-Hexanone)	<2.05		2.05	ug/m3			10/03/17 22:12	1
1,2-Dibromoethane	<1.54		1.54	ug/m3			10/03/17 22:12	1
Chlorobenzene	<0.921		0.921	ug/m3			10/03/17 22:12	1
Ethylbenzene	1.83		0.868	ug/m3			10/03/17 22:12	1
m,p-Xylene	7.15		2.17	ug/m3			10/03/17 22:12	1
Xylene, o-	2.66		0.868	ug/m3			10/03/17 22:12	1
Styrene	<0.852		0.852	ug/m3			10/03/17 22:12	1
Bromoform	<2.07		2.07	ug/m3			10/03/17 22:12	1
1,1,1,2,2-Tetrachloroethane	<1.37		1.37	ug/m3			10/03/17 22:12	1
4-Ethyltoluene	1.24		0.983	ug/m3			10/03/17 22:12	1
1,3,5-Trimethylbenzene	1.27		0.983	ug/m3			10/03/17 22:12	1
1,2,4-Trimethylbenzene	4.85		0.983	ug/m3			10/03/17 22:12	1
1,3-Dichlorobenzene	<1.20		1.20	ug/m3			10/03/17 22:12	1
1,4-Dichlorobenzene	<1.20		1.20	ug/m3			10/03/17 22:12	1
Benzyl chloride	<1.04		1.04	ug/m3			10/03/17 22:12	1
1,2-Dichlorobenzene	<1.20		1.20	ug/m3			10/03/17 22:12	1
1,2,4-Trichlorobenzene	<3.71 *		3.71	ug/m3			10/03/17 22:12	1
Hexachlorobutadiene	<2.13		2.13	ug/m3			10/03/17 22:12	1
Naphthalene	<2.62 *		2.62	ug/m3			10/03/17 22:12	1
Dibromochloromethane	<1.70		1.70	ug/m3			10/03/17 22:12	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Ethane, 1,1-difluoro-	2.10	T J N	ppb v/v		3.13	75-37-6		10/03/17 22:12	1
Unknown	1.14	T J	ppb v/v		3.66			10/03/17 22:12	1
Butane, 2-methyl-	1.58	T J N	ppb v/v		4.54	78-78-4		10/03/17 22:12	1
Propane, 1-bromo-	30.0	T J N	ppb v/v		9.28	106-94-5		10/03/17 22:12	1
Nonane	1.21	T J N	ppb v/v		17.64	111-84-2		10/03/17 22:12	1
Undecane	4.21	T J N	ppb v/v		22.10	1120-21-4		10/03/17 22:12	1
Unknown	1.34	T J	ppb v/v		22.99			10/03/17 22:12	1
Unknown	2.15	T J	ppb v/v		23.67			10/03/17 22:12	1

TestAmerica Burlington

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-40305-1
SDG: 200-40305-1

Client Sample ID: VP-5

Lab Sample ID: 200-40305-5

Date Collected: 09/27/17 15:34

Matrix: Air

Date Received: 10/02/17 08:45

Sample Container: Summa Canister 6L

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Propylene	<8.61		8.61	ug/m3			10/03/17 23:03	1
Dichlorodifluoromethane	2.79		2.47	ug/m3			10/03/17 23:03	1
1,2-Dichlorotetrafluoroethane	<1.40		1.40	ug/m3			10/03/17 23:03	1
Chloromethane	<1.03		1.03	ug/m3			10/03/17 23:03	1
Vinyl chloride	<0.511		0.511	ug/m3			10/03/17 23:03	1
1,3-Butadiene	<0.442		0.442	ug/m3			10/03/17 23:03	1
Bromomethane	<0.777		0.777	ug/m3			10/03/17 23:03	1
Chloroethane	<1.32		1.32	ug/m3			10/03/17 23:03	1
Trichlorofluoromethane	1.50		1.12	ug/m3			10/03/17 23:03	1
Ethanol	<9.42		9.42	ug/m3			10/03/17 23:03	1
Freon TF	1.94		1.53	ug/m3			10/03/17 23:03	1
1,1-Dichloroethene	<0.793		0.793	ug/m3			10/03/17 23:03	1
Acetone	33.3		11.9	ug/m3			10/03/17 23:03	1
Isopropyl alcohol	<12.3		12.3	ug/m3			10/03/17 23:03	1
Carbon disulfide	1.92		1.56	ug/m3			10/03/17 23:03	1
Methylene Chloride	<1.74		1.74	ug/m3			10/03/17 23:03	1
Methyl tert-butyl ether	<0.721		0.721	ug/m3			10/03/17 23:03	1
trans-1,2-Dichloroethene	<0.793		0.793	ug/m3			10/03/17 23:03	1
n-Hexane	1.34		0.705	ug/m3			10/03/17 23:03	1
1,1-Dichloroethane	<0.809		0.809	ug/m3			10/03/17 23:03	1
Vinyl acetate	<17.6		17.6	ug/m3			10/03/17 23:03	1
Ethyl acetate	<18.0		18.0	ug/m3			10/03/17 23:03	1
Methyl Ethyl Ketone	<1.47		1.47	ug/m3			10/03/17 23:03	1
cis-1,2-Dichloroethene	<0.793		0.793	ug/m3			10/03/17 23:03	1
Chloroform	<0.977		0.977	ug/m3			10/03/17 23:03	1
Tetrahydrofuran	<14.7		14.7	ug/m3			10/03/17 23:03	1
1,1,1-Trichloroethane	<1.09		1.09	ug/m3			10/03/17 23:03	1
Cyclohexane	<0.688		0.688	ug/m3			10/03/17 23:03	1
Carbon tetrachloride	<1.26		1.26	ug/m3			10/03/17 23:03	1
Benzene	<0.639		0.639	ug/m3			10/03/17 23:03	1
1,2-Dichloroethane	<0.809		0.809	ug/m3			10/03/17 23:03	1
n-Heptane	<0.820		0.820	ug/m3			10/03/17 23:03	1
Trichloroethene	1.43		1.07	ug/m3			10/03/17 23:03	1
1,2-Dichloropropane	<0.924		0.924	ug/m3			10/03/17 23:03	1
Bromodichloromethane	<1.34		1.34	ug/m3			10/03/17 23:03	1
cis-1,3-Dichloropropene	<0.908		0.908	ug/m3			10/03/17 23:03	1
Methyl isobutyl ketone	<2.05		2.05	ug/m3			10/03/17 23:03	1
Toluene	1.74		0.754	ug/m3			10/03/17 23:03	1
trans-1,3-Dichloropropene	<0.908		0.908	ug/m3			10/03/17 23:03	1
1,1,2-Trichloroethane	<1.09		1.09	ug/m3			10/03/17 23:03	1
Tetrachloroethene	<1.36		1.36	ug/m3			10/03/17 23:03	1
Methyl Butyl Ketone (2-Hexanone)	<2.05		2.05	ug/m3			10/03/17 23:03	1
1,2-Dibromoethane	<1.54		1.54	ug/m3			10/03/17 23:03	1
Chlorobenzene	<0.921		0.921	ug/m3			10/03/17 23:03	1
Ethylbenzene	<0.868		0.868	ug/m3			10/03/17 23:03	1
m,p-Xylene	<2.17		2.17	ug/m3			10/03/17 23:03	1
Xylene, o-	<0.868		0.868	ug/m3			10/03/17 23:03	1
Styrene	<0.852		0.852	ug/m3			10/03/17 23:03	1

TestAmerica Burlington

Client Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-40305-1
SDG: 200-40305-1

Client Sample ID: VP-5

Lab Sample ID: 200-40305-5

Date Collected: 09/27/17 15:34

Matrix: Air

Date Received: 10/02/17 08:45

Sample Container: Summa Canister 6L

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Bromoform	<2.07		2.07	ug/m3			10/03/17 23:03	1
1,1,2,2-Tetrachloroethane	<1.37		1.37	ug/m3			10/03/17 23:03	1
4-Ethyltoluene	<0.983		0.983	ug/m3			10/03/17 23:03	1
1,3,5-Trimethylbenzene	<0.983		0.983	ug/m3			10/03/17 23:03	1
1,2,4-Trimethylbenzene	<0.983		0.983	ug/m3			10/03/17 23:03	1
1,3-Dichlorobenzene	<1.20		1.20	ug/m3			10/03/17 23:03	1
1,4-Dichlorobenzene	<1.20		1.20	ug/m3			10/03/17 23:03	1
Benzyl chloride	<1.04		1.04	ug/m3			10/03/17 23:03	1
1,2-Dichlorobenzene	<1.20		1.20	ug/m3			10/03/17 23:03	1
1,2,4-Trichlorobenzene	<3.71	*	3.71	ug/m3			10/03/17 23:03	1
Hexachlorobutadiene	<2.13		2.13	ug/m3			10/03/17 23:03	1
Naphthalene	<2.62	*	2.62	ug/m3			10/03/17 23:03	1
Dibromochloromethane	<1.70		1.70	ug/m3			10/03/17 23:03	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	3.30	T J	ppb v/v		8.87			10/03/17 23:03	1
Cyclotrisiloxane, hexamethyl-	6.16	T J N	ppb v/v		15.00	541-05-9		10/03/17 23:03	1

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-40305-1
SDG: 200-40305-1

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

Lab Sample ID: MB 200-121666/4

Matrix: Air

Analysis Batch: 121666

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			10/03/17 13:52	1
Dichlorodifluoromethane	<2.47		2.47	ug/m3			10/03/17 13:52	1
1,2-Dichlorotetrafluoroethane	<1.40		1.40	ug/m3			10/03/17 13:52	1
Chloromethane	<1.03		1.03	ug/m3			10/03/17 13:52	1
Vinyl chloride	<0.511		0.511	ug/m3			10/03/17 13:52	1
1,3-Butadiene	<0.442		0.442	ug/m3			10/03/17 13:52	1
Bromomethane	<0.777		0.777	ug/m3			10/03/17 13:52	1
Chloroethane	<1.32		1.32	ug/m3			10/03/17 13:52	1
Trichlorofluoromethane	<1.12		1.12	ug/m3			10/03/17 13:52	1
Ethanol	<9.42		9.42	ug/m3			10/03/17 13:52	1
Freon TF	<1.53		1.53	ug/m3			10/03/17 13:52	1
1,1-Dichloroethene	<0.793		0.793	ug/m3			10/03/17 13:52	1
Acetone	<11.9		11.9	ug/m3			10/03/17 13:52	1
Isopropyl alcohol	<12.3		12.3	ug/m3			10/03/17 13:52	1
Carbon disulfide	<1.56		1.56	ug/m3			10/03/17 13:52	1
Methylene Chloride	<1.74		1.74	ug/m3			10/03/17 13:52	1
Methyl tert-butyl ether	<0.721		0.721	ug/m3			10/03/17 13:52	1
trans-1,2-Dichloroethene	<0.793		0.793	ug/m3			10/03/17 13:52	1
n-Hexane	<0.705		0.705	ug/m3			10/03/17 13:52	1
1,1-Dichloroethane	<0.809		0.809	ug/m3			10/03/17 13:52	1
Vinyl acetate	<17.6		17.6	ug/m3			10/03/17 13:52	1
Ethyl acetate	<18.0		18.0	ug/m3			10/03/17 13:52	1
Methyl Ethyl Ketone	<1.47		1.47	ug/m3			10/03/17 13:52	1
cis-1,2-Dichloroethene	<0.793		0.793	ug/m3			10/03/17 13:52	1
Chloroform	<0.977		0.977	ug/m3			10/03/17 13:52	1
Tetrahydrofuran	<14.7		14.7	ug/m3			10/03/17 13:52	1
1,1,1-Trichloroethane	<1.09		1.09	ug/m3			10/03/17 13:52	1
Cyclohexane	<0.688		0.688	ug/m3			10/03/17 13:52	1
Carbon tetrachloride	<1.26		1.26	ug/m3			10/03/17 13:52	1
Benzene	<0.639		0.639	ug/m3			10/03/17 13:52	1
1,2-Dichloroethane	<0.809		0.809	ug/m3			10/03/17 13:52	1
n-Heptane	<0.820		0.820	ug/m3			10/03/17 13:52	1
Trichloroethene	<1.07		1.07	ug/m3			10/03/17 13:52	1
1,2-Dichloropropane	<0.924		0.924	ug/m3			10/03/17 13:52	1
Bromodichloromethane	<1.34		1.34	ug/m3			10/03/17 13:52	1
cis-1,3-Dichloropropene	<0.908		0.908	ug/m3			10/03/17 13:52	1
Methyl isobutyl ketone	<2.05		2.05	ug/m3			10/03/17 13:52	1
Toluene	<0.754		0.754	ug/m3			10/03/17 13:52	1
trans-1,3-Dichloropropene	<0.908		0.908	ug/m3			10/03/17 13:52	1
1,1,2-Trichloroethane	<1.09		1.09	ug/m3			10/03/17 13:52	1
Tetrachloroethene	<1.36		1.36	ug/m3			10/03/17 13:52	1
Methyl Butyl Ketone (2-Hexanone)	<2.05		2.05	ug/m3			10/03/17 13:52	1
1,2-Dibromoethane	<1.54		1.54	ug/m3			10/03/17 13:52	1
Chlorobenzene	<0.921		0.921	ug/m3			10/03/17 13:52	1
Ethylbenzene	<0.868		0.868	ug/m3			10/03/17 13:52	1
m,p-Xylene	<2.17		2.17	ug/m3			10/03/17 13:52	1
Xylene, o-	<0.868		0.868	ug/m3			10/03/17 13:52	1
Styrene	<0.852		0.852	ug/m3			10/03/17 13:52	1

TestAmerica Burlington

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-40305-1
SDG: 200-40305-1

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

Lab Sample ID: MB 200-121666/4
Matrix: Air
Analysis Batch: 121666

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			10/03/17 13:52	1
1,1,2,2-Tetrachloroethane	<1.37		1.37	ug/m3			10/03/17 13:52	1
4-Ethyltoluene	<0.983		0.983	ug/m3			10/03/17 13:52	1
1,3,5-Trimethylbenzene	<0.983		0.983	ug/m3			10/03/17 13:52	1
1,2,4-Trimethylbenzene	<0.983		0.983	ug/m3			10/03/17 13:52	1
1,3-Dichlorobenzene	<1.20		1.20	ug/m3			10/03/17 13:52	1
1,4-Dichlorobenzene	<1.20		1.20	ug/m3			10/03/17 13:52	1
Benzyl chloride	<1.04		1.04	ug/m3			10/03/17 13:52	1
1,2-Dichlorobenzene	<1.20		1.20	ug/m3			10/03/17 13:52	1
1,2,4-Trichlorobenzene	<3.71		3.71	ug/m3			10/03/17 13:52	1
Hexachlorobutadiene	<2.13		2.13	ug/m3			10/03/17 13:52	1
Naphthalene	<2.62		2.62	ug/m3			10/03/17 13:52	1
Dibromochloromethane	<1.70		1.70	ug/m3			10/03/17 13:52	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ppb v/v					10/03/17 13:52	1

Lab Sample ID: LCS 200-121666/3
Matrix: Air
Analysis Batch: 121666

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	16.24		ug/m3		94	58 - 129
Dichlorodifluoromethane	49.4	53.21		ug/m3		108	68 - 128
1,2-Dichlorotetrafluoroethane	69.9	81.22		ug/m3		116	78 - 138
Chloromethane	20.6	19.05		ug/m3		92	57 - 126
Vinyl chloride	25.6	24.10		ug/m3		94	62 - 125
1,3-Butadiene	22.1	20.33		ug/m3		92	59 - 125
Bromomethane	38.8	40.10		ug/m3		103	68 - 128
Chloroethane	26.4	25.84		ug/m3		98	65 - 125
Trichlorofluoromethane	56.2	59.46		ug/m3		106	67 - 127
Ethanol	28.3	25.88		ug/m3		92	28 - 168
Freon TF	76.6	80.69		ug/m3		105	68 - 128
1,1-Dichloroethene	39.6	38.94		ug/m3		98	67 - 127
Acetone	23.7	22.64		ug/m3		95	64 - 136
Isopropyl alcohol	24.6	22.06		ug/m3		90	55 - 124
Carbon disulfide	31.1	35.87		ug/m3		115	81 - 141
Methylene Chloride	34.7	33.29		ug/m3		96	62 - 122
Methyl tert-butyl ether	36.0	34.65		ug/m3		96	67 - 127
trans-1,2-Dichloroethene	39.6	40.54		ug/m3		102	72 - 132
n-Hexane	35.2	35.32		ug/m3		100	71 - 131
1,1-Dichloroethane	40.5	39.59		ug/m3		98	66 - 126
Vinyl acetate	35.2	33.17		ug/m3		94	62 - 130
Ethyl acetate	36.0	37.50		ug/m3		104	75 - 135
Methyl Ethyl Ketone	29.5	28.27		ug/m3		96	62 - 122
cis-1,2-Dichloroethene	39.6	39.12		ug/m3		99	67 - 127
Chloroform	48.8	50.33		ug/m3		103	69 - 129
Tetrahydrofuran	29.5	28.91		ug/m3		98	61 - 136

TestAmerica Burlington

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-40305-1
SDG: 200-40305-1

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

Lab Sample ID: LCS 200-121666/3

Matrix: Air

Analysis Batch: 121666

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	60.07		ug/m3		110	70 - 130
Cyclohexane	34.4	35.70		ug/m3		104	69 - 129
Carbon tetrachloride	62.9	74.19		ug/m3		118	62 - 143
Benzene	31.9	31.82		ug/m3		100	67 - 127
1,2-Dichloroethane	40.5	41.66		ug/m3		103	67 - 132
n-Heptane	41.0	39.18		ug/m3		96	62 - 130
Trichloroethene	53.7	57.60		ug/m3		107	68 - 128
1,2-Dichloropropane	46.2	45.22		ug/m3		98	67 - 127
Bromodichloromethane	67.0	73.31		ug/m3		109	69 - 129
cis-1,3-Dichloropropene	45.4	48.62		ug/m3		107	70 - 130
Methyl isobutyl ketone	41.0	42.93		ug/m3		105	62 - 130
Toluene	37.7	38.58		ug/m3		102	67 - 127
trans-1,3-Dichloropropene	45.4	47.65		ug/m3		105	69 - 129
1,1,2-Trichloroethane	54.6	57.74		ug/m3		106	69 - 129
Tetrachloroethene	67.8	76.78		ug/m3		113	70 - 130
Methyl Butyl Ketone (2-Hexanone)	41.0	40.84		ug/m3		100	61 - 127
1,2-Dibromoethane	76.8	85.52		ug/m3		111	70 - 130
Chlorobenzene	46.0	49.99		ug/m3		109	68 - 128
Ethylbenzene	43.4	45.40		ug/m3		105	68 - 128
m,p-Xylene	86.8	89.65		ug/m3		103	68 - 128
Xylene, o-	43.4	44.78		ug/m3		103	67 - 127
Styrene	42.6	45.77		ug/m3		107	68 - 128
Bromoform	103	106.6		ug/m3		103	34 - 170
1,1,2,2-Tetrachloroethane	68.6	74.14		ug/m3		108	69 - 129
4-Ethyltoluene	49.2	54.46		ug/m3		111	69 - 129
1,3,5-Trimethylbenzene	49.2	52.88		ug/m3		108	65 - 125
1,2,4-Trimethylbenzene	49.2	53.87		ug/m3		110	65 - 125
1,3-Dichlorobenzene	60.1	69.97		ug/m3		116	67 - 127
1,4-Dichlorobenzene	60.1	70.26		ug/m3		117	66 - 126
Benzyl chloride	51.8	58.63		ug/m3		113	54 - 135
1,2-Dichlorobenzene	60.1	69.52		ug/m3		116	67 - 127
1,2,4-Trichlorobenzene	74.2	97.30	*	ug/m3		131	59 - 126
Hexachlorobutadiene	107	129.3		ug/m3		121	62 - 130
Naphthalene	52.4	64.25	*	ug/m3		123	50 - 121
Dibromochloromethane	85.2	90.23		ug/m3		106	66 - 130

Lab Sample ID: 200-40305-1 DU

Matrix: Air

Analysis Batch: 121666

Client Sample ID: VP-1

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Propylene	<8.61		<8.61		ug/m3		NC	25
Dichlorodifluoromethane	2.51		2.609		ug/m3		4	25
1,2-Dichlorotetrafluoroethane	<1.40		<1.40		ug/m3		NC	25
Chloromethane	1.09		1.193		ug/m3		9	25
Vinyl chloride	<0.511		<0.511		ug/m3		NC	25
1,3-Butadiene	<0.442		<0.442		ug/m3		NC	25
Bromomethane	<0.777		<0.777		ug/m3		NC	25

TestAmerica Burlington

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-40305-1
SDG: 200-40305-1

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

Lab Sample ID: 200-40305-1 DU

Matrix: Air

Analysis Batch: 121666

Client Sample ID: VP-1

Prep Type: Total/NA

Analyte	Sample	Sample Qualifier	DU	DU	Unit	D	RPD	Limit
	Result		Result	Qualifier				
Chloroethane	<1.32		<1.32		ug/m3		NC	25
Trichlorofluoromethane	5.64		6.018		ug/m3		6	25
Ethanol	90.5		93.32		ug/m3		3	25
Freon TF	1.55		1.552		ug/m3		0.2	25
1,1-Dichloroethene	<0.793		<0.793		ug/m3		NC	25
Acetone	97.5	E	98.12	E	ug/m3		0.6	25
Isopropyl alcohol	53.4		56.01		ug/m3		5	25
Carbon disulfide	<1.56		<1.56		ug/m3		NC	25
Methylene Chloride	3.86		4.007		ug/m3		4	25
Methyl tert-butyl ether	<0.721		<0.721		ug/m3		NC	25
trans-1,2-Dichloroethene	<0.793		<0.793		ug/m3		NC	25
n-Hexane	3.13		3.261		ug/m3		4	25
1,1-Dichloroethane	<0.809		<0.809		ug/m3		NC	25
Vinyl acetate	<17.6		<17.6		ug/m3		NC	25
Ethyl acetate	<18.0		<18.0		ug/m3		NC	25
Methyl Ethyl Ketone	2.58		2.607		ug/m3		0.9	25
cis-1,2-Dichloroethene	<0.793		<0.793		ug/m3		NC	25
Chloroform	<0.977		<0.977		ug/m3		NC	25
Tetrahydrofuran	<14.7		<14.7		ug/m3		NC	25
1,1,1-Trichloroethane	<1.09		<1.09		ug/m3		NC	25
Cyclohexane	2.40		2.532		ug/m3		5	25
Carbon tetrachloride	<1.26		<1.26		ug/m3		NC	25
Benzene	0.861		0.9138		ug/m3		6	25
1,2-Dichloroethane	<0.809		<0.809		ug/m3		NC	25
n-Heptane	0.958		1.002		ug/m3		5	25
Trichloroethene	2.30		2.153		ug/m3		6	25
1,2-Dichloropropane	<0.924		<0.924		ug/m3		NC	25
Bromodichloromethane	<1.34		<1.34		ug/m3		NC	25
cis-1,3-Dichloropropene	<0.908		<0.908		ug/m3		NC	25
Methyl isobutyl ketone	<2.05		<2.05		ug/m3		NC	25
Toluene	4.89		5.105		ug/m3		4	25
trans-1,3-Dichloropropene	<0.908		<0.908		ug/m3		NC	25
1,1,2-Trichloroethane	<1.09		<1.09		ug/m3		NC	25
Tetrachloroethene	<1.36		<1.36		ug/m3		NC	25
Methyl Butyl Ketone (2-Hexanone)	<2.05		<2.05		ug/m3		NC	25
1,2-Dibromoethane	<1.54		<1.54		ug/m3		NC	25
Chlorobenzene	<0.921		<0.921		ug/m3		NC	25
Ethylbenzene	0.897		0.8725		ug/m3		3	25
m,p-Xylene	3.62		3.669		ug/m3		1	25
Xylene, o-	1.37		1.442		ug/m3		5	25
Styrene	<0.852		<0.852		ug/m3		NC	25
Bromoform	<2.07		<2.07		ug/m3		NC	25
1,1,2,2-Tetrachloroethane	<1.37		<1.37		ug/m3		NC	25
4-Ethyltoluene	<0.983		<0.983		ug/m3		NC	25
1,3,5-Trimethylbenzene	<0.983		<0.983		ug/m3		NC	25
1,2,4-Trimethylbenzene	1.41		1.354		ug/m3		4	25
1,3-Dichlorobenzene	<1.20		<1.20		ug/m3		NC	25

TestAmerica Burlington

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-40305-1
SDG: 200-40305-1

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

Lab Sample ID: 200-40305-1 DU

Matrix: Air

Analysis Batch: 121666

Client Sample ID: VP-1

Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
1,4-Dichlorobenzene	<1.20		<1.20		ug/m3		NC	25
Benzyl chloride	<1.04		<1.04		ug/m3		NC	25
1,2-Dichlorobenzene	<1.20		<1.20		ug/m3		NC	25
1,2,4-Trichlorobenzene	<3.71	*	<3.71	*	ug/m3		NC	25
Hexachlorobutadiene	<2.13		<2.13		ug/m3		NC	25
Naphthalene	<2.62	*	<2.62	*	ug/m3		NC	25
Dibromochloromethane	<1.70		<1.70		ug/m3		NC	25

Lab Sample ID: MB 200-122172/4

Matrix: Air

Analysis Batch: 122172

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Propylene	<8.61		8.61	ug/m3			10/16/17 12:14	1
Dichlorodifluoromethane	<2.47		2.47	ug/m3			10/16/17 12:14	1
1,2-Dichlorotetrafluoroethane	<1.40		1.40	ug/m3			10/16/17 12:14	1
Chloromethane	<1.03		1.03	ug/m3			10/16/17 12:14	1
Vinyl chloride	<0.511		0.511	ug/m3			10/16/17 12:14	1
1,3-Butadiene	<0.442		0.442	ug/m3			10/16/17 12:14	1
Bromomethane	<0.777		0.777	ug/m3			10/16/17 12:14	1
Chloroethane	<1.32		1.32	ug/m3			10/16/17 12:14	1
Trichlorofluoromethane	<1.12		1.12	ug/m3			10/16/17 12:14	1
Ethanol	<9.42		9.42	ug/m3			10/16/17 12:14	1
Freon TF	<1.53		1.53	ug/m3			10/16/17 12:14	1
1,1-Dichloroethene	<0.793		0.793	ug/m3			10/16/17 12:14	1
Acetone	<11.9		11.9	ug/m3			10/16/17 12:14	1
Isopropyl alcohol	<12.3		12.3	ug/m3			10/16/17 12:14	1
Carbon disulfide	<1.56		1.56	ug/m3			10/16/17 12:14	1
Methylene Chloride	<1.74		1.74	ug/m3			10/16/17 12:14	1
Methyl tert-butyl ether	<0.721		0.721	ug/m3			10/16/17 12:14	1
trans-1,2-Dichloroethene	<0.793		0.793	ug/m3			10/16/17 12:14	1
n-Hexane	<0.705		0.705	ug/m3			10/16/17 12:14	1
1,1-Dichloroethane	<0.809		0.809	ug/m3			10/16/17 12:14	1
Vinyl acetate	<17.6		17.6	ug/m3			10/16/17 12:14	1
Ethyl acetate	<18.0		18.0	ug/m3			10/16/17 12:14	1
Methyl Ethyl Ketone	<1.47		1.47	ug/m3			10/16/17 12:14	1
cis-1,2-Dichloroethene	<0.793		0.793	ug/m3			10/16/17 12:14	1
Chloroform	<0.977		0.977	ug/m3			10/16/17 12:14	1
Tetrahydrofuran	<14.7		14.7	ug/m3			10/16/17 12:14	1
1,1,1-Trichloroethane	<1.09		1.09	ug/m3			10/16/17 12:14	1
Cyclohexane	<0.688		0.688	ug/m3			10/16/17 12:14	1
Carbon tetrachloride	<1.26		1.26	ug/m3			10/16/17 12:14	1
Benzene	<0.639		0.639	ug/m3			10/16/17 12:14	1
1,2-Dichloroethane	<0.809		0.809	ug/m3			10/16/17 12:14	1
n-Heptane	<0.820		0.820	ug/m3			10/16/17 12:14	1
Trichloroethene	<1.07		1.07	ug/m3			10/16/17 12:14	1
1,2-Dichloropropane	<0.924		0.924	ug/m3			10/16/17 12:14	1
Bromodichloromethane	<1.34		1.34	ug/m3			10/16/17 12:14	1

TestAmerica Burlington

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-40305-1
SDG: 200-40305-1

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

Lab Sample ID: MB 200-122172/4
Matrix: Air
Analysis Batch: 122172

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	<0.908		0.908	ug/m3			10/16/17 12:14	1
Methyl isobutyl ketone	<2.05		2.05	ug/m3			10/16/17 12:14	1
Toluene	<0.754		0.754	ug/m3			10/16/17 12:14	1
trans-1,3-Dichloropropene	<0.908		0.908	ug/m3			10/16/17 12:14	1
1,1,2-Trichloroethane	<1.09		1.09	ug/m3			10/16/17 12:14	1
Tetrachloroethene	<1.36		1.36	ug/m3			10/16/17 12:14	1
Methyl Butyl Ketone (2-Hexanone)	<2.05		2.05	ug/m3			10/16/17 12:14	1
1,2-Dibromoethane	<1.54		1.54	ug/m3			10/16/17 12:14	1
Chlorobenzene	<0.921		0.921	ug/m3			10/16/17 12:14	1
Ethylbenzene	<0.868		0.868	ug/m3			10/16/17 12:14	1
m,p-Xylene	<2.17		2.17	ug/m3			10/16/17 12:14	1
Xylene, o-	<0.868		0.868	ug/m3			10/16/17 12:14	1
Styrene	<0.852		0.852	ug/m3			10/16/17 12:14	1
Bromoform	<2.07		2.07	ug/m3			10/16/17 12:14	1
1,1,2,2-Tetrachloroethane	<1.37		1.37	ug/m3			10/16/17 12:14	1
4-Ethyltoluene	<0.983		0.983	ug/m3			10/16/17 12:14	1
1,3,5-Trimethylbenzene	<0.983		0.983	ug/m3			10/16/17 12:14	1
1,2,4-Trimethylbenzene	<0.983		0.983	ug/m3			10/16/17 12:14	1
1,3-Dichlorobenzene	<1.20		1.20	ug/m3			10/16/17 12:14	1
1,4-Dichlorobenzene	<1.20		1.20	ug/m3			10/16/17 12:14	1
Benzyl chloride	<1.04		1.04	ug/m3			10/16/17 12:14	1
1,2-Dichlorobenzene	<1.20		1.20	ug/m3			10/16/17 12:14	1
1,2,4-Trichlorobenzene	<3.71		3.71	ug/m3			10/16/17 12:14	1
Hexachlorobutadiene	<2.13		2.13	ug/m3			10/16/17 12:14	1
Naphthalene	<2.62		2.62	ug/m3			10/16/17 12:14	1
Dibromochloromethane	<1.70		1.70	ug/m3			10/16/17 12:14	1

<i>Tentatively Identified Compound</i>	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
<i>Tentatively Identified Compound</i>	None		ppb v/v					10/16/17 12:14	1

Lab Sample ID: LCS 200-122172/3
Matrix: Air
Analysis Batch: 122172

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	18.20		ug/m3		106	58 - 129
Dichlorodifluoromethane	49.4	52.45		ug/m3		106	68 - 128
1,2-Dichlorotetrafluoroethane	69.9	81.03		ug/m3		116	78 - 138
Chloromethane	20.6	20.59		ug/m3		100	57 - 126
Vinyl chloride	25.6	25.30		ug/m3		99	62 - 125
1,3-Butadiene	22.1	21.63		ug/m3		98	59 - 125
Bromomethane	38.8	41.45		ug/m3		107	68 - 128
Chloroethane	26.4	27.27		ug/m3		103	65 - 125
Trichlorofluoromethane	56.2	58.63		ug/m3		104	67 - 127
Ethanol	28.3	24.80		ug/m3		88	28 - 168
Freon TF	76.6	79.18		ug/m3		103	68 - 128
1,1-Dichloroethene	39.6	38.68		ug/m3		98	67 - 127
Acetone	23.7	23.18		ug/m3		98	64 - 136

TestAmerica Burlington

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-40305-1
SDG: 200-40305-1

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

Lab Sample ID: LCS 200-122172/3

Matrix: Air

Analysis Batch: 122172

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Isopropyl alcohol	24.6	20.82		ug/m3		85	55 - 124
Carbon disulfide	31.1	36.45		ug/m3		117	81 - 141
Methylene Chloride	34.7	35.26		ug/m3		102	62 - 122
Methyl tert-butyl ether	36.0	32.76		ug/m3		91	67 - 127
trans-1,2-Dichloroethene	39.6	41.81		ug/m3		105	72 - 132
n-Hexane	35.2	36.32		ug/m3		103	71 - 131
1,1-Dichloroethane	40.5	40.60		ug/m3		100	66 - 126
Vinyl acetate	35.2	34.75		ug/m3		99	62 - 130
Ethyl acetate	36.0	33.95		ug/m3		94	75 - 135
Methyl Ethyl Ketone	29.5	25.70		ug/m3		87	62 - 122
cis-1,2-Dichloroethene	39.6	38.99		ug/m3		98	67 - 127
Chloroform	48.8	49.36		ug/m3		101	69 - 129
Tetrahydrofuran	29.5	27.43		ug/m3		93	61 - 136
1,1,1-Trichloroethane	54.6	55.27		ug/m3		101	70 - 130
Cyclohexane	34.4	33.92		ug/m3		99	69 - 129
Carbon tetrachloride	62.9	67.57		ug/m3		107	62 - 143
Benzene	31.9	30.81		ug/m3		96	67 - 127
1,2-Dichloroethane	40.5	42.18		ug/m3		104	67 - 132
n-Heptane	41.0	39.49		ug/m3		96	62 - 130
Trichloroethene	53.7	51.27		ug/m3		95	68 - 128
1,2-Dichloropropane	46.2	45.91		ug/m3		99	67 - 127
Bromodichloromethane	67.0	66.08		ug/m3		99	69 - 129
cis-1,3-Dichloropropene	45.4	46.84		ug/m3		103	70 - 130
Methyl isobutyl ketone	41.0	37.34		ug/m3		91	62 - 130
Toluene	37.7	37.05		ug/m3		98	67 - 127
trans-1,3-Dichloropropene	45.4	43.67		ug/m3		96	69 - 129
1,1,2-Trichloroethane	54.6	56.21		ug/m3		103	69 - 129
Tetrachloroethene	67.8	71.45		ug/m3		105	70 - 130
Methyl Butyl Ketone (2-Hexanone)	41.0	37.77		ug/m3		92	61 - 127
1,2-Dibromoethane	76.8	81.77		ug/m3		106	70 - 130
Chlorobenzene	46.0	48.09		ug/m3		104	68 - 128
Ethylbenzene	43.4	42.11		ug/m3		97	68 - 128
m,p-Xylene	86.8	82.39		ug/m3		95	68 - 128
Xylene, o-	43.4	40.49		ug/m3		93	67 - 127
Styrene	42.6	41.18		ug/m3		97	68 - 128
Bromoform	103	94.09		ug/m3		91	34 - 170
1,1,2,2-Tetrachloroethane	68.6	66.37		ug/m3		97	69 - 129
4-Ethyltoluene	49.2	49.07		ug/m3		100	69 - 129
1,3,5-Trimethylbenzene	49.2	46.14		ug/m3		94	65 - 125
1,2,4-Trimethylbenzene	49.2	46.55		ug/m3		95	65 - 125
1,3-Dichlorobenzene	60.1	63.56		ug/m3		106	67 - 127
1,4-Dichlorobenzene	60.1	61.91		ug/m3		103	66 - 126
Benzyl chloride	51.8	48.78		ug/m3		94	54 - 135
1,2-Dichlorobenzene	60.1	60.49		ug/m3		101	67 - 127
1,2,4-Trichlorobenzene	74.2	70.23		ug/m3		95	59 - 126
Hexachlorobutadiene	107	96.73		ug/m3		91	62 - 130
Naphthalene	52.4	45.62		ug/m3		87	50 - 121

TestAmerica Burlington

QC Sample Results

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-40305-1
SDG: 200-40305-1

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

Lab Sample ID: LCS 200-122172/3

Matrix: Air

Analysis Batch: 122172

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibromochloromethane	85.2	85.12		ug/m3		100	66 - 130

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QC Association Summary

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-40305-1
SDG: 200-40305-1

Air - GC/MS VOA

Analysis Batch: 121666

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-40305-1	VP-1	Total/NA	Air	TO-15	
200-40305-2	VP-2	Total/NA	Air	TO-15	
200-40305-3	VP-3	Total/NA	Air	TO-15	
200-40305-4	VP-4	Total/NA	Air	TO-15	
200-40305-5	VP-5	Total/NA	Air	TO-15	
MB 200-121666/4	Method Blank	Total/NA	Air	TO-15	
LCS 200-121666/3	Lab Control Sample	Total/NA	Air	TO-15	
200-40305-1 DU	VP-1	Total/NA	Air	TO-15	

Analysis Batch: 122172

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-40305-2	VP-2	Total/NA	Air	TO-15	
MB 200-122172/4	Method Blank	Total/NA	Air	TO-15	
LCS 200-122172/3	Lab Control Sample	Total/NA	Air	TO-15	

Lab Chronicle

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-40305-1
SDG: 200-40305-1

Client Sample ID: VP-1

Date Collected: 09/27/17 15:10

Date Received: 10/02/17 08:45

Lab Sample ID: 200-40305-1

Matrix: Air

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		1	121666	10/03/17 18:52	A1B	TAL BUR

Client Sample ID: VP-2

Date Collected: 09/27/17 15:20

Date Received: 10/02/17 08:45

Lab Sample ID: 200-40305-2

Matrix: Air

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		1	121666	10/03/17 20:32	A1B	TAL BUR
Total/NA	Analysis	TO-15		1	122172	10/16/17 17:16	A1B	TAL BUR

Client Sample ID: VP-3

Date Collected: 09/27/17 15:24

Date Received: 10/02/17 08:45

Lab Sample ID: 200-40305-3

Matrix: Air

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		1	121666	10/03/17 21:22	A1B	TAL BUR

Client Sample ID: VP-4

Date Collected: 09/27/17 15:29

Date Received: 10/02/17 08:45

Lab Sample ID: 200-40305-4

Matrix: Air

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		1	121666	10/03/17 22:12	A1B	TAL BUR

Client Sample ID: VP-5

Date Collected: 09/27/17 15:34

Date Received: 10/02/17 08:45

Lab Sample ID: 200-40305-5

Matrix: Air

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		1	121666	10/03/17 23:03	A1B	TAL BUR

Laboratory References:

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

Accreditation/Certification Summary

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-40305-1
SDG: 200-40305-1

Laboratory: TestAmerica Burlington

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Minnesota	NELAP	5	050-999-436	12-31-17

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

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

- 1
- 2
- 3
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- 14
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Method Summary

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-40305-1
SDG: 200-40305-1

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

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Sample Summary

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-40305-1
SDG: 200-40305-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
200-40305-1	VP-1	Air	09/27/17 15:10	10/02/17 08:45
200-40305-2	VP-2	Air	09/27/17 15:20	10/02/17 08:45
200-40305-3	VP-3	Air	09/27/17 15:24	10/02/17 08:45
200-40305-4	VP-4	Air	09/27/17 15:29	10/02/17 08:45
200-40305-5	VP-5	Air	09/27/17 15:34	10/02/17 08:45

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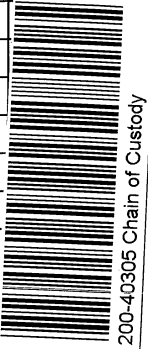
Canister Samples Chain of Custody Record

TestAmerica Laboratories, Inc. assumes no liability with respect to the collection and shipment of these samples.

TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 05403-6809
phone 802.660.1990 fax 802.660.1919

TestAmerica Laboratories, Inc. COC No: 1 of 1 COCs

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-14/15 (Standard / Low Level)		TO-15 SIM	EPA 3C	EPA 25C	ASTM D-1946	EPA 15/16	Other (Please specify in notes section)	Sample Type	Indoor Air/Ambient Air	Sub-Slab	Soil Gas	Soil Vapor Extraction (SVE)	Landfill Gas	Other (Please specify in notes section)	
VP-1	9-27-17	1510	1511	-20	-2.4	4358	3858	X	X							X							
VP-2	9-27-17	1520	1520	-30	-1.0	2946	4197	X	X							X							
VP-3	9-27-17	1524	1524	-20	-1.5	2721	6231	X	X							X							
VP-4	9-27-17	1529	1529	-30	-0.0	2510	2772	X	X							X							
VP-5	9-27-18	1536	1534	-30	-0.5	2538	2806	X	X							X							



Special Instructions/QC Requirements & Comments: Sample started 9-27-17 ended 9-28-17

Samples Shipped by:	Date / Time:	Samples Received by:
Relinquished by: <u>John S. Reis</u>	Date / Time: <u>9/29/17 18:00</u>	Received by: <u>John S. Reis</u>
Lab Use Only: Shipper Name: <u>CM</u>	Opened by: <u>FPC</u>	Condition: <u>CONTACT</u>

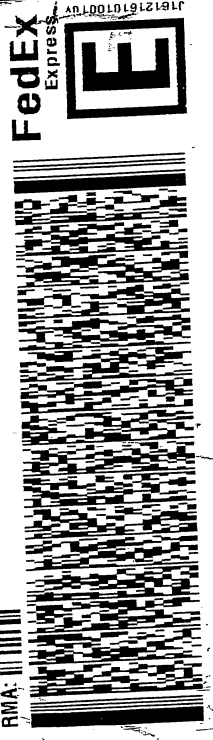
TEST AMERICA RECEIVED:
Thomas G. Reis 9-29-17 13:16



ORIGIN ID: BTVA (952) 922-2777
SHIP DATE: 28AUG17
ACTWGT: 5.00 LB MAN
CAD: 000890364/CAFE3011
BARB RUTTEN
TEST AMERICA LABORATORIES
7600 W. 27TH ST.
UNIT 236
ST. LOUIS PARK, MN 55426
UNITED STATES US

TO
SAMPLE MANAGEMENT
TEST AMERICA BURLINGTON
30 COMMUNITY DRIVE
SUITE 11
SOUTH BURLINGTON VT 05403

(802) 923-1068
RMA: |||IIIIII
REF: DEPT:

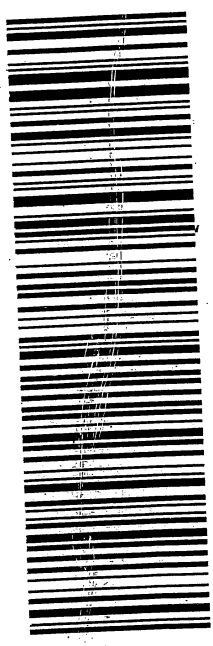


RETURNS MON - FRI
PRIORITY OVERNIGHT

TRK# 7451 8710 1580
0221

05403

VT - US



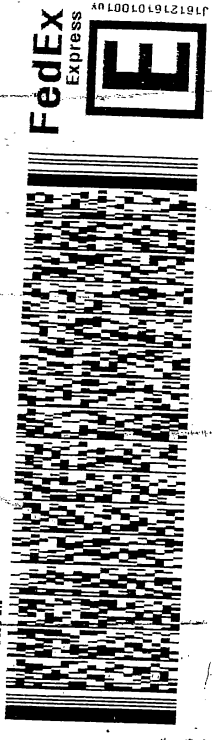
Part # 156148V-434 RT2 APV EXP 12/17

800-25

ORIGIN ID: BTVA (952) 922-2777
SHIP DATE: 28AUG17
ACTWGT: 5.00 LB MAN
CAD: 000890364/CAFE3011
BARB RUTTEN
TEST AMERICA LABORATORIES
7600 W. 27TH ST.
UNIT 236
ST. LOUIS PARK, MN 55426
UNITED STATES US

TO
SAMPLE MANAGEMENT
TEST AMERICA BURLINGTON
30 COMMUNITY DRIVE
SUITE 11
SOUTH BURLINGTON VT 05403

(802) 923-1068
RMA: |||IIIIII
REF: DEPT:

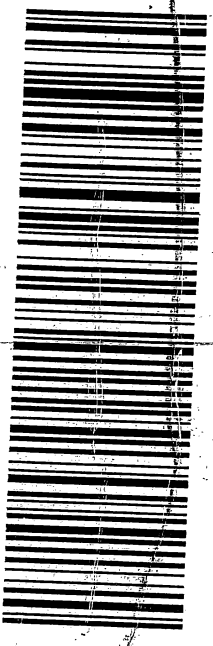


RETURNS MON - FRI
PRIORITY OVERNIGHT

TRK# 7451 8710 1590
0221

05403

VT - US



Part # 156148V-434 RT2 APV EXP 12/17



Login Sample Receipt Checklist

Client: Carlson McCain, Inc.

Job Number: 200-40305-1
SDG Number: 200-40305-1

Login Number: 40305
List Number: 1
Creator: Lavigne, Scott M

List Source: TestAmerica Burlington

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	Seal present with no number.
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 <math><6\text{mm}</math> (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		20		6/26/2017		EJE		1L 6L		Individual Batch			
Port	Can ID	Initial ¹ (psia)	Final (psia)	Diff. ³	Final ("Hg)	Gauge: Date:	Time:	Tech:	Temp:	Gauge: Date:	Time:	Tech:	Temp:
1	5082	.04	.05	.01	-29.5	G25 5.17	10:00	EE	22	G25 7.6.17	10:15	EE	22
2	4096	.04	.07	.03	-29.5	G25 6.27.17	9:00	EE	22	G25 7.5.17	16:00	EE	22
3	3462		.23	.19	-29.5								
4	5442		.05	.01	-29.5								
5	4327		.04	Ø	-29.5								
6	3537		.22	.18	-29.5								
7	2612		.12	.08	-29.5								
8	3661		.04	Ø	-29.5								
9	4362		.04	Ø	-29.5								
10	2946		.04	Ø	-29.5								
11	3428		.04	Ø	-29.5								
12	5399		.14	.10	-29.5								

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.

³ Difference = Final Pressure - Initial Pressure . Acceptance Criteria: (1) The difference must be less than or equal to + 0.25psi. (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 Date:

200-39091-A-1
 5082
 Location: Air-Storage
 Bottle: Summa Canister 6L
 Sampled: 6/26/2017 12:00 AM 200-1048394



Loc: 200
39091
#1
A

Can ID	Date	Sequence	Inventory Level				Secondary Review				
			Analyst	1	2	3	4	Limited	Review Date	Reviewer	
5082	6/28/17	2569	KAP		XXXX					6/28/17	WMD

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:

FAI023:04.26.17:10
 TestAmerica Burlington



Pre-shipment Clean Canister Certification Report

Canister Cleaning & Pre-shipment Leak Test

System ID		# Cycles			Cleaning Date			Technician			Canister Size		Certification Type		
		Bottom Rack	Final (psia)	Diff. ³	Final ("Hg)	Gauge:	Date:	Time:	Tech:	Temp:	1L	6L	Individual	Batch	
Port	Can ID	Initial (psia)	Final (psia)	Diff. ³	Final ("Hg)	Gauge:	Date:	Time:	Tech:	Temp:	Gauge:	Date:	Time:	Tech:	Temp:
1	5072	.04	.12	.18	-29.3	G25	8/10/17	8:15	EE	23	G25	8/12/17	11:30	EE	23
2	3036		.06	.02	-29.3										
3	2721		.12	.08	-29.3										
4	5643		.05	.01	-29.3										
5	4292		.05	.01	-29.3										
6	4948	.05	.08	.03	-29.3		8/12/17	14:00	EE	23		8/23/17	14:20	EE	23
7	2584	.04	.12	.19	-29.3		8/10/17	8:15	EE	23		8/22/17	11:30	EE	23
8	5663		.05	.01	-29.3										
9	2788		.06	.02	-29.3										
10	5620		.05	.01	-29.3										
11	3430		.05	.01	-29.3										
12	4022		.19	.15	-29.3										

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.

³ Difference = Final Pressure - Initial Pressure . Acceptance Criteria: (1) The difference must be less than or equal to + 0.25psi. (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

Date:

Clean Canister Certification Analysis & Authorization of Release to Inventory

Can ID	Clean Canister Certification Analysis & Authorization of Release to Inventory			
	Date	Sequence	Analyst	Inventory Level
4948	8/11/17	26318	AB	4
				3
				2
			XXXX	1
				Limited
				Secondary Review
			8/11/17	Reviewer


Comments:

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.



Pre-Shipment Clean Canister Certification Report

System ID		Cleaning Date		Technician		Canister Size		Certification Type	
Top Rack		8/22/2017		EJE		1L 6L		Individual Batch	
		# Cycles		Initial Reading		Final Reading			
		25		Gauge: Date: Time: Tech: Temp:		Gauge: Date: Time: Tech: Temp:			
Port	Can ID	Initial (psia)	Final (psia)	Diff. ³	Final ("Hg)				
1	2510	.05	.04	.01	27.6	8/23/17 12:20	EE	9:15:17	8:30
2	3792	.14	.05	.09	24.6	9/20/17 13:50	EE	6:25	14:00
3	3000	.10	.04	.06	21.6	8/20/17 12:20	EE	6:25	8:30
4	3457	.08	.03	.05	21.6				
5	5646	.07	.03	.04	21.6				
6	4357	.05	.01	.04	21.6				
7	4296	.05	.01	.04	21.6				
8	5126	.05	.01	.04	21.6				
9	2919	.05	.01	.04	21.6				
10	3519	.05	.01	.04	21.6				
11	5432	.09	.01	.08	21.6				
12	4345	.05	.01	.04	21.6				


 200-39803-A-2
 3792
 Location: Air-Storage
 Bottle: Summa Canister 6L
 Sampled: 8/22/2017 12:00 AM 200-1066882

Loc: 200
39803
#2
A

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- 13
- 14
- 15

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.
³ Difference = Final Pressure - Initial Pressure . Acceptance Criteria: (1) The difference must be less than or equal to + 0.25psi. (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 Date: _____

Clean Canister Certification Analysis & Authorization of Release to Inventory					
Can ID	Date	Sequence	Inventory Level		Secondary Review
			Analyst	Limited	
3792	8/24/17	26348	BK	XXXX	8/25/17 EJE

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: _____

Pre-Shipment Clean Canister Certification Report

System ID		# Cycles		Cleaning Date		Technician		Canister Size		Certification Type	
Oven 3/4		23		9/6/2017		EJE		1L 6L		Individual Batch	
Port	Can ID	Initial ¹ (psia)	Final (psia)	Diff. ³	Final ("Hg)	Gauge:	Date:	Time:	Tech:	Temp:	Temp:
1	2784	.04	.05	.01	-29.6	G25	9-7-17	9:00	EE	23	23
2	3279		.05	.01	-29.6						
3	2563		.05	.01	-29.6						
4	4279		.05	.01	-29.6						
5	4382		.05	.01	-29.6						
6	2538		.05	.01	-29.6						
7	4387		.05	.01	-29.6						
8	2848		.05	.01	-29.6						
9	5056		.05	.01	-29.6						
10	5398		.05	.01	-29.6						
11	4343		.05	.01	-29.6						
12	4067	.04	.13	.09	-29.6	G25	9-11-17	15:45	EE	23	23

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.
³ Difference = Final Pressure - Initial Pressure . Acceptance Criteria: (1) The difference must be less than or equal to + 0.25psi. (2) Pressure readings must be at least 24 hours apart.

If time frame was not met, the PM must authorize shipment of canister

Clean Canister Certification Analysis & Authorization of Release to Inventory				PM Authorization			
Can ID	Date	Sequence	Analyst	Inventory Level	Limited	Review Date	Reviewer
4067	9/8/17	26635	KP	2 XXX	4	9/8/17	UAP
		26775	MC				
			9/27/17 hnc				

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.

FAI023:04.26.17:10
 TestAmerica Burlington

200-39963-A-12
 4067
 Location: Air-Storage
 Bottle: Summa Canister 6L
 Sampled: 9/6/2017 12:00 AM 200-1071398

Loc: 200
39963
#12
A



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

Lab Name: TestAmerica Burlington Job No.: 200-39091-1
 SDG No.: _____
 Client Sample ID: 5082 Lab Sample ID: 200-39091-1
 Matrix: Air Lab File ID: 25649_18.D
 Analysis Method: TO-15 Date Collected: 06/26/2017 00:00
 Sample wt/vol: 1000 (mL) Date Analyzed: 06/28/2017 04:49
 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.: 117995 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.: 200-39091-1
 SDG No.: _____
 Client Sample ID: 5082 Lab Sample ID: 200-39091-1
 Matrix: Air Lab File ID: 25649_18.D
 Analysis Method: TO-15 Date Collected: 06/26/2017 00:00
 Sample wt/vol: 1000 (mL) Date Analyzed: 06/28/2017 04:49
 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.: 117995 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.: 200-39091-1
 SDG No.: _____
 Client Sample ID: 5082 Lab Sample ID: 200-39091-1
 Matrix: Air Lab File ID: 25649_18.D
 Analysis Method: TO-15 Date Collected: 06/26/2017 00:00
 Sample wt/vol: 1000 (mL) Date Analyzed: 06/28/2017 04:49
 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.: 117995 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\20170627-25649.b\25649_18.D
 Lims ID: 200-39091-A-1
 Client ID: 5082
 Sample Type: Client
 Inject. Date: 28-Jun-2017 04:49:30 ALS Bottle#: 17 Worklist Smp#: 18
 Purge Vol: 200.000 mL Dil. Factor: 0.2000
 Sample Info: 200-0025649-018
 Operator ID: ert Instrument ID: CHC.i
 Method: \\ChromNA\Burlington\ChromData\CHC.i\20170627-25649.b\TO15_MasterMethod_(v1)_CHC.i.m
 Limit Group: AI_TO15_ICAL
 Last Update: 28-Jun-2017 17:43:07 Calib Date: 08-Jun-2017 10:01:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\ChromNA\Burlington\ChromData\CHC.i\20170607-25386.b\25386_18.D
 Column 1 : RTX-624 (0.32 mm) Det: MS SCAN
 Process Host: XAWRK012

First Level Reviewer: puangmaleek

Date: 28-Jun-2017 17:43:42

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		3.048				ND	
3 Chlorodifluoromethane	51		3.101				ND	
4 1,2-Dichloro-1,1,2,2-tetra	85		3.314				ND	
5 Chloromethane	50		3.442				ND	
6 Butane	43		3.651				ND	
7 Vinyl chloride	62		3.688				ND	
8 Butadiene	54		3.768				ND	
10 Bromomethane	94		4.446				ND	
11 Chloroethane	64		4.686				ND	
13 Vinyl bromide	106		5.081				ND	
14 Trichlorofluoromethane	101		5.188				ND	
17 Ethanol	45		5.785				ND	
20 1,1,2-Trichloro-1,2,2-trif	101		6.287				ND	
21 1,1-Dichloroethene	96		6.319				ND	
22 Acetone	43		6.554				ND	
23 Carbon disulfide	76		6.698				ND	
24 Isopropyl alcohol	45		6.874				ND	
25 3-Chloro-1-propene	41		7.114				ND	
27 Methylene Chloride	49		7.413				ND	
28 2-Methyl-2-propanol	59		7.659				ND	
29 Methyl tert-butyl ether	73		7.824				ND	
31 trans-1,2-Dichloroethene	61		7.861				ND	
33 Hexane	57		8.267				ND	
34 1,1-Dichloroethane	63		8.742				ND	
35 Vinyl acetate	43		8.827				ND	
37 cis-1,2-Dichloroethene	96		9.868				ND	
39 Ethyl acetate	88		9.975				ND	
S 30 1,2-Dichloroethene, Total	61		10.200				ND	
38 2-Butanone (MEK)	72		10.332				ND	
41 Tetrahydrofuran	42		10.332				ND	
* 40 Chlorobromomethane	128	10.327	10.332	-0.005	97	302829	10.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ppb v/v	Flags
42 Chloroform	83		10.476				ND	
43 Cyclohexane	84		10.717				ND	
44 1,1,1-Trichloroethane	97		10.738				ND	
45 Carbon tetrachloride	117		10.994				ND	
46 Isooctane	57		11.442				ND	
47 Benzene	78		11.458				ND	
48 1,2-Dichloroethane	62		11.645				ND	
49 n-Heptane	43		11.848				ND	
* 50 1,4-Difluorobenzene	114	12.318	12.323	-0.005	95	1573649	10.0	
53 Trichloroethene	95		12.793				ND	
54 1,2-Dichloropropane	63		13.342				ND	
55 Methyl methacrylate	69		13.535				ND	
56 1,4-Dioxane	88		13.577				ND	
57 Dibromomethane	174		13.609				ND	
58 Dichlorobromomethane	83		13.919				ND	
60 cis-1,3-Dichloropropene	75		14.869				ND	
61 4-Methyl-2-pentanone (MIBK)	43		15.157				ND	
65 Toluene	92		15.456				ND	
66 trans-1,3-Dichloropropene	75		16.070				ND	
67 1,1,2-Trichloroethane	83		16.438				ND	
68 Tetrachloroethene	166		16.550				ND	
69 2-Hexanone	43		16.886				ND	
71 Chlorodibromomethane	129		17.201				ND	
72 Ethylene Dibromide	107		17.463				ND	
* 74 Chlorobenzene-d5	117	18.359	18.364	-0.005	88	1415907	10.0	
75 Chlorobenzene	112		18.423				ND	
76 Ethylbenzene	91		18.578				ND	
78 m-Xylene & p-Xylene	106		18.829				ND	
79 o-Xylene	106		19.667				ND	
80 Styrene	104		19.720				ND	
S 73 Xylenes, Total	106		20.100				ND	
81 Bromoform	173		20.152				ND	
82 Isopropylbenzene	105		20.366				ND	
84 1,1,2,2-Tetrachloroethane	83		21.033				ND	
85 N-Propylbenzene	91		21.097				ND	
88 4-Ethyltoluene	105		21.289				ND	
89 2-Chlorotoluene	91		21.294				ND	
90 1,3,5-Trimethylbenzene	105		21.401				ND	
92 tert-Butylbenzene	119		21.892				ND	
93 1,2,4-Trimethylbenzene	105		21.988				ND	
94 sec-Butylbenzene	105		22.218				ND	
95 4-Isopropyltoluene	119		22.420				ND	
96 1,3-Dichlorobenzene	146		22.453				ND	
97 1,4-Dichlorobenzene	146		22.586				ND	
98 Benzyl chloride	91		22.778				ND	
100 n-Butylbenzene	91		22.986				ND	
101 1,2-Dichlorobenzene	146		23.109				ND	
103 1,2,4-Trichlorobenzene	180		25.543				ND	
104 Hexachlorobutadiene	225		25.724				ND	
105 Naphthalene	128		26.002				ND	

Reagents:

ATTO15CISs_00010

Amount Added: 20.00

Units: mL

Run Reagent

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\CHC.i\20170627-25649.b\25649_18.D

Injection Date: 28-Jun-2017 04:49:30

Instrument ID: CHC.i

Operator ID: ert

Lims ID: 200-39091-A-1

Lab Sample ID: 200-39091-1

Worklist Smp#: 18

Client ID: 5082

Purge Vol: 200.000 mL

Dil. Factor: 0.2000

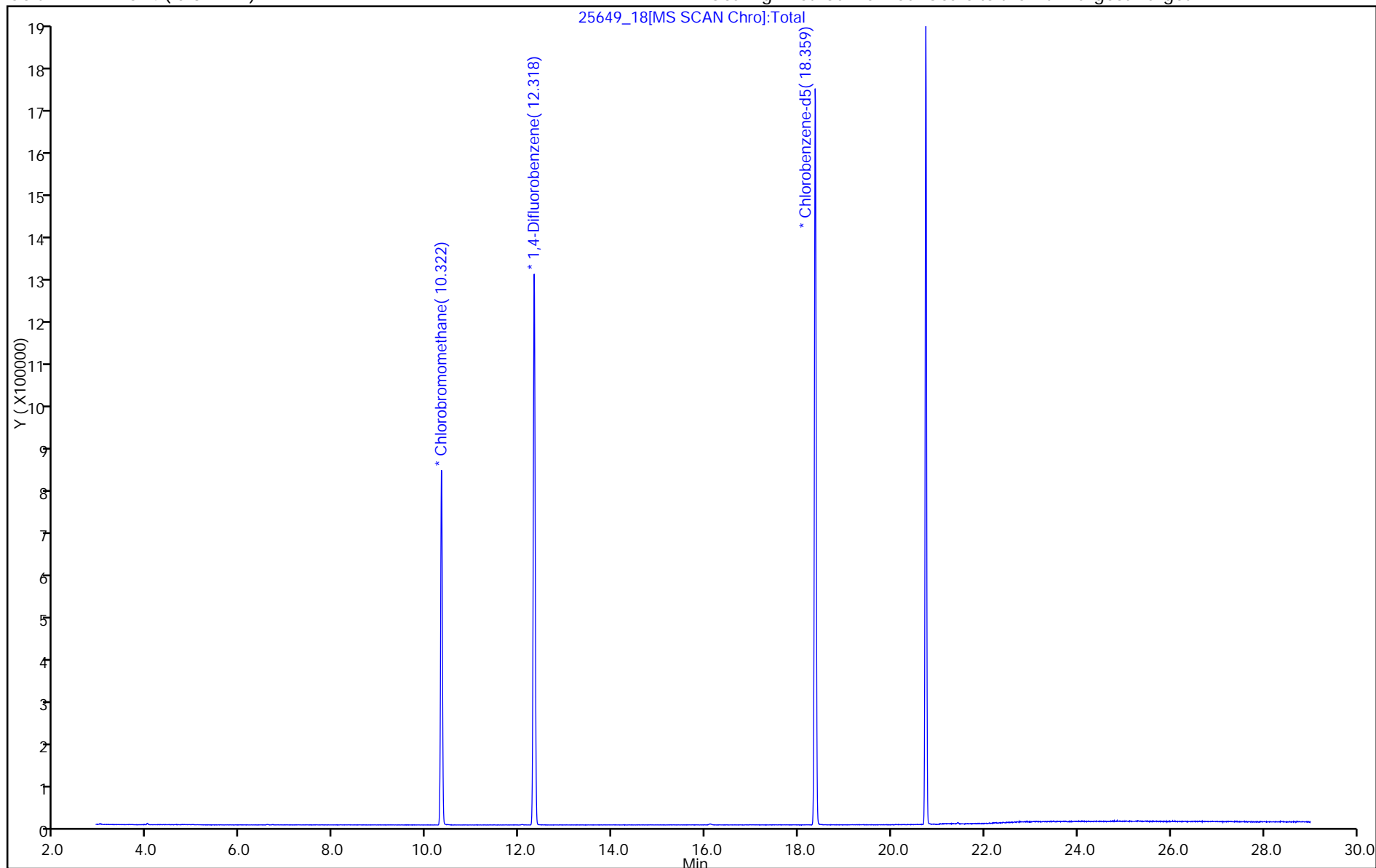
ALS Bottle#: 17

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



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

Lab Name: TestAmerica Burlington Job No.: 200-39643-1
 SDG No.: _____
 Client Sample ID: 4948 Lab Sample ID: 200-39643-6
 Matrix: Air Lab File ID: 26318-20.D
 Analysis Method: TO-15 Date Collected: 08/08/2017 00:00
 Sample wt/vol: 1000 (mL) Date Analyzed: 08/11/2017 02:39
 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.: 119597 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.: 200-39643-1
 SDG No.: _____
 Client Sample ID: 4948 Lab Sample ID: 200-39643-6
 Matrix: Air Lab File ID: 26318-20.D
 Analysis Method: TO-15 Date Collected: 08/08/2017 00:00
 Sample wt/vol: 1000 (mL) Date Analyzed: 08/11/2017 02:39
 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.: 119597 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.: 200-39643-1
 SDG No.: _____
 Client Sample ID: 4948 Lab Sample ID: 200-39643-6
 Matrix: Air Lab File ID: 26318-20.D
 Analysis Method: TO-15 Date Collected: 08/08/2017 00:00
 Sample wt/vol: 1000 (mL) Date Analyzed: 08/11/2017 02:39
 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.: 119597 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\CHB.i\20170810-26318.b\26318-20.D
 Lims ID: 200-39643-A-6
 Client ID: 4948
 Sample Type: Client
 Inject. Date: 11-Aug-2017 02:39:30 ALS Bottle#: 20 Worklist Smp#: 20
 Purge Vol: 200.000 mL Dil. Factor: 0.2000
 Sample Info: 200-0026318-020
 Misc. Info.: 39643-06
 Operator ID: pad Instrument ID: CHB.i
 Method: \\ChromNA\Burlington\ChromData\CHB.i\20170810-26318.b\TO15_LLNJ_TO3.m
 Limit Group: AI_TO15_ICAL
 Last Update: 11-Aug-2017 14:25:18 Calib Date: 09-Aug-2017 02:14:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal/External Standard Quant By: Initial Calibration
 Last ICal File: \\ChromNA\Burlington\ChromData\CHB.i\20170808-26289.b\26289-12.D
 Column 1 : RTX-624 (0.32 mm) Det: MS SCAN
 Process Host: XAWRK010

First Level Reviewer: puangmaleek

Date: 11-Aug-2017 14:25:18

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ppb v/v	Flags
1 Propene	41		3.134				ND	
2 Dichlorodifluoromethane	85		3.193				ND	
3 Chlorodifluoromethane	51		3.230				ND	
4 1,2-Dichloro-1,1,2,2-tetra	85		3.412				ND	
5 Chloromethane	50	3.546	3.546	0.006	37	1889	0.0846	7
6 Butane	43		3.711				ND	
7 Vinyl chloride	62		3.748				ND	
8 Butadiene	54		3.818				ND	
10 Bromomethane	94		4.485				ND	
11 Chloroethane	64		4.714				ND	
13 Vinyl bromide	106		5.130				ND	
14 Trichlorofluoromethane	101		5.232				ND	
16 Ethanol	45		5.701				ND	
19 1,1,2-Trichloro-1,2,2-trif	101		6.262				ND	
20 1,1-Dichloroethene	96		6.331				ND	
21 Acetone	43		6.481				ND	
22 Isopropyl alcohol	45		6.715				ND	
23 Carbon disulfide	76		6.764				ND	
24 3-Chloro-1-propene	41		7.030				ND	
27 Methylene Chloride	49		7.292				ND	
28 2-Methyl-2-propanol	59		7.420				ND	
29 Methyl tert-butyl ether	73		7.644				ND	
30 trans-1,2-Dichloroethene	61		7.703				ND	
32 Hexane	57		8.028				ND	
33 1,1-Dichloroethane	63		8.445				ND	
34 Vinyl acetate	43		8.450				ND	
36 2-Butanone (MEK)	72		9.336				ND	
37 cis-1,2-Dichloroethene	96		9.347				ND	
35 Ethyl acetate	88		9.352				ND	
* 39 Chlorobromomethane	128	9.710	9.715	-0.005	85	332490	10.0	
38 Tetrahydrofuran	42		9.726				ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ppb v/v	Flags
40 Chloroform	83		9.790				ND	
S 41 1,2-Dichloroethene, Total	61		10.000				ND	
42 1,1,1-Trichloroethane	97		10.046				ND	
43 Cyclohexane	84		10.062				ND	
44 Carbon tetrachloride	117		10.254				ND	
45 Isooctane	57		10.537				ND	
46 Benzene	78		10.579				ND	
47 1,2-Dichloroethane	62		10.681				ND	
48 n-Heptane	43		10.788				ND	
* 50 1,4-Difluorobenzene	114	11.113	11.118	-0.005	92	1525572	10.0	
53 Trichloroethene	95		11.487				ND	
54 1,2-Dichloropropane	63		11.860				ND	
55 Methyl methacrylate	69		11.898				ND	
56 1,4-Dioxane	88		11.988				ND	
57 Dibromomethane	174		12.047				ND	
58 Dichlorobromomethane	83		12.218				ND	
60 cis-1,3-Dichloropropene	75		12.842				ND	
61 4-Methyl-2-pentanone (MIBK)	43		12.997				ND	
64 Toluene	92		13.280				ND	
66 trans-1,3-Dichloropropene	75		13.637				ND	
67 1,1,2-Trichloroethane	83		13.910				ND	
68 Tetrachloroethene	166		14.048				ND	
69 2-Hexanone	43		14.171				ND	
70 Chlorodibromomethane	129		14.465				ND	
71 Ethylene Dibromide	107		14.667				ND	
* 72 Chlorobenzene-d5	117	15.223	15.228	-0.005	83	1334238	10.0	
73 Chlorobenzene	112		15.265				ND	
74 Ethylbenzene	91		15.329				ND	
76 m-Xylene & p-Xylene	106		15.479				ND	
78 o-Xylene	106		15.991				ND	
S 77 Xylenes, Total	106		16.000				ND	
79 Styrene	104		16.012				ND	
80 Bromoform	173		16.306				ND	
81 Isopropylbenzene	105		16.402				ND	
83 1,1,2,2-Tetrachloroethane	83		16.808				ND	
84 N-Propylbenzene	91		16.882				ND	
87 4-Ethyltoluene	105		17.005				ND	
88 2-Chlorotoluene	91		17.048				ND	
89 1,3,5-Trimethylbenzene	105		17.074				ND	
91 tert-Butylbenzene	119		17.448				ND	
92 1,2,4-Trimethylbenzene	105		17.517				ND	
93 sec-Butylbenzene	105		17.704				ND	
94 4-Isopropyltoluene	119		17.859				ND	
95 1,3-Dichlorobenzene	146		17.939				ND	
96 1,4-Dichlorobenzene	146		18.046				ND	
97 Benzyl chloride	91		18.195				ND	
99 n-Butylbenzene	91		18.361				ND	
100 1,2-Dichlorobenzene	146		18.531				ND	
103 1,2,4-Trichlorobenzene	180		20.896				ND	
104 Hexachlorobutadiene	225		21.061				ND	
105 Naphthalene	128		21.376				ND	

[QC Flag Legend](#)

Processing Flags

7 - Failed Limit of Detection

[Reagents:](#)

ATTO15BISs_00006

Amount Added: 20.00

Units: mL

Run Reagent

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\CHB.i\20170810-26318.b\26318-20.D

Injection Date: 11-Aug-2017 02:39:30

Instrument ID: CHB.i

Operator ID: pad

Lims ID: 200-39643-A-6

Lab Sample ID: 200-39643-6

Worklist Smp#: 20

Client ID: 4948

Purge Vol: 200.000 mL

Dil. Factor: 0.2000

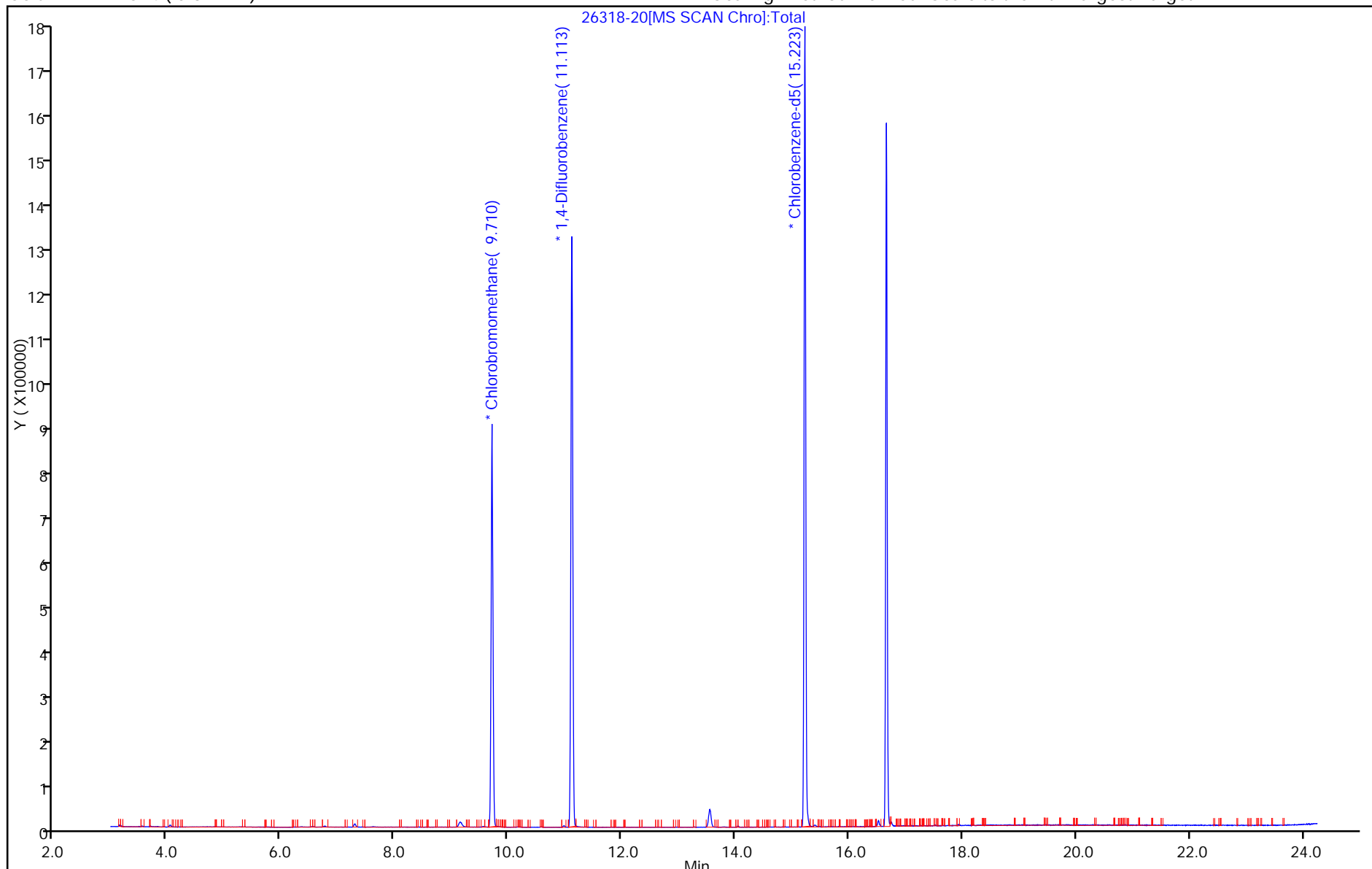
ALS Bottle#: 20

Method: TO15_LLNJ_TO3

Limit Group: AI_TO15_ICAL

Column: RTX-624 (0.32 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



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

Lab Name: TestAmerica Burlington Job No.: 200-39803-1
 SDG No.: _____
 Client Sample ID: 3792 Lab Sample ID: 200-39803-2
 Matrix: Air Lab File ID: 26548_25.D
 Analysis Method: TO-15 Date Collected: 08/22/2017 00:00
 Sample wt/vol: 1000 (mL) Date Analyzed: 08/24/2017 18:05
 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.: 120153 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.: 200-39803-1
 SDG No.: _____
 Client Sample ID: 3792 Lab Sample ID: 200-39803-2
 Matrix: Air Lab File ID: 26548_25.D
 Analysis Method: TO-15 Date Collected: 08/22/2017 00:00
 Sample wt/vol: 1000 (mL) Date Analyzed: 08/24/2017 18:05
 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.: 120153 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.: 200-39803-1
 SDG No.: _____
 Client Sample ID: 3792 Lab Sample ID: 200-39803-2
 Matrix: Air Lab File ID: 26548_25.D
 Analysis Method: TO-15 Date Collected: 08/22/2017 00:00
 Sample wt/vol: 1000 (mL) Date Analyzed: 08/24/2017 18:05
 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.: 120153 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\CHX.i\20170823-26548.b\26548_25.D
 Lims ID: 200-39803-A-2
 Client ID: 3792
 Sample Type: Client
 Inject. Date: 24-Aug-2017 18:05:30 ALS Bottle#: 25 Worklist Smp#: 25
 Purge Vol: 200.000 mL Dil. Factor: 0.2000
 Sample Info: 200-0026548-025
 Operator ID: pad Instrument ID: CHX.i
 Method: \\ChromNA\Burlington\ChromData\CHX.i\20170823-26548.b\TO15_MasterMethod_X.m.m
 Limit Group: AI_TO15_ICAL
 Last Update: 25-Aug-2017 16:17:38 Calib Date: 24-Aug-2017 06:11:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\ChromNA\Burlington\ChromData\CHX.i\20170823-26548.b\26548_11.D
 Column 1 : RTX-624 (0.32 mm) Det: MS SCAN
 Process Host: XAWRK001

First Level Reviewer: tobere Date: 25-Aug-2017 15:35:21

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ppb v/v	Flags
1 Propene	41		3.060				ND	
2 Dichlorodifluoromethane	85		3.124				ND	
3 Chlorodifluoromethane	51		3.172				ND	
4 1,2-Dichloro-1,1,2,2-tetra	85		3.370				ND	
5 Chloromethane	50		3.509				ND	
6 Butane	43		3.691				ND	
7 Vinyl chloride	62		3.734				ND	
8 Butadiene	54		3.804				ND	
10 Bromomethane	94		4.446				ND	
11 Chloroethane	64		4.665				ND	
13 Vinyl bromide	106		5.039				ND	
14 Trichlorofluoromethane	101		5.125				ND	
17 Ethanol	45	5.719	5.697	0.022	98	2154	0.1703	
20 1,1,2-Trichloro-1,2,2-trif	101		6.152				ND	
21 1,1-Dichloroethene	96		6.206				ND	
22 Acetone	43		6.468				ND	
23 Carbon disulfide	76		6.596				ND	
24 Isopropyl alcohol	45		6.751				ND	
25 3-Chloro-1-propene	41		6.981				ND	
27 Methylene Chloride	49		7.281				ND	
28 2-Methyl-2-propanol	59		7.527				ND	
29 Methyl tert-butyl ether	73		7.687				ND	
31 trans-1,2-Dichloroethene	61		7.709				ND	
33 Hexane	57		8.083				ND	
34 1,1-Dichloroethane	63		8.597				ND	
35 Vinyl acetate	43		8.682				ND	
S 30 1,2-Dichloroethene, Total	61		9.665				ND	
37 cis-1,2-Dichloroethene	96		9.742				ND	
38 2-Butanone (MEK)	72		9.817				ND	
39 Ethyl acetate	88		9.859				ND	
* 40 Chlorobromomethane	128	10.223	10.229	-0.006	91	159199	10.0	
41 Tetrahydrofuran	42		10.250				ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ppb v/v	Flags
42 Chloroform	83		10.362				ND	
43 Cyclohexane	84		10.598				ND	
44 1,1,1-Trichloroethane	97		10.646				ND	
45 Carbon tetrachloride	117		10.903				ND	
46 Isooctane	57		11.352				ND	
47 Benzene	78		11.405				ND	
48 1,2-Dichloroethane	62		11.614				ND	
49 n-Heptane	43		11.769				ND	
* 50 1,4-Difluorobenzene	114	12.309	12.310	-0.001	98	920549	10.0	
53 Trichloroethene	95		12.802				ND	
54 1,2-Dichloropropane	63		13.406				ND	
55 Methyl methacrylate	69		13.594				ND	
56 1,4-Dioxane	88		13.663				ND	
57 Dibromomethane	174		13.679				ND	
58 Dichlorobromomethane	83		13.984				ND	
60 cis-1,3-Dichloropropene	75		14.968				ND	
61 4-Methyl-2-pentanone (MIBK)	43		15.289				ND	
65 Toluene	92		15.578				ND	
66 trans-1,3-Dichloropropene	75		16.226				ND	
67 1,1,2-Trichloroethane	83		16.616				ND	
68 Tetrachloroethene	166		16.702				ND	
69 2-Hexanone	43		17.108				ND	
71 Chlorodibromomethane	129		17.413				ND	
72 Ethylene Dibromide	107		17.697				ND	
* 74 Chlorobenzene-d5	117	18.644	18.644	0.000	93	824014	10.0	
75 Chlorobenzene	112		18.708				ND	
76 Ethylbenzene	91		18.868				ND	
78 m-Xylene & p-Xylene	106		19.136				ND	
S 73 Xylenes, Total	106		19.600				ND	
79 o-Xylene	106		20.029				ND	
80 Styrene	104		20.088				ND	
81 Bromoform	173		20.559				ND	
82 Isopropylbenzene	105		20.784				ND	
84 1,1,2,2-Tetrachloroethane	83		21.506				ND	
85 N-Propylbenzene	91		21.565				ND	
88 4-Ethyltoluene	105		21.768				ND	
89 2-Chlorotoluene	91		21.773				ND	
90 1,3,5-Trimethylbenzene	105		21.886				ND	
92 tert-Butylbenzene	119		22.399				ND	
93 1,2,4-Trimethylbenzene	105		22.501				ND	
94 sec-Butylbenzene	105		22.742				ND	
95 4-Isopropyltoluene	119		22.956				ND	
96 1,3-Dichlorobenzene	146		22.982				ND	
97 1,4-Dichlorobenzene	146		23.127				ND	
98 Benzyl chloride	91		23.335				ND	
100 n-Butylbenzene	91		23.549				ND	
101 1,2-Dichlorobenzene	146		23.678				ND	
103 1,2,4-Trichlorobenzene	180		26.256				ND	
104 Hexachlorobutadiene	225		26.449				ND	
105 Naphthalene	128		26.759				ND	

Reagents:

ATTO15XISs_00002

Amount Added: 20.00

Units: mL

Run Reagent

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\CHX.i\20170823-26548.b\26548_25.D

Injection Date: 24-Aug-2017 18:05:30

Instrument ID: CHX.i

Operator ID: pad

Lims ID: 200-39803-A-2

Lab Sample ID: 200-39803-2

Worklist Smp#: 25

Client ID: 3792

Purge Vol: 200.000 mL

Dil. Factor: 0.2000

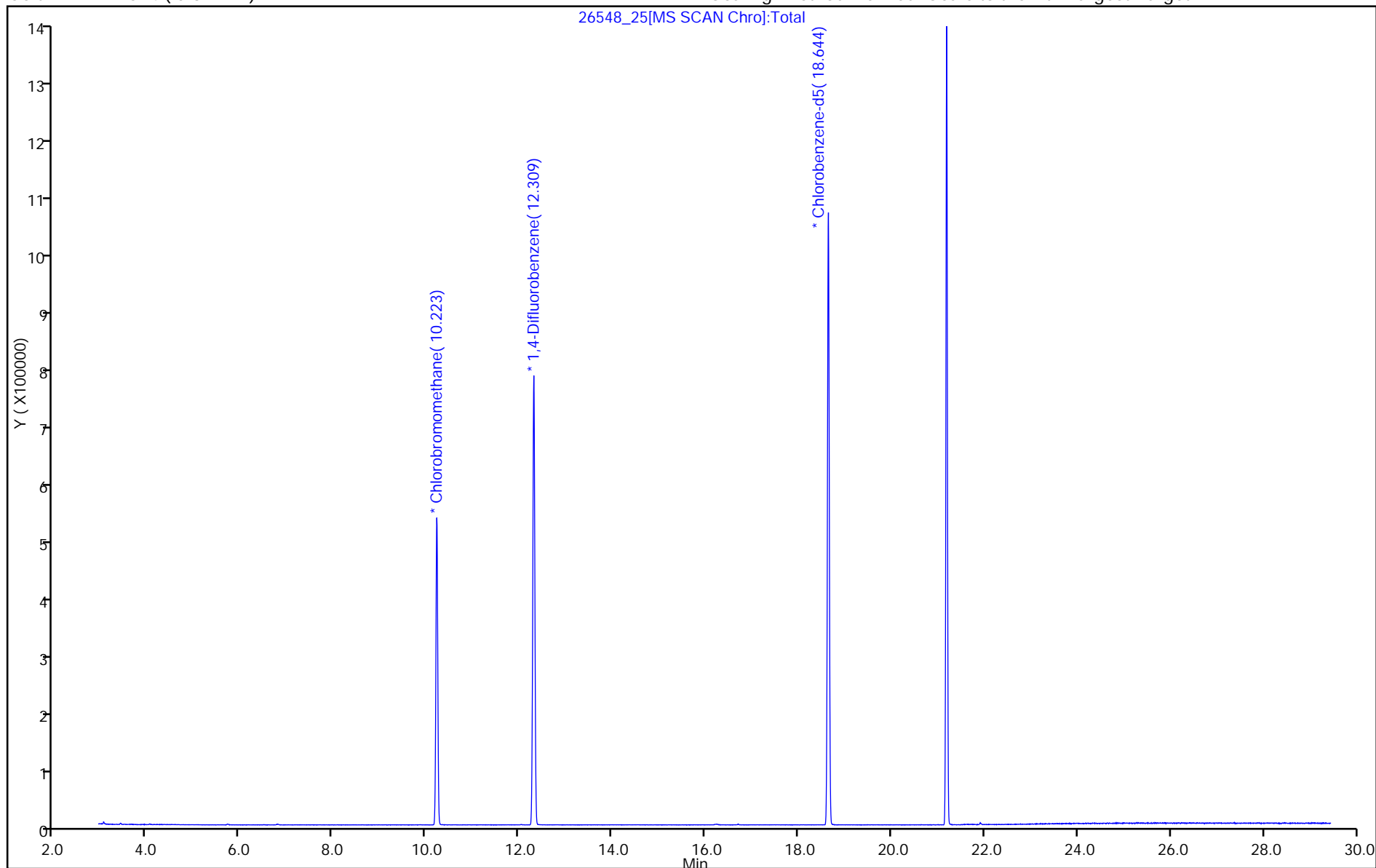
ALS Bottle#: 25

Method: TO15_MasterMethod_X.m

Limit Group: AI_TO15_ICAL

Column: RTX-624 (0.32 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



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

Lab Name: TestAmerica Burlington Job No.: 200-39963-1
 SDG No.: _____
 Client Sample ID: 4067 Lab Sample ID: 200-39963-12
 Matrix: Air Lab File ID: 200-26775-019.D
 Analysis Method: TO-15 Date Collected: 09/06/2017 00:00
 Sample wt/vol: 1000 (mL) Date Analyzed: 09/08/2017 01:07
 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.: 120665 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.: 200-39963-1
 SDG No.: _____
 Client Sample ID: 4067 Lab Sample ID: 200-39963-12
 Matrix: Air Lab File ID: 200-26775-019.D
 Analysis Method: TO-15 Date Collected: 09/06/2017 00:00
 Sample wt/vol: 1000 (mL) Date Analyzed: 09/08/2017 01:07
 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.: 120665 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.: 200-39963-1
 SDG No.: _____
 Client Sample ID: 4067 Lab Sample ID: 200-39963-12
 Matrix: Air Lab File ID: 200-26775-019.D
 Analysis Method: TO-15 Date Collected: 09/06/2017 00:00
 Sample wt/vol: 1000 (mL) Date Analyzed: 09/08/2017 01:07
 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.: 120665 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\CHG.i\20170907-26775.b\200-26775-019.D
 Lims ID: 200-39963-A-12
 Client ID: 4067
 Sample Type: Client
 Inject. Date: 08-Sep-2017 01:07:30 ALS Bottle#: 18 Worklist Smp#: 19
 Purge Vol: 200.000 mL Dil. Factor: 0.2000
 Sample Info: 200-0026775-019
 Misc. Info.: 39963-12
 Operator ID: vtp Instrument ID: CHG.i
 Method: \\ChromNA\Burlington\ChromData\CHG.i\20170907-26775.b\TO15_MasterMethod_(v1)_G.m
 Limit Group: AI_TO15_ICAL
 Last Update: 08-Sep-2017 13:10:57 Calib Date: 24-Aug-2017 23:17:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\ChromNA\Burlington\ChromData\CHG.i\20170824-26567.b\200-26567-010.D
 Column 1 : RTX-624 (0.32 mm) Det: MS SCAN
 Process Host: XAWRK006

First Level Reviewer: puangmaleek

Date: 08-Sep-2017 13:10:57

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ppb v/v	Flags
1 Propene	41		3.123				ND	
2 Dichlorodifluoromethane	85		3.176				ND	
3 Chlorodifluoromethane	51		3.219				ND	
4 1,2-Dichloro-1,1,2,2-tetra	85		3.390				ND	
5 Chloromethane	50		3.513				ND	
6 Butane	43		3.663				ND	
7 Vinyl chloride	62		3.706				ND	
8 Butadiene	54		3.765				ND	
10 Bromomethane	94		4.316				ND	
11 Chloroethane	64		4.497				ND	
13 Vinyl bromide	106		4.818				ND	
14 Trichlorofluoromethane	101		4.888				ND	
17 Ethanol	45		5.364				ND	
20 1,1,2-Trichloro-1,2,2-trif	101		5.771				ND	
21 1,1-Dichloroethene	96		5.835				ND	
22 Acetone	43		6.060				ND	
23 Carbon disulfide	76		6.204				ND	
24 Isopropyl alcohol	45		6.290				ND	
25 3-Chloro-1-propene	41		6.520				ND	
27 Methylene Chloride	49		6.776				ND	
28 2-Methyl-2-propanol	59		6.985				ND	
29 Methyl tert-butyl ether	73		7.151				ND	
31 trans-1,2-Dichloroethene	61		7.172				ND	
33 Hexane	57		7.504				ND	
34 1,1-Dichloroethane	63		7.985				ND	
35 Vinyl acetate	43		8.044				ND	
37 cis-1,2-Dichloroethene	96		9.013				ND	
38 2-Butanone (MEK)	72		9.087				ND	
39 Ethyl acetate	88		9.104				ND	
* 40 Chlorobromomethane	128	9.457	9.462	-0.005	80	310597	10.0	
41 Tetrahydrofuran	42		9.494				ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ppb v/v	Flags
42 Chloroform	83		9.569				ND	
S 30 1,2-Dichloroethene, Total	61		9.665				ND	
43 Cyclohexane	84		9.810				ND	
44 1,1,1-Trichloroethane	97		9.842				ND	
45 Carbon tetrachloride	117		10.077				ND	
46 Isooctane	57		10.484				ND	
47 Benzene	78		10.543				ND	
48 1,2-Dichloroethane	62		10.730				ND	
49 n-Heptane	43		10.858				ND	
* 50 1,4-Difluorobenzene	114	11.361	11.361	0.000	95	1530081	10.0	
53 Trichloroethene	95		11.821				ND	
54 1,2-Dichloropropane	63		12.378				ND	
55 Methyl methacrylate	69		12.554				ND	
56 1,4-Dioxane	88		12.629				ND	
57 Dibromomethane	174		12.629				ND	
58 Dichlorobromomethane	83		12.913				ND	
60 cis-1,3-Dichloropropene	75		13.838				ND	
61 4-Methyl-2-pentanone (MIBK)	43		14.154				ND	
65 Toluene	92		14.416				ND	
66 trans-1,3-Dichloropropene	75		15.020				ND	
67 1,1,2-Trichloroethane	83		15.395				ND	
68 Tetrachloroethene	166		15.480				ND	
69 2-Hexanone	43		15.876				ND	
71 Chlorodibromomethane	129		16.149				ND	
72 Ethylene Dibromide	107		16.422				ND	
* 74 Chlorobenzene-d5	117	17.321	17.321	0.000	89	1304496	10.0	
75 Chlorobenzene	112		17.385				ND	
76 Ethylbenzene	91		17.540				ND	
78 m-Xylene & p-Xylene	106		17.797				ND	
79 o-Xylene	106		18.653				ND	
80 Styrene	104		18.712				ND	
81 Bromoform	173		19.156				ND	
82 Isopropylbenzene	105		19.380				ND	
S 73 Xylenes, Total	106		19.600				ND	
84 1,1,2,2-Tetrachloroethane	83		20.081				ND	
85 N-Propylbenzene	91		20.145				ND	
89 2-Chlorotoluene	91		20.343				ND	
88 4-Ethyltoluene	105		20.343				ND	
90 1,3,5-Trimethylbenzene	105		20.456				ND	
92 tert-Butylbenzene	119		20.964				ND	
93 1,2,4-Trimethylbenzene	105		21.060				ND	
94 sec-Butylbenzene	105		21.301				ND	
95 4-Isopropyltoluene	119		21.509				ND	
96 1,3-Dichlorobenzene	146		21.531				ND	
97 1,4-Dichlorobenzene	146		21.670				ND	
98 Benzyl chloride	91		21.879				ND	
100 n-Butylbenzene	91		22.087				ND	
101 1,2-Dichlorobenzene	146		22.205				ND	
103 1,2,4-Trichlorobenzene	180		24.660				ND	
104 Hexachlorobutadiene	225		24.842				ND	
105 Naphthalene	128		25.137				ND	

Reagents:

ATTO15GIS_00015

Amount Added: 20.00

Units: mL

Run Reagent

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\CHG.i\20170907-26775.b\200-26775-019.D

Injection Date: 08-Sep-2017 01:07:30

Instrument ID: CHG.i

Operator ID: vtp

Lims ID: 200-39963-A-12

Lab Sample ID: 200-39963-12

Worklist Smp#: 19

Client ID: 4067

Purge Vol: 200.000 mL

Dil. Factor: 0.2000

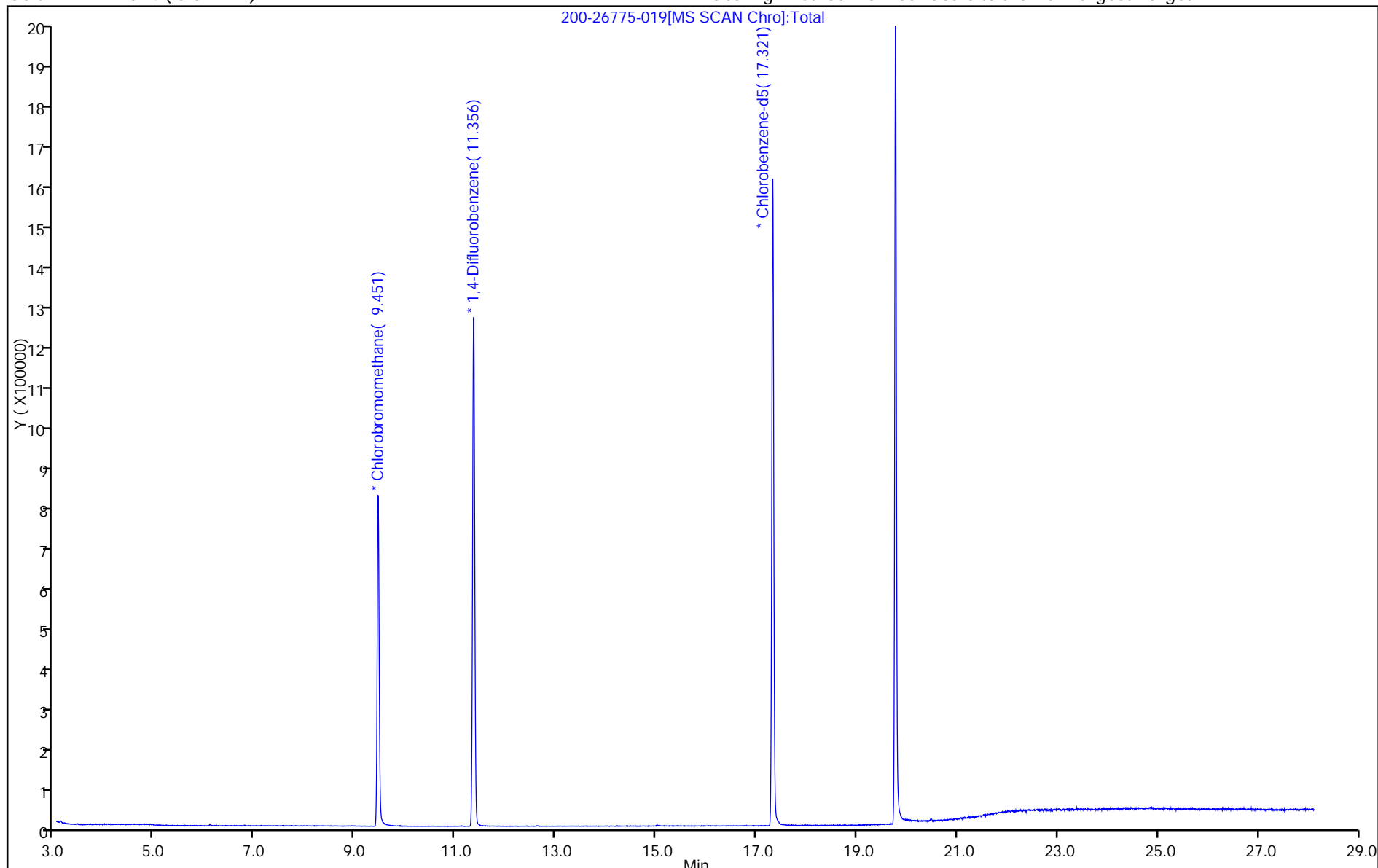
ALS Bottle#: 18

Method: TO15_MasterMethod_(v1)_G

Limit Group: AI_TO15_ICAL

Column: RTX-624 (0.32 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Appendix C

Technical Memo - Sub-Slab Depressurization Pilot Test
Sub-Slab Depressurization System Installation Photos
Sub-Slab Depressurization System Operations and Maintenance Plan

August 10, 2017

Technical Memo

Sub-Slab Depressurization Pilot Test

Reviva Facility, Fridley, MN

On August 7th and 8th, 2017 Carlson McCain conducted a pilot test of a proposed sub-slab depressurization system at the Reviva manufacturing facility located at 5130 Main Street NE in Fridley, Minnesota. The purpose of the pilot test was to determine the radius of influence of a sample sub-slab vent based on MPCA criteria, and to model the performance of a typical horizontal vent section at full and half flow conditions. This memo presents the results of the test, and gives recommendations for the construction of a sub-slab depressurization system to mitigate soil vapors underlying the facility.

Test Conditions

The pilot test included construction of a 20-foot long horizontal vent installed directly underneath the concrete slab of the southeast corner of the facility. The vent consisted of 4-inch perforated drain tile pipe surrounded by 1/4-inch pea gravel and capped with concrete to repair the floor. A vertical section of 4-inch PVC pipe was connected to the drain tile pipe below the floor and routed vertically along an interior roof truss support column. To accommodate testing of the vent, an in-line, 240 cfm (max) AMG Force fan was placed outside and connected to 88 lineal feet of temporary 4-inch PVC piping, equipped with six 90-degree elbows to apply a vacuum and exhaust the vent. A knife valve was placed in-line near the vent to control air flow. Nine vapor monitoring points (i.e. vapor pins) were installed into the concrete slab of the facility at various distances to determine the vacuum pressure under the slab. Locations of the vent and monitoring points are as shown on Figure 1.

Pre-Test Facility Air Pressure

Prior to the pilot test, it was discovered that the facility intermittently operates several burners and exhaust vents during regular shift hours (6:00 am to 3:00 pm) as part of the manufacturing process. Fresh air intake vents provide make-up air, along with open doors and windows during summer months. Worst-case, negative air pressure conditions may occur in the winter months when doors and windows are normally closed. During the pilot test set-up, facility staff discussed a capital project planned in the near future to install additional make-up air equipment and duct-work. As such, Carlson McCain did not perform worst-case backdraft testing, however we recommend coordinating with an HVAC contractor to perform worst-case back-draft testing on all combustion equipment in the facility as part of the equipment upgrade.

Variability in Facility Air Pressure

To account for conditions that affect the facility's indoor air pressure throughout the summer season, the pilot test was run during non-operating hours with windows and doors closed, and again the next day during regular operating hours – with windows and several doors open. Based on the results of the test, the difference between the two conditions did not seem to have a significant effect on the vacuum under the slab.

Simulation of Multiple Vents/Single Fan

The pilot test was conducted with the fan dedicated to a single 20-ft long horizontal vent with the knife valve 100% open. To replicate a larger system (i.e. longer vents or multiple vents), the test was also run with the valve throttling the air-flow to approximately half of the full flow. The proposed vapor mitigation system will likely have considerably less pipe and fittings to exhaust outside the building (likely less than half) for each specified fan, allowing the actual system to realize less pressure drop through the piping than indicated by the test. Therefore, in our opinion, the data under half flow conditions conservatively represents two 20-ft long horizontal vents connected to a single fan.

Test Results/Executive Summary

Results of each test are shown in Tables 1 and 2, attached to this memo. The fan was able to move between 88 and 94 cfm of air between the two 100% open tests at a vacuum of 970 to 990 Pa. The half-flow condition indicated a pressure of 1100 to 1115 Pa at 41.8 cfm. Both of these data points match up with the manufacturer's fan curve. The vapor pins were placed between 1-ft and 71-ft from the vent, as shown on Figure 1. A best-fit polynomial curve representing the results of the test for each condition is shown on Chart 1. MPCA criteria for residential radon-removal systems require a negative 5 Pa sub-slab air pressure relative to indoor air pressure with the mitigation system running in the summer season. The range of data surrounding the critical vacuum is represented in Chart 2. The results indicate a radius of influence of approximately 52-ft under full flow conditions, and approximately 38-ft under half flow conditions. The 52-ft radius corresponds to an area of influence of approximately 10,600 square feet under full-flow conditions.

Soil Vapor Extraction System Recommendations

Since the pilot test was run with a conservative length of exhaust pipe (88 feet), we can eliminate assumptions of the system pressure-flow curve. We estimate that the mitigation system will adequately meet the 5 Pa pressure criteria with the use of six AMG Force fans across the footprint of the 65,000 square foot building. Placement of the vents, along with each individual lengths are critical to cover the entire area with overlapping influence from each vent. Vent placement shown on attached Figure 2 considered locations that avoid moving fixed objects, minimizes saw-cuts through the existing slab, and are near structural columns to exhaust the system through the roof. Four of the fans will be placed within the original plant footprint, with the fifth and sixth fans located in each of the western additions. Additional single point suction vents are proposed in the fire/sprinkler room and the western loading dock area to address potential gaps in coverage. For fans that will serve two vents, a knife valve will be placed in-line with the exhaust piping to divert flow where it is found

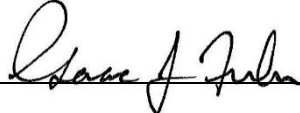
necessary during start-up testing. Figure 3 provides the details for the cross sections of each a horizontal vent, and a single point vent. The figures and information in this memo are not intended to be construction documents, bid documents, or technical specifications.

All un-used floor drains should be sealed, and floor drains that are needed should be verified caulked with polyurethane elastic caulk, such as vulkem, to seal the edges to the slab. Cracks in the concrete slab should be permanently sealed. Prior to installation of the system, underground utilities should be located.

Closing

Carlson McCain has prepared this "Technical Memo" for the exclusive use of Reviva, Inc. and its agents, for specific application to the Reviva Manufacturing Facility in Fridley, Minnesota. The services performed by Carlson McCain for this project have been conducted in a manner consistent with the level of skill and care ordinarily exercised by other members of the profession currently practicing in this area. No other warranty, expressed or implied, is made.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Name and Title:	Signature:	Date Signed:
<u>Isaac J. Fuhr – Senior Engineer</u>	<u></u>	<u>8/10/2017</u>
Minnesota Registration Number:	<u>44583</u>	

Company Mailing Address:	<u>Carlson McCain, Inc.</u>
	<u>15650 36th Ave N.</u>
	<u>Plymouth, Minnesota 55446</u>
Phone:	<u>(952) 346-3900</u>
Fax:	<u>(952) 346-3901</u>

Attachments: Tables 1 and 2
 Charts 1 and 2
 Figures 1 through 3
 Fan Specifications

Table 1 - Pilot Test - After Hours

		100% Full Flow	Half Flow Rate	No Flow (taken after testing completed)
	Air Flow (cfm)	88.6	41.8	0
	Pipe Pressure (Pa)	-989.5	-1099.8	0
Point Number	Distance from Well (ft)	Sub-Slab Pressure (Pa)	Sub-Slab Pressure (Pa)	Sub-Slab Pressure (Pa)
P-1	0.93	-342.8	-136.4	-1.0
P-2	10.5	-224	-96	0.0
P-3	25.75	-28.6	-12.6	-0.7
P-4	33.11	-29	-13.1	0.7
P-5	45.14	-12.9	-3.5	3.3
P-6	54.74	-4.7	0.3	0.8
P-7	67	-5.5	-3.5	2.2
P-8	70.7	-22.4	-13.5	0.5
P-9	10.68	-99.2	-43.3	-2.3

Notes:

Sub-slab and pipe air pressure is relative to indoor ambient air pressure

Barometric Pressure = 30.12 inches

Table 2 - Regular Operating Hours

		No Flow (taken prior to testing)	100% Full Flow	Half Flow Rate		
	Air Flow (cfm)	0	93.8	41.8		
	Pipe Pressure	0	-972.1	-1115		
Point Number	Distance from Well (ft)	Sub-Slab Pressure (Pa)	PID Reading (Below/above slab) (ppm)	Sub-Slab Pressure (Pa)	Sub-Slab Pressure (Pa)	Static PID Reading (Below/above slab) (ppm)
P-1	0.93	1.3	3.8/1.6	-340	-118.4	0.9/0.5
P-2	10.5	-1.1	0.9/1.2	-218.3	-82.5	
P-3	25.75	1.1	1.0/1.2	-30.7	-11.3	
P-4	33.11	0.9	1.1/1.1	-26.8	-12.4	
P-5	45.14	-0.5	0.8/1.0	-13	-2.6	
P-6	54.74	0.9	1.5/1.4	-3.3	-1.5	
P-7	67	-0.3	0.4/0.4	-3.5	-2.3	
P-8	70.7	0	1.0/1.0	-21.1	-10.9	
P-9	10.68	2.6	1.1/1.7	-100.4	-38.6	

Notes:

Sub-slab and pipe air pressure is relative to indoor ambient air pressure

PID in outlet pipe is 2.4 ppm.

Barometric Pressure =30.19

Chart 1 - Pressure vs. Distance

Reviva Facility, Fridley, MN

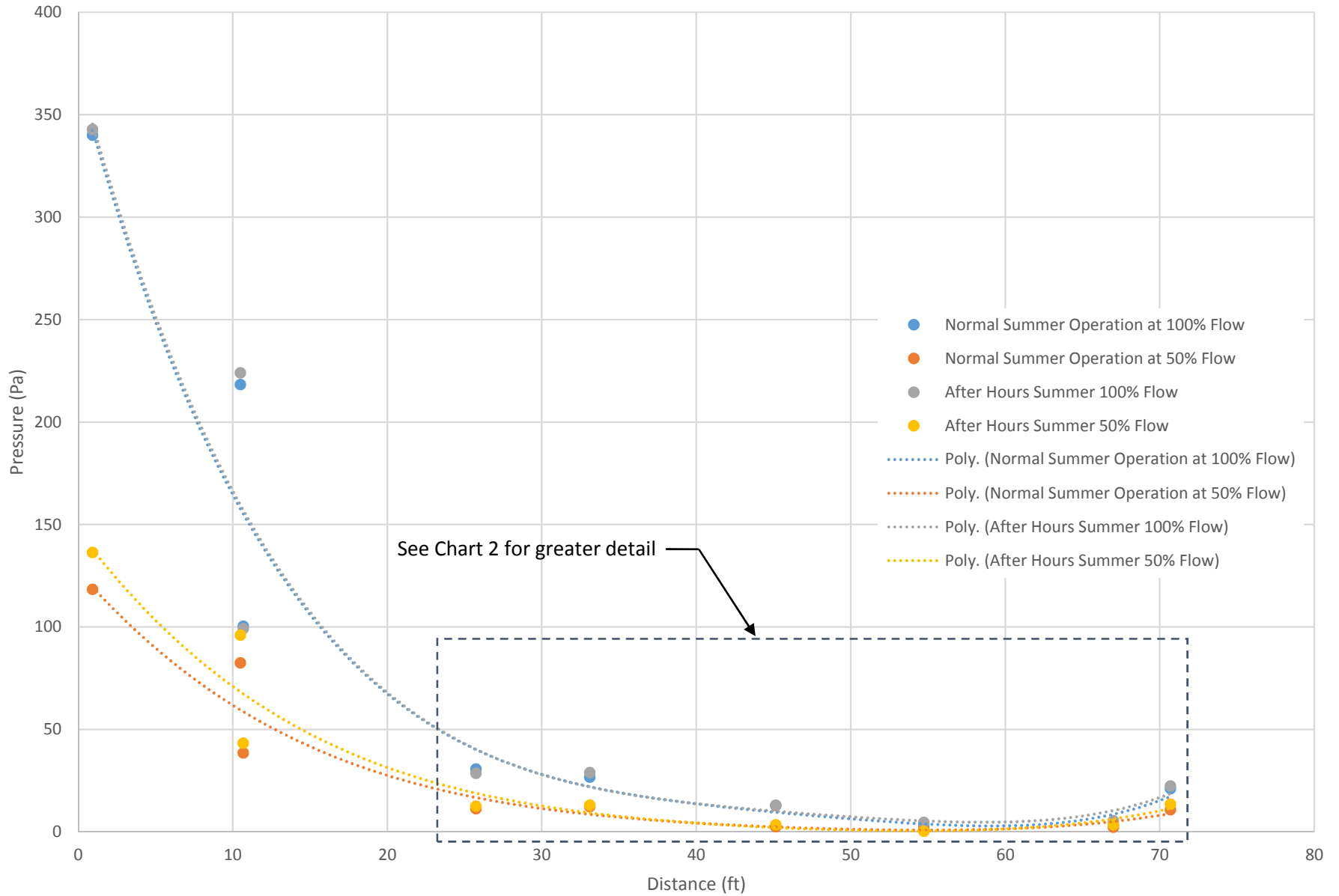
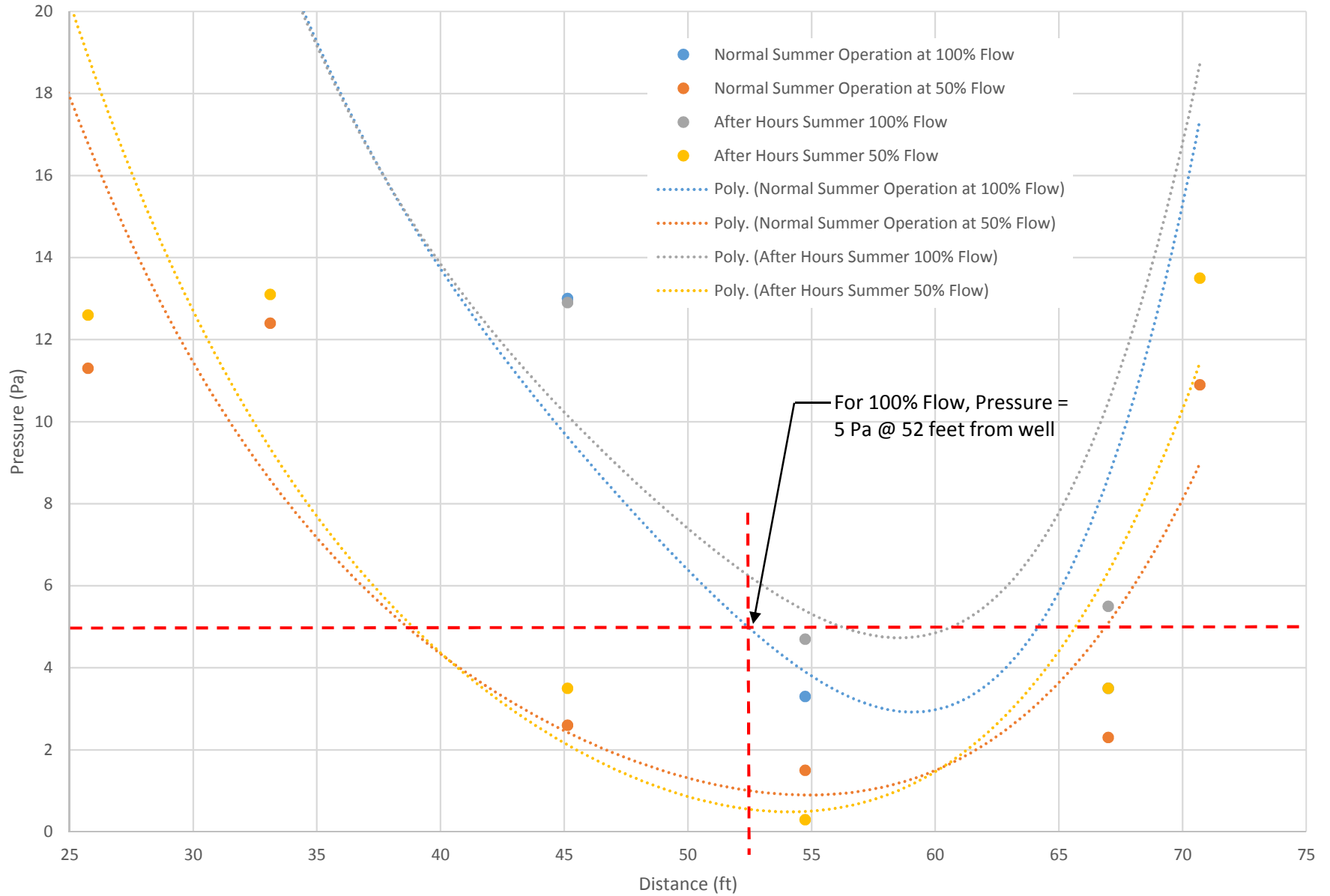
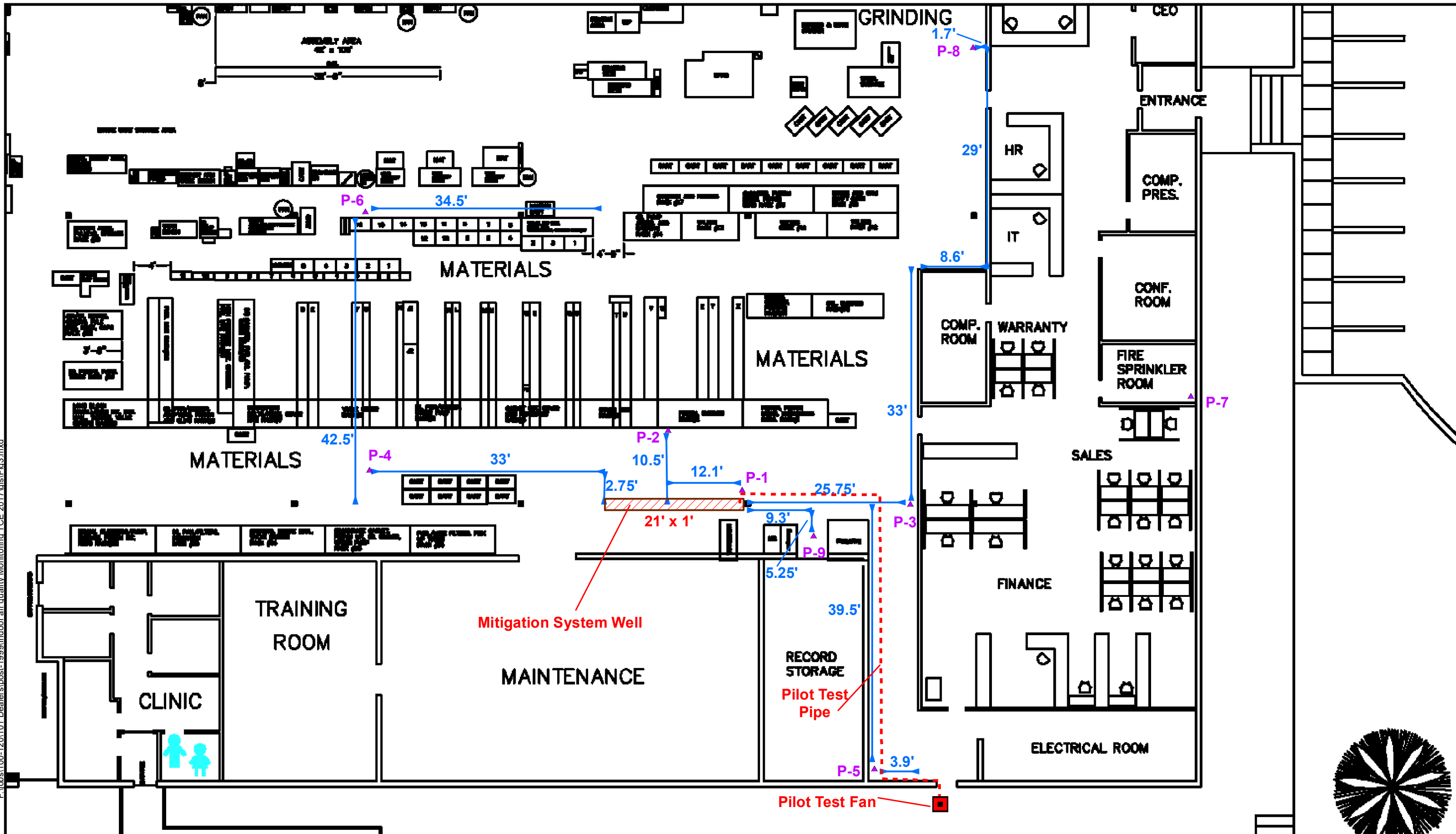
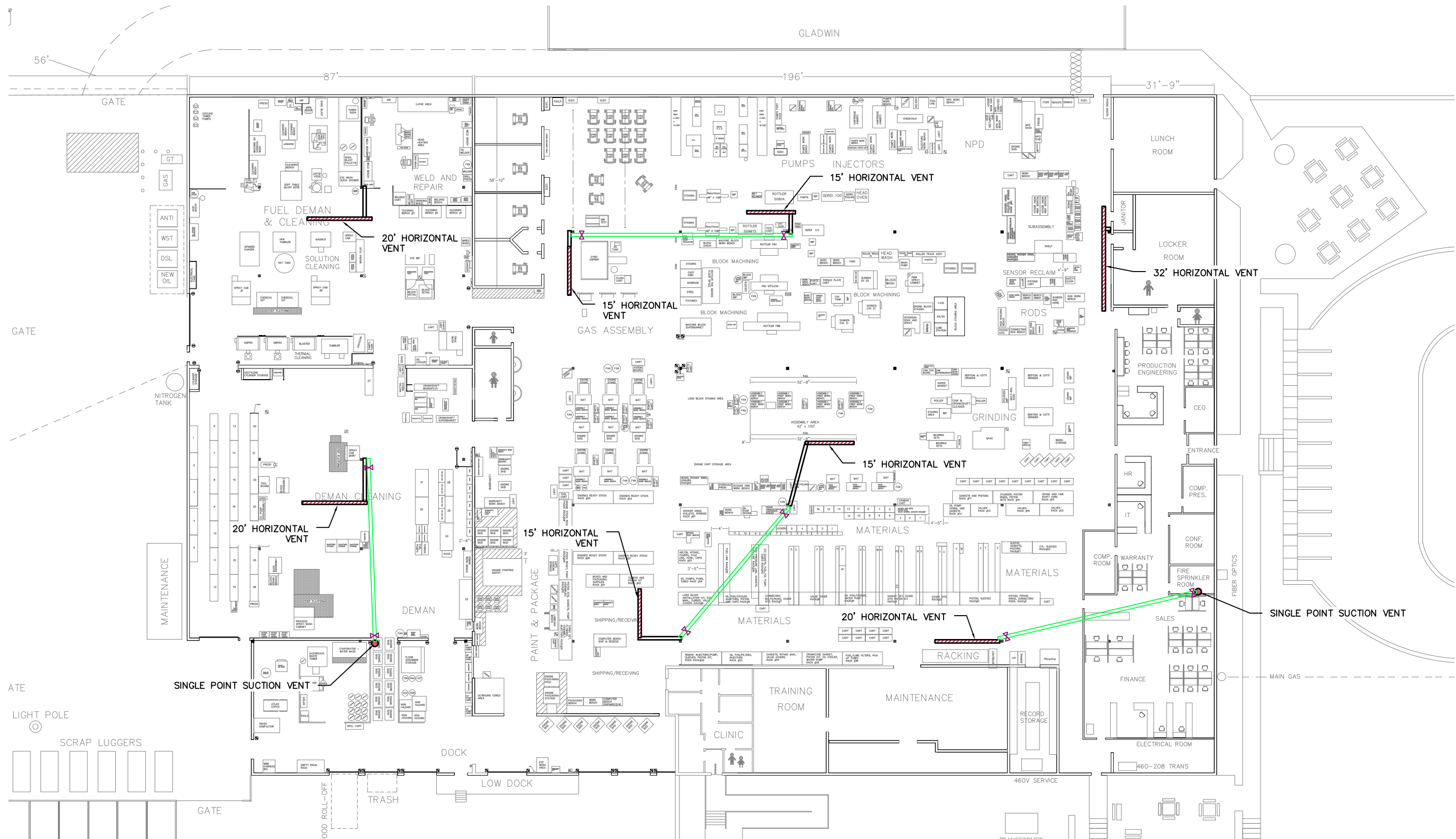


Chart 2 - Pressure vs. Distance - 25ft to 75ft






Reviva Facility, Fridley, MN

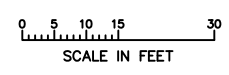


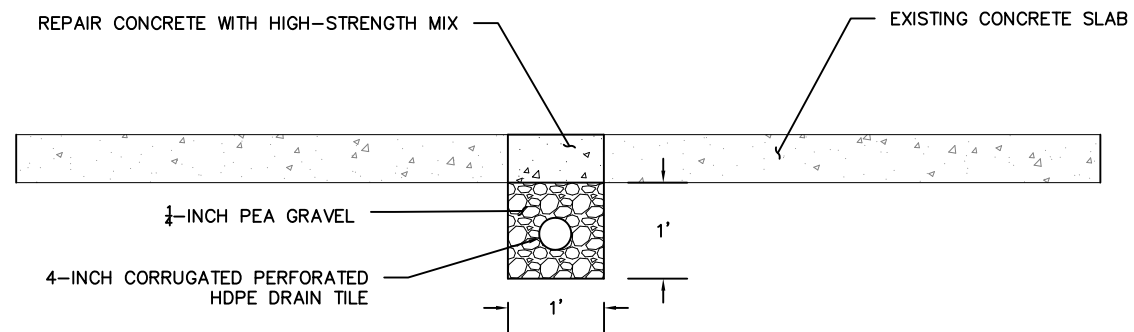




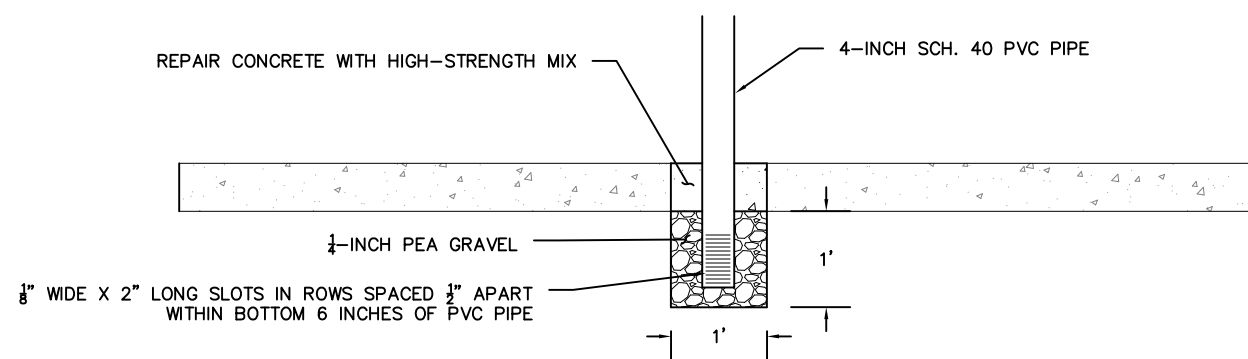
LEGEND

-  HORIZONTAL VENT
-  SINGLE POINT SUCTION VENT
-  NON-PERFORATED 4-INCH PVC PIPE BELOW SLAB
-  PVC PIPE ALONG CEILING TO CONNECT WELLS
-  4-INCH PVC KNIFE VALVE

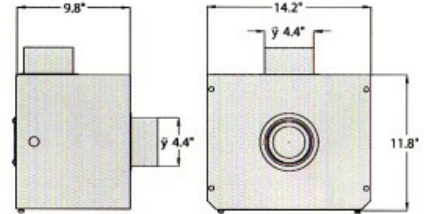




① SECTION: HORIZONTAL SSD WELL



② SECTION: SINGLE POINT SUCTION VENT



CFM at STATIC PRESSURE in. w.g.

Model	Volts	Watts	Max. Amps	0"	0.5"	1.0"	1.5"	2.0"	2.5"	3.0"	3.5"	4.0"
AMG Force	120V 60Hz	302	2.48	240	223	207	191	174	155	133	110	83

Weight: 8 lbs. 3 oz. Fan Speed: 3000 rpm

- All **AMG Radon** fans are UL Listed for Residential, Commercial AND Industrial Use!!
- All **AMG Radon** Fans are backed by a 5-year full replacement warranty.
- All **AMG Radon** Fans have attractive dove-gray, dough molded glass fiber, non-yellowing UV-resistant casings!
- All **AMG Radon** Fans have exceptionally reliable and quiet German-made **EBM** motors!

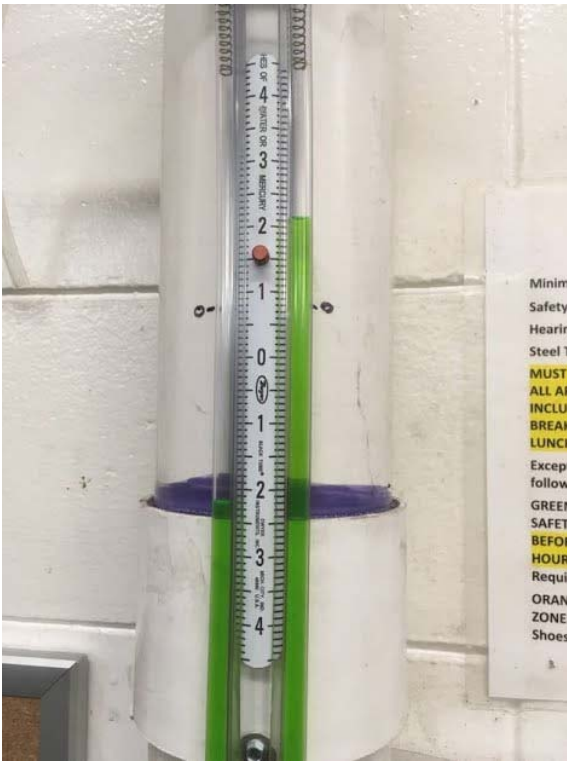
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SSD System Construction Photos







OPERATIONS AND MAINTENANCE PLAN
SUB-SLAB DEPRESSURIZATION SYSTEM

Reviva
5130 Main Street NE
Fridley, Minnesota
Project No. 0101-17

Prepared for:

Reviva
5130 Main Street NE
Fridley, Minnesota 55421

December 28, 2017



3890 Pheasant Ridge Drive NE, Suite 100
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www.carlsonmccain.com

ENVIRONMENTAL • ENGINEERING • LAND SURVEYING

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Figure 2 (Not Used)
Figure 3 Reviva Vapor Monitoring Locations

APPENDICES

Appendix A Typical SSD Vent Construction Photos
Appendix B SSD System Fan Information
Appendix C Pre-Mitigation Air Quality Testing Report
Appendix D Post-Mitigation Air Quality Testing Laboratory Summary
Appendix E Inspection Forms

1.0 INTRODUCTION

The sub-slab depressurization (SSD) system was installed in September 2017 at the Reviva Facility located at 5130 Main Street in Fridley, MN in response to elevated levels of trichlorethene (TCE) and related volatile organic compound vapors beneath the facility's concrete slab. This Operation and Maintenance (O&M) Plan for the SSD system was created with guidance from the Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air, published by the Office of Solid Waste and Emergency Response, EPA. The Minnesota Pollution Control Agency's (MPCA) Best Management Practices (BMPs) for vapor assessment and mitigation were also referenced during preparation of this document. The O&M Plan includes a system description, inspections, component maintenance and replacement, repairs and related activities that are necessary to ensure continued operation and effectiveness of the mitigation system.

2.0 SUB-SLAB DEPRESSURIZATION SYSTEM DESCRIPTION

2.1 Summary of Pilot Testing and Design

Carlson McCain conducted a pilot test of a sub-slab depressurization (SSD) system at the Facility in August, 2017. The results of the pilot test were used to provide a layout and details of a SSD system to mitigate sub-slab soil vapors. Reviva used the recommendations to construct a SSD system, with post-construction diagnostic testing by Carlson McCain in December 2017.

The SSD system consists of eight horizontal vents constructed of 4-inch corrugated perforated polyethylene drain tile located throughout the facility under the slab. The drain tile is buried in a 12-inch by 12-inch trench filled with ¼" pea gravel. The specified length of drain tile is connected to a solid 4-inch schedule 40 PVC carrier pipe. The carrier pipe is secured to vertical structural support columns and routed to the roof of the structure. The pipe penetrates the roof, and is booted with an EPDM or PVC boot depending on which section of the roof for the given fan. A knife gate valve was installed for future control of the vacuum or flow rate near the ceiling (under the roof). The knife gate valves were all fully open at the time of system start-up, and during diagnostic testing by Carlson McCain.

Vacuum is applied to the system by individual fans dedicated to each horizontal vent (8 total). The fans are mounted on the roof atop a treated wood stand-off frame. Electrical supply consists of a weather-tight conduit 120V circuit. Each fan has a covered on/off switch. The fans are manufactured by Festa Radon Technologies Co, and are the Force model. As-built details and a layout of the SSD system is shown on Figure 1. Photos of a typical SSD vent are included in Appendix A. The specific fan model data sheet and information is included in Appendix B.

2.2 Permits

The SSD system has been installed as part of a requirement by MPCA. While there is no specific permit issued for the system, the Facility is obligated to operate the mitigation system, continue monitoring its performance and maintain, repair or replace components as necessary, and as described in this plan. It is assumed that the SSD system will be continuously run until cumulative TCE mass removal approaches asymptotic conditions.

2.3 Pre- and Post-Mitigation Indoor Air Quality Testing

Pre-mitigation indoor air quality testing was completed prior to SSD system installation in July 2017, using OSHA Method 1001 at thirteen sample locations. Results from the sampling event did not identify TCE within the work space at concentrations that exceed OSHA requirements. However, the sampling event was conducted during the non-heating season with windows and doors open to the atmosphere, and fans circulating air to keep employees cool. The pre-mitigation sampling event is described in full in Appendix C.

Post-mitigation testing included collecting samples at locations shown on Figure 3. Five locations (VP-1 through 5) were tested for indoor air quality using EPA Method TO-15 after the SSD system was started. The post-mitigation air quality laboratory report summary page is included in Appendix D. Results from all five locations indicate that parameters were all beneath the industrial ISV limits.

2.4 Post-Mitigation Diagnostic Test Data

Post-mitigation diagnostic testing included measurement of sub-slab vacuum pressures in worst-case heating season conditions, during full plant operation at vapor pin locations shown on Figure 3. Best management practice guidance by MPCA requires a minimum of 3 Pascal vacuum under the slab compared with indoor air during the heating season, and 5 Pascals during the non-heating season. All 18 sub-slab locations met the minimum requirement after system start-up. In-line carrier pipe vacuum pressures were also recorded after initial start-up. Initial sub-slab vacuum pressures at the 18 vapor pins are included in Table 1. The initial system vacuum pressures inside the carrier pipe for each vent are included in Table 2.

2.5 Warranties

The fan component of the system is covered under a five-year warranty. A copy of the warranty, along with the wiring diagram and installation instructions is include in Appendix B.

2.6 Installer Information

The following companies were responsible for installation and/or diagnostic testing of the mitigation system:

Design and Construction Oversight	Carlson McCain, Inc.	952-346-3900
Demolition and concrete	Olson Concrete	952-448-6647
PVC Carrier Pipe	Reviva	763-535-8900
Fan Installation and Electrical	Davco Electric	651-347-4567
Roofing	Ben Rehak	651-900-4667

3.0 OPERATING PROCEDURES

The SSD system is designed to operate continuously with minimum maintenance. Each fan is directly wired with an on/off switch in case the fan requires repair or replacement. The fans and switches are located on the roof of the facility. Knife gate valves have been installed on each riser pipe, just below the roof deck. The SSD system has been determined to operate most efficiently with the valves 100% open. Operation of the valves are by use of a push-pull handle. The fan operation can be verified by checking the liquid-filled manometer installed on support columns at each riser location. The manometers require one flexible plastic tube to be inserted into the carrier pipe, and the second tube to be open to the indoor atmosphere. A movable sliding measuring gauge indicates the vacuum pressure inside the carrier pipe.

4.0 INSPECTION AND MAINTENANCE GUIDELINES

As recommended by EPA, the SSD system components, as indicated in the list below, should be inspected and maintained according to a regular schedule. O&M inspection forms are included in Appendix E.

- Routine inspection of all visible components of the vapor mitigation system including fans, piping and seals to ensure there are no signs of degradation or blockage;
- Examination of as-built plans to verify the system configuration has not been modified;
- Visual inspection of the building to evaluate whether any significant changes were made that would affect the design of the system or general environment in which it is operated;
- Visual inspection of the area of concern (including cracks in the floor, sumps, floor drains and utility penetrations) to ensure there are no significant changes in conditions that would warrant modification of the system design.
- Routine monitoring of vent risers for flow rates and pressures generated by the fans to confirm the system is working, not plugged and moisture is draining correctly;
- Routine maintenance, calibration and testing of functioning components of the venting system consistent with the manufacturer's specifications:
 - Sub-slab pressure readings at selected existing vapor pin locations
 - Confirmation that the extraction fans are operating
 - SSD system fans generally function well for extended periods of time, however EPA recommends replacing the fan every 4 to 10 years to avoid breakdowns and associated problems.
- Inspection of external electrical components to identify undesirable conditions, such as excessive noise, vibration, moisture or corrosion, and to verify that the fan cut-off switch is operable.
 - Inspection of the fans is important throughout the operating life of the system, but is more critical near the end of its expected lifespan. Noisy fans typically indicate problems with the ball bearings and warrant replacement on that basis.
 - Confirmation of adequate operation of the pressure indicator (manometer).
- Confirmation that the building owner or occupant is knowledgeable about the operation and maintenance of the system. Confirmation that a copy of the O&M manual is present in the building and has been updated as necessary.

Should there be an item out of compliance observed during an inspection, corrective action should be taken as soon as possible to remedy the problem. The corrective action should be documented on the inspection form and re-evaluated at the next regular inspection.

5.0 RESPONSIBLE PERSONNEL

The following person is responsible for the operation, maintenance and inspections of the SSD system at the facility:

Reviva:
John Lilienkamp
Engineering, Maintenance, Environmental and Safety
5130 Main Street NE
Fridley, MN 55421
Phone: 763-971-6235
Email: jlilienkamp@reviva.com

Engineer/ Consultant:
Isaac Fuhr, P.E.
Senior Engineer
Carlson McCain Inc.
15650 36th Ave N, Ste 110
Plymouth, MN 55446
Phone: 952-346-3900
Email: ifuhr@carlsonmccain.com

Tables

Table 1
Post-Mitigation Sub-Slab Vacuum Results
 Reviva, Inc.

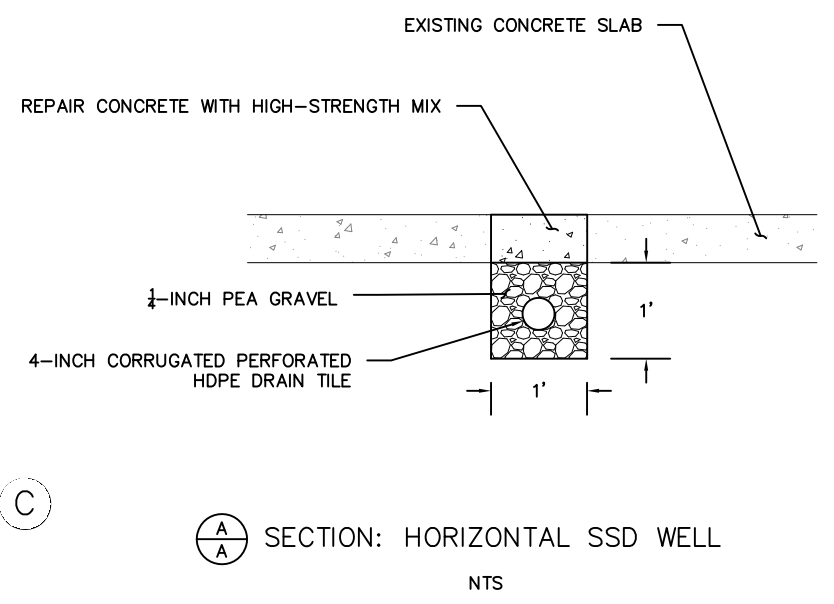
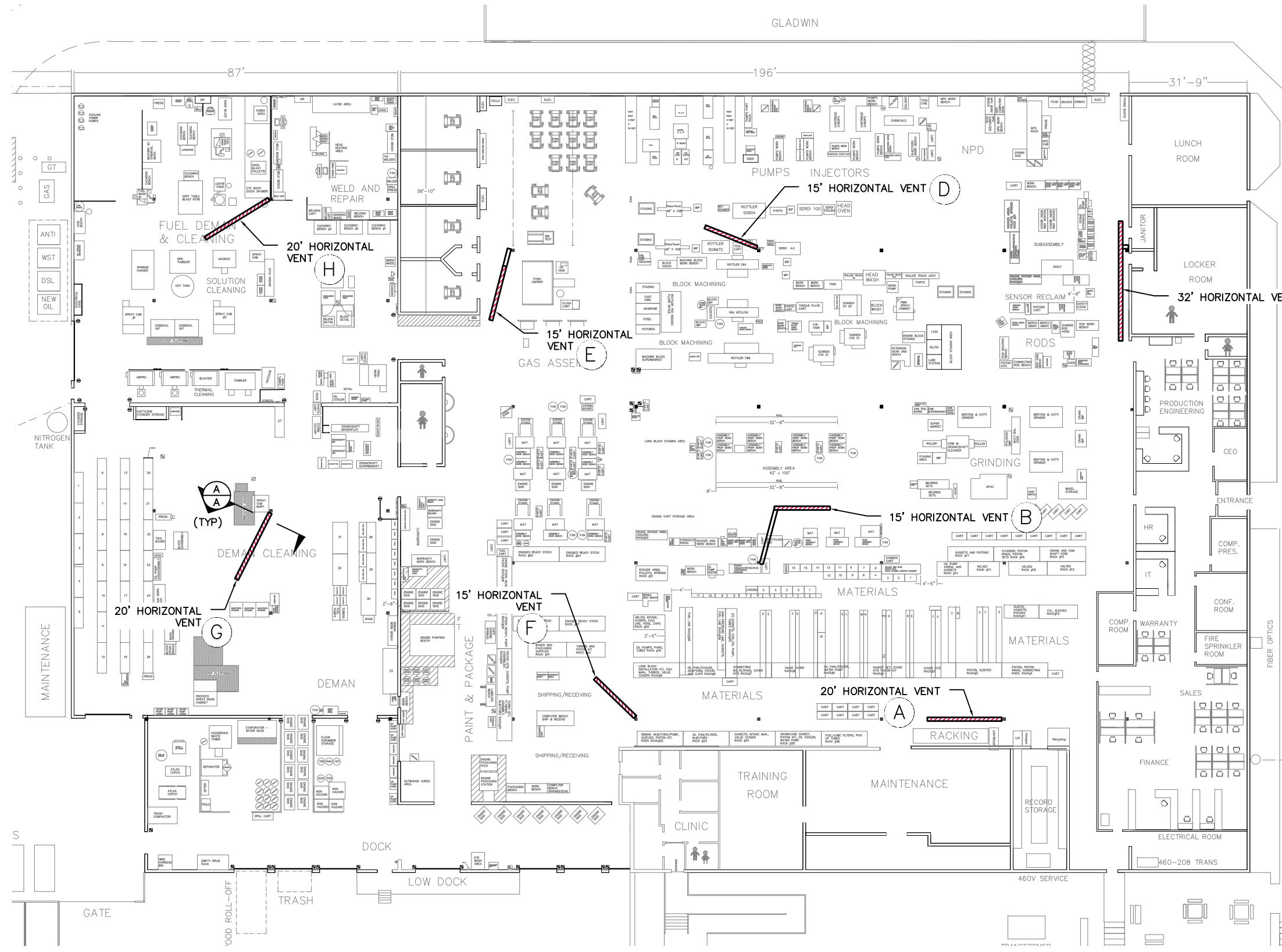
	Sub-Slab Pressure
Location	(Pascals)
AS-1	-193.0
AS-2	-32.7
AS-3	-91.9
AS-4	-97.4
AS-5	-105.2
AS-6	-71.0
AS-11	-20.6
AS-12	-5.6
AS-13	-376.1
AS-14	-48.8
AS-15	-62.3
AS-16	-88.6
AS-17	-14.0
AS-18	-51.7
AS-19	-32.4
AS-20	-17.6
AS-21	-12.3
AS-22	-21.9

Table 2
Post-Installation Fan Pressure Results

Fan Location	Vacuum in Pipe (in. H ₂ O)
A	2.1
B	2.2
C	2.1
D	2.25
E	2.3
F	2.15
G	2.3
H	2.45

Note: Vacuum results from both tables obtained 12/19/2017

Figures

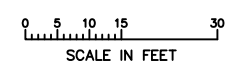


- NOTES:
1. OWNER HIRED CONCRETE CONTRACTOR DIRECT, AND PROVIDED ABOVE-SLAB WORK IN-HOUSE. OVERSIGHT OF CONSTRUCTION METHOD AND DOCUMENTATION BY CARLSON MCCAIN.
 2. EACH VENT LOCATION SERVICED BY DEDICATED FAN (FESTA AMG FORCE) ROUTED VIA 4" DIA. SCH. 40 PVC PIPE WITH MANUAL GATE VALVE AND MANOMETER (DWYER 1223).
 3. FANS MOUNTED ON SYNTHETIC MEMBRANE ROOF WITH TREATED WOOD STAND-OFF FRAME.
 4. EXTERIOR ELECTRIC SUPPLY TO FAN USES WATER-TIGHT CONNECTIONS, AND INCLUDES WEATHERPROOF ON/OFF SWITCH.

PLAN: SSD SYSTEM AS-BUILT PLAN

LEGEND

- HORIZONTAL VENT
- NON-PERFORATED 4-INCH PVC PIPE BELOW SLAB
- SSD FAN LOCATION



SSD SYSTEM INSTALLATION

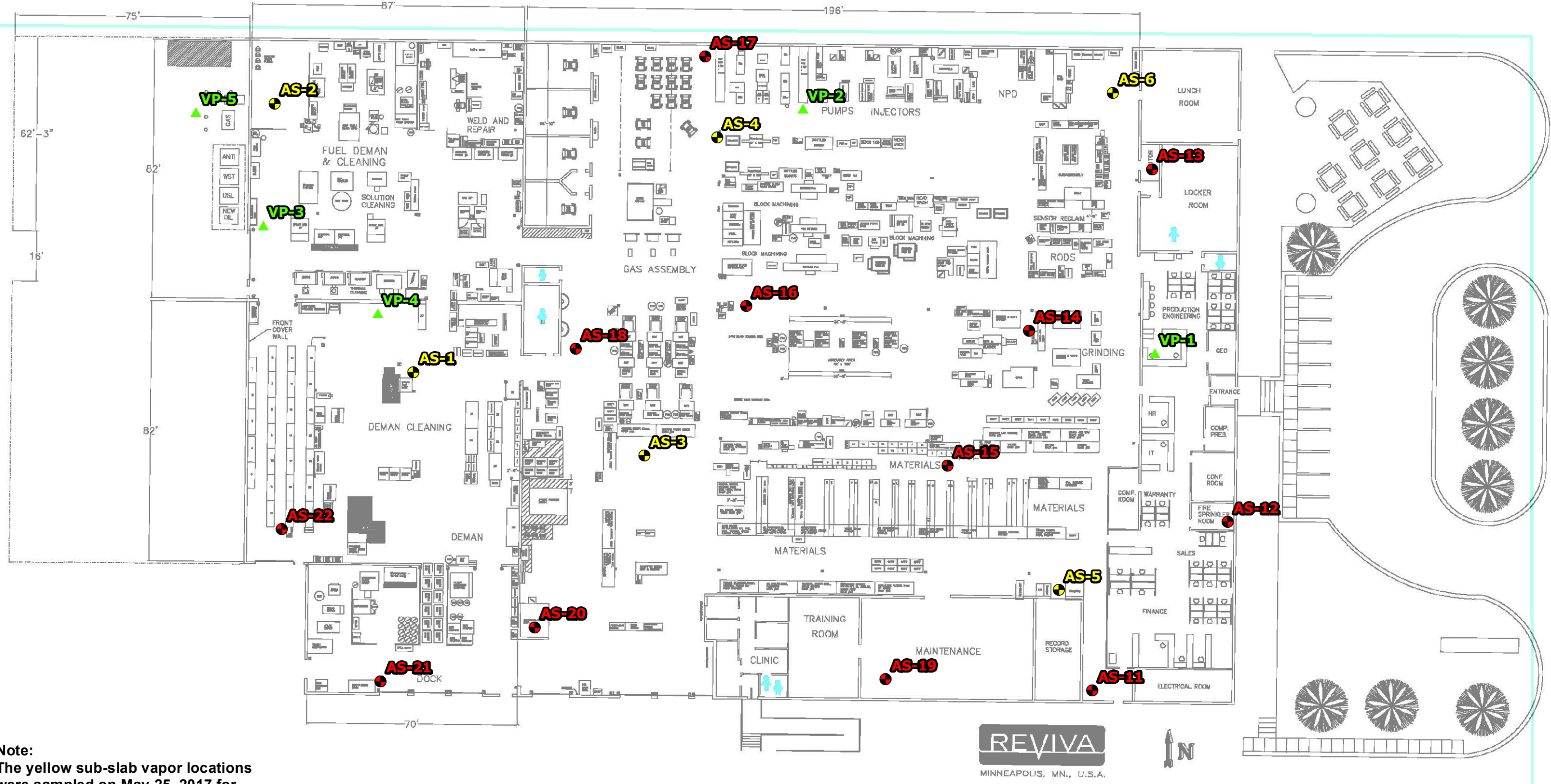
REVIVA, INC.
5130 MAIN STREET NE
FRIDLEY, MN

FIGURE 1 - SSD SYSTEM AS-BUILT DIAGRAM

• environmental
• engineering
• surveying

15650 36th Ave N, Ste 110
Plymouth, MN 55446
Phone: (952) 346-3900
Fax: (952) 346-3901
www.carlsonmccain.com

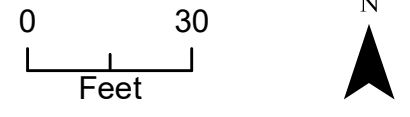
P:\GIS\1_P\Projects\101-Dealen\2017 Annual Report\Figure 3 Vapor Pin Map.mxd



Note:
 The yellow sub-slab vapor locations were sampled on May 25, 2017 for TO-15 VOCs.



- Sub-Slab Vapor Monitoring Location
- Sub-Slab Vapor Sample Location
- ▲ Indoor Air Quality Sample Location
- Site Boundary

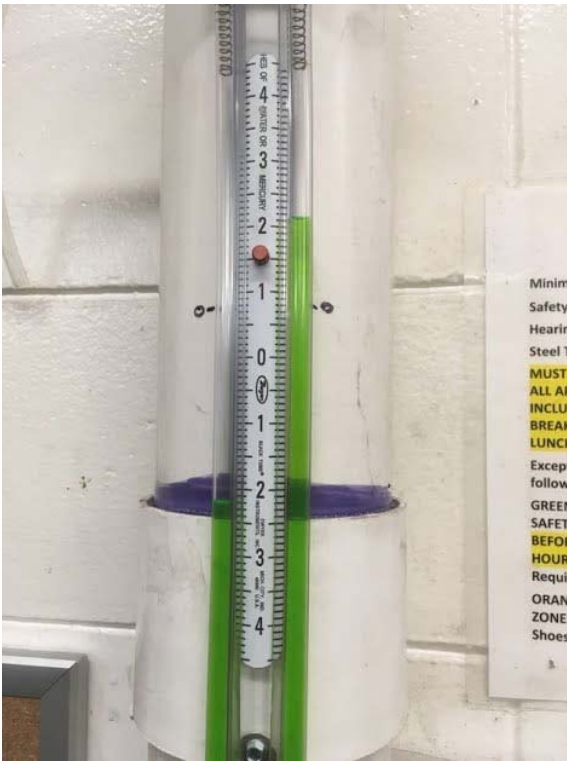


2017 FIELD INVESTIGATION AND ANNUAL MONITORING REPORT
Reviva (Former Dealers Manufacturing)
Fridley, Minnesota

FIGURE 3
REVIVA VAPOR MONITORING LOCATIONS

Appendix A – Typical SSD Vent Construction Photos







Appendix B – SSD System Fan Information

Installation & Wiring Instructions for FRT In Line Centrifugal Duct Fans



Model: FRT FORCE



**IMPORTANT NOTE : DO NOT CONNECT THE POWER SUPPLY UNTIL THE FAN IS COMPLETELY INSTALLED.
MAKE SURE THE ELECTRICAL SERVICE TO THE FAN IS LOCKED IN "OFF" POSITION.**

PLEASE READ AND SAVE THESE INSTRUCTIONS :

Warning – To reduce the risk of fire, electric shock or injury to persons, observe the following.

1. This unit is only for use in the manner intended by the manufacturer. If you have any questions contact the manufacturer Festa Radon Technologies Co.
2. Installation work and electrical wiring must be done by qualified person'(s) in accordance with all applicable codes and standards, including fire-rated construction.
3. Sufficient air is needed for proper combustion and exhausting of gases through the flue(chimney) of fuel burning equipment to prevent back drafting. Follow the heating equipment manufacturer's guideline and safety standards such as those published by the National Fire Protection Association (NFPA), and the American Society for Heating, Refrigeration and Air Conditioning Engineers (ASHRAE), and the local code authorities.
4. When cutting or drilling into wall or ceiling, do not damage electrical wiring and other hidden utilities.
5. Ducted fans must always be vented to the outdoors.
6. These units can be mounted indoors or outdoors.
7. Do not use these fans with solid state speed controllers.
8. The electric motor is protected by an internal overheat device to prevent/minimise motor damage. If the motor stops working, immediate inspection should be carried out by suitably qualified persons.
9. Before servicing or cleaning the unit, switch power off at service panel and lock the service disconnecting means to prevent power from being switched on accidentally. When the service disconnecting means cannot be locked; securely fasten a prominent warning device, such as a tag, to the service panel.
10. Do not use in a window.
11. If this unit is to be installed over a tub or shower, it must be marked as appropriate for the application and be connected to a GFCI (Ground Fault Circuit Interrupter) – protected branch circuit.
12. Never place a switch where it can be reached from a tub or shower.
13. CAUTION: For General Ventilating Use Only. Do Not use to Exhaust Hazardous Or Explosive Materials and Vapours.
12. CAUTION: This unit has an unguarded impeller. Do Not Use in Locations Readily Accessible To People or Animals.

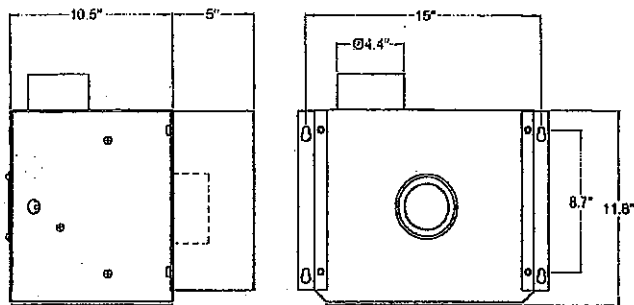
Installation of FRT Force Radon Fans.

The FRT Force Radon Fans can be mounted indoors or outdoors. We recommend that EPA recommendations be used in choosing the fan location. The FRT fans may be mounted directly onto the piping system or fastened to a supporting structure. When mounting directly onto a vertical piping system it is the installers responsibility to make provision to prevent the pipe system sliding into and onto the fan motor and impeller.

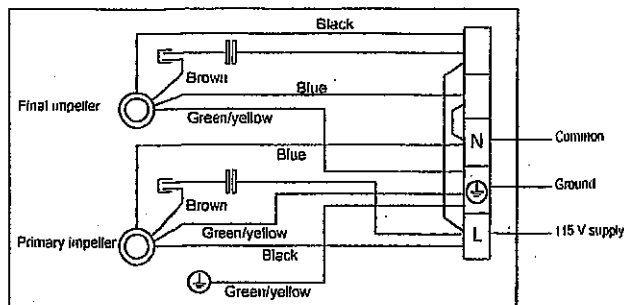
When installing a system with short duct runs terminating close to the fan i.e. within 60"(1.5m) suitable guards should be incorporated. It is the responsibility of the installer to ensure that all aspects of the system are taken into consideration.

Rigid ducting sections should be connected to fan spigots by flexible connectors and clips. The flexible connectors used should be suitable for routine servicing and vibration isolation.

Dimensions



Electrical Connections



Ensure that the mains supply voltage, frequency, number of phases and power rating comply with the details on the unit rating label (situated externally on the plastic casing terminal box cover). All wiring must be in accordance with local and / or national electrical codes as applicable, or the appropriate standard in your country. The fan must be supplied through a double pole isolating switch having a contact separation of not less than 1/8" (3mm). Wiring to the terminal box should be made in liquid tight flexible conduit to facilitate easy maintenance.

Operational Checks.

Check all connections are tight and leak free.

Check the system vacuum pressure with a manometer, ensure that the vacuum pressure is less than the maximum recommended operating pressure.

Check and verify Radon levels by testing to EPA protocol.

Cleaning and Maintenance.

We would recommend that the fan be periodically checked against the listed operational checks to ensure trouble free long lasting operation.

FIVE (5) YEAR WARRANTY

Conditions of Warranty

Festa Radon Technologies Co. ("FRT") warrants that the 'FRT FORCE', ("the Products") shall be free from defects in material and workmanship for a period of (5) years from the date of purchase by the customer. If within the applicable warranty period the Products prove to be defective by reason of faulty workmanship or materials, FRT will undertake to have the defective Product (or any part thereof) replaced at no cost to the customer subject to the following conditions:

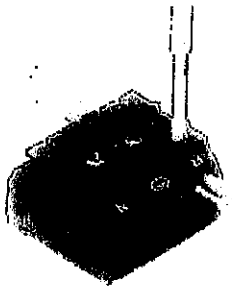
1. The Product has been purchased and used solely in accordance with all Environmental Protection Agency ("EPA") standard practices and state and local codes of practice.
2. The Product is returned promptly on being found defective, together with this warranty and proof of date of installation at the customer's risk and expense to Festa Radon Technologies Co. ("FRT") from whom the Product was purchased. All enquiry's must be through FRT.
3. This warranty shall not apply to any Product failure or defect due to any cause beyond the reasonable control of FRT including; damage caused through fire, flood, explosion, accident, misuse, wear and tear, neglect, incorrect adjustment or repair, damage caused through installation, adaptation, modification or use in an improper manner or inconsistent with the technical and/or safety standards required where the Product is used, or to damage occurring during transit to or from the customer.
4. If at any time during the Warranty Period any part or parts of the Product are replaced with a part or parts not supplied or approved by FRT, or the Product has been dismantled or repaired by any person not authorized by FRT, FRT shall have the right to terminate this warranty in whole or in part immediately without further notice.
5. FRT's decision on all matters relating to complaints and Products defects and failure (alleged or actual) shall be final. Any Product or defective part, which has been replaced, shall be FRT's.
6. AMG will offer to customers a Warranty of a full Five Years, from date of purchase, in accordance with the terms listed above.

Festa Radon Technologies Co. 47A Progress Avenue, Cranberry Twp., PA 16066
Tel. Toll Free 1(800) 806-7866 or (724) 772-9060 Fax 1(724) 772-9062



Cost Effective Terminal Blocks for Chassis Mounting, Series 862

Conductor Connection



- Four conductors per pole
- For solid and stranded conductors
- Mixed wiring with solid and stranded conductors of different cross sections

Marking



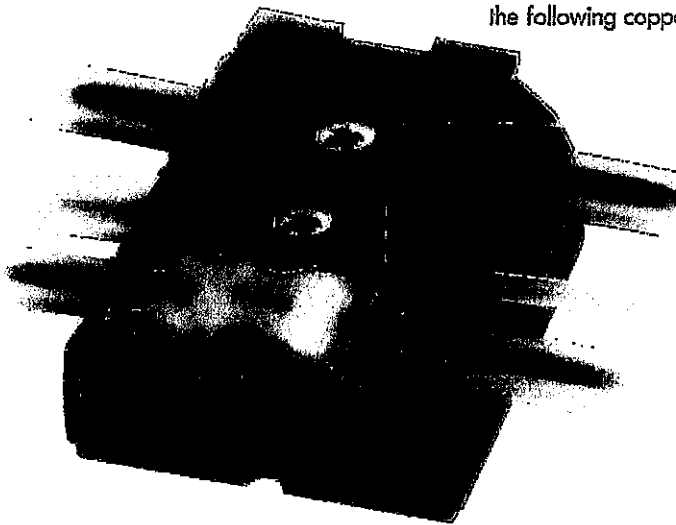
- Marking by direct printing and/or marker strips

Jumpering



- Commoning with jumper bar

These CAGE CLAMP®S connectors clamp the following copper conductors:



solid



stranded



fine stranded



fine stranded, tip bonded



fine stranded with crimped ferrule



fine stranded with crimped pin terminal

Cost-Effective Features:

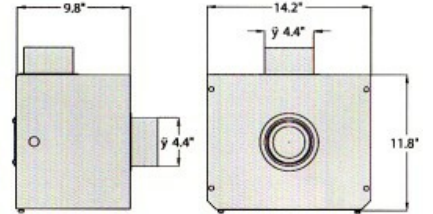
The 862 Series chassis-mount terminal blocks minimize wiring costs and simplify mounting, while offering multiple connection points, marking and handling.

- Connects up to four conductors (sizes 20-12 AWG). Due to multiple connection points/pole, different sizes can be used within same terminal block position.
- CAGE CLAMP®S termination technology: solid conductors, stranded conductors with ferrules or ultrasonically bonded conductors are simply connected by pushing conductor into the contact.
- Integrated push button, with malded-in slots, accommodates fast and easy wiring of all conductor types -- by hand or slotted tip/ Phillips screwdriver.
- Convenient automatic grounding contact available.
- Snap-in mounting feet for fast assembly.
- Flexible marking options: standard marking (pre-marked), marker strip or custom marked for large quantity orders.
- Built-in test points simplify testing with 2mm/0.079 in. diameter test plug.

Ground (earth) contact



- Makes an automatic contact to the mounting plate
- Varnish coating is penetrated automatically



CFM at STATIC PRESSURE in. w.g.

Model	Volts	Watts	Max. Amps	0"	0.5"	1.0"	1.5"	2.0"	2.5"	3.0"	3.5"	4.0"
AMG Force	120V 60Hz	302	2.48	240	223	207	191	174	155	133	110	83

Weight: 8 lbs. 3 oz. Fan Speed: 3000 rpm

- All **AMG Radon** fans are UL Listed for Residential, Commercial AND Industrial Use!!
- All **AMG Radon** Fans are backed by a 5-year full replacement warranty.
- All **AMG Radon** Fans have attractive dove-gray, dough molded glass fiber, non-yellowing UV-resistant casings!
- All **AMG Radon** Fans have exceptionally reliable and quiet German-made **EBM** motors!

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Appendix C – Pre-Mitigation Air Quality Testing Report



July 20, 2017

Mr. Dave Goodwin and Mr. Josh Stahl
Reviva
5130 Main Street Northeast
Fridley, MN 55402

Sent via email (dgoodwin@reviva.com; jstahl@reviva.com)

Re: Indoor Air Quality Sampling
Reviva
Fridley, MN
Carlson McCain Project #101-17

Dear Mr. Goodwin and Mr. Stahl,

Carlson McCain has been working with Reviva regarding new Best Management Practices (BMPs) for vapor intrusion at the Reviva facility located at 5130 Main Street Northeast in Minneapolis, Minnesota. A recently completed slab vapor assessment identified elevated concentrations of trichloroethylene (TCE). To ensure worker safety, Carlson McCain recommended that OSHA samples be collected throughout the building for TCE analysis. This report describes the sampling procedures used to collect indoor air samples on July 29, 2017; discusses the analytical results; and, provides recommendations.

Sampling Procedures

Sampling procedures followed standards for OSHA Method 1001. Each sample was collected using SKC 575-002 absorbent charcoal glass testing tubes connected to a low flow pump that was calibrated prior to each sampling event. Sample pumps were calibrated to draw air at a rate of 0.19 liters per minute. Each sample ran between 225 minutes to 240 minutes, with separate samples collected in the morning and afternoon. A total of 13 samples were collected; ten samples were collected inside the building and two samples collected on the east exterior of the building, and one field blank. The field blank is a quality control sample that was opened at the Site and resealed immediately and analyzed to determine the integrity of the samples collected. The laboratory analyzed each sample by gas chromatography using flame ionization detection.

Sample Locations and Site Observations

Carlson McCain choose the areas to place the samples after reviewing the sub slab vapor data. Samples were placed in the office area, the maintenance area near AS-5, the “D-man” area, the fuel drum cleaning area, and the “Sims test” near AS-4. A sample was also collected on the exterior of the building for background comparison. Each area had two samples collected; one in the morning and one in the afternoon, which provides an 8-hour time-weighted-average for each work area. Figures showing the sample locations can be found attached to this letter report.

*Indoor Air Quality Sampling for TCE
Reviva, Fridley, MN*

The office area is located on the east side of the building and is on a separate heating and cooling system from the rest of the plant. The air conditioning was running at the time of the sampling event. The other samples were located in the machining areas of the facility. All of the areas had doors and vents open as well as many fans blowing in every direction to keep the area cooled.

Summary of Laboratory Results

Samples were sent to Pace Analytical for TCE analysis. The following table summarizes the laboratory results.

Sample Number	Laboratory Number	Location	Results (ppm)
1	01-6697381835	East exterior	<0.0122
2	02-6697381813	Office	<0.0124
3	03-6697381810	Maintenance area near AS-5	<0.0126
4	04-6697381830	D-man area	<0.0128
5	05-6697381830	Fuel drum cleaning	<0.0128
6	06-6697381831	Sims test area near AS-4	<0.0131
7	07-6697381838	Blank	<3.0
8	08-6697381836	East exterior	<0.0128
9	09-6697381834	Office	<0.0125
10	10-6697381832	Maintenance area near AS-5	<0.0123
11	11-6697381812	D-man area	<0.0123
12	12-6697381837	Fuel drum cleaning	<0.0123
13	13-6697381845	Sims test area near AS-4	<0.0122

All samples were below the method reporting limit; therefore, it appears that at the time of sampling that TCE is not present in the work space at levels that would indicate an OSHA worker safety issue.

Recommendations


Results from the sampling event did not identify TCE within the work space at concentrations that exceed OSHA requirements. However, this sampling event occurred during the summer months when the ventilation was excellent, with doors and vents open and fans blowing in every direction to keep the workers cool. Carlson McCain, recommends that additional sampling be completed in the fall when the facility has less doors open and less fans moving air though out the building. It should be noted that MPCA's current Best Management Practices for Soil Vapor mitigation do not consider actual indoor air samples concentrations when making mitigation decisions. A separate report will be provided discussing recommendations for a vapor mitigation system.

Closing

Carlson McCain has completed this indoor monitoring report for the use of Reviva and its agents for specific applications to the building at 5130 Main Street NE, Minneapolis, Minnesota. The services performed by Carlson McCain for this Project have been conducted in a manner consistent with the level of skill and care ordinarily exercised by other members of the profession currently practicing in this area. No other warranty, express or implied is made.

If you have any questions regarding this report, please feel free to contact me at 763-489-7906 or csteman@carlsonmccain.com.

Sincerely,
Carlson McCain, Inc.



Christy Steman, ASP, CHMM
Senior Environmental Scientist

Attachments: Sample Location Maps
Pace Analytical Laboratory Report and Chain of Custody

CC: Wade Carlson, Carlson McCain, Inc.

Appendix D – Post-Mitigation Air Quality Testing Laboratory Summary

Detection Summary

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-40305-1
SDG: 200-40305-1

Client Sample ID: VP-1

Lab Sample ID: 200-40305-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Dichlorodifluoromethane	2.51		2.47	ug/m3	1		TO-15	Total/NA
Chloromethane	1.09		1.03	ug/m3	1		TO-15	Total/NA
Trichlorofluoromethane	5.64		1.12	ug/m3	1		TO-15	Total/NA
Ethanol	90.5		9.42	ug/m3	1		TO-15	Total/NA
Freon TF	1.55		1.53	ug/m3	1		TO-15	Total/NA
Acetone	97.5	E	11.9	ug/m3	1		TO-15	Total/NA
Isopropyl alcohol	53.4		12.3	ug/m3	1		TO-15	Total/NA
Methylene Chloride	3.86		1.74	ug/m3	1		TO-15	Total/NA
n-Hexane	3.13		0.705	ug/m3	1		TO-15	Total/NA
Methyl Ethyl Ketone	2.58		1.47	ug/m3	1		TO-15	Total/NA
Cyclohexane	2.40		0.688	ug/m3	1		TO-15	Total/NA
Benzene	0.861		0.639	ug/m3	1		TO-15	Total/NA
n-Heptane	0.958		0.820	ug/m3	1		TO-15	Total/NA
Trichloroethene	2.30		1.07	ug/m3	1		TO-15	Total/NA
Toluene	4.89		0.754	ug/m3	1		TO-15	Total/NA
Ethylbenzene	0.897		0.868	ug/m3	1		TO-15	Total/NA
m,p-Xylene	3.62		2.17	ug/m3	1		TO-15	Total/NA
Xylene, o-	1.37		0.868	ug/m3	1		TO-15	Total/NA
1,2,4-Trimethylbenzene	1.41		0.983	ug/m3	1		TO-15	Total/NA

Client Sample ID: VP-2

Lab Sample ID: 200-40305-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloromethane	1.11	H	1.03	ug/m3	1		TO-15	Total/NA
Trichlorofluoromethane	2.53		1.12	ug/m3	1		TO-15	Total/NA
Trichlorofluoromethane	2.30	H	1.12	ug/m3	1		TO-15	Total/NA
Ethanol	34.3		9.42	ug/m3	1		TO-15	Total/NA
Ethanol	28.0	H	9.42	ug/m3	1		TO-15	Total/NA
Acetone	168	E	11.9	ug/m3	1		TO-15	Total/NA
Acetone	149	H E	11.9	ug/m3	1		TO-15	Total/NA
Isopropyl alcohol	98.2		12.3	ug/m3	1		TO-15	Total/NA
Isopropyl alcohol	78.5	H	12.3	ug/m3	1		TO-15	Total/NA
Methylene Chloride	17.4		1.74	ug/m3	1		TO-15	Total/NA
Methylene Chloride	14.8	H	1.74	ug/m3	1		TO-15	Total/NA
n-Hexane	9.49		0.705	ug/m3	1		TO-15	Total/NA
n-Hexane	7.70	H	0.705	ug/m3	1		TO-15	Total/NA
Methyl Ethyl Ketone	3.22		1.47	ug/m3	1		TO-15	Total/NA
Methyl Ethyl Ketone	2.87	H	1.47	ug/m3	1		TO-15	Total/NA
Cyclohexane	12.1		0.688	ug/m3	1		TO-15	Total/NA
Cyclohexane	9.79	H	0.688	ug/m3	1		TO-15	Total/NA
Benzene	1.86		0.639	ug/m3	1		TO-15	Total/NA
Benzene	1.61	H	0.639	ug/m3	1		TO-15	Total/NA
n-Heptane	3.68		0.820	ug/m3	1		TO-15	Total/NA
n-Heptane	3.16	H	0.820	ug/m3	1		TO-15	Total/NA
Trichloroethene	1.53		1.07	ug/m3	1		TO-15	Total/NA
Trichloroethene	1.12	H	1.07	ug/m3	1		TO-15	Total/NA
Toluene	13.5		0.754	ug/m3	1		TO-15	Total/NA
Toluene	10.2	H	0.754	ug/m3	1		TO-15	Total/NA
Tetrachloroethene	2.62		1.36	ug/m3	1		TO-15	Total/NA
Tetrachloroethene	1.81	H	1.36	ug/m3	1		TO-15	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Burlington

Detection Summary

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-40305-1
SDG: 200-40305-1

Client Sample ID: VP-2 (Continued)

Lab Sample ID: 200-40305-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	2.57		0.868	ug/m3	1		TO-15	Total/NA
Ethylbenzene	1.98	H	0.868	ug/m3	1		TO-15	Total/NA
m,p-Xylene	11.0		2.17	ug/m3	1		TO-15	Total/NA
m,p-Xylene	8.39	H	2.17	ug/m3	1		TO-15	Total/NA
Xylene, o-	4.49		0.868	ug/m3	1		TO-15	Total/NA
Xylene, o-	3.41	H	0.868	ug/m3	1		TO-15	Total/NA
4-Ethyltoluene	1.85		0.983	ug/m3	1		TO-15	Total/NA
4-Ethyltoluene	1.63	H	0.983	ug/m3	1		TO-15	Total/NA
1,3,5-Trimethylbenzene	1.89		0.983	ug/m3	1		TO-15	Total/NA
1,3,5-Trimethylbenzene	1.41	H	0.983	ug/m3	1		TO-15	Total/NA
1,2,4-Trimethylbenzene	6.80		0.983	ug/m3	1		TO-15	Total/NA
1,2,4-Trimethylbenzene	5.16	H	0.983	ug/m3	1		TO-15	Total/NA
Naphthalene	17.4	*	2.62	ug/m3	1		TO-15	Total/NA
Naphthalene	10.7	H	2.62	ug/m3	1		TO-15	Total/NA

Client Sample ID: VP-3

Lab Sample ID: 200-40305-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Dichlorodifluoromethane	2.63		2.47	ug/m3	1		TO-15	Total/NA
Chloromethane	1.81		1.03	ug/m3	1		TO-15	Total/NA
Trichlorofluoromethane	2.09		1.12	ug/m3	1		TO-15	Total/NA
Ethanol	19.5		9.42	ug/m3	1		TO-15	Total/NA
Acetone	270	E	11.9	ug/m3	1		TO-15	Total/NA
n-Hexane	4.67		0.705	ug/m3	1		TO-15	Total/NA
Methyl Ethyl Ketone	3.61		1.47	ug/m3	1		TO-15	Total/NA
Cyclohexane	1.46		0.688	ug/m3	1		TO-15	Total/NA
Benzene	2.12		0.639	ug/m3	1		TO-15	Total/NA
n-Heptane	2.58		0.820	ug/m3	1		TO-15	Total/NA
Trichloroethene	1.08		1.07	ug/m3	1		TO-15	Total/NA
Toluene	8.42		0.754	ug/m3	1		TO-15	Total/NA
Ethylbenzene	28.1		0.868	ug/m3	1		TO-15	Total/NA
m,p-Xylene	115		2.17	ug/m3	1		TO-15	Total/NA
Xylene, o-	38.1		0.868	ug/m3	1		TO-15	Total/NA
4-Ethyltoluene	1.97		0.983	ug/m3	1		TO-15	Total/NA
1,3,5-Trimethylbenzene	1.96		0.983	ug/m3	1		TO-15	Total/NA
1,2,4-Trimethylbenzene	6.83		0.983	ug/m3	1		TO-15	Total/NA

Client Sample ID: VP-4

Lab Sample ID: 200-40305-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Dichlorodifluoromethane	2.67		2.47	ug/m3	1		TO-15	Total/NA
Chloromethane	1.15		1.03	ug/m3	1		TO-15	Total/NA
Trichlorofluoromethane	3.37		1.12	ug/m3	1		TO-15	Total/NA
Ethanol	19.0		9.42	ug/m3	1		TO-15	Total/NA
Acetone	22.3		11.9	ug/m3	1		TO-15	Total/NA
n-Hexane	4.09		0.705	ug/m3	1		TO-15	Total/NA
Methyl Ethyl Ketone	2.29		1.47	ug/m3	1		TO-15	Total/NA
Cyclohexane	1.05		0.688	ug/m3	1		TO-15	Total/NA
Benzene	1.52		0.639	ug/m3	1		TO-15	Total/NA
n-Heptane	1.95		0.820	ug/m3	1		TO-15	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Burlington

Detection Summary

Client: Carlson McCain, Inc.
Project/Site: Reviva

TestAmerica Job ID: 200-40305-1
SDG: 200-40305-1

Client Sample ID: VP-4 (Continued)

Lab Sample ID: 200-40305-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	2.95		1.07	ug/m3	1		TO-15	Total/NA
Toluene	6.13		0.754	ug/m3	1		TO-15	Total/NA
Tetrachloroethene	4.07		1.36	ug/m3	1		TO-15	Total/NA
Ethylbenzene	1.83		0.868	ug/m3	1		TO-15	Total/NA
m,p-Xylene	7.15		2.17	ug/m3	1		TO-15	Total/NA
Xylene, o-	2.66		0.868	ug/m3	1		TO-15	Total/NA
4-Ethyltoluene	1.24		0.983	ug/m3	1		TO-15	Total/NA
1,3,5-Trimethylbenzene	1.27		0.983	ug/m3	1		TO-15	Total/NA
1,2,4-Trimethylbenzene	4.85		0.983	ug/m3	1		TO-15	Total/NA

Client Sample ID: VP-5

Lab Sample ID: 200-40305-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Dichlorodifluoromethane	2.79		2.47	ug/m3	1		TO-15	Total/NA
Trichlorofluoromethane	1.50		1.12	ug/m3	1		TO-15	Total/NA
Freon TF	1.94		1.53	ug/m3	1		TO-15	Total/NA
Acetone	33.3		11.9	ug/m3	1		TO-15	Total/NA
Carbon disulfide	1.92		1.56	ug/m3	1		TO-15	Total/NA
n-Hexane	1.34		0.705	ug/m3	1		TO-15	Total/NA
Trichloroethene	1.43		1.07	ug/m3	1		TO-15	Total/NA
Toluene	1.74		0.754	ug/m3	1		TO-15	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Burlington

Appendix E – Inspection Forms

Annual Inspections

Inspection Item	Sign and Date Upon Completion	Notes / Corrective Action
Inspect all visible components of the vapor mitigation system including fans, piping, seals and hangers to ensure there are no signs of degradation or blockage		
Examine as-built plans to verify the system configuration has not been modified		
Inspect external electrical components to identify undesirable conditions, such as excessive noise, vibration, moisture or corrosion, and to verify that the fan cut-off switch is operable. Noisy fans typically indicate problems with the ball bearings and warrant replacement on that basis.		
Visually inspect the building to evaluate whether any significant changes were made that would affect the design of the system or general environment in which it is operated		
Visually inspect the area of concern (including cracks in the floor, sumps, floor drains and utility penetrations) to ensure there are no significant changes in conditions that would warrant modification of the system design		
Confirmation that the building owner or occupant is knowledgeable about the operation and maintenance of the system. Confirmation that a copy of the O&M manual is present in the building and has been updated as necessary.		

Annual Inspections

Selected Vapor Pin Sampling Locations (see Figure 3)	Sub-Slab Vacuum Pressure (Pascals) - relative to indoor plant air
AS-2	
AS-12	
AS-13	
AS-16	
AS-17	
AS-19	
AS-20	
AS-22	

Sign: _____

Date: _____

Notes:

1. If sub-slab vacuum is below 5 Pa in the non-heating season (or 3 Pa in the heating season), proceed to troubleshooting.
2. Non-heating season - May 1 to November 1

Quarterly Inspections

	Sign and Date Upon Completion			
	Quarter 1 (January - March)	Quarter 2 (April - June)	Quarter 3 (July - September)	Quarter 4 (October - December)
Monitor vent risers for flow rates and pressures generated by the fans to confirm the system is working, not plugged and moisture is draining correctly. Complete data section below for each quarter.	Signature:	Signature:	Signature:	Signature:
	Date:	Date:	Date:	Date:

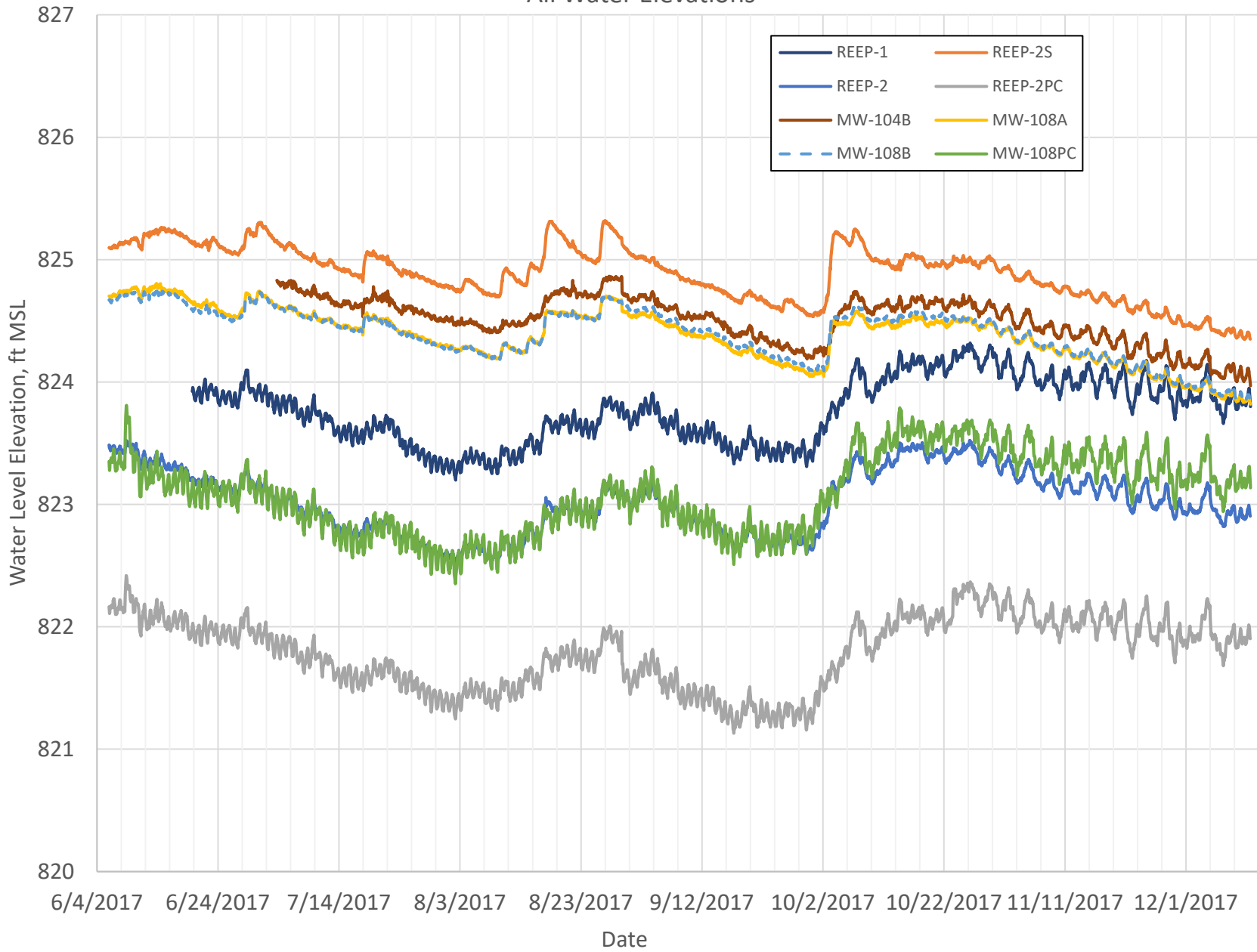
Vent Location	Vacuum in Riser Pipe				Fan Flow Rate				Fan Velocity at System Start-up (ft/min)	Notes
	Slide manometer measurement gauge until liquid levels read equal on the left and right of the gauge. Record vacuum measurement in inches of water (Should be 2.0 to 2.5 ")				Inspect fan outlets on roof, use flow meter during fan operation and record velocity in feet per minute (should be close to velocity in next column)					
	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Quarter 1	Quarter 2	Quarter 3	Quarter 4		
Vent A									880	
Vent B									540	
Vent C									760	
Vent D									440	
Vent E									500	
Vent F									690	
Vent G									420	
Vent H									210	

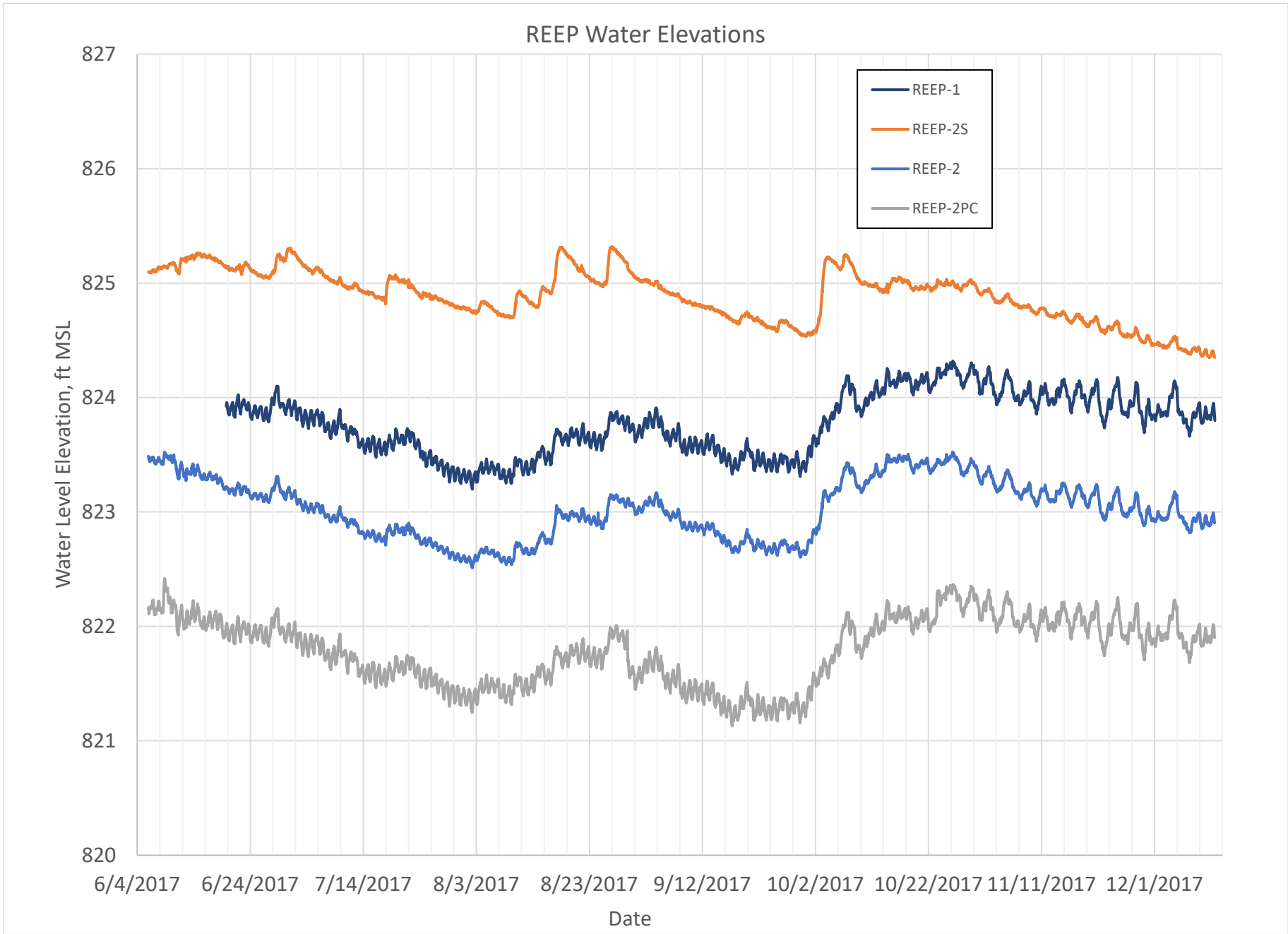
*Note: It is important to check fan velocity at outlet, even after checking vacuum. It's possible that the fan is operating, and vacuum is present, but the pipe is clogged near the transition under the slab. In this case lower velocity and higher vacuums would exist.

Appendix D

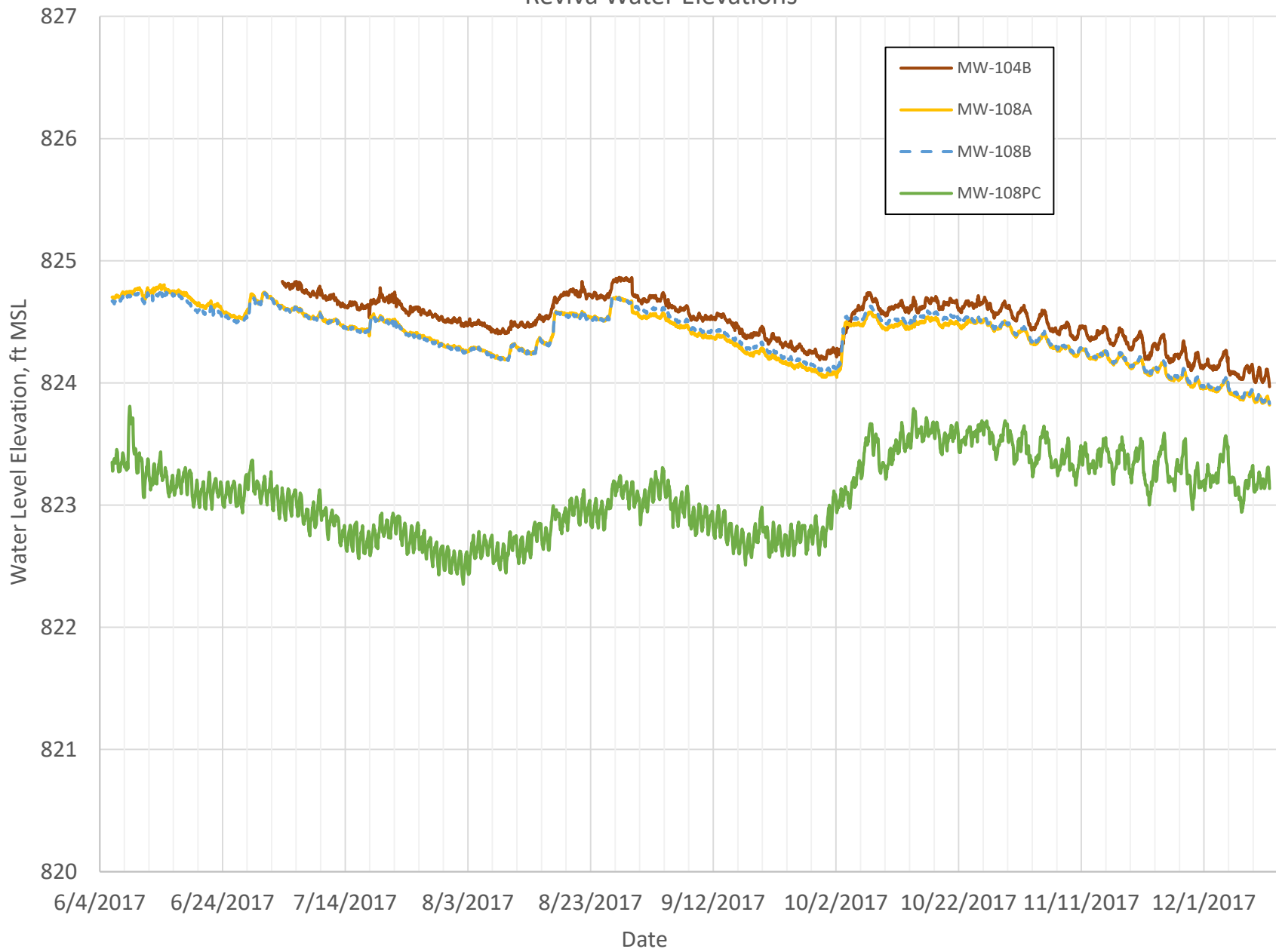
Transducer Hydrographs

All Water Elevations





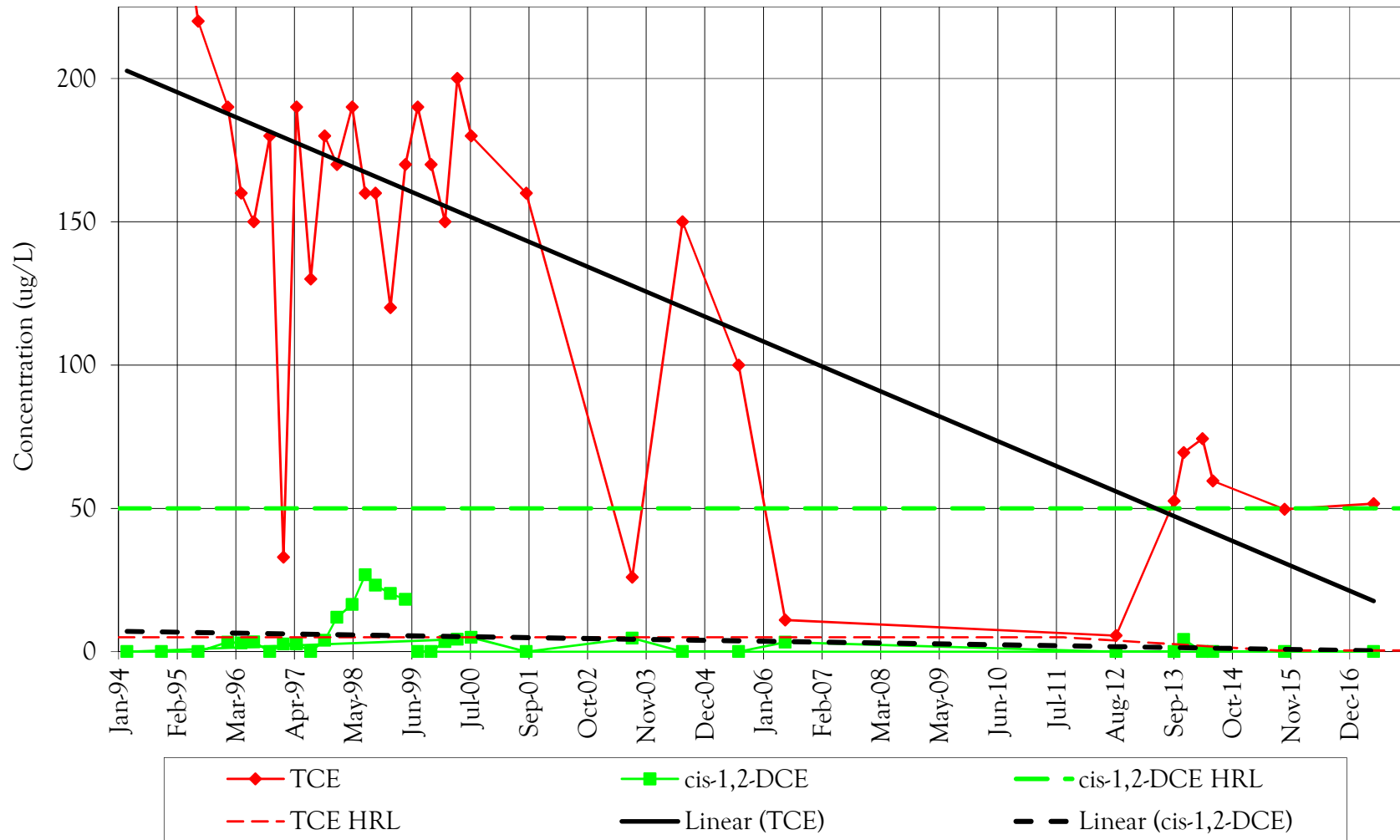
Reviva Water Elevations



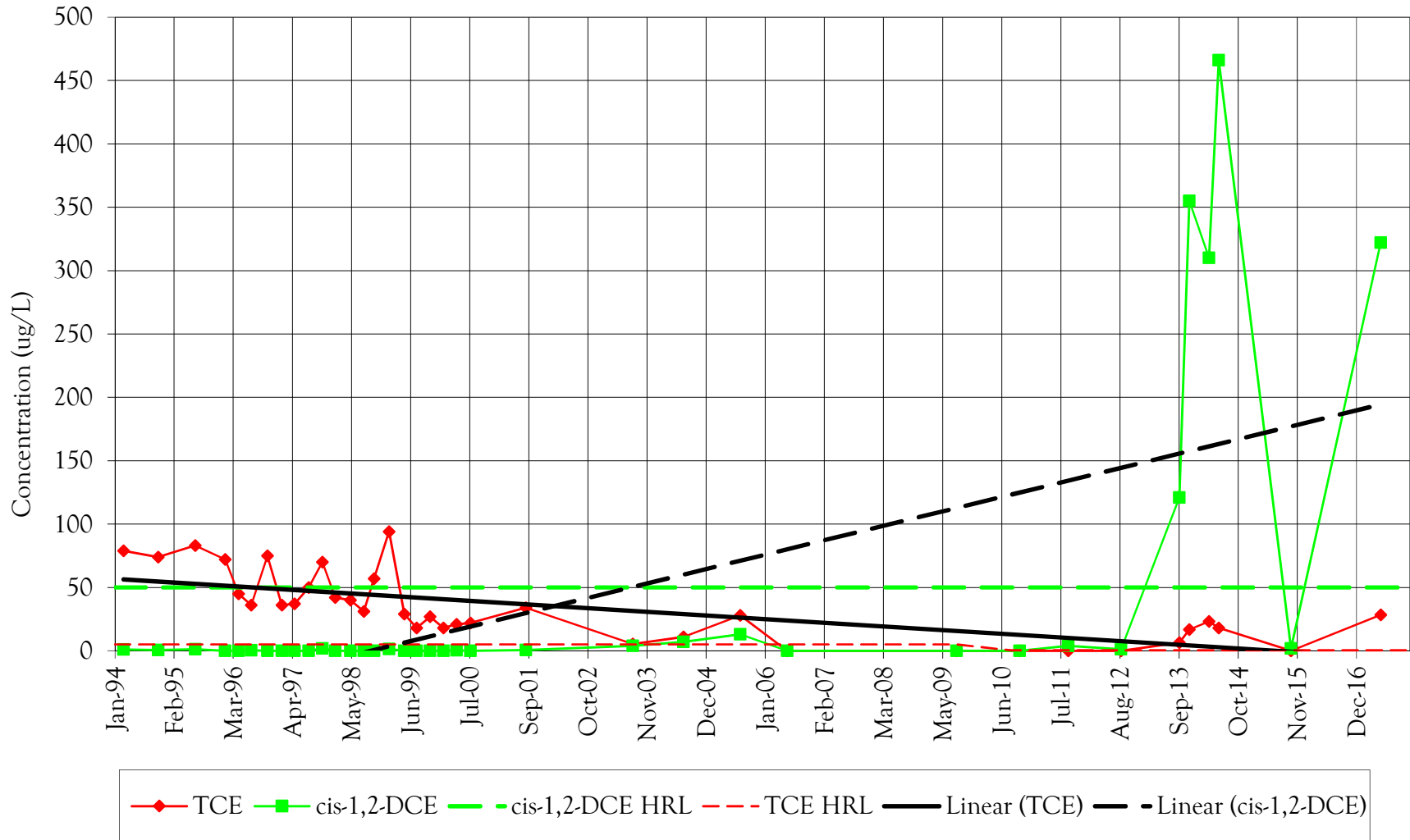
Appendix E

Groundwater Quality Charts

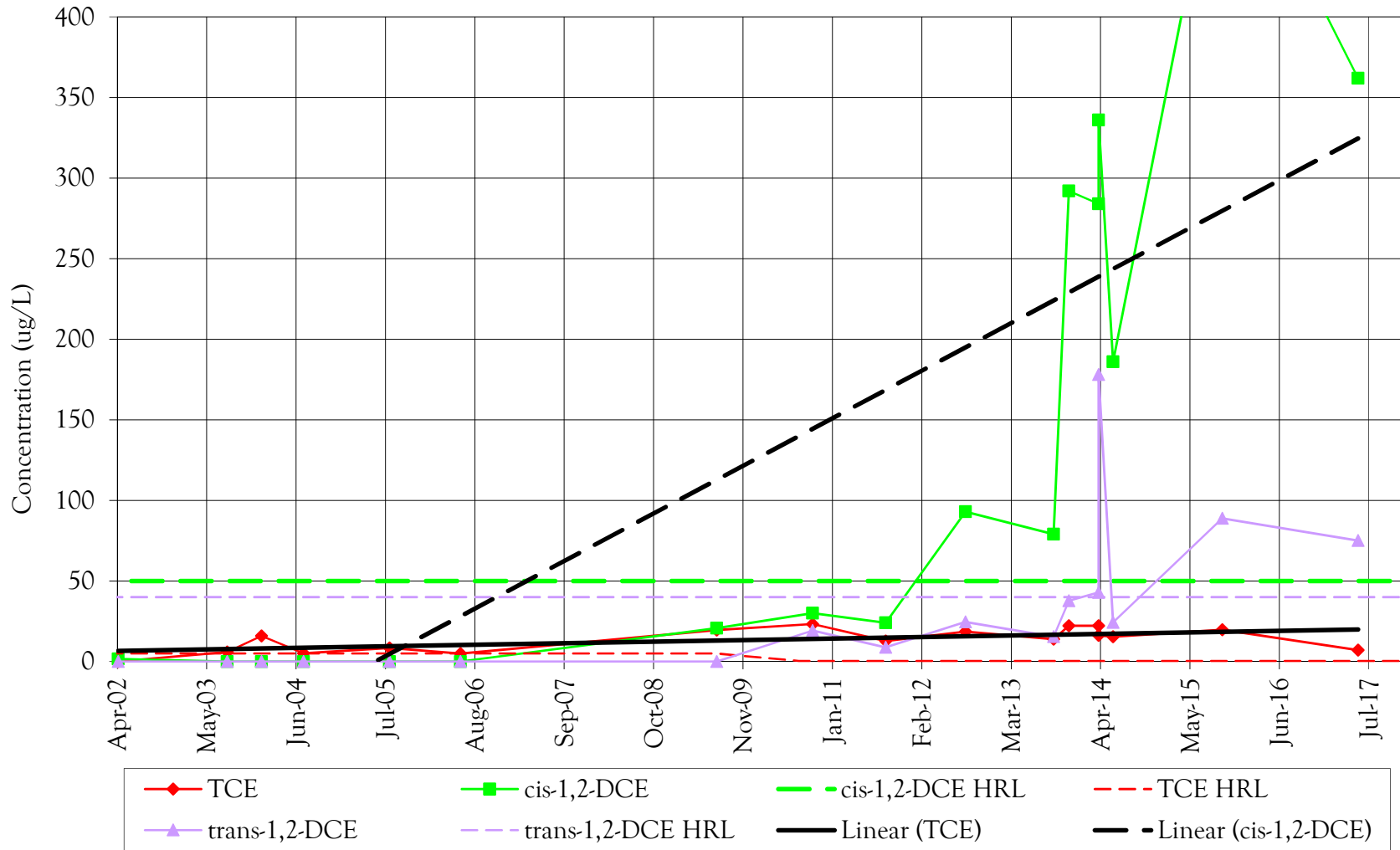
MW-101A Groundwater Quality Reviva



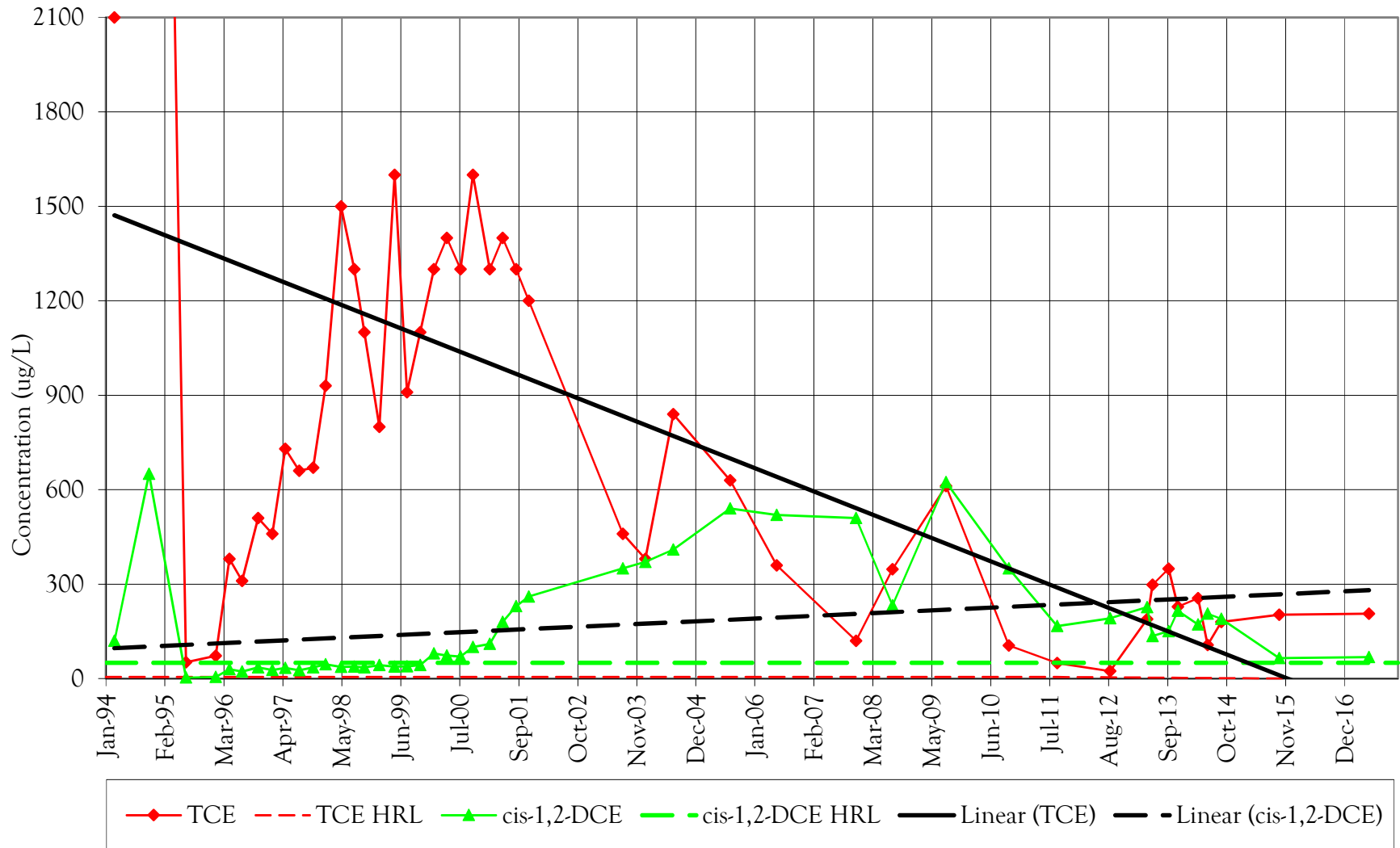
MW-102A Groundwater Quality Reviva



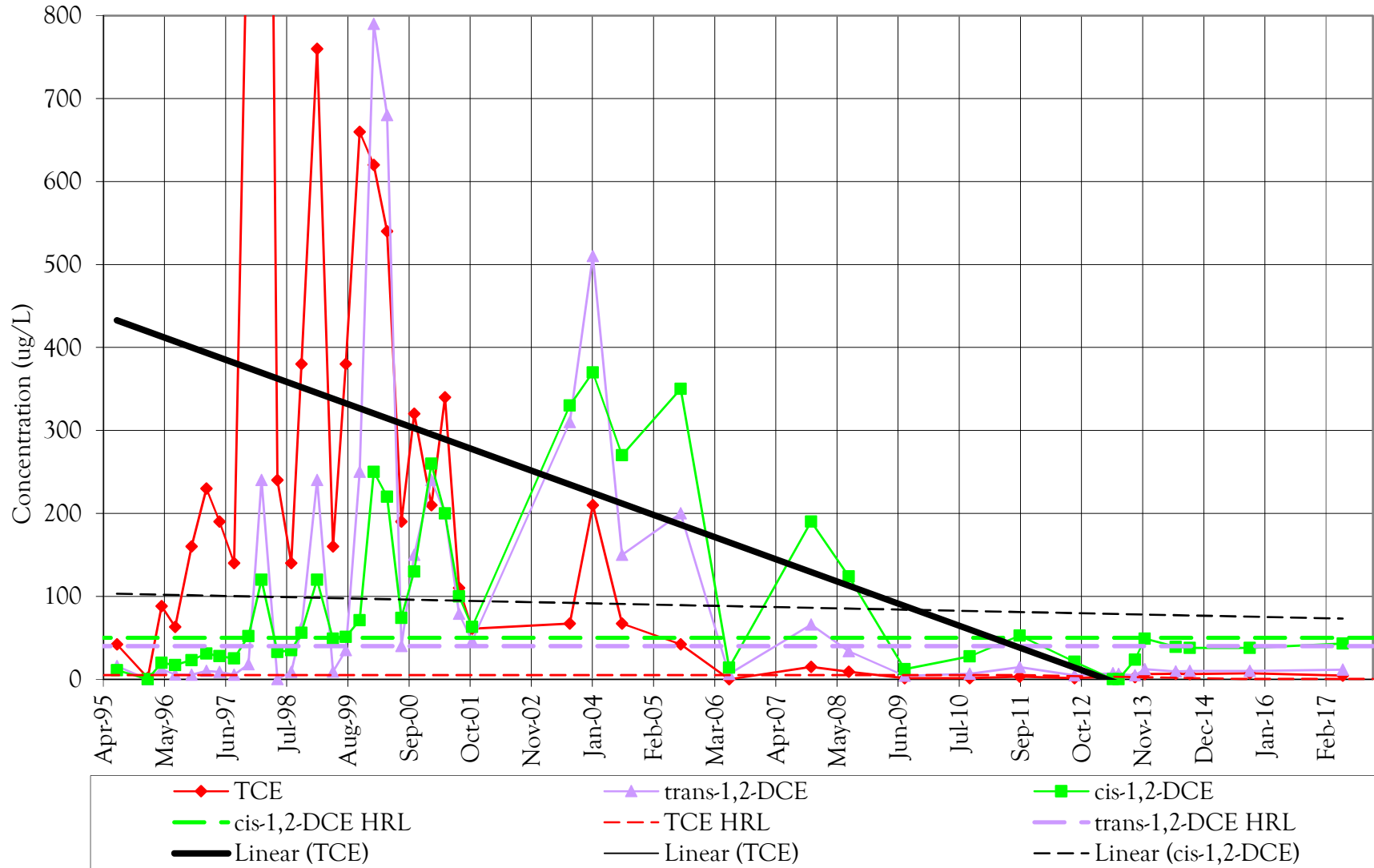
MW-102B Groundwater Quality Reviva



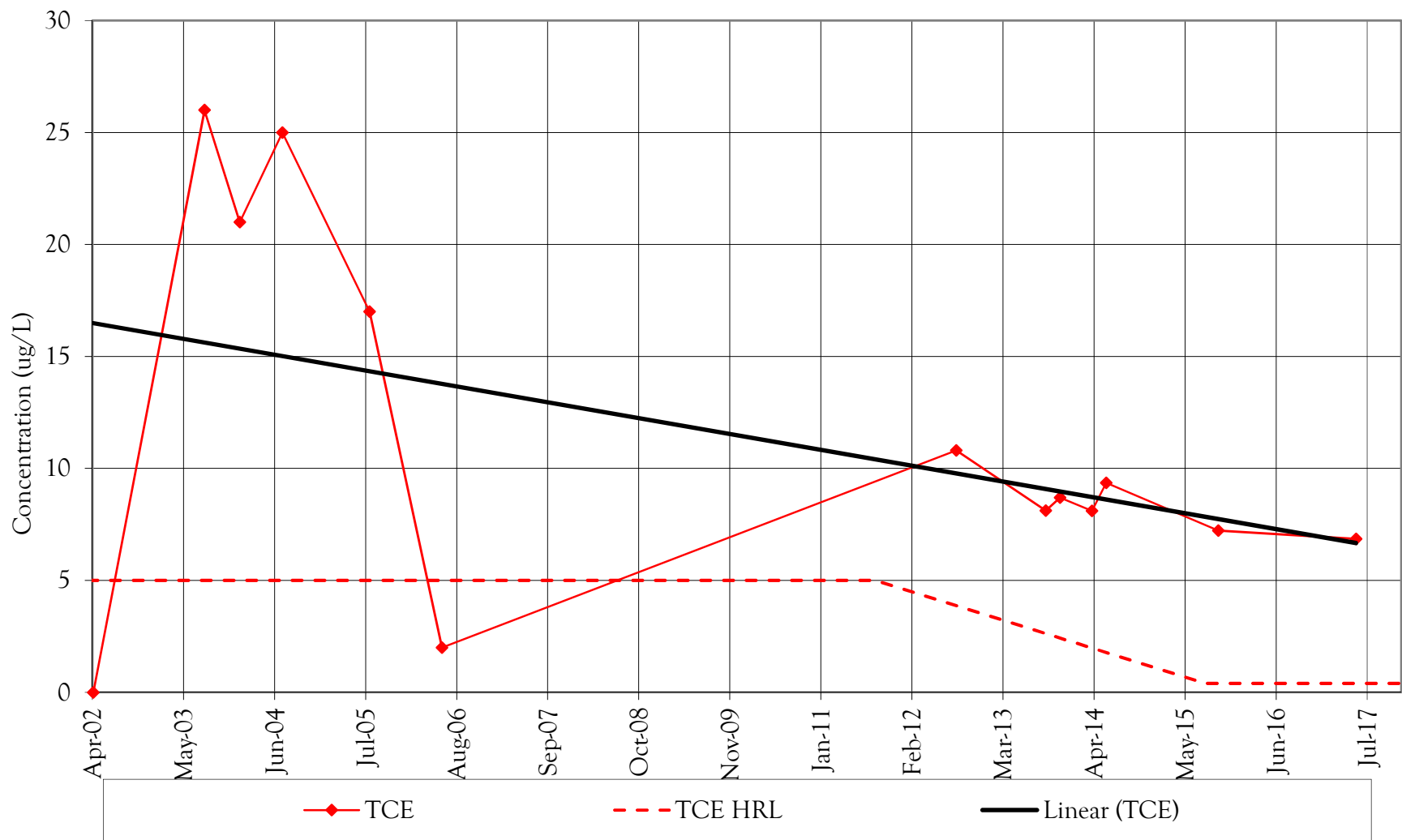
MW-103A Groundwater Quality Reviva



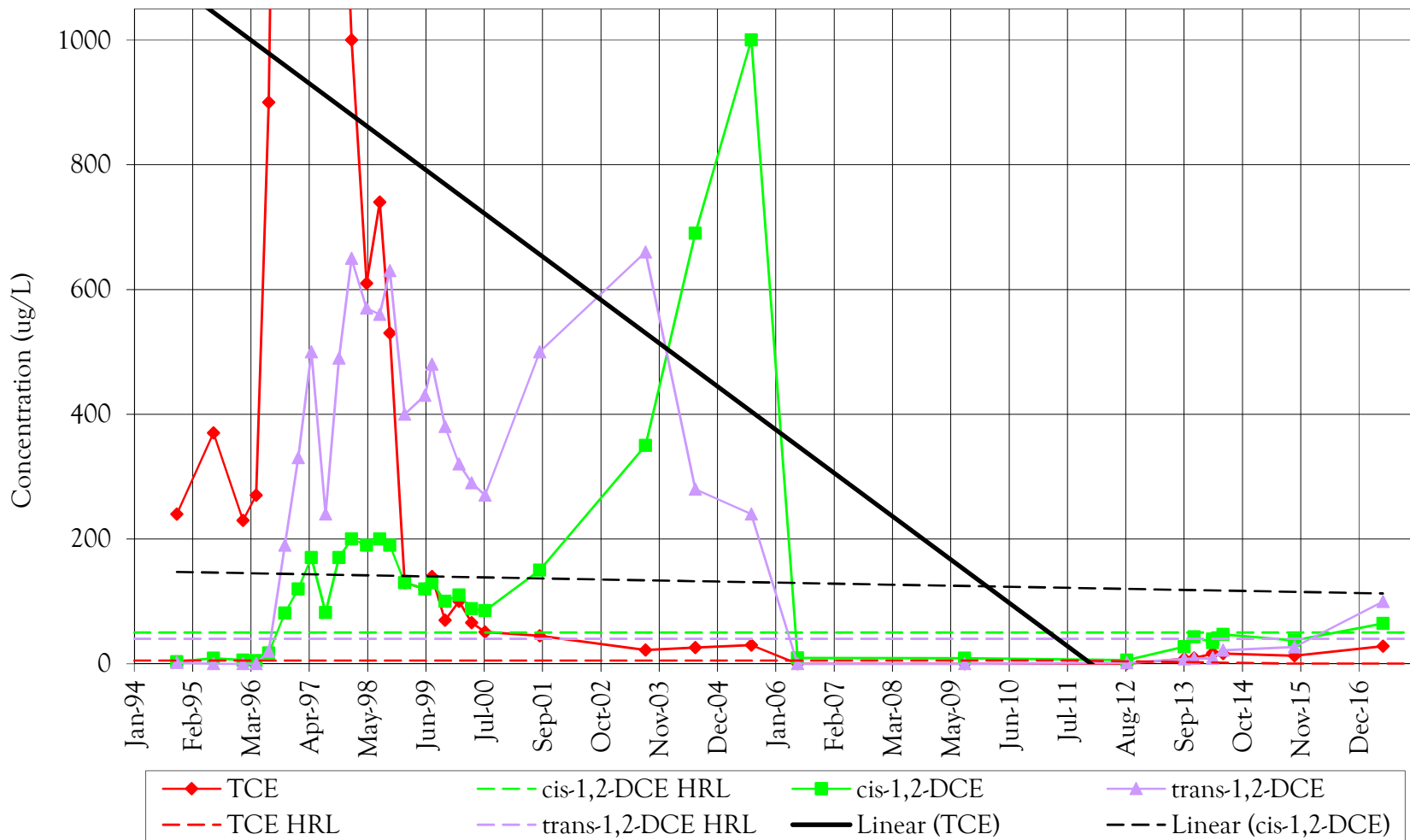
MW-103B Groundwater Quality Reviva



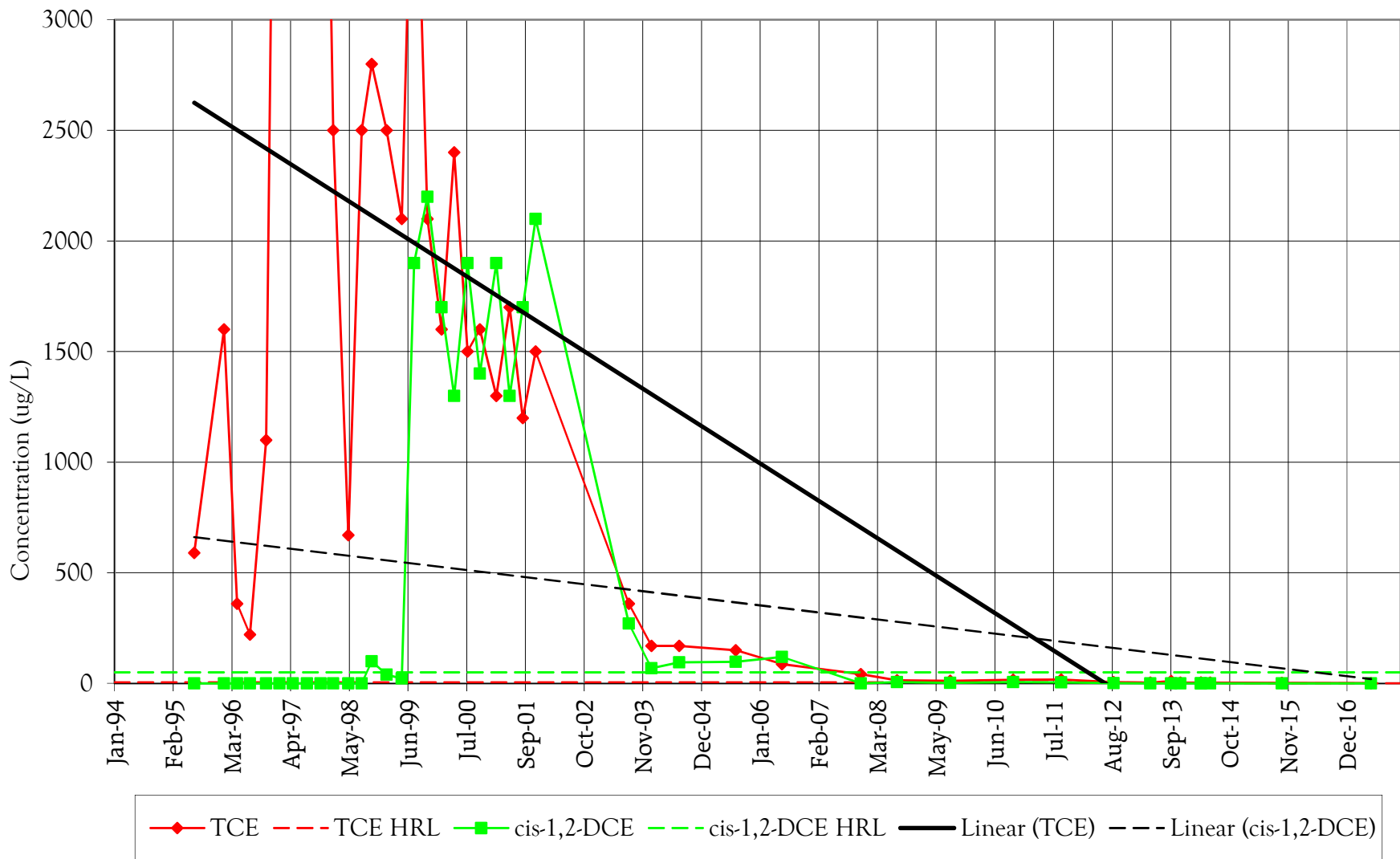
MW-104B Groundwater Quality Reviva



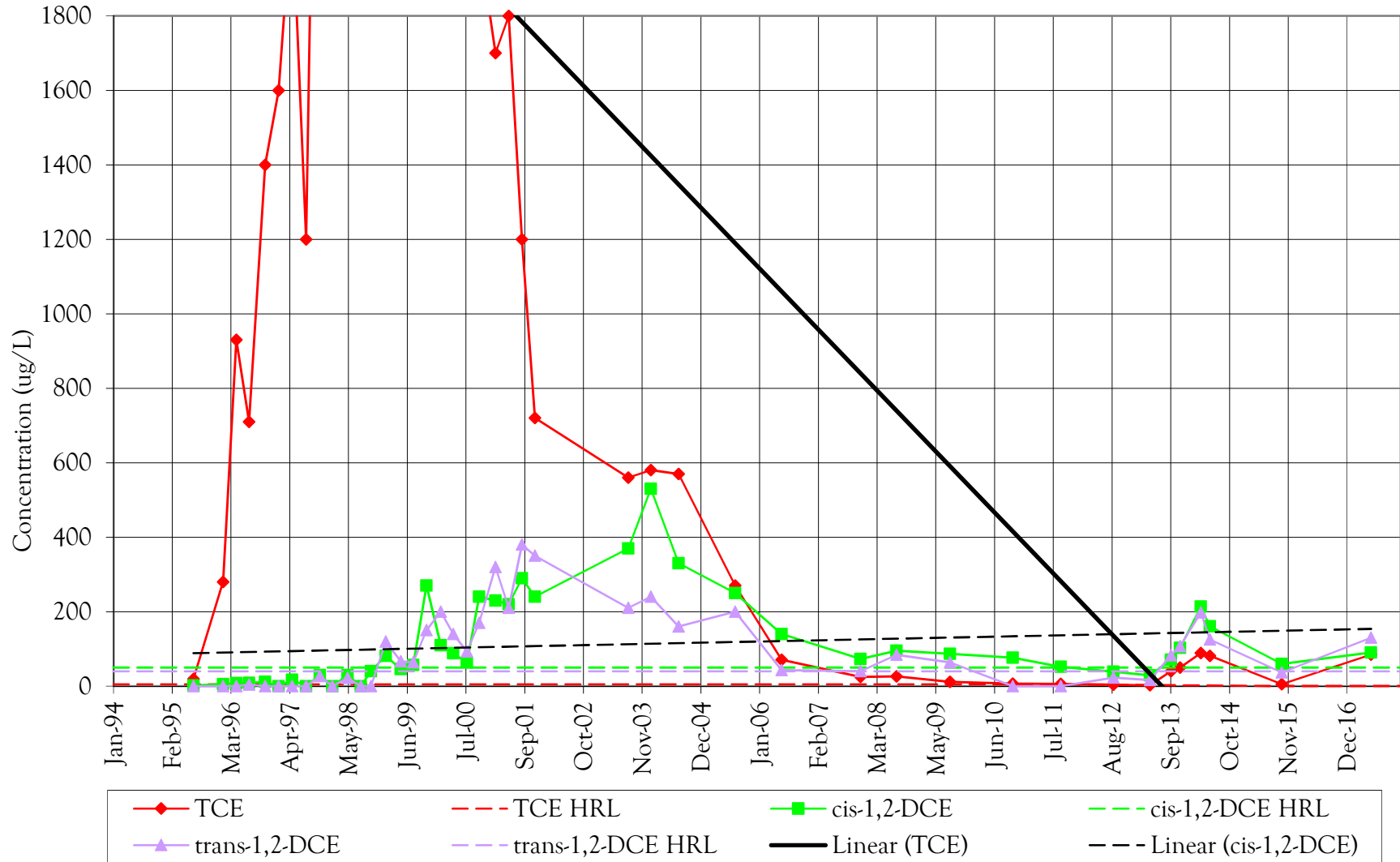
MW-105B Groundwater Quality Reviva



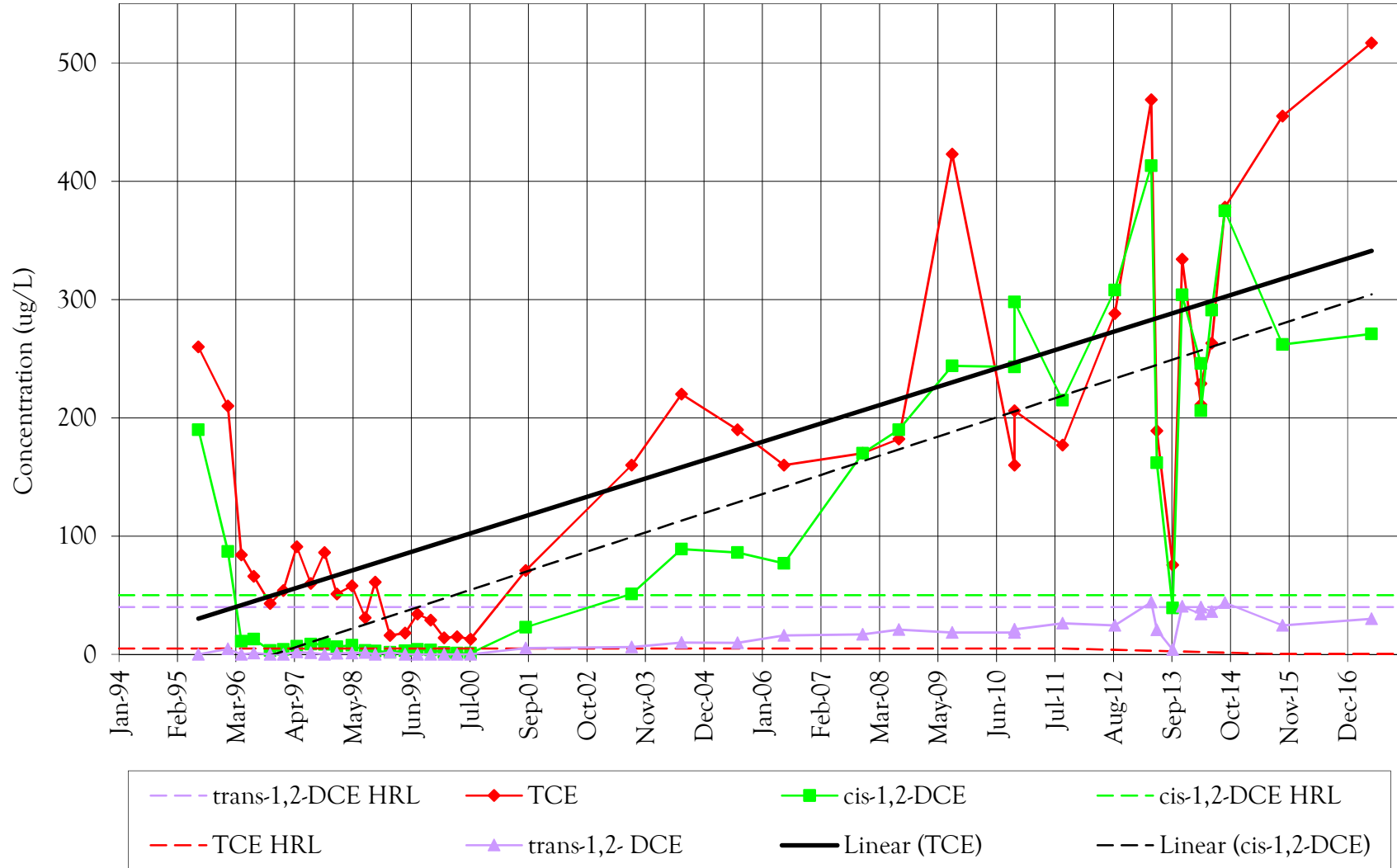
MW-107A Groundwater Quality Reviva



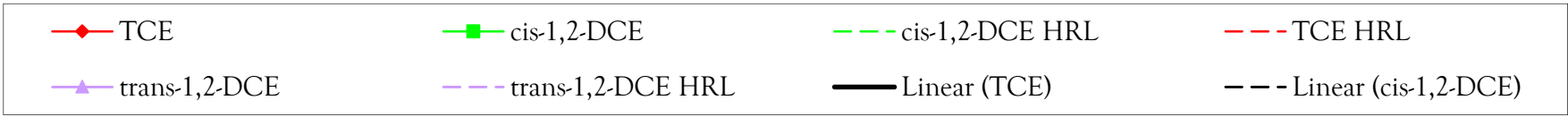
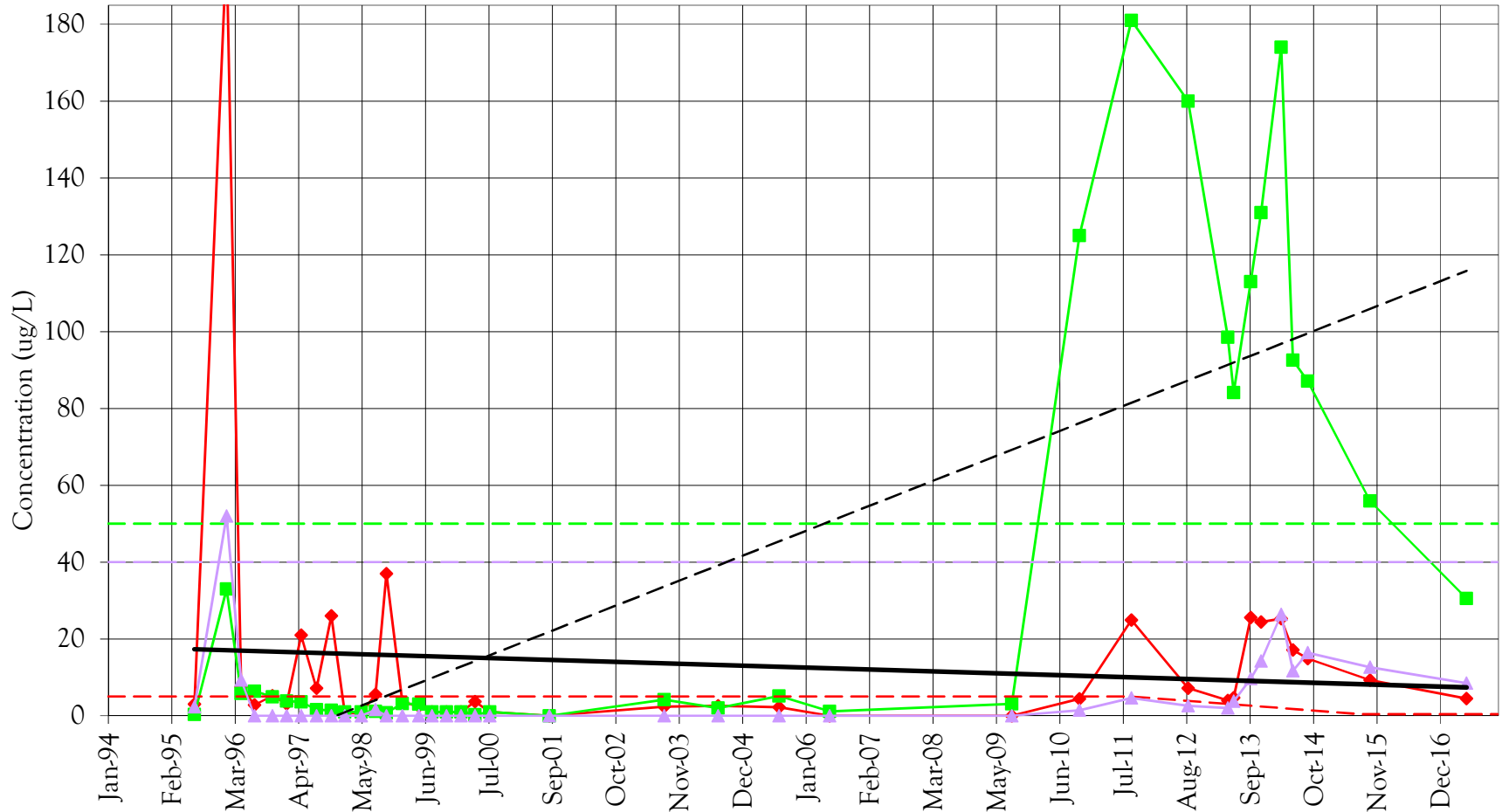
MW-107B Groundwater Quality Reviva



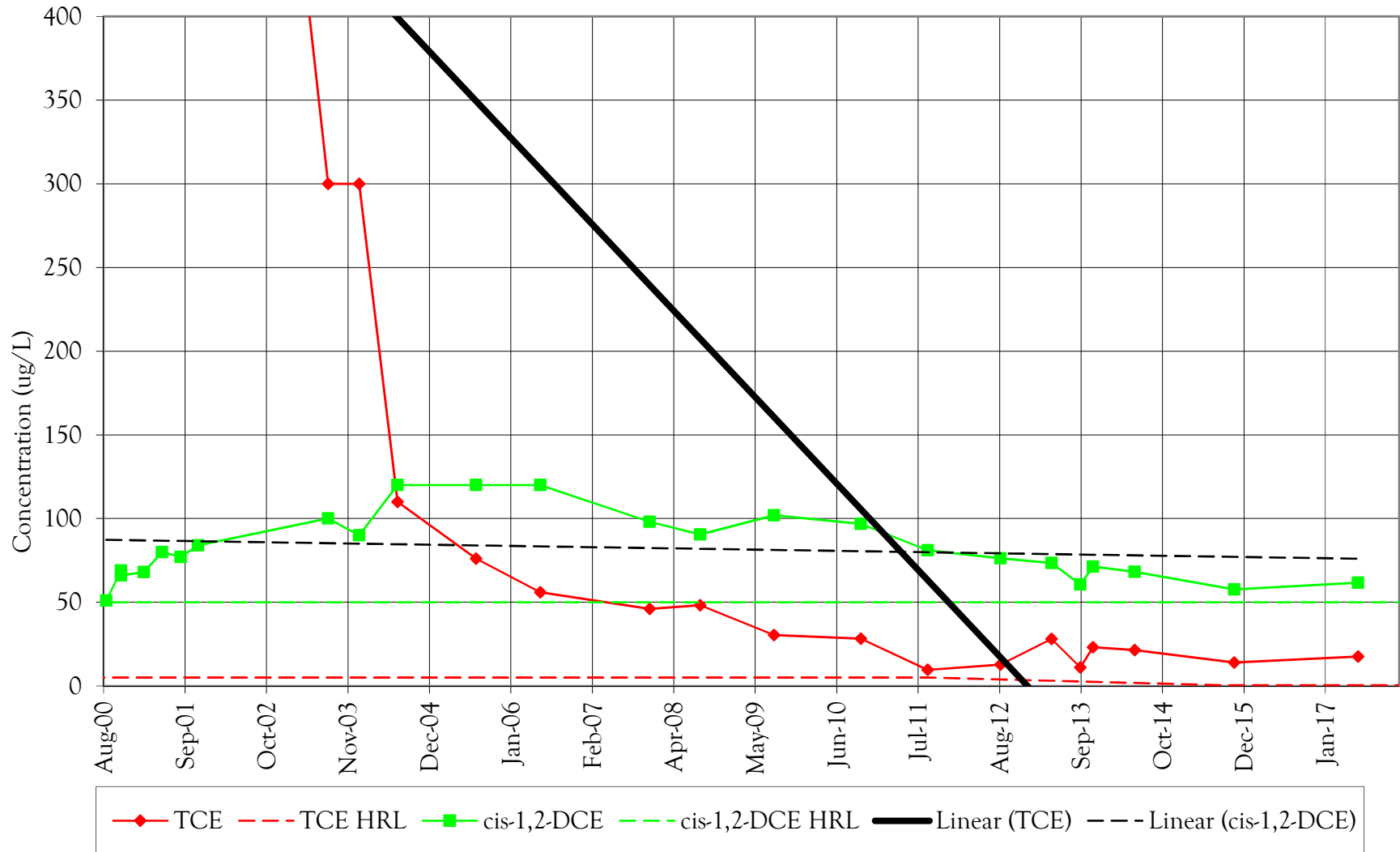
MW-108A Groundwater Quality Reviva



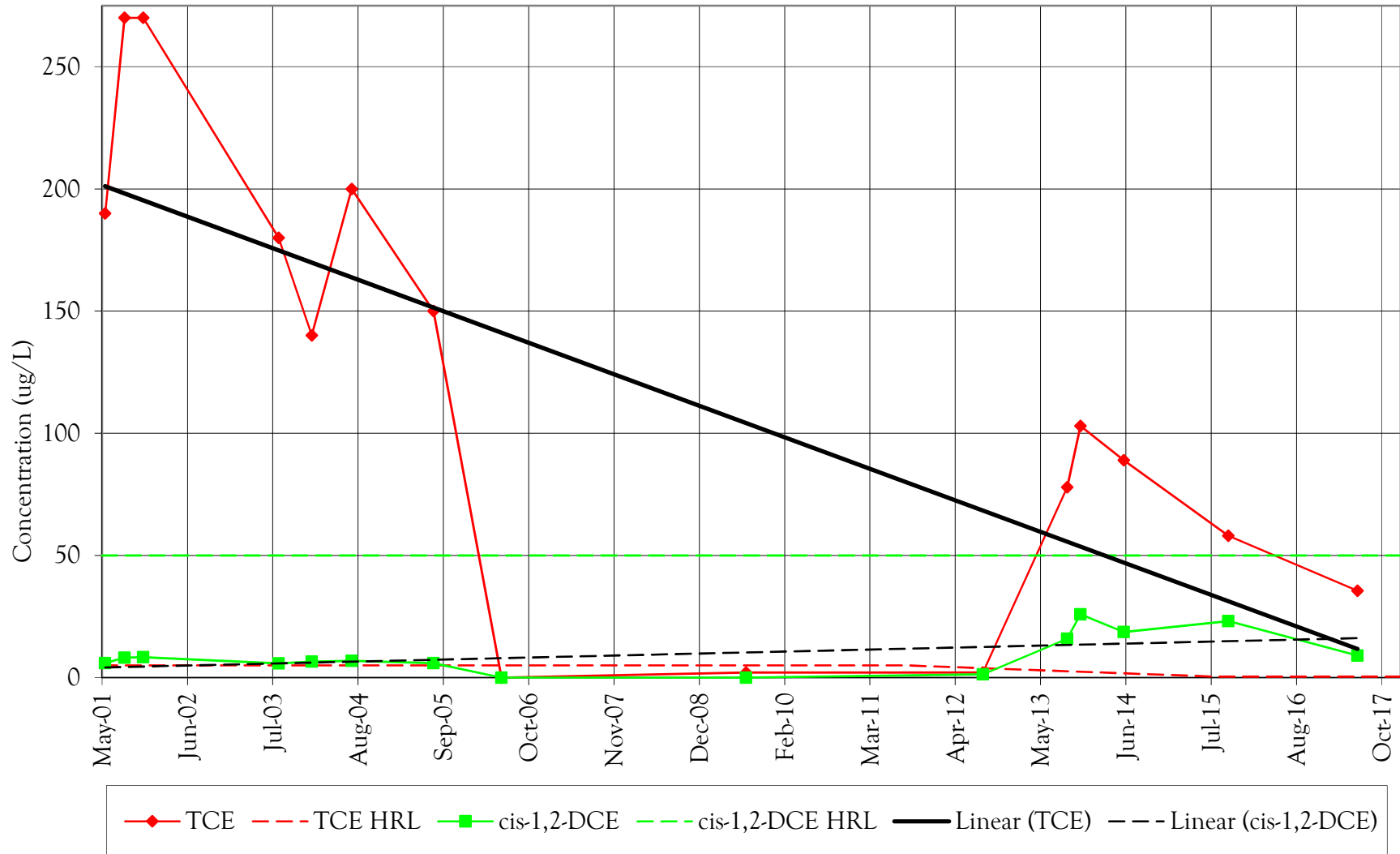
MW-108B Groundwater Quality Reviva



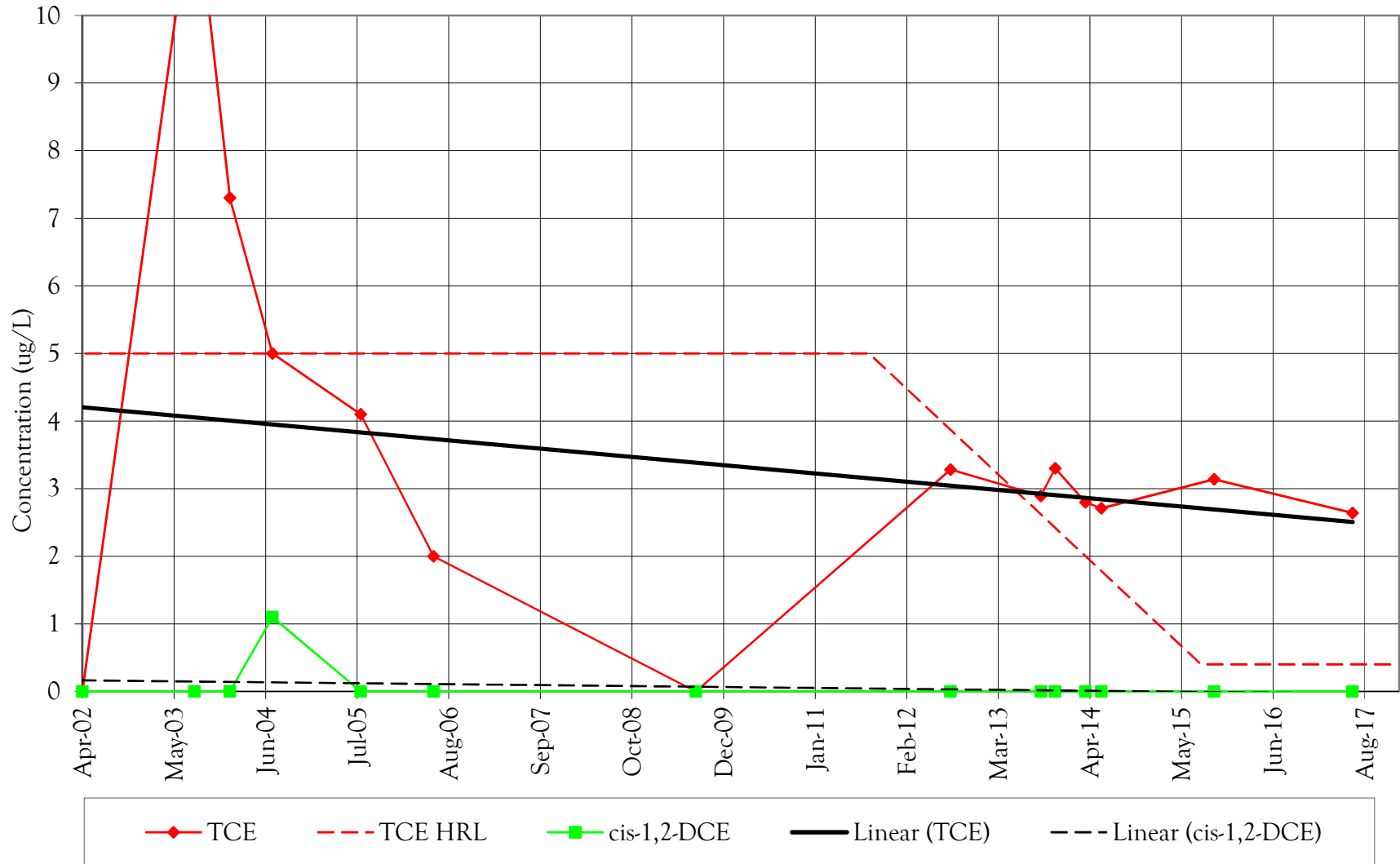
MW-109B Groundwater Quality Reviva



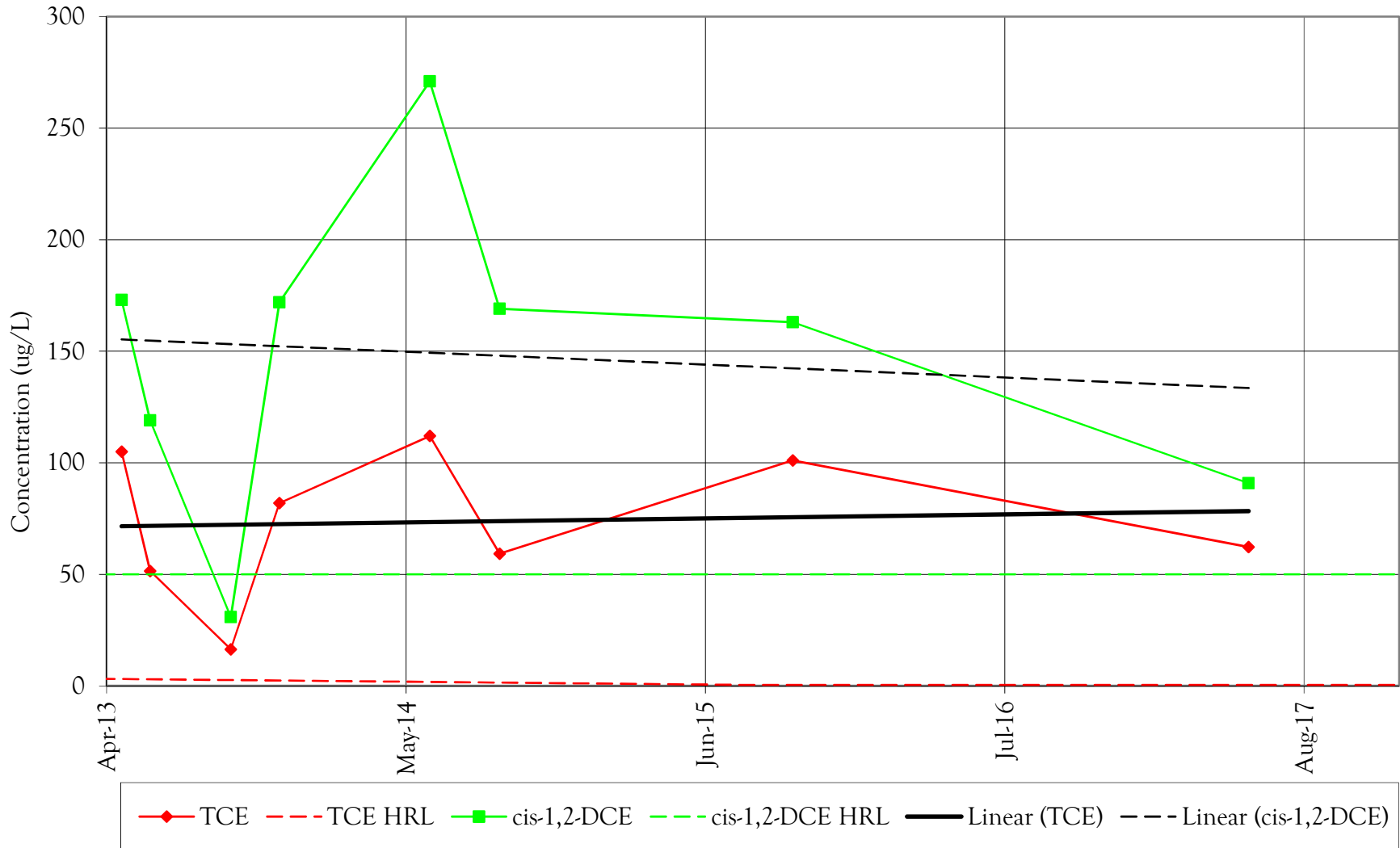
MW-110 Groundwater Quality Reviva



MW-111B Groundwater Quality Reviva



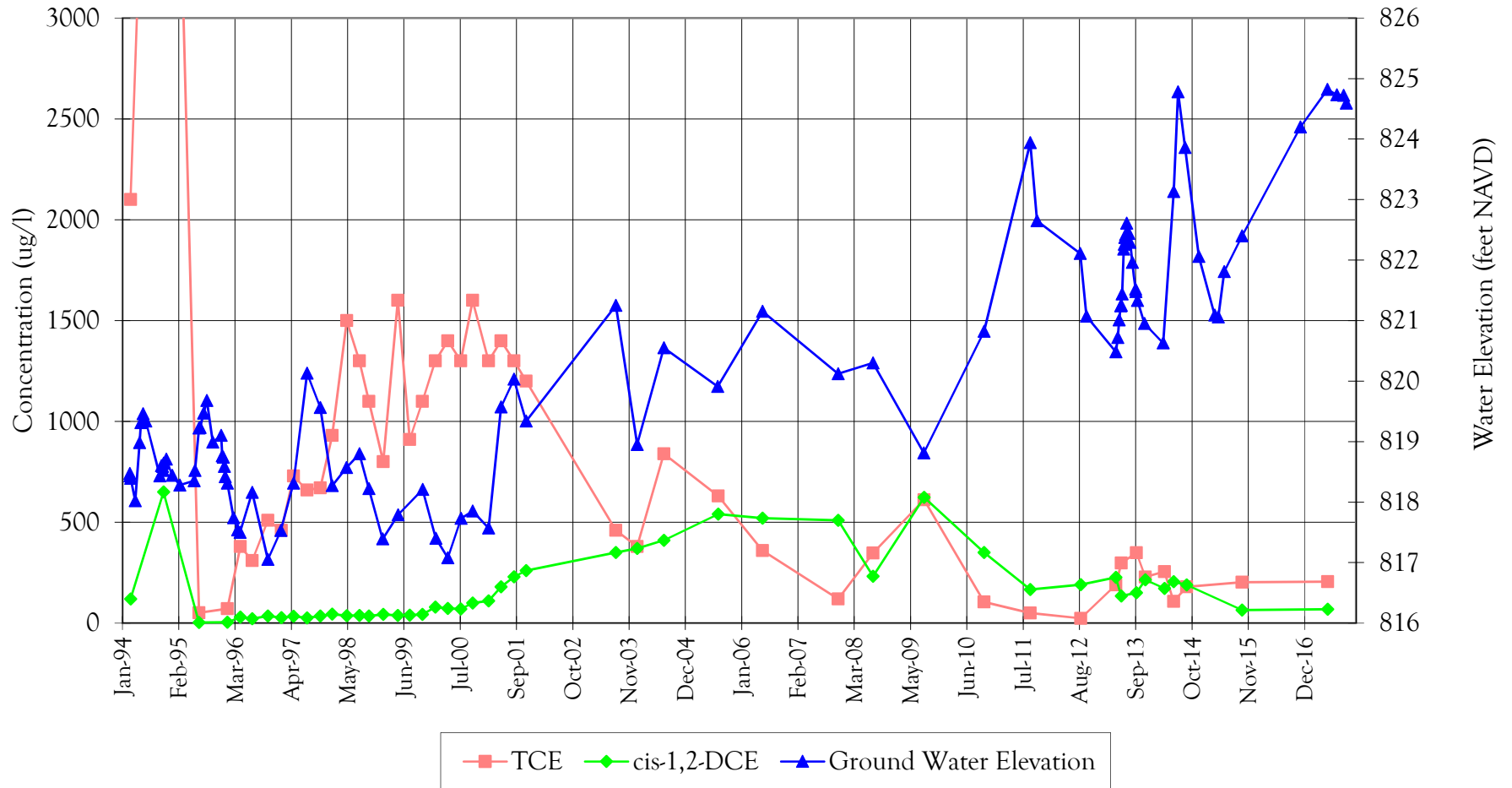
MW-112 Groundwater Quality Reviva



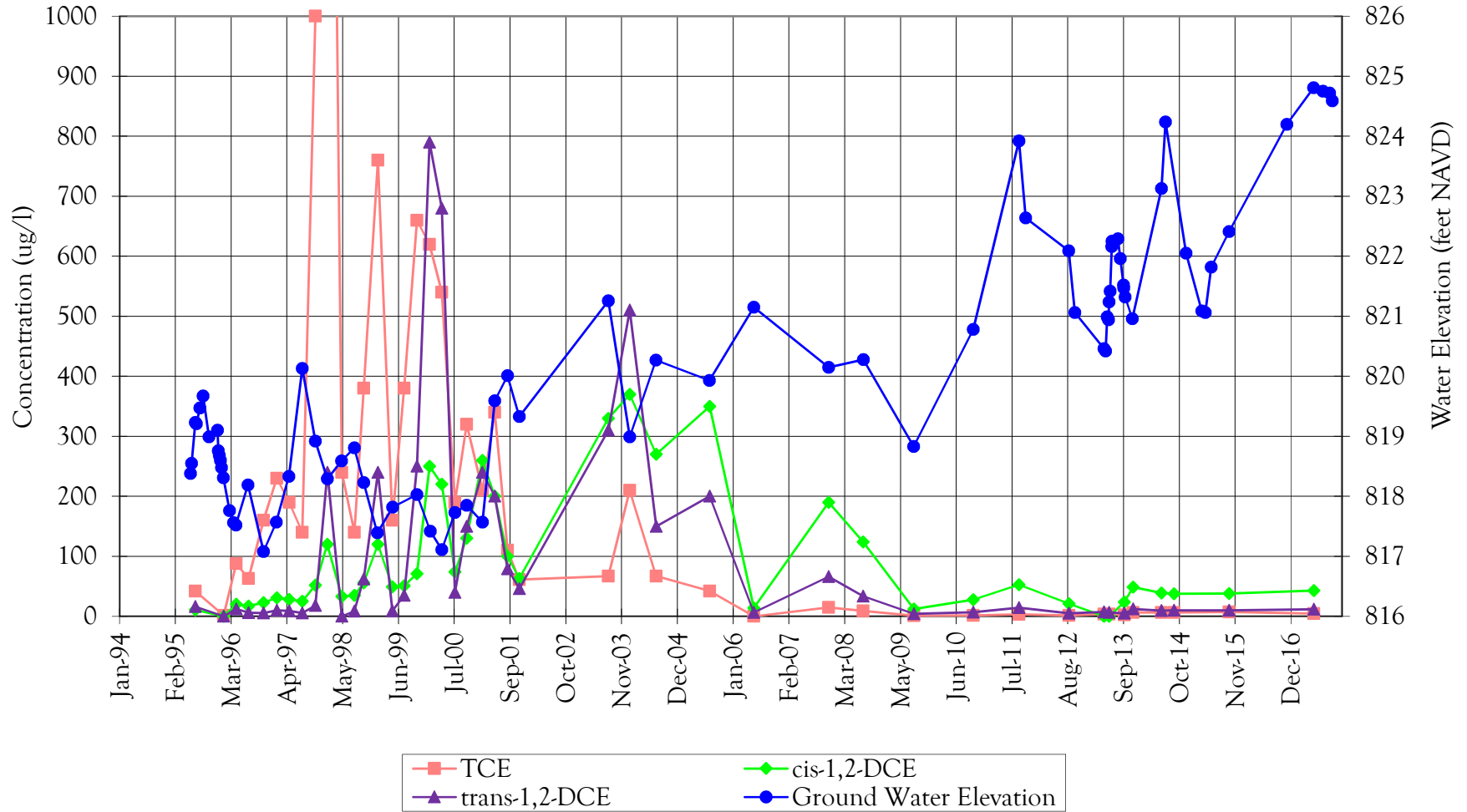
Appendix F

Groundwater Elevation verses TCE Concentration Charts

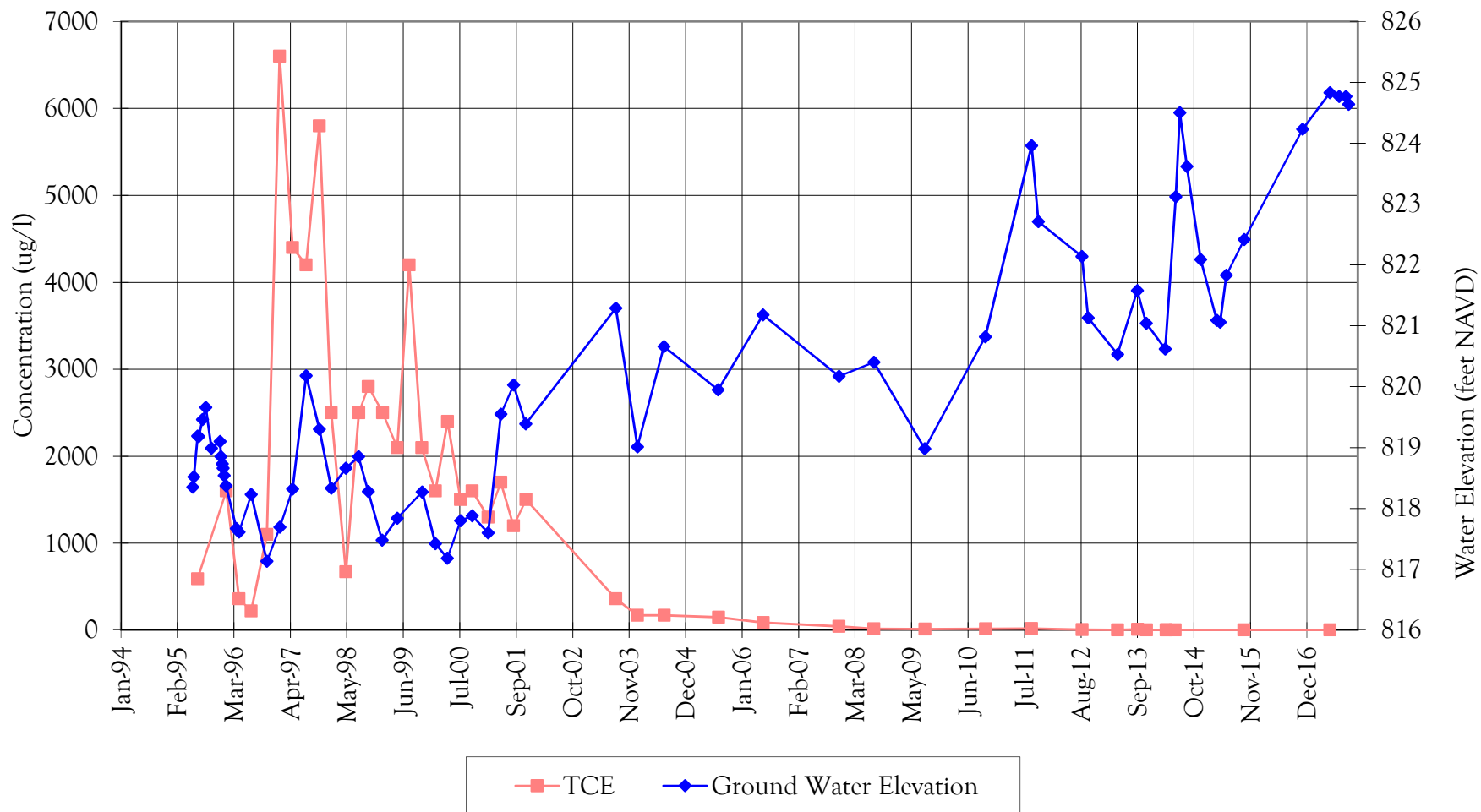
MW-103A
Comparison Chart
Reviva



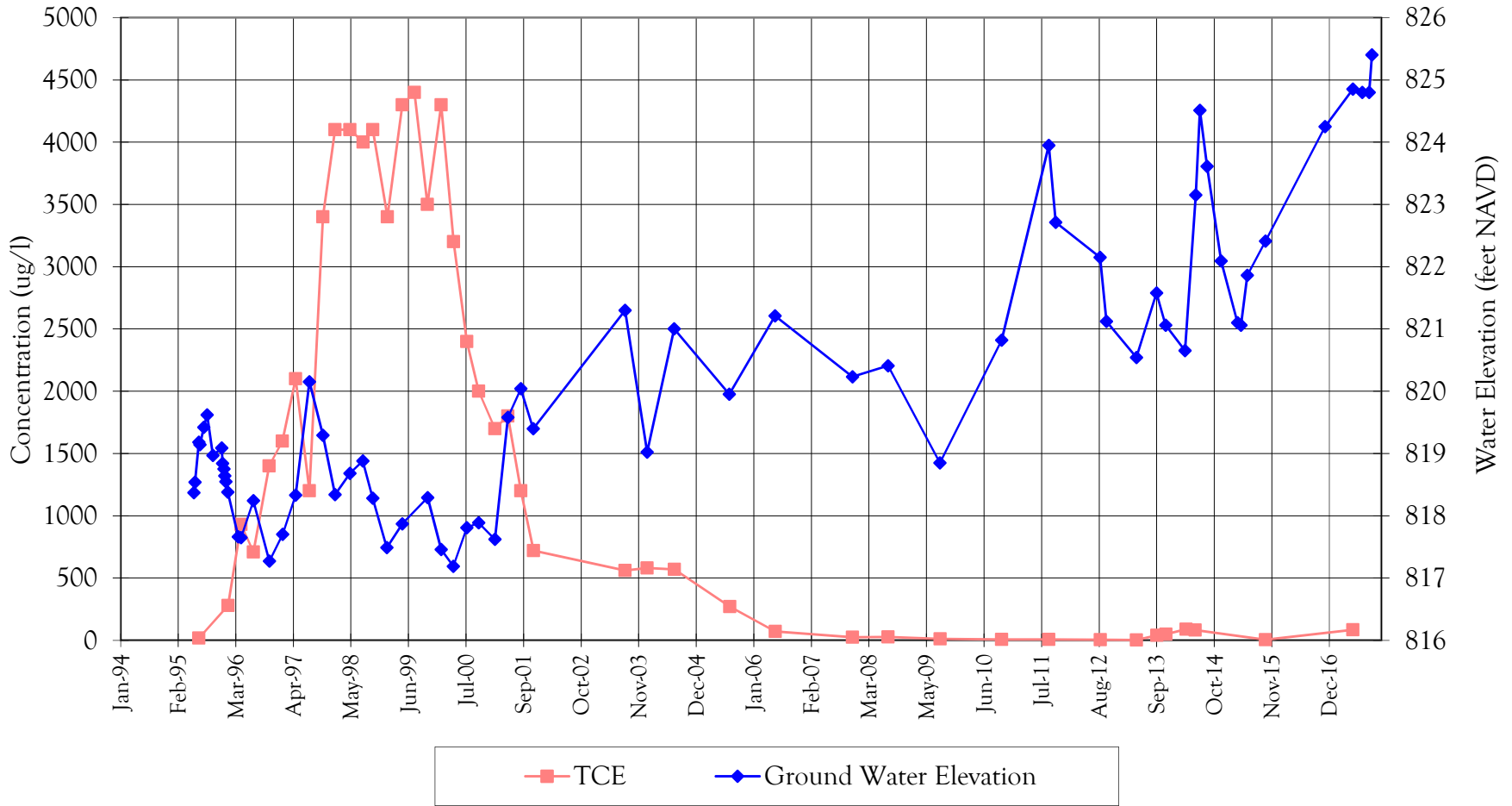
MW-103B Comparison Chart Reviva



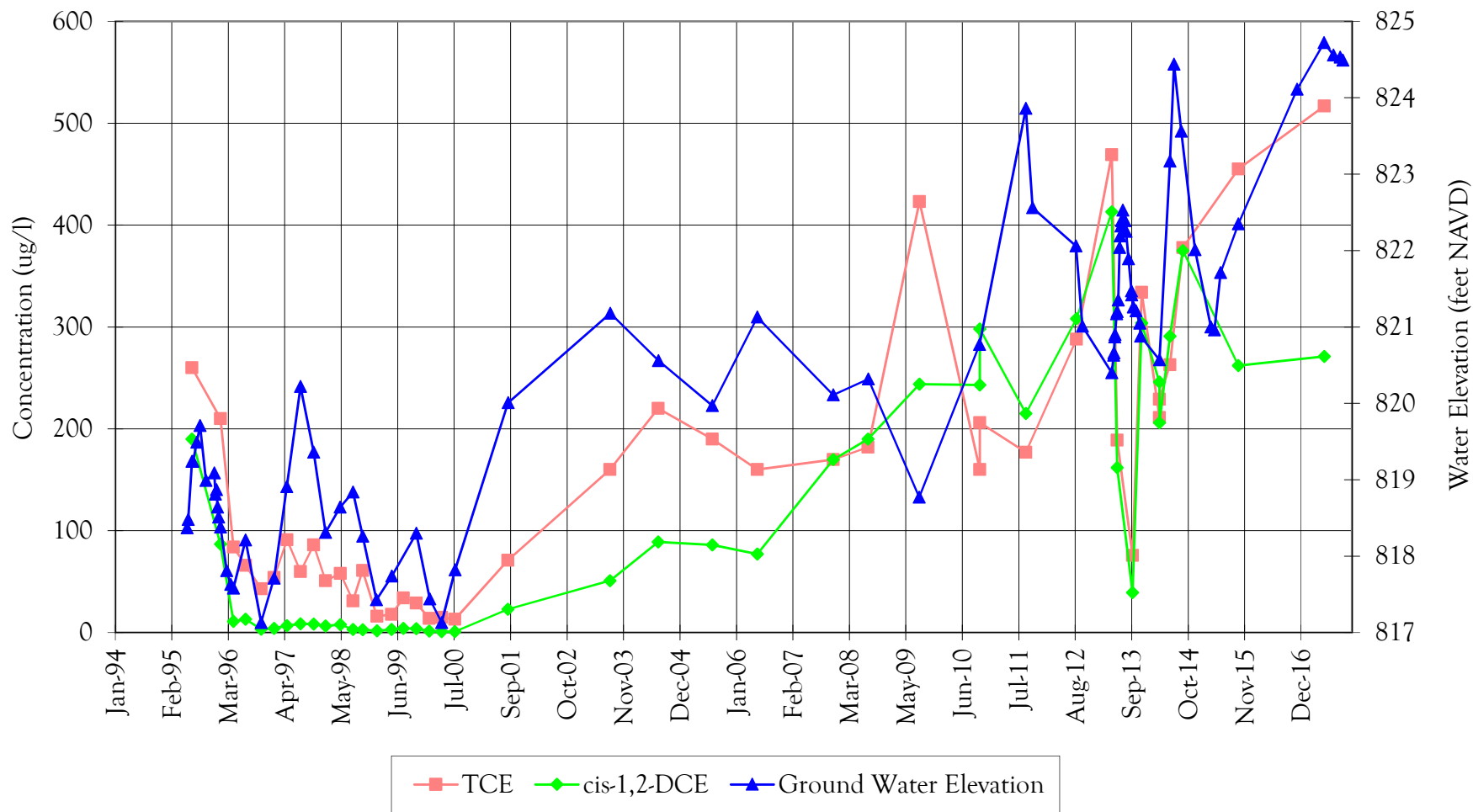
MW-107A Comparison Chart Reviva



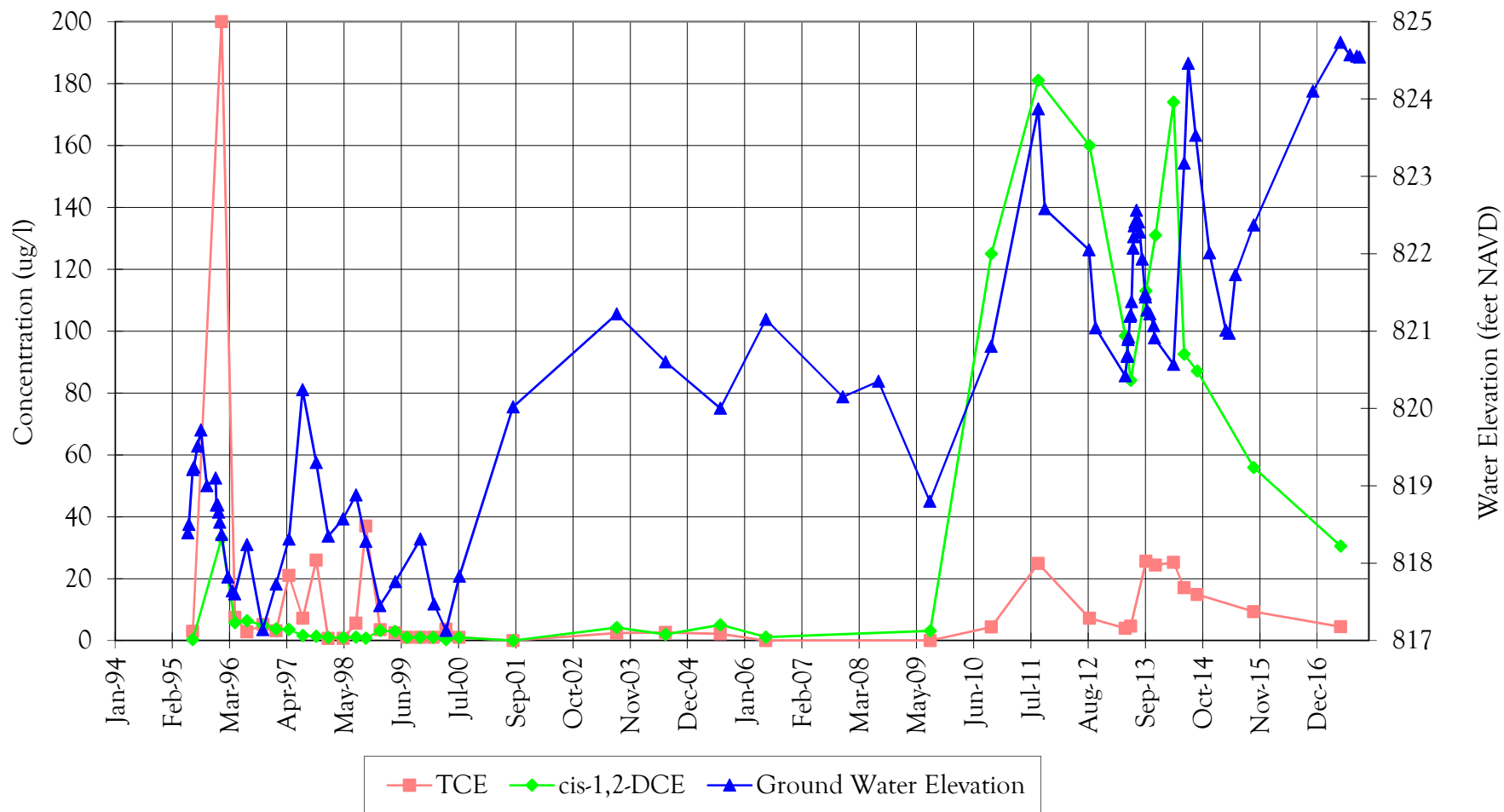
MW-107B Comparison Chart Reviva



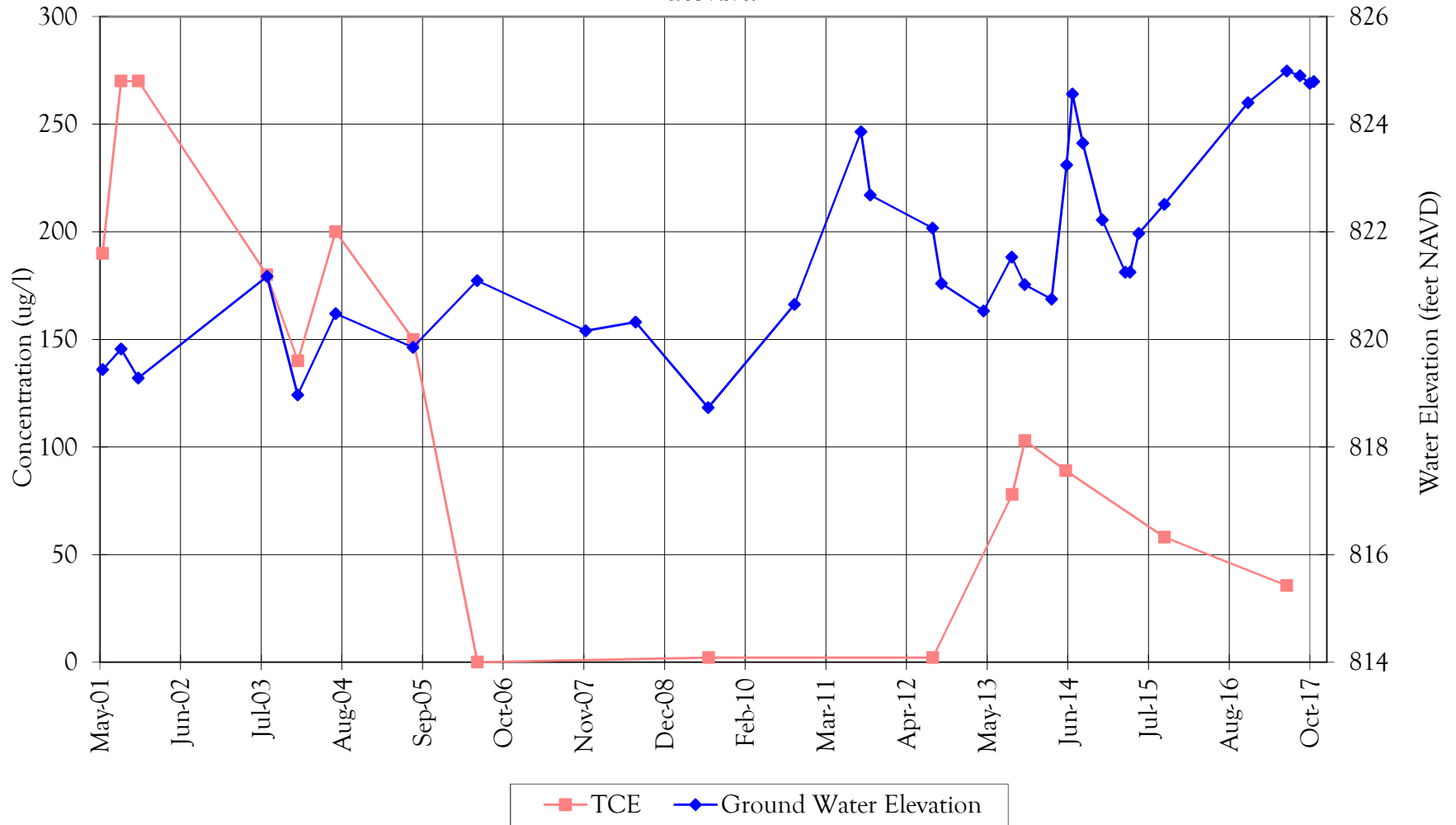
MW-108A Comparison Chart Reviva



MW-108B Comparison Chart Reviva



MW-110 Comparison Chart Reviva



MW-112 Comparison Chart Reviva

