Landfill Monitoring Report

Bridgeton Sanitary Landfill
Permit 0118912
St. Louis County

May 31 – June 9, 2016

Prepared For:

Missouri Department of Natural Resources
Division of Environmental Quality
Solid Waste Management Program
and
Missouri Geological Survey

Prepared By:

Missouri Department of Natural Resources
Division of Environmental Quality
Environmental Services Program

Table of Contents

Section Page

1.0 Introduction 1
2.0 Site Location and Description 1
3.0 Methods 1
3.1 Static Water Level Measurements 1
3.2 Analyses Requested 1
3.3 Sample Collection 2
3.4 Monitoring Well Samples 2
3.5 Leachate Sump Samples 3
3.6 Chain-of-Custody 3
3.7 Quality Assurance/Quality Control (QA/QC) 4
3.7.1 QA/QC Methods 4
3.7.2 QA/QC Samples 4
3.7.2.1 Trip Blank 4
3.7.2.2 Duplicate Samples 4
3.7.2.3 Other QA/QC Samples 5
4.0 Observations and Discussion 5
5.0 Data Reporting 7

APPENDIX A - QA/QC Water Monitoring Checklist for Solid Waste Disposal Facilities

APPENDIX B - Monitoring Well Static Water Levels

APPENDIX C - Field Measurements and Sample Notes

APPENDIX D – Photographs

APPENDIX E – Weather Data

1.0 Introduction

At the request of the Solid Waste Management Program (SWMP) and the Missouri Geological Survey (MGS), groundwater monitoring was conducted during May 31 – June 9, 2016, at Bridgeton Sanitary Landfill in Bridgeton, Missouri. Lynn Milberg of the Department of Natural Resources (DNR), Division of Environmental Quality (DEQ), Environmental Services Program (ESP), Water Quality Monitoring Section observed sampling techniques and field analyses of Republic's contractor, Feezor Engineering, Inc. (Feezor). John Wilkinson and Mike Spurgeon performed sampling and field analyses.

2.0 Site Location and Description

The landfill is located at 13570 St. Charles Rock Road, Bridgeton, Missouri 63044.

The landfill is an inactive, permitted facility (permit #0118912). The landfill transfer station was accepting waste at the time of the sampling event. Sampled monitoring wells and leachate sumps were located on the property of Republic Services and Materialogic.

3.0 Methods

3.1 Static Water Level Measurements

Static water levels and total depth or top of pump were measured and well conditions observed at sixty wells on May 31, 2016. Feezor used a Dipper-T water level meter manufactured by Heron Instruments. As the tape was reeled up from the well, a Liquinox soaked paper towel as held around the tape to clean it. The tape was then generally rinsed with DI by squirting the whole tape. See APPENDIX B for water level information.

3.2 Analyses Requested

Pace Analytical completed sample analysis for Feezor. State samples were submitted to Test America and Teklab (duplicates) laboratories for analysis.

MGS and SWMP staff selected analytical parameters for the state. Parameters included those listed in Appendix I of Missouri code of regulations 10 CSR 80-3.010 and radiological parameters. Appendix I includes: Ammonia (NH3 as N, mg/L), Chloride, Chemical Oxygen Demand (COD), Total Dissolved Solids (TDS), Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Fluoride, Hardness (calculated, mg/L), Iron, Lead, Magnesium, Manganese, Mercury, Nickel,

Nitrate/Nitrite, Total Phosphorus, Selenium, Silver, Sodium, Sulfate, Thallium, Total Organic Carbon, Vanadium, Zinc and Volatile Organic Compounds. Radiological isotopes included total and dissolved Radium 226 and Radium 228 (dissolved to be filtered in the lab); Uranium 234, 235, 238; Thorium 230, and Tritium.

See detailed notes in APPENDIX C for specific parameters collected at each well.

3.3 Sample Collection

Samples were split by alternating bottles until all bottles for each parameter were filled. Feezor staff filled their bottles and ESP or MGS staff filled bottles for DNR. Bottles were filled directly from the dedicated sample tubing at each well.

All state sample bottles were provided by the contract laboratories and were pre-preserved for the various parameters. Each bottle received a sample label containing, at a minimum, a unique identifying number, sample date/time, and collector's name or initials. After all bottles were filled, the sample was placed in a cooler with ice. ESP personnel maintained possession of the samples until relinquishing them to contract laboratory staff.

Feezor sample bottles were provided by their contract laboratory and were pre-preserved for the various parameters. Each bottle received a sample label containing, at a minimum, a unique identifying number, sample date/time, and collector's name or initials. After all bottles were filled, the sample was placed in a cooler. Feezor personnel maintained possession of their samples until samples were shipped overnight to the laboratory.

Detailed notes for each well can be found in APPENDIX C. The sampling techniques and field analyses of the contractor were critiqued using the "QA/QC Water Monitoring Checklist for Solid Waste Disposal Facilities" (APPENDIX A).

3.4 Monitoring Well Samples

Well purging and sampling techniques were observed at thirty groundwater wells from June 1-9, 2016. Eighteen wells were purged and sampled by low flow purge techniques with dedicated bladder pumps and a QED Micropurge control box. Twelve wells were purged and sampled using an inertial lift pump system automated by a Waterra Hydrolift II. Initial water levels were recorded, pump tubing was purged and purging continued until field parameters stabilized. Field parameters (pH, conductivity, temperature, turbidity, dissolved oxygen and oxidation reduction potential) and water level (only for bladder pumps) were recorded every four minutes. Wells were

considered stable after three consecutive measurements met the following criteria: pH ±0.1, conductivity ±10% and temperature ±0.5 °C.

A sample was not collected from well LR-105. Several attempts were made to get water by using the Waterra pump and manually pumping the well. The tubing was also removed and the foot valve replaced, but water could not be obtained. It appeared there was some type of obstruction within the casing around the 31 foot depth mark.

Detailed notes for each well can be found in APPENDIX C.

3.5 Leachate Sump Samples

Attempts were made to sample six leachate sumps. If leachate was present, samples were collected using flexible tubing attached to a sampling port. Only two sumps produced leachate. Sump LCS-5A produced enough leachate to fill all desired containers. The sample was effervescent and light tan in color. LCS-6B was sampled on June 7, 2016, for VOC and tritium. The sample was dark brown in color. LCS-6B was checked later in the day to see if more leachate could be collected, but it was dry. No further attempts were made to sample this sump. As was noted in the March 2016 report, LCS-2D was not operational due to being disconnected from the power supply. LCS-1D, LCS-3D and LCS-4B indicated zero gallons per minute on the flow meter. These same wells did not produced leachate during the March 2016 sampling event.

Detailed notes for each sump can be found in APPENDIX C.

3.6 Chain-of-Custody

Although COC information for Feezor was reviewed, completion of their COC's was not observed. Information included well ID, sample date and time, company/site name, project name, sample ID (which was the well ID), sample temperature, the number of containers, preservatives for each parameter, analyses requested, relinquished by/date/time and any special notes.

For state samples, personnel entered information onto laboratory provided COC forms. Information included location, corresponding label numbers, date and time of collection, and parameters to be analyzed. ESP field personnel maintained custody of the samples until relinquishing them to contract laboratory personnel. Copies of COC forms were retained by MGS staff.

3.7 Quality Assurance/Quality Control (QA/QC)

3.7.1 QA/QC Methods

ESP personnel did not observe calibration or verification checks of field meters. Mr. Wilkinson stated meters were calibrated each morning. At the end of each day, meters were checked against a known standard to see if they read within acceptable limits. On June 1 and June 9, 2016, the state provided known standards and a certified thermometer to verify Feezor meter readings for pH, conductivity, temperature and turbidity. An attempt was made to compare Feezor's dissolved oxygen readings against the state's YSI ProODO meter, however due to use of a flow through cell readings could not be adequately compared.

Results of the certified standard verification can be found in section IV of the checklist in APPENDIX A.

3.7.2 QA/QC Samples

3.7.2.1 Trip Blank

A trip blank is a sample consisting of analyte-free water prepared by the laboratory. It accompanies sample containers and samples in the field, and is returned to the laboratory for analysis.

Both Feezor and the state carried and submitted trip blanks for analysis. The state submitted one trip blank for each day. Feezor submitted one trip blank for each shipment of samples.

3.7.2.2 Duplicate Samples

Duplicate sample bottles were inserted in the bottle filling rotation for each parameter (e.g. Feezor, Feezor duplicate, state, state duplicate).

MGS staff selected which wells would be duplicated for state sample collection. It should be noted that state duplicate samples were not analyzed for radioactive isotopes. The state duplicated samples at PZ-202-SS and PZ-206-SS.

Feezor collected a duplicate sample approximately every 20 samples. Feezor duplicated samples at MW-1204 and PZ-104-SS. An attempt was made to duplicate leachate sump LCS-6B, but the sump ran dry before all bottles could be filled so the duplicate containers were thrown out.

3.7.2.3 Other QA/QC Samples

Feezor collected one field blank at well PZ-104-SS on June 3, 2016. On June 9, 2016, at well PZ-200-SS, Feezor collected and field filtered an additional cubitainer for radiological parameters.

4.0 Observations and Discussion

Weather conditions were warm and humid throughout the sampling event. Minimal rain fell on June 1, 2016, and June 4, 2016. See weather data in APPENDIX E for more information. Weather data was gathered from the Lambert International Airport weather station.

As noted in section 3.5 above, successful sampling from the six leachate sumps has been sporadic over the last three quarters. The difficulty in sampling these sumps does not seem consistent with the volumes of leachate produced by the site. Further investigation may be warranted to determine the cause of the lack of leachate captured at the sumps.

Wells MW-1204 and PZ-116-SS had been cut down since the March 2016 sampling event. Both wells had previously been atop a hillside along the fence line of the landfill. The hillside had been cut away and the well cut down and new protective casing installed. This caused difficulty with the sampling of well MW-1204 as PVC shavings clogged the pump tubing. The whole length of tubing had to be removed to clear the clogs before sampling could resume. The area around both wells was raw dirt and it appears there could be problems in the future with the hillside eroding around the newly cut wells.

Procedures were compared to recommendations provided in U.S. Environmental Protection Agency (USEPA) Publication 540/S-95/504 *Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures*, ASTM International (ASTM) D6771 *Standard Practice for Low-Flow Purging and Sampling for Wells and Devices Used for Ground-Water Quality Investigations* and DNR, SWMP fact sheet *Collection, Handling and Reporting Procedures for Groundwater Samples (PUB181, 05/2014)*. A few repeated observations or deviations from the above mentioned guidance will be discussed here. The landfill's site-specific Quality Assurance Project Plan and/or Sampling Plan were not considered in documenting the discussed deviations and it should be noted some deviations from the above referenced guidance may be allowed in the site specific plans.

Several wells had well number identification markings that were faded and not easily readable. Most of these wells did, however, have an identification number written on the internal PVC wellhead cap to verify the well number. While taking static water level

measurements, most wells that were not clearly marked were re-marked with a paint pen. For details see APPENDIX A, Section I.B.2 and photos in APPENDIX D.

Most wells that could be impacted by traffic or mowing equipment were protected by steel and concrete bollards. However, wells I-73, MW-104, MW-1204, PZ-110-SS, PZ-116-SS, PZ-205-SS, and PZ-205-AS did not have bollards and are located in areas where it is possible they could be struck. Wells LR-100, PZ-101-SS and PZ-203-SS had bollards that have clearly been struck at some point and were leaning or completely knocked over. See details in APPENDIX A, section I.B.5 and photos in APPENDIX D.

The concrete pad for PZ-205-SS had previously been noted to be severely cracked. Since the sampling event in March 2016, the pad has been replaced. See photo in APPENDIX D.

Depth to the bottom of the well is not measured on wells that have dedicated bladder pumps. Only those wells that were sampled with an inertial lift pump have total depth measured. Both levels were measured on May 31, 2016. Standing water levels were again measured prior to purging each well. If the evacuation was done by bladder pump, water levels were recorded during monitoring. However, final water levels were not recorded after sampling was complete. If evacuation was done by an inertial lift pump, intermediate water levels were not recorded, but final water levels were. Both EPA/540/S-95/504 and ASTM D6771 recommend periodic and/or final water levels to be monitored to prevent excessive drawdown of the well.

Both EPA/540/S-95/504 and ASTM D6771 do not recommend inertial lift pumps for low flow purging because of the potential for mixing of casing water with formation water due to the pumping action. In shallower wells it could also lead to the disturbance of sediment within the casing. A Waterra Hydrolift II was utilized on twelve wells.

The EPA document recommends drawdown goals be <0.1 meter, while the ASTM guidance recommends never exceeding the distance between the top of the well screen and the pump intake. Ideally, pump rates would be equivalent to recharge rates. The <0.1 meter recommendation was exceeded. The more practical ASTM guidance could not be assessed because state personnel did not have well screen depths available. Drawdown for wells with bladder pumps averaged 9.2 ft. and ranged from approximately 0 ft. to 16 ft. The drawdown for wells purged by the Waterra pump averaged 21.5 ft. and ranged from approximately 0.4 ft. to 60 ft.

Feezor used pH, conductivity and temperature to determine stability of each well. Although the SWMP fact sheet recommends temperature as a stability parameter, both EPA and ASTM documents recommend dissolved oxygen as a third parameter. Turbidity or oxidation reduction potential could also be utilized. Both EPA and ASTM documents

recommend a stabilization criterion of +/- 3% for conductivity; however, the SWMP guidance allows for a +/- 10% criterion.

Feezor staff stated all field meters are now calibrated daily. At the end of each day meters are again checked against a calibration standard. This process now meets the ASTM document recommendations of daily calibrations for instruments used to measure indicator parameters.

Measurements of certified standards were within range of the acceptable limits except the two lower standards for turbidity. Checks at the beginning of the week met criteria, but those at the end of the week were higher than the upper limit of the acceptable range. An attempt was made to compare Feezor's dissolved oxygen meter to DNR's calibrated YSI ProODO dissolved oxygen meter. However, due to the use of flow through cell an in-situ comparison could not effectively be made.

Un-met recommendations specific to the SWMP fact sheet, included triple rinsing measuring devices with DI water after each use; placing plastic sheeting near the well to prevent contamination; and including one trip blank per day.

Detailed notes regarding additional sampling techniques and field analyses of the contractor are documented in the "QA/QC Water Monitoring Checklist for Solid Waste Disposal Facilities" (APPENDIX A).

5.0 Data Reporting

All analytical reports were sent directly to the MGS and will not be addressed in this report.

Submitted by: _____
Lynn Milberg
Chief, Water Quality Monitoring Section
Environmental Services Program

Date: 07/28/2016

Approved by: _____
Brian Allen
Director
Environmental Services Program

BA:lmc

c: Chris Nagel, Director, Solid Waste Management Program
Brenna McDonald, Environmental Geology Section, Missouri Geological Survey
Peter Price, Environmental Geology Section, Missouri Geological Survey

APPENDIX A

QA/QC Water Monitoring Checklist for
Solid Waste Disposal Facilities

Landfill Monitoring Report
Bridgeton Sanitary Landfill
St. Louis County
May 31 – June 9, 2016

QA/QC WATER MONITORING CHECKLIST FOR SOLID WASTE DISPOSAL FACILITIES

Facility Name: Bridgeton Sanitary Landfill

Permit #: 0118912 No. of Wells: 30

Date of Sampling: February 29 - March 9, 2016

Contractor Name: Feezor Engineering, Inc.

Contractor Address: 3405 Hollenberg Dr.
Bridgeton, MO 63044

Contractor Phone No: 636-578-8635

Participants	Name	Dates Participating
Dept. of Natural Resources:	Lynn Milberg (Environmental Services Program)	All
	Brenna McDonald (MO Geological Survey)	All
Feezor Engineering, Inc.:	John Wilkinson	All
	Mike Spurgeon	6/1, 6/7-6/9

	Yes	No
I. General Review of Monitoring Well Sample Collection Procedures		
A. Sampling Frequency/Guidelines		
1. How often are monitoring wells sampled? Quarterly		
2. Is the contractor familiar with the site's approved groundwater monitoring plan and relevant USEPA and industry sampling protocol for low-flow or bailer sampling? See EPA Publication 540/S-95/504 Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures and ASTM D6771.	☒	☐
B. Monitoring Well Location and Security		
1. Does the contractor have a map of the facility available to locate wells?	☒	☐
2. Are the wells clearly marked with an identification numbering system?	☒	☐
Several wells were not clearly readable on the outside of the casing when water levels were checked on 5/31/2016. After the water levels were completed the casings were re-marked with a paint pen. Although some were not marked or easily readable on the outside of the casing, wells were marked on the internal PVC cap covering the wellhead. PZ-113-AS had a sign, but it was detached from the casing and lying on the ground nearby.		
3. Are monitoring well heads covered with protective caps?	☒	☐
4. Are the caps locked to prevent unauthorized access?	☒	☐
5. Are the monitoring wells protected from damage by mowers and other heavy equipment?	☐	☒

Protective bollards were present at most wells that were in a location that could possibly be struck by vehicles or mowers.

- *Two bollards for PZ-203-SS closest to the roadway had been struck at some point; one was leaning and the other was completely knocked over, leaving the northwestern side of the well unprotected.*
- *PZ-101-SS, LR-100 had at least one bollard leaning.*
- *Wells I-73, MW-104, MW-1204, PZ-110-SS, PZ-116-SS, PZ-205-SS, and PZ-205-AS did not have bollards and are located in areas where it is possible they could be struck.*
- *Wells D-81, LR-103, PZ-100-KS, PZ-100-SS, PZ-100-SD, PZ-104-KS, PZ-104-SD, PZ-104-SS, PZ-105-SS, and PZ-206-SS were not in locations that could easily be struck and did not have bollards. PZ-204A-SS and PZ-204-SS on the Materialogic*

Yes No

property are recessed in the concrete pad to allow mowers to pass over without causing damage to the well.

6. Do the wells show indication of damage (i.e., loose casings, leaning, or crooked)? ☐ ☒
   The concrete pad of PZ-205-SS had been repaired since the March 2016 sampling event.
7. Describe the overall condition of the wells.
   Overall wells observed appeared to be in good condition and did not show any signs of damage. Well LR-105 would not produce water. Tubing was removed, checked and foot valve replaced but it would still not pump properly. It appears there is some obstruction around 31 feet depth.

C. Measurement of Well Depths

1. What type/brand of measuring device is used?
   A Heron Instrument Dipper-t electronic tape was used to measure all water levels and top of pump or total depth measurements

2. Is there a permanent depth measurement reference point at each well? ☒ ☐

3. Are measurements taken to the nearest inch or 0.1 foot? ☒ ☐

4. Does the contractor measure both the depth to standing water and depth to the bottom of the well? ☐ ☒

   Standing water level and total depth or top of pump, were measured at wells on 5/31/2016. Wells PZ-100-KS, PZ-106-KS and PZ-111-KS did not have total depth/top of pump measured because a long enough tape was not available and they were to be measured at a later date. If a well has a dedicated pump, a measurement to the top of the pump is made instead of total depth. Total depth of the well is not routinely measured at wells with dedicated pumps.

   All wells that were sampled had standing water levels measured again before purging began. For wells with a dedicated bladder pump, water levels were measured and recorded during purging. Final water levels were not recorded after sampling was completed. If wells were purged and sampled using a Waterra pump, only initial and final water levels were recorded.

5. Describe the method and materials used to clean the measuring device.

Yes No

Liquinox was squirted on a paper towel and held around the tape as it was retrieved from the well. The sensor was then wiped clean before storing in the holder attached to the tape reel. The reeled tape was then rinsed with DI water before storing. Paper towels and gloves were disposed of.

D. Well Evacuation/Sample Collection

1. Were measures taken to prevent equipment from contacting potentially contaminated surfaces? ☒ ☐

   Any disposable items were discarded and replaced at each new site. Sample bottles were kept in the cooler until they were labelled and were put back into the cooler after they were filled. Although plastic sheeting was not placed on the ground, sampling equipment was never handled in a way that would lead to contamination.

2. What method (ex: micropurging) is used to evacuate/sample the wells?

   Feezor utilized a low flow purge method at eighteen wells with dedicated bladder pumps installed. Twelve wells had tubing installed for use with an automated, inertial pumping system. Although flow rates were maintained at reduced rates, the inertial pump does not meet the definition of low flow purging due to the potential for pumping action causing mixing of the stagnant casing water with formation water. In shallower wells it could also lead to the disturbance of sediment within the casing.

   For wells with bladder pumps water levels were recorded during the purging process, however drawdown was not a factor in determining flow rates. Drawdown averaged 9.2 ft. and ranged from approximately 0 ft. to 16 ft.

   For Waterra pumps water levels were only recorded prior to purging and after sampling were complete. Drawdown averaged 21.5 ft. and ranged from approximately 0.4 ft. to 60 ft.

   Flow rates were more difficult to keep consistent with the Waterra pump. Several wells required continuing adjustment to maintain flow of any kind. This lack of stable pumping rate also produced difficulties with the flow-thru cells by introducing air into the cell. This caused meter readings to jump around more than usual.

3. Describe the type(s) of equipment used to evacuate/sample the wells.

   A QED Micropurge Basic Controller box powered by a gas powered compressor was used on wells with a dedicated bladder pump.

   Wells without a dedicated pump were purged by an inertial pump automated by a Waterra Hydrolift II and powered by a generator.

	Yes	No
4. Describe the method used to determine the appropriate volume of water for purging. *Pump tubing volumes are calculated and noted on field sheets, along with previous purge settings, for each well. This data was used to determine current purge volumes. For dedicated pumps, ~23 mL/ft was evacuated. For Waterra pumps ~39 mL/ft. Values are then rounded to the nearest 500 mLs.*		
5. Is the volume of evacuated well water measured? *Volumes were measured by collecting in a 1000mL graduated cylinder.*	☒	☐
6. Are wells evacuated in accordance with established USEPA and industry standards? Note that flow-through cells are required for low-flow sampling.	☐	☒

An inertial lift pump was used for low flow purging on several wells. Because of the potential for mixing of casing with formation waters due to the pumping action this is generally not recommended.

Well drawdown was not required to be stable during purging and sampling. This exceeds the EPA recommendation and possibly the ASTM guidance. Ideally pump rates would be equivalent to recharge rates. Final water levels are also not recorded, except on well purged using the Waterra pump.

Recommendations given in the Missouri Department of Natural Resources, Solid Waste Management Program's fact sheet, were not met. These included triple rinsing measuring devices with DI water after each use (see question I.C.4); placing plastic sheeting near well to prevent contamination (see question I.D.1); and submitting one trip blank per sampling day (see question I.E.2).

These observations are made in direct reference to the above mentioned guidance documents and are in recognition that deviations may be approved in the site specific Quality Assurance Project Plan and/or Sampling Plan.

7. Describe the procedure used for the collection, management, and/or disposal of evacuated water.

Purge volumes collected in the graduated cylinder were dumped into a 5-gallon bucket as the cylinder filled. Once sampling began the sample whip was held over the 5-gallon bucket to catch water between bottles. After sampling the bucket(s) were transported to the leachate collection system and disposed of.

8. Does each well have dedicated evacuation equipment? If no, describe materials and methods used to clean equipment.	☒	☐

All wells that were to be purged and sampled by the Waterra pump were checked to see if tubing was installed or if it needed to be reinstalled. Any wells needing new

	Yes	No
tubing had it installed a few days before sampling occurred.		

E. Sample Collection

	Yes	No
1. Does each well have dedicated/disposable sampling equipment? If no, describe materials and methods used to clean equipment.	☒	☐
2. Are equipment blanks, duplicate samples, and/or trip blanks collected as necessary?	☒	☐

One trip blank is included per shipment. Duplicates are collected approximately every 20 samples. Wells PZ-104-SD and MW-1204 were duplicated. One field blank was created at well PZ-104-SS. Also, at well PZ-200-SS an additional cubitainer for radiological parameters was field filtered and submitted for analysis.

See notes in APPENDIX C for wells with quality control samples collected.

	Yes	No
3. Is care taken to avoid placing clean sampling equipment on the ground or other contaminated surfaces prior to sample collection?	☒	☐

Sample containers were kept in the cooler until needed and then returned to the cooler once the bottle was filled. Once removed from the cooler, the bottles remained capped until just before switching containers. If a cap was dropped it was thoroughly rinsed with purge water prior to replacing on the filled bottle.

	Yes	No
4. Are samples collected in a manner that will minimize aeration and/or volatilization of the sample?	☒	☐

Several samples were effervescent and removal of air bubbles was difficult. Per instructions by Feezor's contract lab, they would rinse the preservative from the vials, eliminate air bubbles and submit unpreserved.

See notes in APPENDIX C.

	Yes	No
5. Are upgradient wells sampled first?	☐	☒

Contamination concerns due to sampling order were not considered a factor due to utilizing dedicated equipment and low flow techniques.

6. Describe the procedure used when splitting samples with the state.

Bottles were filled by alternating bottles until all were filled. Feezor bottles were filled first, followed by DNR bottles. If duplicates were collected the duplicate bottle was filled after each of the original bottles for each parameter (e.g. Feezor, Feezor duplicate, DNR, DNR duplicate).

II. Review of Field Measurements, Sample Handling and Preservation Procedures

	Yes	No
A. Field Measurements		
1. Are the following parameters measured in the field?		
pH	☒	☐
Temperature	☒	☐
Specific Conductivity	☒	☐
Dissolved Oxygen	☒	☐
Redox Potential	☒	☐
Turbidity was also collected at all wells.		
2. Are field meters properly calibrated and maintained?	☒	☐
All meters were calibrated at the beginning of each day. Each evening, verification checks are run against a calibration standard.		
ASTM D6771 recommends daily calibration for instruments used to measure indicator parameters. Daily calibration and checks against secondary standards allow for documentation of precision and accuracy of instruments.		
3. Are field measurements within the acceptable limits of the certified standard?	☐	☒
See section IV for certified standard comparisons.		
4. Are field measurements made using a split portion of sample rather than in a container to be analyzed by the lab?	☒	☐
All parameters except turbidity were measured in a flow-thru cell. The aliquot for turbidity measurement was collected directly into the glass sample vial and inserted into the meter.		

5. Describe the equipment used for field measurements (type, model, etc).

pH	WTW pH/conductivity/temperature 3400i
Temperature	WTW pH/conductivity/temperature 3400i
Specific Conductivity	WTW pH/conductivity/temperature 3400i
Dissolved Oxygen	WTW pH/oxi 3400i
Redox Potential	WTW pH/oxi 3400i
Turbidity	Hf Scientific, Inc. MicroTPW

6. Describe the criterion used to determine purge parameter stability.

Once the initial purge volume was reached, field parameters were checked every four minutes until at least three consecutive readings met the stabilization criteria. A minimum of four readings would be collected. Purge parameter stabilization is determined on pH, conductivity, and temperature. Although turbidity, dissolved oxygen and oxidation-reduction potential is recorded at each stabilization check, it

Yes No

is not used to determine stability. Criterions are: +/- 0.1 for pH; +/-10% for conductivity; and +/-0.5°C for temperature. The ASTM and EPA guidance documents recommend +/- 3% for conductivity, however SWMP guidance recommends 10% or less.

B. Sample Containers

1. Are sample containers new? If not, explain in Section V. ☒ ☐

   Sample containers are provided by the contract laboratory according to their test method and QA/QC requirements.

2. Are sample containers appropriate for each parameter? ☒ ☐

   Sample containers are provided by the contract laboratory according to their test method and QA/QC requirements.

C. Sample Handling and Preservation

1. Are samples directly transferred from the sampling device to the sample container? ☒ ☐

2. Are samples containerized in order of their volatilization sensitivity? (VOC, TOC, ammonia, field measurements, chloride) ☒ ☐

   Samples were collected for VOC, metals, TOC, COD, nutrients, chloride, tritium and finally radiological parameters.

3. Are samples preserved appropriately for each parameter? ☒ ☐

   Bottles came pre-preserved from the laboratory according to their test method requirements.

4. Is a trip blank prepared for the VOC/TOC samples? ☒ ☐

   Any trip blanks carried through the sampling event are provided by the laboratory. At least one trip blank was carried per shipment. One trip blank per shipment meets the EPA guidance, but the SWMP guidance recommends a set for each day.

5. Was the headspace eliminated from the VOC containers? ☒ ☐

   Headspace was eliminated on all samples whenever possible. However, several sampling locations (wells and leachate sumps) were very effervescent and foamy and bubbles could not be eliminated after several attempts. Per instructions by Feezor's contract lab, they would rinse the preservative from the vials, eliminate air bubbles as much as possible and submitted to the lab unpreserved.

See notes in APPENDIX C.

	Yes	No
6. Are samples put on ice immediately after collection?	☒	☐

7. How long are samples in route to the analytical lab?

   Samples are typically shipped every other day.

III. Review of Field Documentation and Sample Chain-of-Custody Procedures

A. Sample Documentation

	Yes	No
1. Are sample labels used?	☒	☐

Sample containers came pre-labeled from the laboratory except for cubitainers for radiological parameters. The cubitainers were marked with the well ID at time of collection.

	Yes	No
2. Do they remain attached and legible even when wet?	☒	☐
3. Is the following information provided on the label?		
Sample number	☒	☐
Well number	☒	☐
Name of collector	☒	☐
Date and time of collection	☒	☐
Facility name	☒	☐
Parameters to be analyzed	☒	☐
Preservative used	☒	☐

The well number served as the unique sample number for each sample.

B. Site Information

	Yes	No
1. Is field information recorded by the contractor?	☒	☐

Individual field forms are prepared for each well and all field information is recorded on these forms.

	Yes	No
2. Which of the following are recorded?		
Time and date of sampling and evacuation	☒	☐
Weather conditions at time of sampling	☒	☐
Well identification number	☒	☐
Total depth of wells	☐	☒
Static water level depth	☒	☐
Well yield - high or low	☐	☒
Field measurements data	☒	☐
Field team members	☒	☐
Additional observations	☒	☐

Yes No

Time and date information includes purge start time, time for each stability reading and sample time.
Total depth of well is not recorded for wells with dedicated pumps, rather depth to top of pump is recorded. For wells that do not have dedicated pumps the total depth is recorded after sampling is completed.
Field measurements include pH, conductivity, temperature, turbidity, dissolved oxygen and oxidation reduction potential. Total purge volume and initial water levels were recorded for all wells. Final water levels were only recorded on well sampled with the Waterra pump.
Additional observations include sample observations (color, odor, effervescence, etc.), and any unique occurrences during sampling.

C. Chain-of-Custody Records

1. Is each sample recorded on a chain-of-custody? ☒ ☐

2. What information is included on the chain-of-custody?

   Well ID, sample date and time, company/site, project name, sample ID (well ID), sample temperature, number of containers, preservatives, analyses requested, notes and relinquished by/date/time.

IV. Certified Standard Results

Parameter	Contractor Results		True Value		Acceptable limits Lot number/Expiration
	6/1	6/9			
pH (units)	6.11	6.18	6.00		5.80-6.20 NSI Solutions Lot #051016 Exp.5/31/2018
Conductivity (µS/cm)	464 (22.0 °C)	474 (30.1 °C)	461		415-507 NSI Solutions Lot #042616 Exp. 4/30/2018
Temperature (°C)	21.7	30.0	21.2	30.3	+/- 1 °C Values compared to ESP certified thermometer #1245908
Turbidity (NTU)*	10.01 20.09 100.0 751.5	16.75* 25.70* 105.3 774.8	10 20 100 800		HACH StablCal Formazin Standards 9-11 (A5281/Oct. 2017) 18-22 (A5280/Oct. 2017) 90-110 (A5275/Sept. 2017) 720-880 (A5307/Oct. 2017)

* Field meter result exceeded the desired +/- 10%.
An attempt was made to compare the contractor's DO meter with DNR's YSI ProODO meter by comparing results on a portion of sample from a well. However, due to the use of the flow through cell an accurate comparison could not be made.

V. Additional Comments/Remarks

APPENDIX B

Monitoring Well Static Water Levels

Landfill Monitoring Report
Bridgeton Sanitary Landfill
St. Louis County
May 31 – June 9, 2016

Bridgeton Sanitary Landfill Groundwater Monitoring Wells Static Water Levels

Measured by: John Wilkinson, Mike Spurgeon Date: 5/31/16

Well ID	Water Level (feet below top of casing)	Total Depth or Top of Pump (feet)	Well ID	Water Level (feet below top of casing)	Total Depth or Top of Pump (feet)
D-85	22.33	77.20	PZ-106-KS	2.09	NA**
S084	23.09	32.89	PZ-106-SD	12.68	196.25
I-68	16.48	40.47	PZ-106-SS	12.14	161.40
PZ-114-AS	16.78	26.20	PZ-204A-SS	4.04	84.23
PZ-115-SS	13.15	81.05	PZ-204-SS	7.62	87.98
PZ-100-SS	29.31	89.09	PZ-302-AS	17.86	24.51
PZ-100-SD	31.00	96.19	PZ-302-AI	17.83	44.10
PZ-100-KS	22.65	NA**	MW-104	7.78	19.12
PZ-200-SS	20.80	99.31	PZ-303-AS *	21.03	28.31
PZ-201A-SS	9.61	86.10	PZ-304-AI	20.76	51.99
PZ-208-SS	19.40	100.35	PZ-304-AS	20.46	29.20
PZ-112-AS	28.83	38.38	D-81	17.61	62.54
PZ-101-SS	37.06	155.10	PZ-107-SS	30.82	103.70
PZ-102-SS	21.19	91.25	PZ-205-SS	29.07	93.02
PZ-102R-SS	20.25	91.14	PZ-205-AS	30.24	54.03
PZ-103-SS	11.52	149.65	PZ-212-SS	8.74	93.92
PZ-209-SD	22.73	101.14	PZ-212-SD	13.79	92.89
PZ-209-SS	20.90	99.70	PZ-11-KS	6.67	NA**
PZ-202-SS	11.10	85.13	PZ-111-SD	32.98	199.13
PZ-211-SS	19.36	98.14	PZ-110-SS	27.68	102.23
PZ-211-SD	21.36	99.40	PZ-1090SS	22.42	131.04
PZ-104-SS	19.10	140.30	PZ-206-SS	27.14	129.82
PZ-104-SD	20.43	120.64	I-73	28.69	50.79
PZ-104-KS	16.00	93.05	LR-100	15.69	27.01
PZ-210-SS	24.86	101.51	LR-105	30.46	37.91
PZ-210-SD	25.78	101.55	LR-103	37.10	49.84
PZ-203-SS	24.49	111.34	PZ-113-SS	28.16	160.25
PZ-105-SS	23.81	144.90	PZ-113-AD	27.97	110.12
PZ-116-SS	6.19	142.74	PZ-113-AS	27.90	39.25
MW-1204	5.39	215.00	PZ-207-AS	28.57	38.95

* Strong fuel smell from well and an oily substance covered the probe upon retrieval.
** Total depth or top of pump was not collected because it was greater than the length of the electronic tape being use.

APPENDIX C

Field Measurements and Sample Notes

Landfill Monitoring Report
Bridgeton Sanitary Landfill
St. Louis County
May 31 – June 9, 2016

Leachate Sump Field Data Sheet

Sampler(s): John Wilkinson, Lynn Milberg

Leachate Sump ID	Sample Date	Sample Time	pH*	SC * (µS/cm)	Temp* (°C)	Turbidity (NTU)	DO (mg/L)	ORP (mV)
LCS-1D	6/7/2016	0925						
LCS-2D	6/7/2016	0920						
LCS-3D	6/7/2016	0910						
LCS-4B	6/7/2016	0935						
LCS-5A	6/6/2016	1630	6.67	7440	35.4	15.44	1.03	-148
LCS-6B	6/7/2016	0845						

Notes:

LCS-1D - Flow meter reading 0 gpm. Blowing air from port.

LCS-2D - Not operational. No power connected.

LCS-3D - Flow meter reading 0 gpm. Dry.

LCS-4B - Only volume from sample port tube was produced. Flow meter reading 0 gpm.

LCS-5A - Sample aerated and effervescient. Could not get all air bubbles removed from VOA vials. Lt. tan in color.

LCS-6B - Sump ran dry after filling VOA vials and tritium bottles for both DNR and Feezor. Feezor was going to attempt to collect a duplicate but discarded containers after sump ran dry. Dark brown in color, like coffee.

Groundwater Monitoring Well Field Data Sheet

Date: 6/7/2016
Site: Bridgeton SLF
Well ID: PZ 101-SS
Static Water Level (ft below toc): 37.09
Purge Time Start: 1312
Initial Purge Volume (ml): 4750

Sampler(s): John Wilkinson, Mike Spurgeon, Lynn Milberg
Sample Time: 1445
Final water level (ft below toc): 90.25
Top of pump (ft below toc): NA
Well bottom (ft below toc): NA

Well Purge Readings

Time	Purge volume (mL)	Water level (ft below toc)	pH*	ΔpH	SC (µS/cm)*	ΔSC (µS/cm)	Temp (°C)*	ΔTemp (°C)	Turbidity (NTU)	DO	ORP
1325	4750		6.44	+/- 0.1	1880	+/- 10%	28.2	+/- 0.5	3.87	0.86	+69
1329	5750		6.44	0.00	1949	-3.67	27.8	0.4	3.25	0.61	-77
1333	7150		6.43	0.01	1957	-0.41	28.2	0.4	4.05	0.48	-68
1337	8400		6.45	-0.02	1958	-0.05	27.4	0.8	3.32	0.38	-76
1341	9350		6.45	0.00	1959	-0.05	27.5	0.1	3.92	0.32	-69
1345	10850		6.45	0.00	1962	-0.15	28.6	1.1	3.82	0.26	-75
1349	11800		6.43	0.02	1964	-0.1	27.8	0.8	4.36	0.17	+75
1353	12850		6.43	0.00	1966	-0.1	28.1	0.3	4.16	0.15	-69
1357	14550		6.44	-0.01	1970	-0.2	28.7	0.6	3.11	0.15	-71
1401	16100		6.45	-0.01	1970	0	28.6	0.1	5.68	0.15	-84
1405	17500										
1427	18000		6.50		1931		24.3		5.88	1.39	-53
1431	19300		6.47	0.03	1959	-1.45	27.6	3.3	5.85	0.96	-71
1435	20800		6.46	0.01	1966	-0.36	28.4	0.8	5.12	0.62	-74
1439	21700		6.48	0.02	1967	-1.86	28.0	3.7	4.42	1.13	-70
1443	23000		6.47	0.01	1973	-0.31	28.2	0.2	4.21	0.63	-75

*Denotes stabilization parameters

- ☑ Waterra Pump
- ☐ Bladder Pump
- ☐ Contractor Duplicate
- ☐ DNR Duplicate
- ☐ Field Blank
- ☐ Other QC: _____

Notes:
It was thought the well may have dewaterd. After checking on sump LCS-6B we returned to try again. It was found that the pump tubing had slipped from the acuator arm.
Stabilization was started again after resetting the tubing.
Sample was light tan in color.
Sample was slightly effervescent but able to remove bubbles for VOC's.

Groundwater Monitoring Well Field Data Sheet

Date: 6/7/2016

Sampler(s): John Wilkinson, Mike Sprugeon, Lynn Milberg

Site: Bridgeton SLF

Sample Time: 1649

Well ID: PZ 102R-SS

Static Water Level (ft below toc): 20.70

Final water level (ft below toc): 47.67

Purge Time Start: 1627

toc): NA

Initial Purge Volume (ml): 3000

Well bottom (ft below toc): NA

Well Purge Readings

Time	Purge volume (mL)	Water level (ft below toc)	pH*	ΔpH	SC (µS/cm)*	ΔSC (µS/cm)	Temp (°C)*	ΔTemp (°C)	Turbidity (NTU)	DO	ORP
1635	3000		6.89	+/- 0.1	846	+/- 10%	20.4	+/- 0.5	106.80	0.29	-212
1639	5000		6.89	0.00	847	-0.12	20.4	0.0	22.96	0.24	-151
1643	6800		6.87	0.02	851	-0.47	20.7	0.3	25.54	0.24	-132
1647	8150		6.88	-0.01	853	-0.24	20.9	0.2	34.54	0.23	-129

*Denotes stabilization parameters

- ☑ Waterra Pump
- ☐ Bladder Pump
- ☐ Contractor Duplicate
- ☐ DNR Duplicate
- ☐ Field Blank
- ☐ Other QC: _____

Notes:
Black particulates at beginning of purging. Particulates cleared some by second measurement.
Appendix 1, COD, TDS, Fe, Cl and Tritium only.

Groundwater Monitoring Well Field Data Sheet

Date: 6/9/2016
Site: Bridgeton SLF
Well ID: PZ 103-SS
Static Water Level (ft below toc): 11.93
Purge Time Start: 920
Initial Purge Volume (ml): 5500

Sampler(s): John Wilkinson, Lynn Milberg
Sample Time: 0952
Final water level (ft below toc): 72.02
toc): NA
Well bottom (ft below toc): NA

Well Purge Readings

Time	Purge volume (mL)	Water level (ft below toc)	pH*	ΔpH	SC (µS/cm)*	ΔSC (µS/cm)	Temp (°C)*	ΔTemp (°C)	Turbidity (NTU)	DO	ORP
930	5500		6.26	+/- 0.1	2380	+/- 10%	27.8	+/- 0.5	427.20	0.65	-132
934	6700		6.32	-0.06	2330	2.1	28.0	0.2	244.10	0.49	-136
938	7800		6.30	0.02	2380	-2.15	27.6	0.4	132.40	0.32	-136
942	9300		6.26	0.04	2170	8.82	28.2	0.6	73.05	0.25	-147
946	10800		6.23	0.03	2040	5.99	28.5	0.3	48.67	0.18	-148
950	12000		6.19	0.04	2080	-1.96	28.5	0.0	49.58	0.13	-149

*Denotes stabilization parameters

- [x] Waterra Pump
- [ ] Bladder Pump
- [ ] Contractor Duplicate
- [ ] DNR Duplicate
- [ ] Field Blank
- [ ] Other QC: _____

Notes:
Sample light gray in color and turbid.
Lots of air. Flow through cell had difficulty stabilizing because of the bubb
Difficult to maintain consistent flow.
Tritium collected after TOC and before nutrients to ensure collection.

Groundwater Monitoring Well Field Data Sheet

Date: 6/3/2016
Site: Bridgeton SLF
Well ID: PZ 104-SS
Static Water Level (ft below toc): 19.15
Purge Time Start: 1105
Initial Purge Volume (ml): 3000

Sampler(s): John Wilkinson, Lynn Milberg
Sample Time: 1135
Final water level (ft below toc): NA
toc): NA
Well bottom (ft below toc): NA

Well Purge Readings

Time	Purge volume (mL)	Water level (ft below toc)	pH*	ΔpH	SC (µS/cm)*	ΔSC (µS/cm)	Temp (°C)*	ΔTemp (°C)	Turbidity (NTU)	DO	ORP
1117	3000	25.33	6.82	+/- 0.1	813	+/- 10%	28.8	+/- 0.5	2.25	0.07	-279
1121	4000	27.01	6.80	0.02	813	0	28.7	0.1	2.20	0.06	-286
1125	5300	29.55	6.80	0.00	812	0.12	28.2	0.5	1.61	0.05	-287
1129	6800	32.16	6.80	0.00	811	0.12	27.9	0.3	1.14	0.06	-291
1133	8300	34.90	6.78	0.02	812	-0.12	27.8	0.1	0.94	0.06	-293

*Denotes stabilization parameters

- ☐ Waterra Pump
- ☑ Bladder Pump
- ☐ Contractor Duplicate
- ☐ DNR Duplicate
- ☑ Field Blank - Feezor
- ☐ Other QC: _____

Notes:
Weather cloudy with drizzle. Temperature in mid-70's, little
Feezor collected assessment parameters at this well.
Mild landfill gas odor.

Groundwater Monitoring Well Field Data Sheet

Date: 6/3/2016
Site: Bridgeton SLF
Well ID: PZ 104-SD
Static Water Level (ft below toc): 20.56
Purge Time Start: 0906
Initial Purge Volume (ml): 2500

Sampler(s): John Wilkinson, Lynn Milberg
Sample Time: 0928
Final water level (ft below toc): NA
toc): NA
Well bottom (ft below toc): NA

Well Purge Readings

Time	Purge volume (mL)	Water level (ft below toc)	pH*	ΔpH	SC (µS/cm)*	ΔSC (µS/cm)	Temp (°C)*	ΔTemp (°C)	Turbidity (NTU)	DO	ORP
913	2500	23.76	6.78	+/- 0.1	1866	+/- 10%	28.0	+/- 0.5	3.46	2.49	-170
917	3600	24.30	6.80	-0.02	1909	-2.3	28.0	0.0	3.39	0.62	-178
921	4900	24.78	6.80	0.00	1928	-1	27.9	0.1	11.66	0.20	-181
925	6200	25.11	6.80	0.00	1943	-0.78	27.8	0.1	2.52	0.16	-182

*Denotes stabilization parameters

- ☐ Waterra Pump
- ☑ Bladder Pump
- ☑ Contractor Duplicate
- ☐ DNR Duplicate
- ☐ Field Blank
- ☐ Other QC: _____

Notes:
Feezor collected assessment parameters on this well.
Pumping lots of air, foamy, light tan in color, landfill gas odor.
Weather cloudy, temperature in low 70's, slight breeze.

Groundwater Monitoring Well Field Data Sheet

Date: 6/3/2016
Site: Bridgeton SLF
Well ID: PZ 105-SS
Static Water Level (ft below toc): 23.92
Purge Time Start: 1404
Initial Purge Volume (ml): 3000

Sampler(s): John Wilkinson, Lynn Milberg
Sample Time: 1426
Final water level (ft below toc): NA
toc): NA
Well bottom (ft below toc): NA

Well Purge Readings

Time	Purge volume (mL)	Water level (ft below toc)	pH*	ΔpH	SC (µS/cm)*	ΔSC (µS/cm)	Temp (°C)*	ΔTemp (°C)	Turbidity (NTU)	DO	ORP
1412	3000	29.75	7.00	+/- 0.1	1075	+/- 10%	19.3	+/- 0.5	5.04	0.44	-113
1416	4300	32.38	7.00	0.00	1077	-0.19	19.2	0.1	5.02	0.43	-115
1420	5900	35.57	7.00	0.00	1090	-1.21	19.1	0.1	4.24	0.31	-115
1424	7500	38.25	7.01	-0.01	1074	1.47	19.2	0.1	3.43	0.33	-115

*Denotes stabilization parameters

- ☐ Waterra Pump
- ☑ Bladder Pump
- ☐ Contractor Duplicate
- ☐ DNR Duplicate
- ☐ Field Blank
- Other QC:

Notes:
Weather mostly cloudy and warmer
Appendix 1, COD, TDS, Fe, Cl and Tritium only.

Groundwater Monitoring Well Field Data Sheet

Date: 6/2/2016

Sampler(s): John Wilkinson, Brenna McDonald

Site: Bridgeton SLF

Sample Time: 1546

Well ID: PZ 106-SS

Static Water Level (ft below toc): 12.30

Final water level (ft below toc): NA

Purge Time Start: 1524

toc): NA

Initial Purge Volume (ml): 3500

Well bottom (ft below toc): NA

Well Purge Readings

Time	Purge volume (mL)	Water level (ft below toc)	pH*	ΔpH	SC (µS/cm)*	ΔSC (µS/cm)	Temp (°C)*	ΔTemp (°C)	Turbidity (NTU)	DO	ORP
1532	3500	18.65	6.88	+/- 0.1	920	+/- 10%	23.1	+/- 0.5	3.31	0.15	-108
1536	4700	20.63	6.89	-0.01	915	0.54	23.0	0.1	1.77	0.15	-26
1540	6300	23.11	6.89	0.00	910	0.55	23.0	0.0	0.51	0.14	-112
1544	7850	25.53	6.89	0.00	913	-0.33	22.9	0.1	0.29	0.15	-16

*Denotes stabilization parameters

- ☐ Waterra Pump
- ☑ Bladder Pump
- ☐ Contractor Duplicate
- ☐ DNR Duplicate
- ☐ Field Blank
- Other QC:

Notes:
Weather sunny and temperature in mid-80's.

Groundwater Monitoring Well Field Data Sheet

Date: 6/2/2016
Site: Bridgeton SLF
Well ID: PZ 106-SD
Static Water Level (ft below toc): 12.68
Purge Time Start: 1357
Initial Purge Volume (ml): 4250

Sampler(s): John Wilkinson, Brenna McDonald
Sample Time: 1420
Final water level (ft below toc): NA
toc): NA
Well bottom (ft below toc): NA

Well Purge Readings

Time	Purge volume (mL)	Water level (ft below toc)	pH*	ΔpH	SC (µS/cm)*	ΔSC (µS/cm)	Temp (°C)*	ΔTemp (°C)	Turbidity (NTU)	DO	ORP
1406	4250	16.69	6.61	+/- 0.1	3450	+/- 10%	23.8	+/- 0.5	7.88	0.20	-121
1410	5400	16.98	6.62	-0.01	3320	3.77	23.7	0.1	2.07	0.23	-141
1414	6750	16.88	6.62	0.00	3350	-0.9	23.7	0.0	0.50	0.21	-140
1418	8000	16.90	6.63	-0.01	3350	0	23.5	0.2	0.26	0.20	-139

*Denotes stabilization parameters

- ☐ Waterra Pump
- ☑ Bladder Pump
- ☐ Contractor Duplicate
- ☐ DNR Duplicate
- ☐ Field Blank
- Other QC:

Notes:
Weather sunny with temperatures in mid-80's.

Groundwater Monitoring Well Field Data Sheet

Date: 6/7/2016
Site: Bridgeton SLF
Well ID: PZ 107-SS
Static Water Level (ft below toc): 31.06
Purge Time Start: 1024
Initial Purge Volume (ml): 3000

Sampler(s): John Wilkinson, Lynn Milberg
Sample Time: 1101
Final water level (ft below toc): 82.30
toc): NA
Well bottom (ft below toc): NA

Well Purge Readings

Time	Purge volume (mL)	Water level (ft below toc)	pH*	ΔpH	SC (µS/cm)*	ΔSC (µS/cm)	Temp (°C)*	ΔTemp (°C)	Turbidity (NTU)	DO	ORP
1035	3000		6.58	+/- 0.1	2410	+/- 10%	18.9	+/- 0.5	71.61	1.96	-144
1039	4500		6.61	-0.03	2660	-10.37	19.0	0.1	89.20	8.42	-154
1043	5600		6.61	0.00	2660	0	18.9	0.1	47.81	13.93**	-158
1047	6750		6.61	0.00	2030	23.68	20.0	1.1	27.57	12.98**	-161
1051	8300		6.61	0.00	2650	-30.54	18.9	1.1	19.08	4.30	-161
1055	9700		6.61	0.00	2640	0.38	19.2	0.3	11.45	1.41	-165
1059	11200		6.61	0.00	2630	0.38	18.9	0.3	7.98	0.90	-167

*Denotes stabilization parameters

- ☑ Waterra Pump
- ☐ Bladder Pump
- ☐ Contractor Duplicate
- ☐ DNR Duplicate
- ☐ Field Blank
- ☐ Other QC: _____

Notes:
**Dissolved oxygen probe had air leak in flow cell so values kept climbing. The pump was also not consistent so flow would slow and temperature would climb affecting DO.

Groundwater Monitoring Well Field Data Sheet

Date: 6/6/2016

Sampler(s): John Wilkinson, Lynn Milberg

Site: Bridgeton SLF

Sample Time: 1133

Well ID: PZ 109-SS

Static Water Level (ft below toc): 22.41

Final water level (ft below toc): NA

Purge Time Start: 1111

toc): NA

Initial Purge Volume (ml): 2600

Well bottom (ft below toc): NA

Well Purge Readings

Time	Purge volume (mL)	Water level (ft below toc)	pH*	ΔpH	SC (µS/cm)*	ΔSC (µS/cm)	Temp (°C)*	ΔTemp (°C)	Turbidity (NTU)	DO	ORP
1119	2600	27.89	6.98	+/- 0.1	778	+/- 10%	21.5	+/- 0.5	5.95	0.81	-15
1123	3900	30.06	7.03	-0.05	780	-0.26	21.3	0.2	2.72	1.06	+7
1127	5200	32.75	7.05	-0.02	781	-0.13	21.3	0.0	2.57	1.44	+22
1131	6500	35.10	7.06	-0.01	786	-0.64	21.5	0.2	2.04	1.80	+27

*Denotes stabilization parameters

- ☐ Waterra Pump
- ☑ Bladder Pump
- ☐ Contractor Duplicate
- ☐ DNR Duplicate
- ☐ Field Blank
- Other QC:

Notes:

Groundwater Monitoring Well Field Data Sheet

Date: 6/6/2016

Site: Bridgeton SLF

Well ID: PZ 110-SS

Static Water Level (ft below toc): 27.59

Purge Time Start: 1350

Initial Purge Volume (ml): 2000

Sampler(s): John Wilkinson, Lynn Milberg

Sample Time: 1413

Final water level (ft below toc): NA

toc): NA

Well bottom (ft below toc): NA

Well Purge Readings

Time	Purge volume (mL)	Water level (ft below toc)	pH*	ΔpH	SC (µS/cm)*	ΔSC (µS/cm)	Temp (°C)*	ΔTemp (°C)	Turbidity (NTU)	DO	ORP
1359	2000	29.57	6.66	+/- 0.1	2070	+/- 10%	18.5	+/- 0.5	1.65	0.54	+119
1403	3000	29.89	6.66	0.00	2150	-3.86	17.9	0.6	2.13	0.43	+163
1407	4250	30.34	6.66	0.00	2140	0.47	17.6	0.3	2.48	0.39	+209
1411	5500	30.70	6.65	0.01	2080	2.8	17.6	0.0	5.69	0.38	+145

*Denotes stabilization parameters

- ☐ Waterra Pump
- ☑ Bladder Pump
- ☐ Contractor Duplicate
- ☐ DNR Duplicate
- ☐ Field Blank
- Other QC:

Notes:

Groundwater Monitoring Well Field Data Sheet

Date: 6/3/2016

Sampler(s): John Wilkinson, Lynn Milberg

Site: Bridgeton SLF

Sample Time: 1526

Well ID: PZ 111-SD

Static Water Level (ft below toc): 32.96

Final water level (ft below toc): NA

Purge Time Start: 1500

toc): NA

Initial Purge Volume (ml): 4000

Well bottom (ft below toc): NA

Well Purge Readings

Time	Purge volume (mL)	Water level (ft below toc)	pH*	ΔpH	SC (µS/cm)*	ΔSC (µS/cm)	Temp (°C)*	ΔTemp (°C)	Turbidity (NTU)	DO	ORP
1512	4000	41.02	7.07	+/- 0.1	812	+/- 10%	18.3	+/- 0.5	2.33	0.15	-80
1516	5300	43.53	7.07	0.00	814	-0.25	18.2	0.1	0.88	0.12	-79
1520	6450	45.60	7.07	0.00	813	0.12	18.0	0.2	0.97	0.12	-77
1524	7750	48.02	7.07	0.00	816	-0.37	18.0	0.0	0.36	0.12	-74

*Denotes stabilization parameters

- ☐ Waterra Pump
- ☑ Bladder Pump
- ☐ Contractor Duplicate
- ☐ DNR Duplicate
- ☐ Field Blank
- Other QC:

Notes:
Weather cloudy and warmer.
Appendix 1, COD, TDS, Fe, Cl and Tritium only.

Groundwater Monitoring Well Field Data Sheet

Date: 6/1/2016
Site: Bridgeton SLF
Well ID: PZ 114-AS
Static Water Level (ft below toc): 16.80
Purge Time Start: 1758
Initial Purge Volume (ml): 300

Sampler(s): John Wilkinson, Lynn Milberg
Sample Time: 1816
Final water level (ft below toc): NA
toc): NA
Well bottom (ft below toc): NA

Well Purge Readings

Time	Purge volume (mL)	Water level (ft below toc)	pH*	ΔpH	SC (µS/cm)*	ΔSC (µS/cm)	Temp (°C)*	ΔTemp (°C)	Turbidity (NTU)	DO	ORP
1758	300	16.88	6.60	+/- 0.1	2120	+/- 10%	17.7	+/- 0.5	68.04	0.30	-136
1802	1000	16.94	6.61	-0.01	2200	-3.77	17.4	0.3	40.10	0.25	-143
1806	1800	16.94	6.61	0.00	2230	-1.36	17.1	0.3	39.77	0.57	-138
1810	2800	16.92	6.62	-0.01	2260	-1.35	16.9	0.2	20.38	0.19	-145
1814	3700	16.93	6.63	-0.01	2320	-2.65	16.9	0.0	13.69	0.18	-148

*Denotes stabilization parameters

- ☐ Waterra Pump
- ☑ Bladder Pump
- ☐ Contractor Duplicate
- ☐ DNR Duplicate
- ☐ Field Blank
- ☐ Other QC: _____

Notes:
Weather was partly cloudy and calm.
Appendix 1, COD, TDS, Fe, Cl and Tritium only.

Groundwater Monitoring Well Field Data Sheet

Date: 6/1/2016
Site: Bridgeton SLF
Well ID: PZ 115-SS
Static Water Level (ft below toc): 13.18
Purge Time Start: 1714
Initial Purge Volume (ml): 1700

Sampler(s): John Wilkinson, Lynn Milberg
Sample Time: 1736
Final water level (ft below toc): NA
toc): NA
Well bottom (ft below toc): NA

Well Purge Readings

Time	Purge volume (mL)	Water level (ft below toc)	pH*	ΔpH	SC (µS/cm)*	ΔSC (µS/cm)	Temp (°C)*	ΔTemp (°C)	Turbidity (NTU)	DO	ORP
1718	1700	15.52	6.61	+/- 0.1	2750	+/- 10%	16.6	+/- 0.5	1.45	0.18	-95
1722	2600	15.96	6.60	0.01	2730	0.73	16.7	0.1	0.37	0.22	-92
1726	3500	16.38	6.61	-0.01	2550	6.59	16.6	0.1	1.02	0.17	-86
1730	4500	16.82	6.61	0.00	2540	0.39	16.7	0.1	0.52	0.26	-83
1734	5500	17.18	6.60	0.01	2530	0.39	16.6	0.1	0.14	0.31	-83

*Denotes stabilization parameters

- ☐ Waterra Pump
- ☑ Bladder Pump
- ☐ Contractor Duplicate
- ☐ DNR Duplicate
- ☐ Field Blank
- Other QC: _____

Notes:
Weather partly cloudy and calm
Appendix 1, COD, TDS, Fe, Cl and Tritium only.

Groundwater Monitoring Well Field Data Sheet

Date: 6/1/2016

Site: Bridgeton SLF

Well ID: PZ 116-SS

Static Water Level (ft below toc): 6.74

Purge Time Start: 1537

Initial Purge Volume (ml): 3250

Sampler(s): John Wilkinson, Mike Spurgeon, Lynn Milberg

Sample Time: 1602

Final water level (ft below toc): NA

toc): NA

Well bottom (ft below toc): NA

Well Purge Readings

Time	Purge volume (mL)	Water level (ft below toc)	pH*	ΔpH	SC (µS/cm)*	ΔSC (µS/cm)	Temp (°C)*	ΔTemp (°C)	Turbidity (NTU)	DO	ORP
1548	3250	13.94	7.38	+/- 0.1	613	+/- 10%	24.3	+/- 0.5	19.13	0.75	+23
1552	4700	16.40	7.38	0.00	608	0.82	24.1	0.2	14.18	0.82	+30
1556	5700	20.11	7.40	-0.02	608	0	23.8	0.3	9.30	0.85	+35
1600	7150	22.84	7.40	0.00	607	0.16	23.7	0.1	5.83	1.02	+38

*Denotes stabilization parameters

- ☐ Waterra Pump
- ☑ Bladder Pump
- ☐ Contractor Duplicate
- ☐ DNR Duplicate
- ☐ Field Blank
- Other QC:

Notes:
Light rain occurred during sample collection.

Groundwater Monitoring Well Field Data Sheet

Date: 6/9/2016

Sampler(s): John Wilkinson, Mike Spurgeon, Lynn Milberg

Site: Bridgeton SLF

Sample Time: 1136

Well ID: PZ 200-SS

Static Water Level (ft below toc): 21.10

Final water level (ft below toc): 21.61

Purge Time Start: 1113

toc): NA

Initial Purge Volume (ml): 3500

Well bottom (ft below toc): NA

Well Purge Readings

Time	Purge volume (mL)	Water level (ft below toc)	pH*	ΔpH	SC (µS/cm)*	ΔSC (µS/cm)	Temp (°C)*	ΔTemp (°C)	Turbidity (NTU)	ORP
1122	3500		6.22	+/- 0.1	2690	+/- 10%	17.9	+/- 0.5	73.47	-70.00
1126	4970		6.21	0.01	2810	-4.46	17.8	0.1	57.55	-71.00
1130	6510		6.21	0.00	2840	-1.07	17.9	0.1	56.41	-73.00
1134	8100		6.21	0.00	2810	1.06	17.8	0.1	49.23	-76.00

*Denotes stabilization parameters

- ☑ Waterra Pump
- ☐ Bladder Pump
- ☐ Contractor Duplicate
- ☐ DNR Duplicate
- ☐ Field Blank
- ☑ Other QC: Field filtered container for radiological parameters - Feezor

Notes:

Sample colorless with some black particulates.

Groundwater Monitoring Well Field Data Sheet

Date: 6/6/2016
Site: Bridgeton SLF
Well ID: PZ 201A-SS
Static Water Level (ft below toc): 9.64
Purge Time Start: 1525
Initial Purge Volume (ml): 2000

Sampler(s): John Wilkinson, Lynn Milberg
Sample Time: 1546
Final water level (ft below toc): NA
toc): NA
Well bottom (ft below toc): NA

Well Purge Readings

Time	Purge volume (mL)	Water level (ft below toc)	pH*	ΔpH	SC (µS/cm)*	ΔSC (µS/cm)	Temp (°C)*	ΔTemp (°C)	Turbidity (NTU)	DO	ORP
1532	2000	14.38	7.07	+/- 0.1	798	+/- 10%	17.9	+/- 0.5	5.61	0.47	+61
1536	3300	16.96	7.06	0.01	778	2.51	17.7	0.2	5.59	0.58	+67
1540	4500	19.52	7.07	-0.01	773	0.64	17.5	0.2	3.72	0.71	+71
1544	5900	22.23	7.06	0.01	772	0.13	17.4	0.1	5.25	0.79	+72

*Denotes stabilization parameters

- ☐ Waterra Pump
- ☑ Bladder Pump
- ☐ Contractor Duplicate
- ☐ DNR Duplicate
- ☐ Field Blank
- Other QC:

Notes:
Appendix 1, COD, TDS, Fe, Cl and Tritium only.

Groundwater Monitoring Well Field Data Sheet

Date: 6/6/2016
Site: Bridgeton SLF
Well ID: PZ 202-SS
Static Water Level (ft below toc): 11.23
Purge Time Start: 0846
Initial Purge Volume (ml): 1750

Sampler(s): John Wilkinson, Lynn Milberg
Sample Time: 0907
Final water level (ft below toc): NA
toc): NA
Well bottom (ft below toc): NA

Well Purge Readings

Time	Purge volume (mL)	Water level (ft below toc)	pH*	ΔpH	SC (µS/cm)*	ΔSC (µS/cm)	Temp (°C)*	ΔTemp (°C)	Turbidity (NTU)	DO	ORP
853	1750	11.23	6.55	+/- 0.1	5700	+/- 10%	16.2	+/- 0.5	10.31	0.74	-162
857	2700	11.32	6.55	0.00	5840	-2.46	16.3	0.1	24.20	7.95**	-160
901	3600	11.30	6.56	-0.01	5860	-0.34	16.3	0.0	5.87	17.83**	-160
905	4450	11.30	6.56	0.00	5860	0	16.3	0.0	10.28	19.96**	-158

*Denotes stabilization parameters

- ☐ Waterra Pump
- ☑ Bladder Pump
- ☐ Contractor Duplicate
- ☑ DNR Duplicate
- ☐ Field Blank
- ☐ Other QC: _____

Notes:
Dissolved oxygen meter appeared to be malfunctioning. Readings kept climbing, eventually peaking around 20 mg/L before declining.
Somewhat aerated. Black particulates in sample.
Sample light tan in color.

Groundwater Monitoring Well Field Data Sheet

Date: 6/9/2016

Site: Bridgeton SLF

Well ID: PZ 203-SS

Static Water Level (ft below toc): 24.59

Purge Time Start: 1359

Initial Purge Volume (ml): 3500

Sampler(s): John Wilkinson, Mike Spurgeon, Lynn Milberg

Sample Time: 1424

Final water level (ft below toc): 25.05

toc): NA

Well bottom (ft below toc): NA

Well Purge Readings

Time	Purge volume (mL)	Water level (ft below toc)	pH*	ΔpH	SC (µS/cm)*	ΔSC (µS/cm)	Temp (°C)*	ΔTemp (°C)	Turbidity (NTU)	DO	ORP
1410	3500		7.12	+/- 0.1	763	+/- 10%	18.2	+/- 0.5	25.72	1.97	-85
1414	4600		7.11	0.01	767	-0.52	18.4	0.2	24.65	1.67	+105
1418	5760		7.10	0.01	759	1.04	18.5	0.1	25.99	1.42	+181
1422	6920		7.11	-0.01	757	0.26	18.5	0.0	26.72	1.16	+251

*Denotes stabilization parameters

- ☑ Waterra Pump
- ☐ Bladder Pump
- ☐ Contractor Duplicate
- ☐ DNR Duplicate
- ☐ Field Blank
- Other QC:

Notes:
Appendix 1, COD, TDS, Fe, Cl and Tritium only.

Groundwater Monitoring Well Field Data Sheet

Date: 6/9/2016

Sampler(s): John Wilkinson, Mike Spurgeon, Lynn Milberg

Site: Bridgeton SLF

Sample Time: 1521

Well ID: PZ 204A-SS

Static Water Level (ft below toc): 4.24

Final water level (ft below toc): 4.95

Purge Time Start: 1459

toc): NA

Initial Purge Volume (ml): 3500

Well bottom (ft below toc): NA

Well Purge Readings

Time	Purge volume (mL)	Water level (ft below toc)	pH*	ΔpH	SC (µS/cm)*	ΔSC (µS/cm)	Temp (°C)*	ΔTemp (°C)	Turbidity (NTU)	DO	ORP
1507	3500		6.53	+/- 0.1	6110	+/- 10%	17.5	+/- 0.5	209.0	0.49	-112
1511	5050		6.55	-0.02	6160	-0.82	17.7	0.2	215.5	0.25	-119
1515	6350		6.55	0.00	6180	-0.32	17.5	0.2	87.11	0.13	-122
1519	7830		6.55	0.00	6200	-0.32	17.9	0.4	40.75	0.09	-124

*Denotes stabilization parameters

- ☑ Waterra Pump
- ☐ Bladder Pump
- ☐ Contractor Duplicate
- ☐ DNR Duplicate
- ☐ Field Blank
- ☐ Other QC: _____

Notes:
Sample dark brown in color, like tea.
Sand in sample made VOA vials hard to seal.
Appendix 1, COD, TDS, Fe, Cl and Tritium only.

Groundwater Monitoring Well Field Data Sheet

Date: 6/8/2016
Site: Bridgeton SLF
Well ID: PZ 205-AS
Static Water Level (ft below toc): 30.33
Purge Time Start: 1631
Initial Purge Volume (ml): 1000

Sampler(s): John Wilkinson, Lynn Milberg
Sample Time: 1647
Final water level (ft below toc): 50.54
toc): NA
Well bottom (ft below toc): NA

Well Purge Readings

Time	Purge volume (mL)	Water level (ft below toc)	pH*	ΔpH	SC (µS/cm)*	ΔSC (µS/cm)	Temp (°C)*	ΔTemp (°C)	Turbidity (NTU)	DO	ORP
1633	1000		6.62	+/- 0.1	7560	+/- 10%	21.2	+/- 0.5	>1100	0.53	-150
1637	2400		6.59	0.03	6600	12.7	21.5	0.3	248.70	0.30	-156
1641	4000		6.58	0.01	6580	0.3	21.4	0.1	335.70	0.16	-168
1645	5490		6.57	0.01	6310	4.1	21.3	0.1	389.70	0.10	-174

*Denotes stabilization parameters

- ☑ Waterra Pump
- ☐ Bladder Pump
- ☐ Contractor Duplicate
- ☐ DNR Duplicate
- ☐ Field Blank
- ☐ Other QC:

Notes:
Dark gray in color.
Landfill gas impacted. Well does not have cap due to pressure build up. Landfill gas could be seen coming from riser.
Concrete pad had been replaced since March.

Groundwater Monitoring Well Field Data Sheet

Date: 6/8/2016
Site: Bridgeton SLF
Well ID: PZ 206-SS
Static Water Level (ft below toc): 27.20
Purge Time Start: 0854
Initial Purge Volume (ml): 3500

Sampler(s): John Wilkinson, Mike Spurgeon, Lynn Milberg
Sample Time: 0930
Final water level (ft below toc): 41.95
toc): NA
Well bottom (ft below toc): NA

Well Purge Readings

Time	Purge volume (mL)	Water level (ft below toc)	pH*	ΔpH	SC (µS/cm)*	ΔSC (µS/cm)	Temp (°C)*	ΔTemp (°C)	Turbidity (NTU)	DO	ORP
0904	3500		6.86	+/- 0.1	1386	+/- 10%	18.9	+/- 0.5	64.67	1.12	-107
0908	5400		6.83	0.03	1360	1.88	19.5	0.6	57.49	1.22	-105
0912	6950		6.83	0.00	1351	0.66	19.4	0.1	33.45	2.05	-102
0916	8150		6.82	0.01	1335	1.18	20.0	0.6	20.81	3.68	-106
0920	9500		6.83	-0.01	1327	0.6	19.5	0.5	12.19	7.75	-105
0924	10980		6.83	0.00	1351	-1.81	19.4	0.1	10.79	9.84	-116
0928	12250		6.83	0.00	1345	0.44	19.5	0.1	7.16	11.35	-119

*Denotes stabilization parameters

- ☑ Waterra Pump
- ☐ Bladder Pump
- ☐ Contractor Duplicate
- ☑ DNR Duplicate
- ☐ Field Blank
- ☐ Other QC: _____

Notes:
Only Appendix 1 parameters collected on duplicate sample.
Sample colorless with few black particulates.

Groundwater Monitoring Well Field Data Sheet

Date: 6/1/2016
Site: Bridgeton SLF
Well ID: PZ 209-SD
Static Water Level (ft below toc): 22.69
Purge Time Start: 0908
Initial Purge Volume (ml): 1900

Sampler(s): John Wilkinson, Lynn Milberg
Sample Time: 0932
Final water level (ft below toc): NA
toc): NA
Well bottom (ft below toc): NA

Well Purge Readings

Time	Purge volume (mL)	Water level (ft below toc)	pH*	ΔpH	SC (µS/cm)*	ΔSC (µS/cm)	Temp (°C)*	ΔTemp (°C)	Turbidity (NTU)	DO	ORP
0917	1900	26.48	7.13	+/- 0.1	807	+/- 10%	16.1	+/- 0.5	1.88	0.97	-172
0921	3400	29.28	7.14	-0.01	809	-0.25	16.2	0.1	0.77	0.69	-188
0925	5000	30.90	7.14	0.00	806	0.37	16.0	0.2	0.04	0.61	-193
0929	6200	32.45	7.15	-0.01	807	-0.12	15.9	0.1	0.90	0.52	-196

*Denotes stabilization parameters

- ☐ Waterra Pump
- ☑ Bladder Pump
- ☐ Contractor Duplicate
- ☐ DNR Duplicate
- ☐ Field Blank
- Other QC:

Notes:
Feezor collecte assessment parameters at this well.
Weather was partly cloudy.

Groundwater Monitoring Well Field Data Sheet

Date: 6-1-206

Site: Bridgeton SLF

Well ID: PZ 210-SD

Static Water Level (ft below toc): 25.77

Purge Time Start: 1348

Initial Purge Volume (ml): 1800

Sampler(s): John Wilkinson, Lynn Milberg

Sample Time: 1411

Final water level (ft below toc): NA

toc): NA

Well bottom (ft below toc): NA

Well Purge Readings

Time	Purge volume (mL)	Water level (ft below toc)	pH*	ΔpH	SC (µS/cm)*	ΔSC (µS/cm)	Temp (°C)*	ΔTemp (°C)	Turbidity (NTU)	DO	ORP
1357	1800	29.28	7.02	+/- 0.1	961	+/- 10%	18.7	+/- 0.5	3.50	1.23	-142
1401	2600	30.69	7.04	-0.02	962	-0.1	18.1	0.6	1.07	0.99	-148
1405	3500	32.33	7.06	-0.02	966	-0.42	17.9	0.2	1.29	0.84	-151
1409	4400	33.83	7.06	0.00	968	-0.21	17.9	0.0	0.90	0.72	-156

*Denotes stabilization parameters

- ☐ Waterra Pump
- ☑ Bladder Pump
- ☐ Contractor Duplicate
- ☐ DNR Duplicate
- ☐ Field Blank
- Other QC:

Notes:
Feezor collected assessment parameters at this well.
Weather was sunny and warm.

Groundwater Monitoring Well Field Data Sheet

Date: 6/1/2016
Site: Bridgeton SLF
Well ID: PZ 211-SD
Static Water Level (ft below toc): 21.36
Purge Time Start: 1111
Initial Purge Volume (ml): 1850

Sampler(s): John Wilkinson, Lynn Milberg
Sample Time: 1130
Final water level (ft below toc): NA
toc): NA
Well bottom (ft below toc): NA

Well Purge Readings

Time	Purge volume (mL)	Water level (ft below toc)	pH*	ΔpH	SC (µS/cm)*	ΔSC (µS/cm)	Temp (°C)*	ΔTemp (°C)	Turbidity (NTU)	DO	ORP
1116	1850	25.11	7.24	+/- 0.1	919	+/- 10%	16.1	+/- 0.5	11.86	0.64	-175
1120	3150	27.40	7.23	0.01	923	-0.44	16.0	0.1	13.17	0.54	-193
1124	4500	29.90	7.24	-0.01	924	-0.11	16.0	0.0	5.82	0.49	-208
1128	5850	32.41	7.24	0.00	933	-0.97	16.0	0.0	3.40	0.16	-221

*Denotes stabilization parameters

- ☐ Waterra Pump
- ☑ Bladder Pump
- ☐ Contractor Duplicate
- ☐ DNR Duplicate
- ☐ Field Blank
- Other QC:

Notes:
Weather was sunny and warm.
Feezor collected assessment parameters on this well.

Groundwater Monitoring Well Field Data Sheet

Date: 6/2/2016

Sampler(s): John Wilkinson, Lynn Milberg

Site: Bridgeton SLF

Sample Time: 1054

Well ID: PZ 212-SS

Static Water Level (ft below toc): 8.97

Final water level (ft below toc): NA

Purge Time Start: 1034

toc): NA

Initial Purge Volume (ml): 2000

Well bottom (ft below toc): NA

Well Purge Readings

Time	Purge volume (mL)	Water level (ft below toc)	pH*	ΔpH	SC (µS/cm)*	ΔSC (µS/cm)	Temp (°C)*	ΔTemp (°C)	Turbidity (NTU)	DO	ORP
1040	2000	13.38	7.16	+/- 0.1	728	+/- 10%	15.5	+/- 0.5	39.14	0.14	+15
1044	3300	15.54	7.14	0.02	722	0.82	15.6	0.1	52.27	0.07	+29
1048	4800	18.79	7.14	0.00	721	0.14	15.7	0.1	56.28	0.04	+30
1052	6300	20.90	7.13	0.01	723	-0.28	16.0	0.3	76.93	0.06	+31

*Denotes stabilization parameters

- ☐ Waterra Pump
- ☑ Bladder Pump
- ☐ Contractor Duplicate
- ☐ DNR Duplicate
- ☐ Field Blank
- Other QC:

Notes:
Weather sunny with temperatures in mid-70's.

Groundwater Monitoring Well Field Data Sheet

Date: 6/2/2016
Site: Bridgeton SLF
Well ID: PZ 212-SD
Static Water Level (ft below toc): 13.82
Purge Time Start: 0859
Initial Purge Volume (ml): 2000

Sampler(s): John Wilkinson, Lynn Milberg
Sample Time: 0919
Final water level (ft below toc): NA
toc): NA
Well bottom (ft below toc): NA

Well Purge Readings

Time	Purge volume (mL)	Water level (ft below toc)	pH*	ΔpH	SC (µS/cm)*	ΔSC (µS/cm)	Temp (°C)*	ΔTemp (°C)	Turbidity (NTU)	DO	ORP
0905	2000	17.88	7.21	+/- 0.1	1186	+/- 10%	15.9	+/- 0.5	38.98	0.26	-130
0909	3000	19.61	7.26	-0.05	1156	2.53	15.9	0.0	26.53	0.17	-137
0913	4000	21.41	7.25	0.01	1132	2.08	15.7	0.2	8.67	0.11	-145
0917	5000	23.14	7.25	0.00	1133	-0.09	15.8	0.1	4.96	0.10	-145

*Denotes stabilization parameters

- ☐ Waterra Pump
- ☑ Bladder Pump
- ☐ Contractor Duplicate
- ☐ DNR Duplicate
- ☐ Field Blank
- Other QC:

Notes:
Weather sunny with temperatures in the mid-70's.

Groundwater Monitoring Well Field Data Sheet

Date: 6/8/2016
Site: Bridgeton SLF
Well ID: MW 1204
Static Water Level (ft below toc): 5.59
Purge Time Start: 1356**
Initial Purge Volume (ml): 8500

Sampler(s): John Wilkinson, Mike Spurgeon, Lynn Milberg
Sample Time: 1448
Final water level (ft below toc): 14.03
toc): NA
Well bottom (ft below toc): NA

Well Purge Readings

Time	Purge volume (mL)	Water level (ft below toc)	pH*	ΔpH	SC (µS/cm)*	ΔSC (µS/cm)	Temp (°C)*	ΔTemp (°C)	Turbidity (NTU)	DO	ORP
1434	8500		6.60	+/- 0.1	2500	+/- 10%	25.4	+/- 0.5	60.64	0.15	-174
1438	10875		6.54	0.06	2770	-10.8	25.6	0.2	85.44	0.09	-156
1442	13450		6.50	0.04	2710	2.17	25.5	0.1	120.80	0.06	-175
1446	15100		6.49	0.01	2600	4.06	25.5	0.0	103.90	0.05	-178

*Denotes stabilization parameters

- ☑ Waterra Pump
- ☐ Bladder Pump
- ☑ Contractor Duplicate
- ☐ DNR Duplicate
- ☐ Field Blank
- ☐ Other QC: _____

Notes:
**Tubing clogged with PVC shavings from where they cut down the well casing. Tubing was pulled from well, cleared and replaced. Purging resumed at 1428 @ 4000 ml.
Purge water began pitch black in color but lightened as purging continued.
Sample had leachate odor and was effervescent. Feezor had difficulty removing air bubbles from VOC's.

Groundwater Monitoring Well Field Data Sheet

Date:	6/9/2016	Sampler(s):	John Wilkinson, Mike Spurgeon, Llynn Milberg
Site:	Bridgeton SLF	Sample Time:	0855
Well ID:	LR-105		
Static Water Level (ft below toc):	30.55	Final water level (ft below toc):	NA
Purge Time Start:	NA**	toc):	NA
Initial Purge Volume (ml):	500	Well bottom (ft below toc):	NA

Well Purge Readings

Time	Purge volume (mL)	Water level (ft below toc)	pH*	ΔpH	SC (µS/cm)*	ΔSC (µS/cm)	Temp (°C)*	ΔTemp (°C)	Turbidity (NTU)	DO	ORP
				+/- 0.1		+/- 10%		+/- 0.5			
				0.00		#DIV/0!		0.0			
				0.00		#DIV/0!		0.0			
				0.00		#DIV/0!		0.0			

*Denotes stabilization parameters

- ☑ Waterra Pump
- ☐ Bladder Pump
- ☐ Contractor Duplicate
- ☐ DNR Duplicate
- ☐ Field Blank
- ☐ Other QC: _____

Notes:
Could not get well to produce water. Tubing was installed with a small foot valve. Tubing was removed and a larger foot valve was installed, but was still unable to get water. Tried purging mechanically and manually. It appears tubing is htting an obstruction in the well at approximately 31 feet. Total depth was recorded at 37.91 feet on May 31, 2016.

Groundwater Monitoring Well Field Data Sheet

Date: 6/8/2016

Site: Bridgeton SLF

Well ID: LR-100

Static Water Level (ft below toc): 15.92

Purge Time Start: 1114

Initial Purge Volume (ml): 500

Sampler(s): John Wilkinson, Mike Spurgeon, Lynn Milberg

Sample Time: 1130

Final water level (ft below toc): 16.34

toc): NA

Well bottom (ft below toc): NA

Well Purge Readings

Time	Purge volume (mL)	Water level (ft below toc)	pH*	ΔpH	SC (µS/cm)*	ΔSC (µS/cm)	Temp (°C)*	ΔTemp (°C)	Turbidity (NTU)	DO	ORP
1116	500		6.63	+/- 0.1	2360	+/- 10%	18.4	+/- 0.5	46.43	1.93	-81
1120	1930		6.60	0.03	2380	-0.85	17.7	0.7	23.48	1.60	-85
1124	3330		6.62	-0.02	2370	0.42	17.4	0.3	16.81	1.26	-86
1128	4800		6.63	-0.01	2360	0.42	17.4	0.0	7.71	1.04	-88

*Denotes stabilization parameters

- ☑ Waterra Pump
- ☐ Bladder Pump
- ☐ Contractor Duplicate
- ☐ DNR Duplicate
- ☐ Field Blank
- ☐ Other QC: _____

Notes:
VOC and tritium collected first due potential for well to go dry. Well recharged quickly so a full bottle set was collected.
The ball valve on the Waterra tubing had to be replaced.

APPENDIX D

Photographs

Landfill Monitoring Report
Bridgeton Sanitary Landfill
St. Louis County
May 31 – June 9, 2016

D-81

D-85

I-68

I-73

LR-100

LR-103

LR-105

MW-104

MW-1204

PZ-100-KS

PZ-100-SD

PZ-100-SS

PZ-101-SS

PZ-102-SS

PZ-102R-SS

PZ-103-SS

PZ-104-KS

PZ-104-SD

PZ-104-SS

PZ-105-SS

PZ-106-KS

PZ-106-SD

PZ-106-SS

PZ-107-SS

PZ-109-SS

PZ-110-SS

PZ-111-KS

PZ-111-SD

PZ-112-AS

PZ-113-AD

PZ-113-AS

PZ-113-SS

PZ-115-SS

PZ-116-SS

PZ-200-SS (GMP 7)

PZ-201A-SS

PZ-202-SS

PZ-203-SS

PZ-204-SS

PZ-204A-SS

PZ-205-AS

PZ-205-SS

PZ-206-SS

PZ-207-AS

PZ-208-SS

PZ-209-SD (forefront) & PZ-209-SS (background)

PZ-210-SD (forefront) & PZ-210-SS (background)

PZ-211-SD (foreground) & PZ-211-SS (background

PZ-212-SD (foreground) & PZ-212-SS (background)

PZ-302-AI

PZ-302-AS

PZ-303-AS

PZ-304-AI

PZ-304-AS

PZ-114-AS

S-84

APPENDIX E

Weather Data

Landfill Monitoring Report
Bridgeton Sanitary Landfill
St. Louis County
May 31 – June 9, 2016

Landfill Monitoring Report - Bridgeton Sanitary Landfill
May 31 – June 9, 2016
APPENDIX E: Weather Data

Weather data from Lambert-Saint Louis International Airport

Date	Max Temp °F	Mean Temp °F	Min Temp °F	Max Dew Point °F	Mean Dew Point °F	Min Dew Point °F	Max Humidity %	Mean Humidity %	Min Humidity %	Max Sea Level Pressure In	Mean Sea Level Pressure In	Min Sea Level Pressure In	Max Visibility Miles	Mean Visibility Miles	Min Visibility Miles	Max Wind Speed MPH	Mean Wind Speed MPH	Max Gust Speed MPH	Precipitation In	CloudCover	Events	WindDir Degrees
5/31/2016	85	78	70	64	62	60	78	61	44	29.99	29.92	29.84	10	10	6	17	6	23	T	6	Rain	155
6/1/2016	86	78	69	67	65	63	84	68	51	29.98	29.93	29.88	10	10	6	16	4	20	0.09	7	Rain	254
6/2/2016	87	78	69	66	57	49	90	61	32	30.06	30.01	29.97	10	10	10	14	5	17	0	5		39
6/3/2016	79	73	67	62	58	53	68	57	45	30.05	30.01	29.96	10	10	10	12	5	14	T	7	Rain	131
6/4/2016	83	76	69	68	64	58	90	71	51	29.95	29.86	29.77	10	7	1	13	6	17	0.24	7	Rain	241
6/5/2016	80	73	65	60	57	53	81	62	42	29.85	29.81	29.75	10	10	10	16	11	24	0	2		288
6/6/2016	91	79	66	57	55	51	68	49	30	29.85	29.78	29.71	10	10	10	17	11	20	0	2		276
6/7/2016	81	71	61	52	50	48	60	47	33	29.92	29.88	29.8	10	10	10	17	9	23	0	1		317
6/8/2016	85	72	59	57	50	44	80	53	26	30.03	29.98	29.93	10	10	10	9	4	13	0	2		133
6/9/2016	91	78	65	67	60	51	63	52	41	30.01	29.95	29.89	10	10	10	15	8	21	0	2		180

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Tel: (314)298-8566

TestAmerica Job ID: 160-17592-1
Client Project/Site: Groundwater - 2nd Quarter 2016

For:
Missouri Attorney General's Office
PO BOX 899
Jefferson City, Missouri 65102

Attn: Brenna McDonald

Authorized for release by:
6/30/2016 6:25:52 PM

Chenise Lambert-Sykes, Project Manager I
(314)298-8566
chenise.lambert-sykes@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

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.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Chain of Custody 6
Receipt Checklists 7
Definitions/Glossary 8
Method Summary 9
Sample Summary 10
Client Sample Results 11
QC Sample Results 20
QC Association Summary 35
Surrogate Summary 39

Job ID: 160-17592-1

Laboratory: TestAmerica St. Louis

Narrative

CASE NARRATIVE

Client: Missouri Attorney General's Office

Project: Groundwater - 2nd Quarter 2016

Report Number: 160-17592-1

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.

TestAmerica St. Louis attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

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.

All solid sample results for Chemistry analyses are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header. All soil/sediment sample results for radiochemistry analyses are based upon sample as dried and disaggregated with the exception of tritium, carbon-14, and iodine-129 by gamma spectroscopy unless requested as wet weight by the client."

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT
The samples were received on 05/31/2016; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 19.9 C.

VOLATILE ORGANIC COMPOUNDS (GC MS)
Samples MO-1-SDR (160-17592-1), MO-1-SS (160-17592-2), MO-2-SD (160-17592-3) and TRIP BLANK (160-17592-4) were analyzed for volatile organic compounds (GC MS) in accordance with EPA SW-846 Method 8260C. The samples were analyzed on 06/03/2016.

Analytical Batch: 254556
The following compounds did not meet the minimum relative response factor limits int eh continuing calibration verification (CCV) associated with batch 160-254556: 2-Butanone, and Acetone. A low level CCV was analyzed at the base reporting limit of 5ug/L and the affected analytes were detected. Target analytes recovering above the reporting limit will be qualified and reported. (CCVIS 160-254556/4)

The method blank for analytical batch 160-254556 contained Toluene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-analysis of samples was not performed. (MB 160-254556/8)

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

Job ID: 160-17592-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

TOTAL METALS (ICP)
Samples MO-1-SDR (160-17592-1), MO-1-SS (160-17592-2) and MO-2-SD (160-17592-3) were analyzed for total metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 06/16/2016 and analyzed on 06/28/2016.

Analytical Batch: 258532
The continuing calibration verification (CCV) associated with batch 160-258532 recovered above the upper control limit for Phosphorus. The samples associated with this CCV were below the reporting limit for the affected analytes; therefore, the data have been reported. The following samples are impacted: (CCV 160-258532/51), (CCV 160-258532/64) and (CCV 160-258532/77).

The following samples were diluted to bring the concentration of target analytes within the calibration range: MO-1-SDR (160-17592-1), MO-1-SS (160-17592-2), MO-2-SD (160-17592-3), (160-17592-H-1-B MS ^), (160-17592-H-1-C MSD) and (160-17592-H-1-A SD ^). Elevated reporting limits (RLs) are provided.

Antimony was detected in method blank MB 160-256548/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

Due to the high concentration of Calcium, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 160-256548 and analytical batch 160-258532 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria. The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount. Refer to the QC report for details. (160-17592-H-1-B MS ^) and (160-17592-H-1-C MSD)

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

TOTAL MERCURY
Samples MO-1-SDR (160-17592-1), MO-1-SS (160-17592-2) and MO-2-SD (160-17592-3) were analyzed for total mercury in accordance with EPA SW-846 Methods 7470A. The samples were prepared on 06/22/2016 and analyzed on 06/23/2016.

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

TOTAL DISSOLVED SOLIDS
Samples MO-1-SDR (160-17592-1), MO-1-SS (160-17592-2) and MO-2-SD (160-17592-3) were analyzed for total dissolved solids in accordance with EPA Method 160.1. The samples were analyzed on 06/03/2016.

Analytical Batch: 254559
The following QC samples in TDS batch 160-254559 were diluted to bring the concentration of target analytes within the calibration range: (160-17614-B-1) and (160-17614-B-1 DU). Elevated reporting limits (RLs) are provided.

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

ANIONS, ION CHROMATOGRAPHY
Samples MO-1-SDR (160-17592-1), MO-1-SS (160-17592-2) and MO-2-SD (160-17592-3) were analyzed for Anions, Ion Chromatography in accordance with EPA Method 300.0. The samples were analyzed on 06/10/2016.

Analytical Batch: 255873
The following samples in Anion batch 160-255873 were diluted to bring the concentrations of target analytes within the calibration range: MO-1-SDR (160-17592-1), MO-1-SS (160-17592-2) and MO-2-SD (160-17592-3). Elevated reporting limits (RLs) are provided.

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

AMMONIA
Samples MO-1-SDR (160-17592-1), MO-1-SS (160-17592-2) and MO-2-SD (160-17592-3) were analyzed for ammonia in accordance with EPA Method 350.1. The samples were analyzed on 06/13/2016 and 06/14/2016.

Job ID: 160-17592-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

Analytical Batch: 256321
The following matrix spike (MS) recoveries for NH3 analytical batch 160-256321 were outside control limits: (160-17592-E-1 MS). Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Analytical Batch: 256509
The following samples in NH3 analytical batch 160-256509 were diluted to bring the concentration of the target analyte within the calibration range: MO-2-SD (160-17592-3). Elevated reporting limits (RLs) are provided.

Due to the high concentration of NH3 in the following sample, the matrix spike (MS) for analytical batch 160-256509 could not be evaluated for accuracy: (160-17630-C-1 MS ^10). The associated laboratory control sample (LCS) met acceptance criteria.

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

NITROGEN, NITRATE-NITRITE
Samples MO-1-SDR (160-17592-1), MO-1-SS (160-17592-2) and MO-2-SD (160-17592-3) were analyzed for Nitrogen, Nitrate-Nitrite in accordance with Method 353.1 Preserved. The samples were analyzed on 06/27/2016 and 06/28/2016.

Analytical Batch: 258378
The following matrix spike (MS) recoveries for NO3-NO2 analytical batch 160-258378 were outside control limits: (160-17592-E-1 MS). Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

CHEMICAL OXYGEN DEMAND
Samples MO-1-SDR (160-17592-1), MO-1-SS (160-17592-2) and MO-2-SD (160-17592-3) were analyzed for chemical oxygen demand in accordance with EPA Method 410.4. The samples were prepared and analyzed on 06/07/2016.

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

TOTAL ORGANIC CARBON
Samples MO-1-SDR (160-17592-1), MO-1-SS (160-17592-2) and MO-2-SD (160-17592-3) were analyzed for total organic carbon in accordance with EPA Method 415.1. The samples were analyzed on 06/10/2016 and 06/13/2016.

Analytical Batch: 256304
The following samples in TOC batch 160-256304 were diluted to bring the concentrations of the target analyte within the calibration range: MO-1-SS (160-17592-2). Elevated reporting limits (RLs) are provided.

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

TRITIUM, TOTAL (LSC)
Samples MO-1-SDR (160-17592-1), MO-1-SS (160-17592-2) and MO-2-SD (160-17592-3) were analyzed for Tritium, Total (LSC) in accordance with USEPA 906.0. The samples were prepared on 06/20/2016 and analyzed on 06/21/2016.

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

TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Phone (314) 298-8566 Fax (314) 298-8757

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Jessie Hahn	Lab PM: Lambert-Sykes, Chenise Y	Carrier Tracking No(s):	COC No: 160-4182-2039.1
Client Contact: Brenna McDonald	Phone: 573-270 314-997-7440	E-Mail: chenise.lambert-sykes@testamericainc.com		Page: Page 1 of 1
Company: Missouri Attorney General's Office				Job #:
Address: PO BOX 899	Due Date Requested:			
City: Jefferson City	TAT Requested (days):			
State, Zip: MO, 65102				
Phone: 573-368-2163(Tel)	PO #: Purchase Order Requested			
Email: brenna.mcdonald@dnr.mo.gov	WO #:			
Project Name: Groundwater - 2nd Quarter 2016	Project #: 16005341			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	906.0 - Tritium	350.1, 353.1_Pres, 410.4	903.0, 904.0, A01R_Th, A01R_U	903.0, 904.0	160.1_Calcd, 300_ORGFM_28D	6010C, 7470A	415.1 - Total Organic Carbon	8260C - (MOD) OLM 4.2	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	S	D	D	N	D	S	A		
MO-1-SDR	5-31-2016	0945	G	Water	N		1	1	0	0	1	1	1	3	8	
MO-1-SS	5-31-2016	1133	G	Water	N		1	1	0	0	1	1	1	3	8	
MO-2-SD	5-31-2016	1500	G	Water	N		1	1	0	0	1	1	1	3	8	
Trip Blank	5-31-2016	0800	G	Water	N									2	2	
				Water												

160-17592 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☑ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Jessie Hahn	5/31/2016 1540	Geotechnology	Peter Price	5-31-2016 1540	MGS
Peter Price	5-31-2016 1630	MGS	Gil Clark	5-31-16 1630	TASL

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Login Sample Receipt Checklist

Client: Missouri Attorney General's Office

Job Number: 160-17592-1

Login Number: 17592
List Number: 1
Creator: Clarke, Jill C

List Source: TestAmerica St. Louis

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
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	Received same day of collection; chilling process has begun.
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	

Definitions/Glossary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17592-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

HPLC/IC

Qualifier	Qualifier Description
E	Result exceeded calibration range.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
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.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
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.

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

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

Method Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17592-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL SL
300.0	Anions, Ion Chromatography	MCAWW	TAL SL
6010C	Metals (ICP)	SW846	TAL SL
7470A	Mercury (CVAA)	SW846	TAL SL
160.1	Solids, Total Dissolved (TDS)	MCAWW	TAL SL
350.1	Nitrogen, Ammonia	MCAWW	TAL SL
353.1 Preserved	Nitrogen, Nitrate-Nitrite	MCAWW	TAL SL
410.4	COD	MCAWW	TAL SL
415.1	TOC	MCAWW	TAL SL
906.0	Tritium, Total (LSC)	EPA	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17592-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
160-17592-1	MO-1-SDR	Water	05/31/16 09:45	05/31/16 16:30
160-17592-2	MO-1-SS	Water	05/31/16 11:33	05/31/16 16:30
160-17592-3	MO-2-SD	Water	05/31/16 15:00	05/31/16 16:30
160-17592-4	TRIP BLANK	Water	05/31/16 08:00	05/31/16 16:30

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17592-1

Client Sample ID: MO-1-SDR

Date Collected: 05/31/16 09:45
Date Received: 05/31/16 16:30

Lab Sample ID: 160-17592-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/03/16 13:37	1
Acrylonitrile	ND		50	1.7	ug/L			06/03/16 13:37	1
Benzene	ND		5.0	0.25	ug/L			06/03/16 13:37	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/03/16 13:37	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/03/16 13:37	1
Bromoform	ND		5.0	0.37	ug/L			06/03/16 13:37	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/03/16 13:37	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/03/16 13:37	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/03/16 13:37	1
Chloroethane	ND		10	0.38	ug/L			06/03/16 13:37	1
Chloroform	ND		5.0	0.15	ug/L			06/03/16 13:37	1
Chloroprene	ND		5.0	0.39	ug/L			06/03/16 13:37	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/03/16 13:37	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/03/16 13:37	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/03/16 13:37	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/03/16 13:37	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/03/16 13:37	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/03/16 13:37	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/03/16 13:37	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/03/16 13:37	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/03/16 13:37	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/03/16 13:37	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/03/16 13:37	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/03/16 13:37	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/03/16 13:37	1
2-Hexanone	ND		20	0.59	ug/L			06/03/16 13:37	1
Methyl bromide	ND		10	0.40	ug/L			06/03/16 13:37	1
Methyl chloride	ND		10	0.55	ug/L			06/03/16 13:37	1
Methylene bromide	ND		5.0	0.41	ug/L			06/03/16 13:37	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/03/16 13:37	1
Methyl Ethyl Ketone	ND		20	0.39	ug/L			06/03/16 13:37	1
Methyl iodide	ND		5.0	1.5	ug/L			06/03/16 13:37	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/03/16 13:37	1
Styrene	ND		5.0	0.35	ug/L			06/03/16 13:37	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/03/16 13:37	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/03/16 13:37	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/03/16 13:37	1
Toluene	**2.4**	**J B**	5.0	1.0	ug/L			06/03/16 13:37	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/03/16 13:37	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/03/16 13:37	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/03/16 13:37	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/03/16 13:37	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/03/16 13:37	1
Trichloroethene	ND		5.0	0.29	ug/L			06/03/16 13:37	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/03/16 13:37	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/03/16 13:37	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/03/16 13:37	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/03/16 13:37	1
Xylenes, Total	ND		10	0.85	ug/L			06/03/16 13:37	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17592-1

Client Sample ID: MO-1-SDR

Date Collected: 05/31/16 09:45
Date Received: 05/31/16 16:30

Lab Sample ID: 160-17592-1

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*71 - 139*		*06/03/16 13:37*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 121*		*06/03/16 13:37*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*76 - 121*		*06/03/16 13:37*	*1*
Toluene-d8 (Surr)	*108*		*80 - 129*		*06/03/16 13:37*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**1.6**		0.10	0.010	mg/L			06/10/16 04:04	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**130**		10	1.0	mg/L			06/10/16 04:18	20
Chloride	**15**		4.0	0.40	mg/L			06/10/16 04:18	20

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		50	15	ug/L		06/16/16 12:00	06/28/16 14:37	5
Arsenic	ND		50	20	ug/L		06/16/16 12:00	06/28/16 14:37	5
Barium	**98**	**J**	250	75	ug/L		06/16/16 12:00	06/28/16 14:37	5
Beryllium	ND		25	7.5	ug/L		06/16/16 12:00	06/28/16 14:37	5
Boron	ND		500	130	ug/L		06/16/16 12:00	06/28/16 14:37	5
Cadmium	ND		25	7.5	ug/L		06/16/16 12:00	06/28/16 14:37	5
CaHard	**190000**		12000	3700	ug/L		06/16/16 12:00	06/28/16 14:37	5
Calcium	**78000**		5000	1500	ug/L		06/16/16 12:00	06/28/16 14:37	5
Chromium	ND		50	15	ug/L		06/16/16 12:00	06/28/16 14:37	5
Cobalt	ND		250	75	ug/L		06/16/16 12:00	06/28/16 14:37	5
Copper	ND		130	25	ug/L		06/16/16 12:00	06/28/16 14:37	5
Iron	**990**		500	150	ug/L		06/16/16 12:00	06/28/16 14:37	5
Lead	ND		50	15	ug/L		06/16/16 12:00	06/28/16 14:37	5
Magnesium	**45**		5.0	1.5	mg/L		06/16/16 12:00	06/28/16 14:37	5
Manganese	**40**	**J**	75	13	ug/L		06/16/16 12:00	06/28/16 14:37	5
MgHard	**190000**		21000	6200	ug/L		06/16/16 12:00	06/28/16 14:37	5
Nickel	ND		0.20	0.050	mg/L		06/16/16 12:00	06/28/16 14:37	5
Phosphorus	ND	^	1300	380	ug/L		06/16/16 12:00	06/28/16 14:37	5
Selenium	ND		75	25	ug/L		06/16/16 12:00	06/28/16 14:37	5
Silver	ND		50	15	ug/L		06/16/16 12:00	06/28/16 14:37	5
Sodium	**110000**		5000	1500	ug/L		06/16/16 12:00	06/28/16 14:37	5
Thallium	ND		100	25	ug/L		06/16/16 12:00	06/28/16 14:37	5
Total Hardness	**380000**		33000	9900	ug/L		06/16/16 12:00	06/28/16 14:37	5
Vanadium	ND		250	75	ug/L		06/16/16 12:00	06/28/16 14:37	5
Zinc	**30**	**J**	100	30	ug/L		06/16/16 12:00	06/28/16 14:37	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		06/22/16 14:58	06/23/16 11:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	**700**		5.0	3.5	mg/L			06/03/16 08:36	1
Ammonia	**0.43**	**F1**	0.050	0.022	mg/L			06/13/16 19:13	1
Nitrate/Nitrite	ND	F1	0.050	0.011	mg/L			06/27/16 18:43	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17592-1

Client Sample ID: MO-1-SDR

Lab Sample ID: 160-17592-1
Date Collected: 05/31/16 09:45
Matrix: Water
Date Received: 05/31/16 16:30

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	37		5.0	1.1	mg/L		06/07/16 10:04	06/07/16 15:00	1
Total Organic Carbon	12		1.0	0.72	mg/L			06/10/16 17:52	1

Method: 906.0 - Tritium, Total (LSC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-66.7	U	146	146	500	278	pCi/L	06/20/16 15:24	06/21/16 12:14	1

Client Sample ID: MO-1-SS

Lab Sample ID: 160-17592-2
Date Collected: 05/31/16 11:33
Matrix: Water
Date Received: 05/31/16 16:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/03/16 14:03	1
Acrylonitrile	ND		50	1.7	ug/L			06/03/16 14:03	1
Benzene	ND		5.0	0.25	ug/L			06/03/16 14:03	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/03/16 14:03	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/03/16 14:03	1
Bromoform	ND		5.0	0.37	ug/L			06/03/16 14:03	1
Carbon disulfide	1.3	J	5.0	0.37	ug/L			06/03/16 14:03	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/03/16 14:03	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/03/16 14:03	1
Chloroethane	ND		10	0.38	ug/L			06/03/16 14:03	1
Chloroform	ND		5.0	0.15	ug/L			06/03/16 14:03	1
Chloroprene	ND		5.0	0.39	ug/L			06/03/16 14:03	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/03/16 14:03	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/03/16 14:03	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/03/16 14:03	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/03/16 14:03	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/03/16 14:03	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/03/16 14:03	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/03/16 14:03	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/03/16 14:03	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/03/16 14:03	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/03/16 14:03	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/03/16 14:03	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/03/16 14:03	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/03/16 14:03	1
2-Hexanone	ND		20	0.59	ug/L			06/03/16 14:03	1
Methyl bromide	ND		10	0.40	ug/L			06/03/16 14:03	1
Methyl chloride	ND		10	0.55	ug/L			06/03/16 14:03	1
Methylene bromide	ND		5.0	0.41	ug/L			06/03/16 14:03	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/03/16 14:03	1
Methyl Ethyl Ketone	ND		20	0.39	ug/L			06/03/16 14:03	1
Methyl iodide	ND		5.0	1.5	ug/L			06/03/16 14:03	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/03/16 14:03	1
Styrene	ND		5.0	0.35	ug/L			06/03/16 14:03	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/03/16 14:03	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17592-1

Client Sample ID: MO-1-SS

Date Collected: 05/31/16 11:33
Date Received: 05/31/16 16:30

Lab Sample ID: 160-17592-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/03/16 14:03	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/03/16 14:03	1
Toluene	**1.8**	**J B**	5.0	1.0	ug/L			06/03/16 14:03	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/03/16 14:03	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/03/16 14:03	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/03/16 14:03	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/03/16 14:03	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/03/16 14:03	1
Trichloroethene	ND		5.0	0.29	ug/L			06/03/16 14:03	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/03/16 14:03	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/03/16 14:03	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/03/16 14:03	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/03/16 14:03	1
Xylenes, Total	ND		10	0.85	ug/L			06/03/16 14:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*71 - 139*		*06/03/16 14:03*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 121*		*06/03/16 14:03*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*76 - 121*		*06/03/16 14:03*	*1*
Toluene-d8 (Surr)	*104*		*80 - 129*		*06/03/16 14:03*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**1.2**		0.10	0.010	mg/L			06/10/16 04:46	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**330**		10	1.0	mg/L			06/10/16 05:00	20
Chloride	**52**		4.0	0.40	mg/L			06/10/16 05:00	20

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		50	15	ug/L		06/16/16 12:00	06/28/16 15:08	5
Arsenic	ND		50	20	ug/L		06/16/16 12:00	06/28/16 15:08	5
Barium	ND		250	75	ug/L		06/16/16 12:00	06/28/16 15:08	5
Beryllium	ND		25	7.5	ug/L		06/16/16 12:00	06/28/16 15:08	5
Boron	**350**	**J**	500	130	ug/L		06/16/16 12:00	06/28/16 15:08	5
Cadmium	ND		25	7.5	ug/L		06/16/16 12:00	06/28/16 15:08	5
CaHard	**120000**		12000	3700	ug/L		06/16/16 12:00	06/28/16 15:08	5
Calcium	**50000**		5000	1500	ug/L		06/16/16 12:00	06/28/16 15:08	5
Chromium	ND		50	15	ug/L		06/16/16 12:00	06/28/16 15:08	5
Cobalt	ND		250	75	ug/L		06/16/16 12:00	06/28/16 15:08	5
Copper	ND		130	25	ug/L		06/16/16 12:00	06/28/16 15:08	5
Iron	**280**	**J**	500	150	ug/L		06/16/16 12:00	06/28/16 15:08	5
Lead	ND		50	15	ug/L		06/16/16 12:00	06/28/16 15:08	5
Magnesium	**25**		5.0	1.5	mg/L		06/16/16 12:00	06/28/16 15:08	5
Manganese	**450**		75	13	ug/L		06/16/16 12:00	06/28/16 15:08	5
MgHard	**100000**		21000	6200	ug/L		06/16/16 12:00	06/28/16 15:08	5
Nickel	ND		0.20	0.050	mg/L		06/16/16 12:00	06/28/16 15:08	5
Phosphorus	ND	^	1300	380	ug/L		06/16/16 12:00	06/28/16 15:08	5

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17592-1

Client Sample ID: MO-1-SS

Lab Sample ID: 160-17592-2
Date Collected: 05/31/16 11:33
Matrix: Water
Date Received: 05/31/16 16:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND		75	25	ug/L		06/16/16 12:00	06/28/16 15:08	5
Silver	ND		50	15	ug/L		06/16/16 12:00	06/28/16 15:08	5
Sodium	**290000**		5000	1500	ug/L		06/16/16 12:00	06/28/16 15:08	5
Thallium	ND		100	25	ug/L		06/16/16 12:00	06/28/16 15:08	5
Total Hardness	**230000**		33000	9900	ug/L		06/16/16 12:00	06/28/16 15:08	5
Vanadium	ND		250	75	ug/L		06/16/16 12:00	06/28/16 15:08	5
Zinc	ND		100	30	ug/L		06/16/16 12:00	06/28/16 15:08	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		06/22/16 14:58	06/23/16 11:03	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	**1100**		5.0	3.5	mg/L			06/03/16 08:36	1
Ammonia	**1.2**		0.050	0.022	mg/L			06/13/16 19:20	1
Nitrate/Nitrite	ND		0.050	0.011	mg/L			06/28/16 13:36	1
Chemical Oxygen Demand	**110**		5.0	1.1	mg/L		06/07/16 10:04	06/07/16 15:00	1

General Chemistry - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	**29**		2.0	1.4	mg/L			06/13/16 21:51	2

Method: 906.0 - Tritium, Total (LSC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-26.6	U	153	153	500	282	pCi/L	06/20/16 15:24	06/21/16 12:37	1

Client Sample ID: MO-2-SD

Lab Sample ID: 160-17592-3
Date Collected: 05/31/16 15:00
Matrix: Water
Date Received: 05/31/16 16:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/03/16 14:29	1
Acrylonitrile	ND		50	1.7	ug/L			06/03/16 14:29	1
Benzene	ND		5.0	0.25	ug/L			06/03/16 14:29	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/03/16 14:29	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/03/16 14:29	1
Bromoform	ND		5.0	0.37	ug/L			06/03/16 14:29	1
Carbon disulfide	**2.3**	**J**	5.0	0.37	ug/L			06/03/16 14:29	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/03/16 14:29	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/03/16 14:29	1
Chloroethane	ND		10	0.38	ug/L			06/03/16 14:29	1
Chloroform	ND		5.0	0.15	ug/L			06/03/16 14:29	1
Chloroprene	ND		5.0	0.39	ug/L			06/03/16 14:29	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/03/16 14:29	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/03/16 14:29	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/03/16 14:29	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/03/16 14:29	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17592-1

Client Sample ID: MO-2-SD

Date Collected: 05/31/16 15:00
Date Received: 05/31/16 16:30

Lab Sample ID: 160-17592-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/03/16 14:29	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/03/16 14:29	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/03/16 14:29	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/03/16 14:29	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/03/16 14:29	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/03/16 14:29	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/03/16 14:29	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/03/16 14:29	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/03/16 14:29	1
2-Hexanone	ND		20	0.59	ug/L			06/03/16 14:29	1
Methyl bromide	ND		10	0.40	ug/L			06/03/16 14:29	1
Methyl chloride	ND		10	0.55	ug/L			06/03/16 14:29	1
Methylene bromide	ND		5.0	0.41	ug/L			06/03/16 14:29	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/03/16 14:29	1
Methyl Ethyl Ketone	ND		20	0.39	ug/L			06/03/16 14:29	1
Methyl iodide	ND		5.0	1.5	ug/L			06/03/16 14:29	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/03/16 14:29	1
Styrene	ND		5.0	0.35	ug/L			06/03/16 14:29	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/03/16 14:29	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/03/16 14:29	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/03/16 14:29	1
Toluene	**2.1**	**J B**	5.0	1.0	ug/L			06/03/16 14:29	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/03/16 14:29	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/03/16 14:29	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/03/16 14:29	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/03/16 14:29	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/03/16 14:29	1
Trichloroethene	ND		5.0	0.29	ug/L			06/03/16 14:29	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/03/16 14:29	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/03/16 14:29	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/03/16 14:29	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/03/16 14:29	1
Xylenes, Total	ND		10	0.85	ug/L			06/03/16 14:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*71 - 139*		*06/03/16 14:29*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 121*		*06/03/16 14:29*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*76 - 121*		*06/03/16 14:29*	*1*
Toluene-d8 (Surr)	*106*		*80 - 129*		*06/03/16 14:29*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**1.4**		0.10	0.010	mg/L			06/10/16 05:56	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**65**		10	1.0	mg/L			06/10/16 06:10	20
Chloride	**31**		4.0	0.40	mg/L			06/10/16 06:10	20

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17592-1

Client Sample ID: MO-2-SD

Date Collected: 05/31/16 15:00
Date Received: 05/31/16 16:30

Lab Sample ID: 160-17592-3

Matrix: Water

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		50	15	ug/L		06/16/16 12:00	06/28/16 15:13	5
Arsenic	ND		50	20	ug/L		06/16/16 12:00	06/28/16 15:13	5
Barium	**130**	**J**	250	75	ug/L		06/16/16 12:00	06/28/16 15:13	5
Beryllium	ND		25	7.5	ug/L		06/16/16 12:00	06/28/16 15:13	5
Boron	**200**	**J**	500	130	ug/L		06/16/16 12:00	06/28/16 15:13	5
Cadmium	ND		25	7.5	ug/L		06/16/16 12:00	06/28/16 15:13	5
CaHard	**170000**		12000	3700	ug/L		06/16/16 12:00	06/28/16 15:13	5
Calcium	**70000**		5000	1500	ug/L		06/16/16 12:00	06/28/16 15:13	5
Chromium	**16**	**J**	50	15	ug/L		06/16/16 12:00	06/28/16 15:13	5
Cobalt	ND		250	75	ug/L		06/16/16 12:00	06/28/16 15:13	5
Copper	ND		130	25	ug/L		06/16/16 12:00	06/28/16 15:13	5
Iron	**6700**		500	150	ug/L		06/16/16 12:00	06/28/16 15:13	5
Lead	ND		50	15	ug/L		06/16/16 12:00	06/28/16 15:13	5
Magnesium	**31**		5.0	1.5	mg/L		06/16/16 12:00	06/28/16 15:13	5
Manganese	**350**		75	13	ug/L		06/16/16 12:00	06/28/16 15:13	5
MgHard	**130000**		21000	6200	ug/L		06/16/16 12:00	06/28/16 15:13	5
Nickel	ND		0.20	0.050	mg/L		06/16/16 12:00	06/28/16 15:13	5
Phosphorus	**380**	**J ^**	1300	380	ug/L		06/16/16 12:00	06/28/16 15:13	5
Selenium	ND		75	25	ug/L		06/16/16 12:00	06/28/16 15:13	5
Silver	ND		50	15	ug/L		06/16/16 12:00	06/28/16 15:13	5
Sodium	**99000**		5000	1500	ug/L		06/16/16 12:00	06/28/16 15:13	5
Thallium	ND		100	25	ug/L		06/16/16 12:00	06/28/16 15:13	5
Total Hardness	**300000**		33000	9900	ug/L		06/16/16 12:00	06/28/16 15:13	5
Vanadium	ND		250	75	ug/L		06/16/16 12:00	06/28/16 15:13	5
Zinc	**82**	**J**	100	30	ug/L		06/16/16 12:00	06/28/16 15:13	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		06/22/16 14:58	06/23/16 11:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	**550**		5.0	3.5	mg/L			06/03/16 08:36	1
Nitrate/Nitrite	ND		0.050	0.011	mg/L			06/28/16 13:40	1
Chemical Oxygen Demand	**14**		5.0	1.1	mg/L		06/07/16 10:04	06/07/16 15:00	1
Total Organic Carbon	**2.1**		1.0	0.72	mg/L			06/10/16 18:15	1

General Chemistry - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	**2.4**		0.50	0.22	mg/L			06/14/16 21:59	10

Method: 906.0 - Tritium, Total (LSC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-46.4	U	152	152	500	287	pCi/L	06/20/16 15:24	06/21/16 13:00	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17592-1

Client Sample ID: TRIP BLANK

Date Collected: 05/31/16 08:00
Date Received: 05/31/16 16:30

Lab Sample ID: 160-17592-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/03/16 14:54	1
Acrylonitrile	ND		50	1.7	ug/L			06/03/16 14:54	1
Benzene	ND		5.0	0.25	ug/L			06/03/16 14:54	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/03/16 14:54	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/03/16 14:54	1
Bromoform	ND		5.0	0.37	ug/L			06/03/16 14:54	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/03/16 14:54	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/03/16 14:54	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/03/16 14:54	1
Chloroethane	ND		10	0.38	ug/L			06/03/16 14:54	1
Chloroform	ND		5.0	0.15	ug/L			06/03/16 14:54	1
Chloroprene	ND		5.0	0.39	ug/L			06/03/16 14:54	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/03/16 14:54	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/03/16 14:54	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/03/16 14:54	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/03/16 14:54	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/03/16 14:54	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/03/16 14:54	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/03/16 14:54	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/03/16 14:54	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/03/16 14:54	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/03/16 14:54	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/03/16 14:54	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/03/16 14:54	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/03/16 14:54	1
2-Hexanone	ND		20	0.59	ug/L			06/03/16 14:54	1
Methyl bromide	ND		10	0.40	ug/L			06/03/16 14:54	1
Methyl chloride	ND		10	0.55	ug/L			06/03/16 14:54	1
Methylene bromide	ND		5.0	0.41	ug/L			06/03/16 14:54	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/03/16 14:54	1
Methyl Ethyl Ketone	**16**	**J**	20	0.39	ug/L			06/03/16 14:54	1
Methyl iodide	ND		5.0	1.5	ug/L			06/03/16 14:54	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/03/16 14:54	1
Styrene	ND		5.0	0.35	ug/L			06/03/16 14:54	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/03/16 14:54	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/03/16 14:54	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/03/16 14:54	1
Toluene	**2.1**	**J B**	5.0	1.0	ug/L			06/03/16 14:54	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/03/16 14:54	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/03/16 14:54	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/03/16 14:54	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/03/16 14:54	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/03/16 14:54	1
Trichloroethene	ND		5.0	0.29	ug/L			06/03/16 14:54	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/03/16 14:54	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/03/16 14:54	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/03/16 14:54	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/03/16 14:54	1
Xylenes, Total	ND		10	0.85	ug/L			06/03/16 14:54	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17592-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 160-17592-4

Date Collected: 05/31/16 08:00

Matrix: Water

Date Received: 05/31/16 16:30

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		71 - 139		06/03/16 14:54	1
Dibromofluoromethane (Surr)	101		80 - 121		06/03/16 14:54	1
1,2-Dichloroethane-d4 (Surr)	104		76 - 121		06/03/16 14:54	1
Toluene-d8 (Surr)	105		80 - 129		06/03/16 14:54	1

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

Lab Sample ID: MB 160-254556/8
Matrix: Water
Analysis Batch: 254556

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/03/16 10:12	1
Acrylonitrile	ND		50	1.7	ug/L			06/03/16 10:12	1
Benzene	ND		5.0	0.25	ug/L			06/03/16 10:12	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/03/16 10:12	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/03/16 10:12	1
Bromoform	ND		5.0	0.37	ug/L			06/03/16 10:12	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/03/16 10:12	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/03/16 10:12	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/03/16 10:12	1
Chloroethane	ND		10	0.38	ug/L			06/03/16 10:12	1
Chloroform	ND		5.0	0.15	ug/L			06/03/16 10:12	1
Chloroprene	ND		5.0	0.39	ug/L			06/03/16 10:12	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/03/16 10:12	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/03/16 10:12	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/03/16 10:12	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/03/16 10:12	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/03/16 10:12	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/03/16 10:12	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/03/16 10:12	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/03/16 10:12	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/03/16 10:12	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/03/16 10:12	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/03/16 10:12	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/03/16 10:12	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/03/16 10:12	1
2-Hexanone	ND		20	0.59	ug/L			06/03/16 10:12	1
Methyl bromide	ND		10	0.40	ug/L			06/03/16 10:12	1
Methyl chloride	ND		10	0.55	ug/L			06/03/16 10:12	1
Methylene bromide	ND		5.0	0.41	ug/L			06/03/16 10:12	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/03/16 10:12	1
Methyl Ethyl Ketone	ND		20	0.39	ug/L			06/03/16 10:12	1
Methyl iodide	ND		5.0	1.5	ug/L			06/03/16 10:12	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/03/16 10:12	1
Styrene	ND		5.0	0.35	ug/L			06/03/16 10:12	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/03/16 10:12	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/03/16 10:12	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/03/16 10:12	1
Toluene	2.61	J	5.0	1.0	ug/L			06/03/16 10:12	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/03/16 10:12	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/03/16 10:12	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/03/16 10:12	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/03/16 10:12	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/03/16 10:12	1
Trichloroethene	ND		5.0	0.29	ug/L			06/03/16 10:12	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/03/16 10:12	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/03/16 10:12	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/03/16 10:12	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/03/16 10:12	1

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

Lab Sample ID: MB 160-254556/8
Matrix: Water
Analysis Batch: 254556

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		10	0.85	ug/L			06/03/16 10:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*71 - 139*		*06/03/16 10:12*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 121*		*06/03/16 10:12*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*76 - 121*		*06/03/16 10:12*	*1*
Toluene-d8 (Surr)	*106*		*80 - 129*		*06/03/16 10:12*	*1*

Lab Sample ID: LCS 160-254556/5
Matrix: Water
Analysis Batch: 254556

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	50.0	48.3		ug/L		97	63 - 131
Acrylonitrile	500	448		ug/L		90	81 - 117
Benzene	50.0	48.2		ug/L		96	80 - 120
Bromochloromethane	50.0	45.7		ug/L		91	80 - 120
Bromodichloromethane	50.0	49.5		ug/L		99	80 - 120
Bromoform	50.0	49.1		ug/L		98	80 - 120
Carbon disulfide	50.0	48.5		ug/L		97	79 - 126
Carbon tetrachloride	50.0	49.7		ug/L		99	73 - 123
Chlorobenzene	50.0	49.7		ug/L		99	80 - 120
Chloroethane	50.0	47.6		ug/L		95	52 - 140
Chloroform	50.0	47.9		ug/L		96	80 - 120
Chloroprene	50.0	49.6		ug/L		99	80 - 120
cis-1,2-Dichloroethene	50.0	48.5		ug/L		97	80 - 120
cis-1,3-Dichloropropene	50.0	49.8		ug/L		100	80 - 122
Dibromochloromethane	50.0	49.4		ug/L		99	80 - 120
1,2-Dibromo-3-Chloropropane	50.0	42.6		ug/L		85	77 - 125
1,2-Dibromoethane (EDB)	50.0	48.8		ug/L		98	80 - 120
1,3-Dichlorobenzene	50.0	50.8		ug/L		102	80 - 120
1,4-Dichlorobenzene	50.0	50.2		ug/L		100	80 - 120
Dichlorodifluoromethane	50.0	52.7		ug/L		105	62 - 140
1,1-Dichloroethane	50.0	47.8		ug/L		96	80 - 120
1,2-Dichloroethane	50.0	47.5		ug/L		95	69 - 124
1,1-Dichloroethene	50.0	47.0		ug/L		94	77 - 126
1,2-Dichloropropane	50.0	48.4		ug/L		97	80 - 120
Ethylbenzene	50.0	49.3		ug/L		99	80 - 120
2-Hexanone	50.0	47.9		ug/L		96	64 - 136
Methyl bromide	50.0	46.8		ug/L		94	57 - 139
Methyl chloride	50.0	50.1		ug/L		100	70 - 127
Methylene bromide	50.0	47.4		ug/L		95	78 - 120
Methylene Chloride	50.0	46.4		ug/L		93	80 - 120
Methyl Ethyl Ketone	50.0	41.2		ug/L		82	70 - 130
Methyl iodide	50.0	47.9		ug/L		96	73 - 125
4-Methyl-2-pentanone (MIBK)	50.0	45.3		ug/L		91	76 - 129
Styrene	50.0	51.2		ug/L		102	80 - 120
1,1,1,2-Tetrachloroethane	50.0	50.6		ug/L		101	80 - 120

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

Lab Sample ID: LCS 160-254556/5
Matrix: Water
Analysis Batch: 254556

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2,2-Tetrachloroethane	50.0	47.1		ug/L		94	80 - 120
Tetrachloroethene	50.0	50.8		ug/L		102	80 - 120
Toluene	50.0	48.0		ug/L		96	80 - 120
trans-1,4-Dichloro-2-butene	50.0	46.7		ug/L		93	75 - 127
trans-1,2-Dichloroethene	50.0	49.3		ug/L		99	80 - 120
trans-1,3-Dichloropropene	50.0	50.5		ug/L		101	80 - 130
1,1,1-Trichloroethane	50.0	49.4		ug/L		99	76 - 120
1,1,2-Trichloroethane	50.0	47.7		ug/L		95	80 - 120
Trichloroethene	50.0	49.0		ug/L		98	73 - 120
Trichlorofluoromethane	50.0	48.6		ug/L		97	74 - 130
1,2,3-Trichloropropane	50.0	49.6		ug/L		99	80 - 120
Vinyl acetate	50.0	48.2		ug/L		96	37 - 140
Vinyl chloride	50.0	49.2		ug/L		98	51 - 140
Xylenes, Total	100	100		ug/L		100	80 - 121

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*71 - 139*
Dibromofluoromethane (Surr)	*102*		*80 - 121*
1,2-Dichloroethane-d4 (Surr)	*102*		*76 - 121*
Toluene-d8 (Surr)	*104*		*80 - 129*

Lab Sample ID: LCSD 160-254556/6
Matrix: Water
Analysis Batch: 254556

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
Acetone	50.0	47.9		ug/L		96	63 - 131	1	20
Acrylonitrile	500	436		ug/L		87	81 - 117	3	20
Benzene	50.0	47.3		ug/L		95	80 - 120	2	20
Bromochloromethane	50.0	46.2		ug/L		92	80 - 120	1	20
Bromodichloromethane	50.0	48.8		ug/L		98	80 - 120	1	20
Bromoform	50.0	49.7		ug/L		99	80 - 120	1	20
Carbon disulfide	50.0	47.1		ug/L		94	79 - 126	3	20
Carbon tetrachloride	50.0	48.6		ug/L		97	73 - 123	2	20
Chlorobenzene	50.0	50.7		ug/L		101	80 - 120	2	20
Chloroethane	50.0	45.7		ug/L		91	52 - 140	4	20
Chloroform	50.0	47.5		ug/L		95	80 - 120	1	20
Chloroprene	50.0	47.6		ug/L		95	80 - 120	4	20
cis-1,2-Dichloroethene	50.0	46.9		ug/L		94	80 - 120	3	20
cis-1,3-Dichloropropene	50.0	46.9		ug/L		94	80 - 122	6	20
Dibromochloromethane	50.0	50.7		ug/L		101	80 - 120	3	20
1,2-Dibromo-3-Chloropropane	50.0	43.0		ug/L		86	77 - 125	1	20
1,2-Dibromoethane (EDB)	50.0	48.1		ug/L		96	80 - 120	1	20
1,3-Dichlorobenzene	50.0	49.9		ug/L		100	80 - 120	2	20
1,4-Dichlorobenzene	50.0	49.8		ug/L		100	80 - 120	1	20
Dichlorodifluoromethane	50.0	51.0		ug/L		102	62 - 140	3	20
1,1-Dichloroethane	50.0	47.2		ug/L		94	80 - 120	1	20
1,2-Dichloroethane	50.0	46.8		ug/L		94	69 - 124	2	20

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

Lab Sample ID: LCSD 160-254556/6
Matrix: Water
Analysis Batch: 254556

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
1,1-Dichloroethene	50.0	47.1		ug/L		94	77 - 126	0	20
1,2-Dichloropropane	50.0	46.8		ug/L		94	80 - 120	3	20
Ethylbenzene	50.0	50.6		ug/L		101	80 - 120	3	20
2-Hexanone	50.0	48.0		ug/L		96	64 - 136	0	20
Methyl bromide	50.0	44.2		ug/L		88	57 - 139	6	20
Methyl chloride	50.0	47.4		ug/L		95	70 - 127	6	20
Methylene bromide	50.0	45.6		ug/L		91	78 - 120	4	20
Methylene Chloride	50.0	46.2		ug/L		92	80 - 120	1	20
Methyl Ethyl Ketone	50.0	41.7		ug/L		83	70 - 130	1	20
Methyl iodide	50.0	47.1		ug/L		94	73 - 125	2	20
4-Methyl-2-pentanone (MIBK)	50.0	44.6		ug/L		89	76 - 129	2	20
Styrene	50.0	50.5		ug/L		101	80 - 120	1	20
1,1,1,2-Tetrachloroethane	50.0	51.2		ug/L		102	80 - 120	1	20
1,1,2,2-Tetrachloroethane	50.0	47.1		ug/L		94	80 - 120	0	20
Tetrachloroethene	50.0	51.4		ug/L		103	80 - 120	1	20
Toluene	50.0	49.1		ug/L		98	80 - 120	2	20
trans-1,4-Dichloro-2-butene	50.0	46.4		ug/L		93	75 - 127	1	20
trans-1,2-Dichloroethene	50.0	47.9		ug/L		96	80 - 120	3	20
trans-1,3-Dichloropropene	50.0	51.1		ug/L		102	80 - 130	1	20
1,1,1-Trichloroethane	50.0	48.6		ug/L		97	76 - 120	2	20
1,1,2-Trichloroethane	50.0	47.9		ug/L		96	80 - 120	1	20
Trichloroethene	50.0	48.5		ug/L		97	73 - 120	1	20
Trichlorofluoromethane	50.0	48.4		ug/L		97	74 - 130	0	20
1,2,3-Trichloropropane	50.0	46.2		ug/L		92	80 - 120	7	20
Vinyl acetate	50.0	46.7		ug/L		93	37 - 140	3	20
Vinyl chloride	50.0	46.2		ug/L		92	51 - 140	6	20
Xylenes, Total	100	100		ug/L		100	80 - 121	0	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*71 - 139*
Dibromofluoromethane (Surr)	*101*		*80 - 121*
1,2-Dichloroethane-d4 (Surr)	*99*		*76 - 121*
Toluene-d8 (Surr)	*106*		*80 - 129*

Lab Sample ID: 160-17592-1 MS
Matrix: Water
Analysis Batch: 254556

Client Sample ID: MO-1-SDR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND		50.0	51.9		ug/L		104	52 - 138
Acrylonitrile	ND		500	482		ug/L		96	58 - 142
Benzene	ND		50.0	49.5		ug/L		99	80 - 120
Bromochloromethane	ND		50.0	49.4		ug/L		99	72 - 125
Bromodichloromethane	ND		50.0	49.6		ug/L		99	71 - 128
Bromoform	ND		50.0	55.5		ug/L		111	65 - 133
Carbon disulfide	ND		50.0	51.4		ug/L		103	69 - 139
Carbon tetrachloride	ND		50.0	51.8		ug/L		104	70 - 126
Chlorobenzene	ND		50.0	50.4		ug/L		101	80 - 120

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

Lab Sample ID: 160-17592-1 MS
Matrix: Water
Analysis Batch: 254556

Client Sample ID: MO-1-SDR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloroethane	ND		50.0	52.0		ug/L		104	59 - 144
Chloroform	ND		50.0	51.0		ug/L		102	80 - 120
Chloroprene	ND		50.0	50.2		ug/L		100	77 - 121
cis-1,2-Dichloroethene	ND		50.0	50.5		ug/L		101	80 - 124
cis-1,3-Dichloropropene	ND		50.0	47.7		ug/L		95	67 - 130
Dibromochloromethane	ND		50.0	53.5		ug/L		107	68 - 133
1,2-Dibromo-3-Chloropropane	ND		50.0	49.8		ug/L		100	58 - 148
1,2-Dibromoethane (EDB)	ND		50.0	53.1		ug/L		106	65 - 138
1,3-Dichlorobenzene	ND		50.0	51.0		ug/L		102	80 - 120
1,4-Dichlorobenzene	ND		50.0	50.8		ug/L		102	80 - 120
Dichlorodifluoromethane	ND		50.0	58.4		ug/L		117	65 - 140
1,1-Dichloroethane	ND		50.0	51.3		ug/L		103	80 - 120
1,2-Dichloroethane	ND		50.0	50.9		ug/L		102	56 - 136
1,1-Dichloroethene	ND		50.0	49.9		ug/L		100	66 - 137
1,2-Dichloropropane	ND		50.0	50.5		ug/L		101	80 - 123
Ethylbenzene	ND		50.0	49.7		ug/L		99	80 - 121
2-Hexanone	ND		50.0	50.8		ug/L		102	47 - 150
Methyl bromide	ND		50.0	49.0		ug/L		98	53 - 146
Methyl chloride	ND		50.0	49.3		ug/L		99	61 - 137
Methylene bromide	ND		50.0	49.7		ug/L		99	61 - 136
Methylene Chloride	ND		50.0	51.8		ug/L		104	80 - 120
Methyl Ethyl Ketone	ND		50.0	45.3		ug/L		91	58 - 143
Methyl iodide	ND		50.0	51.2		ug/L		102	69 - 124
4-Methyl-2-pentanone (MIBK)	ND		50.0	50.2		ug/L		100	53 - 150
Styrene	ND		50.0	50.4		ug/L		101	44 - 150
1,1,1,2-Tetrachloroethane	ND		50.0	54.3		ug/L		109	80 - 120
1,1,2,2-Tetrachloroethane	ND		50.0	53.5		ug/L		107	60 - 150
Tetrachloroethene	ND		50.0	49.8		ug/L		100	66 - 132
Toluene	2.4	J B	50.0	50.2		ug/L		96	75 - 134
trans-1,4-Dichloro-2-butene	ND		50.0	45.0		ug/L		90	55 - 146
trans-1,2-Dichloroethene	ND		50.0	50.9		ug/L		102	79 - 121
trans-1,3-Dichloropropene	ND		50.0	52.9		ug/L		106	68 - 143
1,1,1-Trichloroethane	ND		50.0	52.4		ug/L		105	74 - 123
1,1,2-Trichloroethane	ND		50.0	53.9		ug/L		108	70 - 134
Trichloroethene	ND		50.0	47.6		ug/L		95	63 - 120
Trichlorofluoromethane	ND		50.0	54.5		ug/L		109	53 - 150
1,2,3-Trichloropropane	ND		50.0	55.9		ug/L		112	62 - 137
Vinyl acetate	ND		50.0	50.9		ug/L		102	63 - 150
Vinyl chloride	ND		50.0	52.2		ug/L		104	54 - 140
Xylenes, Total	ND		100	99.9		ug/L		100	80 - 124

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*71 - 139*
Dibromofluoromethane (Surr)	*105*		*80 - 121*
1,2-Dichloroethane-d4 (Surr)	*102*		*76 - 121*
Toluene-d8 (Surr)	*110*		*80 - 129*

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

Lab Sample ID: 160-17592-1 MSD
Matrix: Water
Analysis Batch: 254556

Client Sample ID: MO-1-SDR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	ND		50.0	50.3		ug/L		101	52 - 138	3	20
Acrylonitrile	ND		500	454		ug/L		91	58 - 142	6	20
Benzene	ND		50.0	47.5		ug/L		95	80 - 120	4	20
Bromochloromethane	ND		50.0	45.7		ug/L		91	72 - 125	8	20
Bromodichloromethane	ND		50.0	48.9		ug/L		98	71 - 128	1	20
Bromoform	ND		50.0	52.0		ug/L		104	65 - 133	6	20
Carbon disulfide	ND		50.0	47.5		ug/L		95	69 - 139	8	20
Carbon tetrachloride	ND		50.0	48.2		ug/L		96	70 - 126	7	20
Chlorobenzene	ND		50.0	48.9		ug/L		98	80 - 120	3	20
Chloroethane	ND		50.0	48.1		ug/L		96	59 - 144	8	20
Chloroform	ND		50.0	46.9		ug/L		94	80 - 120	8	20
Chloroprene	ND		50.0	47.5		ug/L		95	77 - 121	6	20
cis-1,2-Dichloroethene	ND		50.0	46.9		ug/L		94	80 - 124	7	20
cis-1,3-Dichloropropene	ND		50.0	48.0		ug/L		96	67 - 130	0	20
Dibromochloromethane	ND		50.0	51.7		ug/L		103	68 - 133	4	20
1,2-Dibromo-3-Chloropropane	ND		50.0	43.5		ug/L		87	58 - 148	14	20
1,2-Dibromoethane (EDB)	ND		50.0	50.1		ug/L		100	65 - 138	6	20
1,3-Dichlorobenzene	ND		50.0	49.5		ug/L		99	80 - 120	3	20
1,4-Dichlorobenzene	ND		50.0	49.4		ug/L		99	80 - 120	3	20
Dichlorodifluoromethane	ND		50.0	53.1		ug/L		106	65 - 140	10	20
1,1-Dichloroethane	ND		50.0	47.0		ug/L		94	80 - 120	9	20
1,2-Dichloroethane	ND		50.0	48.5		ug/L		97	56 - 136	5	20
1,1-Dichloroethene	ND		50.0	46.4		ug/L		93	66 - 137	7	20
1,2-Dichloropropane	ND		50.0	48.2		ug/L		96	80 - 123	5	20
Ethylbenzene	ND		50.0	48.5		ug/L		97	80 - 121	3	20
2-Hexanone	ND		50.0	50.0		ug/L		100	47 - 150	2	20
Methyl bromide	ND		50.0	44.1		ug/L		88	53 - 146	11	20
Methyl chloride	ND		50.0	43.2		ug/L		86	61 - 137	13	20
Methylene bromide	ND		50.0	47.0		ug/L		94	61 - 136	6	20
Methylene Chloride	ND		50.0	46.1		ug/L		92	80 - 120	12	20
Methyl Ethyl Ketone	ND		50.0	38.7		ug/L		77	58 - 143	16	20
Methyl iodide	ND		50.0	46.5		ug/L		93	69 - 124	10	20
4-Methyl-2-pentanone (MIBK)	ND		50.0	46.5		ug/L		93	53 - 150	8	20
Styrene	ND		50.0	49.7		ug/L		99	44 - 150	1	20
1,1,1,2-Tetrachloroethane	ND		50.0	51.1		ug/L		102	80 - 120	6	20
1,1,2,2-Tetrachloroethane	ND		50.0	49.2		ug/L		98	60 - 150	8	20
Tetrachloroethene	ND		50.0	48.7		ug/L		97	66 - 132	2	20
Toluene	2.4	J B	50.0	47.5		ug/L		90	75 - 134	6	20
trans-1,4-Dichloro-2-butene	ND		50.0	42.6		ug/L		85	55 - 146	6	20
trans-1,2-Dichloroethene	ND		50.0	45.9		ug/L		92	79 - 121	10	20
trans-1,3-Dichloropropene	ND		50.0	49.7		ug/L		99	68 - 143	6	20
1,1,1-Trichloroethane	ND		50.0	48.8		ug/L		98	74 - 123	7	20
1,1,2-Trichloroethane	ND		50.0	50.9		ug/L		102	70 - 134	6	20
Trichloroethene	ND		50.0	47.3		ug/L		95	63 - 120	1	20
Trichlorofluoromethane	ND		50.0	48.2		ug/L		96	53 - 150	12	20
1,2,3-Trichloropropane	ND		50.0	50.8		ug/L		102	62 - 137	10	20
Vinyl acetate	ND		50.0	51.7		ug/L		103	63 - 150	2	20
Vinyl chloride	ND		50.0	46.6		ug/L		93	54 - 140	11	20

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

Lab Sample ID: 160-17592-1 MSD — **Client Sample ID: MO-1-SDR**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 254556

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Xylenes, Total	ND		100	96.5		ug/L		97	80 - 124	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*71 - 139*
Dibromofluoromethane (Surr)	*99*		*80 - 121*
1,2-Dichloroethane-d4 (Surr)	*101*		*76 - 121*
Toluene-d8 (Surr)	*102*		*80 - 129*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 160-255873/11 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 255873

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.10	0.010	mg/L			06/09/16 17:24	1
Sulfate	ND		0.50	0.050	mg/L			06/09/16 17:24	1
Chloride	ND		0.20	0.020	mg/L			06/09/16 17:24	1

Lab Sample ID: LCS 160-255873/12 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 255873

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.00	1.01		mg/L		101	90 - 110
Sulfate	8.00	7.56		mg/L		94	90 - 110
Chloride	2.00	1.97		mg/L		99	90 - 110

Lab Sample ID: 160-17630-D-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 255873

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.5		2.00	3.61	E	mg/L		104	90 - 110

Lab Sample ID: 160-17630-D-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 255873

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Fluoride	1.5		1.52		mg/L		0.05	20

QC Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17592-1

Method: 300.0 - Anions, Ion Chromatography - DL

Lab Sample ID: 160-17630-D-1 MS
Matrix: Water
Analysis Batch: 255873

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate - DL	58		80.0	132		mg/L		93	90 - 110
Chloride - DL	49		40.0	87.4		mg/L		95	90 - 110

Lab Sample ID: 160-17630-D-1 DU
Matrix: Water
Analysis Batch: 255873

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate - DL	58		57.6		mg/L		0	20
Chloride - DL	49		49.0		mg/L		0.4	20

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 160-256548/1-A
Matrix: Water
Analysis Batch: 258532

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 256548

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	3.00	J	10	3.0	ug/L		06/16/16 12:00	06/28/16 14:28	1
Arsenic	ND		10	4.0	ug/L		06/16/16 12:00	06/28/16 14:28	1
Barium	ND		50	15	ug/L		06/16/16 12:00	06/28/16 14:28	1
Beryllium	ND		5.0	1.5	ug/L		06/16/16 12:00	06/28/16 14:28	1
Boron	ND		100	25	ug/L		06/16/16 12:00	06/28/16 14:28	1
Cadmium	ND		5.0	1.5	ug/L		06/16/16 12:00	06/28/16 14:28	1
CaHard	ND		2500	750	ug/L		06/16/16 12:00	06/28/16 14:28	1
Calcium	ND		1000	300	ug/L		06/16/16 12:00	06/28/16 14:28	1
Chromium	ND		10	3.0	ug/L		06/16/16 12:00	06/28/16 14:28	1
Cobalt	ND		50	15	ug/L		06/16/16 12:00	06/28/16 14:28	1
Copper	ND		25	5.0	ug/L		06/16/16 12:00	06/28/16 14:28	1
Iron	ND		100	30	ug/L		06/16/16 12:00	06/28/16 14:28	1
Lead	ND		10	3.0	ug/L		06/16/16 12:00	06/28/16 14:28	1
Magnesium	ND		1.0	0.30	mg/L		06/16/16 12:00	06/28/16 14:28	1
Manganese	ND		15	2.5	ug/L		06/16/16 12:00	06/28/16 14:28	1
MgHard	ND		4100	1200	ug/L		06/16/16 12:00	06/28/16 14:28	1
Nickel	ND		0.040	0.010	mg/L		06/16/16 12:00	06/28/16 14:28	1
Phosphorus	ND	^	250	75	ug/L		06/16/16 12:00	06/28/16 14:28	1
Selenium	ND		15	5.0	ug/L		06/16/16 12:00	06/28/16 14:28	1
Silver	ND		10	3.0	ug/L		06/16/16 12:00	06/28/16 14:28	1
Sodium	ND		1000	300	ug/L		06/16/16 12:00	06/28/16 14:28	1
Thallium	ND		20	5.0	ug/L		06/16/16 12:00	06/28/16 14:28	1
Total Hardness	ND		6600	2000	ug/L		06/16/16 12:00	06/28/16 14:28	1
Vanadium	ND		50	15	ug/L		06/16/16 12:00	06/28/16 14:28	1
Zinc	ND		20	6.0	ug/L		06/16/16 12:00	06/28/16 14:28	1

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

Lab Sample ID: LCS 160-256548/2-A
Matrix: Water
Analysis Batch: 258532

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 256548

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	500	481		ug/L		96	80 - 120
Arsenic	1000	973		ug/L		97	80 - 120
Barium	1000	978		ug/L		98	80 - 120
Beryllium	1000	974		ug/L		97	80 - 120
Boron	2000	1940		ug/L		97	80 - 120
Cadmium	1000	979		ug/L		98	80 - 120
Calcium	10000	10200		ug/L		102	80 - 120
Chromium	1000	998		ug/L		100	80 - 120
Cobalt	1000	988		ug/L		99	80 - 120
Copper	1000	920		ug/L		92	80 - 120
Iron	10000	9800		ug/L		98	80 - 120
Lead	1000	978		ug/L		98	80 - 120
Magnesium	10.0	9.78		mg/L		98	80 - 120
Manganese	1000	983		ug/L		98	80 - 120
Nickel	1.00	1.00		mg/L		100	80 - 120
Phosphorus	1000	1140	^	ug/L		114	80 - 120
Selenium	500	485		ug/L		97	80 - 120
Silver	200	198		ug/L		99	80 - 120
Sodium	10000	10100		ug/L		101	80 - 120
Thallium	200	189		ug/L		95	80 - 120
Vanadium	1000	972		ug/L		97	80 - 120
Zinc	1000	1010		ug/L		101	80 - 120

Lab Sample ID: 160-17592-1 MS
Matrix: Water
Analysis Batch: 258532

Client Sample ID: MO-1-SDR
Prep Type: Total/NA
Prep Batch: 256548

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND		500	465		ug/L		93	75 - 125
Arsenic	ND		1000	959		ug/L		96	75 - 125
Barium	98	J	1000	1040		ug/L		95	75 - 125
Beryllium	ND		1000	966		ug/L		97	75 - 125
Boron	ND		2000	2000		ug/L		100	75 - 125
Cadmium	ND		1000	942		ug/L		94	75 - 125
Calcium	78000		10000	82300	4	ug/L		43	75 - 125
Chromium	ND		1000	955		ug/L		95	75 - 125
Cobalt	ND		1000	944		ug/L		94	75 - 125
Copper	ND		1000	875		ug/L		87	75 - 125
Iron	990		10000	10500		ug/L		95	75 - 125
Lead	ND		1000	929		ug/L		93	75 - 125
Magnesium	45		10.0	53.9	4	mg/L		87	75 - 125
Manganese	40	J	1000	994		ug/L		95	75 - 125
Nickel	ND		1.00	0.966		mg/L		97	75 - 125
Phosphorus	ND	^	1000	1130	J ^	ug/L		113	75 - 125
Selenium	ND		500	429		ug/L		86	75 - 125
Silver	ND		200	197		ug/L		99	75 - 125
Sodium	110000		10000	115000	4	ug/L		77	75 - 125
Thallium	ND		200	173		ug/L		87	75 - 125

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

Lab Sample ID: 160-17592-1 MS — **Client Sample ID: MO-1-SDR**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258532 — **Prep Batch: 256548**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Vanadium	ND		1000	964		ug/L		96	75 - 125
Zinc	30	J	1000	999		ug/L		97	75 - 125

Lab Sample ID: 160-17592-1 MSD — **Client Sample ID: MO-1-SDR**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258532 — **Prep Batch: 256548**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	ND		500	490		ug/L		98	75 - 125	5	20
Arsenic	ND		1000	1000		ug/L		100	75 - 125	4	20
Barium	98	J	1000	1050		ug/L		95	75 - 125	1	20
Beryllium	ND		1000	967		ug/L		97	75 - 125	0	20
Boron	ND		2000	2030		ug/L		101	75 - 125	1	20
Cadmium	ND		1000	996		ug/L		100	75 - 125	6	20
Calcium	78000		10000	88000	4	ug/L		100	75 - 125	7	20
Chromium	ND		1000	1010		ug/L		101	75 - 125	5	20
Cobalt	ND		1000	995		ug/L		99	75 - 125	5	20
Copper	ND		1000	924		ug/L		92	75 - 125	5	20
Iron	990		10000	10600		ug/L		96	75 - 125	1	20
Lead	ND		1000	988		ug/L		99	75 - 125	6	20
Magnesium	45		10.0	54.9	4	mg/L		97	75 - 125	2	20
Manganese	40	J	1000	1010		ug/L		97	75 - 125	2	20
Nickel	ND		1.00	1.02		mg/L		102	75 - 125	5	20
Phosphorus	ND	^	1000	1180	J ^	ug/L		118	75 - 125	4	20
Selenium	ND		500	455		ug/L		91	75 - 125	6	20
Silver	ND		200	196		ug/L		98	75 - 125	1	20
Sodium	110000		10000	118000	4	ug/L		106	75 - 125	2	20
Thallium	ND		200	183		ug/L		92	75 - 125	6	20
Vanadium	ND		1000	969		ug/L		97	75 - 125	1	20
Zinc	30	J	1000	1060		ug/L		103	75 - 125	6	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 160-257625/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257909 — **Prep Batch: 257625**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		06/22/16 14:58	06/23/16 10:46	1

Lab Sample ID: LCS 160-257625/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257909 — **Prep Batch: 257625**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	5.00	5.10		ug/L		102	80 - 120

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: 160-17602-A-4-H MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257909 — **Prep Batch: 257625**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	ND		5.00	4.97		ug/L		99	80 - 120		

Lab Sample ID: 160-17602-A-4-I MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257909 — **Prep Batch: 257625**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		5.00	5.07		ug/L		101	80 - 120	2	20

Method: 160.1 - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 160-254559/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 254559

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		5.0	3.5	mg/L			06/03/16 08:36	1

Lab Sample ID: LCS 160-254559/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 254559

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids (TDS)			500	504		mg/L		101	90 - 110		

Method: 160.1 - Solids, Total Dissolved (TDS) - DL

Lab Sample ID: 160-17614-B-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 254559

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids (TDS) - DL	2800			2800		mg/L				0.5	20

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 160-256321/11 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256321

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.050	0.022	mg/L			06/13/16 19:01	1

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: LCS 160-256321/12 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256321

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia			0.500	0.503		mg/L		101	90 - 110		

Lab Sample ID: 160-17592-1 MS — **Client Sample ID: MO-1-SDR**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256321

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia	0.43	F1	0.500	1.01	F1	mg/L		116	90 - 110		

Lab Sample ID: 160-17592-1 DU — **Client Sample ID: MO-1-SDR**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256321

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Ammonia	0.43	F1		0.440		mg/L				2	20

Lab Sample ID: MB 160-256509/11 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256509

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.050	0.022	mg/L			06/14/16 21:55	1

Lab Sample ID: LCS 160-256509/12 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256509

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia			0.500	0.497		mg/L		99	90 - 110		

Method: 350.1 - Nitrogen, Ammonia - DL

Lab Sample ID: 160-17630-C-1 MS ^10 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256509

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia - DL	3.5	F1	0.500	4.18	4	mg/L		129	90 - 110		

Lab Sample ID: 160-17630-C-1 DU ^10 — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256509

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Ammonia - DL	3.5	F1		3.42		mg/L				3	20

QC Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17592-1

Method: 353.1 Preserved - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 160-258378/14 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258378

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate/Nitrite	ND		0.050	0.011	mg/L			06/27/16 18:30	1

Lab Sample ID: LCS 160-258378/15 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258378

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate/Nitrite	0.500	0.472		mg/L		94	90 - 110

Lab Sample ID: 160-17592-1 MS — **Client Sample ID: MO-1-SDR**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258378

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate/Nitrite	ND	F1	0.500	ND	F1	mg/L		0	90 - 110

Lab Sample ID: 160-17592-1 DU — **Client Sample ID: MO-1-SDR**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258378

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrate/Nitrite	ND	F1	ND		mg/L		NC	20

Method: 410.4 - COD

Lab Sample ID: MB 160-255177/3-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 255249 — **Prep Batch: 255177**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		5.0	1.1	mg/L		06/07/16 10:04	06/07/16 15:00	1

Lab Sample ID: LCS 160-255177/4-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 255249 — **Prep Batch: 255177**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	50.0	53.0		mg/L		106	90 - 110

Lab Sample ID: 160-17582-B-6-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 255249 — **Prep Batch: 255177**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	ND		50.0	53.0		mg/L		106	90 - 110

Method: 410.4 - COD (Continued)

Lab Sample ID: 160-17582-B-6-B DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 255249 — **Prep Batch: 255177**

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Chemical Oxygen Demand	ND			ND		mg/L				NC	20

Method: 415.1 - TOC

Lab Sample ID: MB 160-256121/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256121

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		1.0	0.72	mg/L			06/10/16 14:31	1

Lab Sample ID: LCS 160-256121/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256121

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon			10.0	10.1		mg/L		101	90 - 110		

Lab Sample ID: 160-17630-B-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256121

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon	9.0		5.00	14.2		mg/L		104	76 - 120		

Lab Sample ID: 160-17630-B-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256121

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Organic Carbon	9.0			8.90		mg/L				0.6	20

Lab Sample ID: MB 160-256304/5 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256304

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		1.0	0.72	mg/L			06/13/16 19:27	1

Lab Sample ID: LCS 160-256304/6 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256304

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon			10.0	9.97		mg/L		100	90 - 110		

QC Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17592-1

Method: 415.1 - TOC - DL

Lab Sample ID: 160-17630-B-2 MS ^2 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256304

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon - DL	27		10.0	38.3		mg/L		113	76 - 120		

Lab Sample ID: 160-17630-B-2 DU ^2 — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256304

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Organic Carbon - DL	27			27.8		mg/L				3	20

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-257155/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257504 — **Prep Batch: 257155**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-118.5	U	142	143	500	283	pCi/L	06/20/16 15:24	06/21/16 11:29	1

Lab Sample ID: LCS 160-257155/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257504 — **Prep Batch: 257155**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium			3070	3153		452	500	277	pCi/L	103	74 - 114		

Lab Sample ID: 160-17763-A-2-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257504 — **Prep Batch: 257155**

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium	132000		3070	134300		12000	500	277	pCi/L	88	67 - 130		

Lab Sample ID: 160-17763-A-1-B DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257504 — **Prep Batch: 257155**

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Tritium	149000			150100		13400	500	282	pCi/L			0.03	1

QC Association Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17592-1

GC/MS VOA

Analysis Batch: 254556

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17592-1	MO-1-SDR	Total/NA	Water	8260C	
160-17592-1 MS	MO-1-SDR	Total/NA	Water	8260C	
160-17592-1 MSD	MO-1-SDR	Total/NA	Water	8260C	
160-17592-2	MO-1-SS	Total/NA	Water	8260C	
160-17592-3	MO-2-SD	Total/NA	Water	8260C	
160-17592-4	TRIP BLANK	Total/NA	Water	8260C	
LCS 160-254556/5	Lab Control Sample	Total/NA	Water	8260C	
LCSD 160-254556/6	Lab Control Sample Dup	Total/NA	Water	8260C	
MB 160-254556/8	Method Blank	Total/NA	Water	8260C	

HPLC/IC

Analysis Batch: 255873

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17592-1	MO-1-SDR	Total/NA	Water	300.0	
160-17592-1 - DL	MO-1-SDR	Total/NA	Water	300.0	
160-17592-2	MO-1-SS	Total/NA	Water	300.0	
160-17592-2 - DL	MO-1-SS	Total/NA	Water	300.0	
160-17592-3	MO-2-SD	Total/NA	Water	300.0	
160-17592-3 - DL	MO-2-SD	Total/NA	Water	300.0	
160-17630-D-1 DU	Duplicate	Total/NA	Water	300.0	
160-17630-D-1 DU - DL	Duplicate	Total/NA	Water	300.0	
160-17630-D-1 MS	Matrix Spike	Total/NA	Water	300.0	
160-17630-D-1 MS - DL	Matrix Spike	Total/NA	Water	300.0	
LCS 160-255873/12	Lab Control Sample	Total/NA	Water	300.0	
MB 160-255873/11	Method Blank	Total/NA	Water	300.0	

Metals

Prep Batch: 256548

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17592-1	MO-1-SDR	Total/NA	Water	3010A	
160-17592-1 MS	MO-1-SDR	Total/NA	Water	3010A	
160-17592-1 MSD	MO-1-SDR	Total/NA	Water	3010A	
160-17592-2	MO-1-SS	Total/NA	Water	3010A	
160-17592-3	MO-2-SD	Total/NA	Water	3010A	
LCS 160-256548/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 160-256548/1-A	Method Blank	Total/NA	Water	3010A	

Prep Batch: 257625

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17592-1	MO-1-SDR	Total/NA	Water	7470A	
160-17592-2	MO-1-SS	Total/NA	Water	7470A	
160-17592-3	MO-2-SD	Total/NA	Water	7470A	
160-17602-A-4-H MS	Matrix Spike	Total/NA	Water	7470A	
160-17602-A-4-I MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	
LCS 160-257625/2-A	Lab Control Sample	Total/NA	Water	7470A	
MB 160-257625/1-A	Method Blank	Total/NA	Water	7470A	

QC Association Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17592-1

Metals (Continued)

Analysis Batch: 257909

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17592-1	MO-1-SDR	Total/NA	Water	7470A	257625
160-17592-2	MO-1-SS	Total/NA	Water	7470A	257625
160-17592-3	MO-2-SD	Total/NA	Water	7470A	257625
160-17602-A-4-H MS	Matrix Spike	Total/NA	Water	7470A	257625
160-17602-A-4-I MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	257625
LCS 160-257625/2-A	Lab Control Sample	Total/NA	Water	7470A	257625
MB 160-257625/1-A	Method Blank	Total/NA	Water	7470A	257625

Analysis Batch: 258532

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17592-1	MO-1-SDR	Total/NA	Water	6010C	256548
160-17592-1 MS	MO-1-SDR	Total/NA	Water	6010C	256548
160-17592-1 MSD	MO-1-SDR	Total/NA	Water	6010C	256548
160-17592-2	MO-1-SS	Total/NA	Water	6010C	256548
160-17592-3	MO-2-SD	Total/NA	Water	6010C	256548
LCS 160-256548/2-A	Lab Control Sample	Total/NA	Water	6010C	256548
MB 160-256548/1-A	Method Blank	Total/NA	Water	6010C	256548

General Chemistry

Analysis Batch: 254559

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17592-1	MO-1-SDR	Total/NA	Water	160.1	
160-17592-2	MO-1-SS	Total/NA	Water	160.1	
160-17592-3	MO-2-SD	Total/NA	Water	160.1	
160-17614-B-1 DU - DL	Duplicate	Total/NA	Water	160.1	
LCS 160-254559/2	Lab Control Sample	Total/NA	Water	160.1	
MB 160-254559/1	Method Blank	Total/NA	Water	160.1	

Prep Batch: 255177

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17582-B-6-B DU	Duplicate	Total/NA	Water	410.4	
160-17582-B-6-C MS	Matrix Spike	Total/NA	Water	410.4	
160-17592-1	MO-1-SDR	Total/NA	Water	410.4	
160-17592-2	MO-1-SS	Total/NA	Water	410.4	
160-17592-3	MO-2-SD	Total/NA	Water	410.4	
LCS 160-255177/4-A	Lab Control Sample	Total/NA	Water	410.4	
MB 160-255177/3-A	Method Blank	Total/NA	Water	410.4	

Analysis Batch: 255249

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17582-B-6-B DU	Duplicate	Total/NA	Water	410.4	255177
160-17582-B-6-C MS	Matrix Spike	Total/NA	Water	410.4	255177
160-17592-1	MO-1-SDR	Total/NA	Water	410.4	255177
160-17592-2	MO-1-SS	Total/NA	Water	410.4	255177
160-17592-3	MO-2-SD	Total/NA	Water	410.4	255177
LCS 160-255177/4-A	Lab Control Sample	Total/NA	Water	410.4	255177
MB 160-255177/3-A	Method Blank	Total/NA	Water	410.4	255177

General Chemistry (Continued)

Analysis Batch: 256121

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17592-1	MO-1-SDR	Total/NA	Water	415.1	
160-17592-3	MO-2-SD	Total/NA	Water	415.1	
160-17630-B-1 DU	Duplicate	Total/NA	Water	415.1	
160-17630-B-1 MS	Matrix Spike	Total/NA	Water	415.1	
LCS 160-256121/5	Lab Control Sample	Total/NA	Water	415.1	
MB 160-256121/4	Method Blank	Total/NA	Water	415.1	

Analysis Batch: 256304

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17592-2 - DL	MO-1-SS	Total/NA	Water	415.1	
160-17630-B-2 DU ^2 - DL	Duplicate	Total/NA	Water	415.1	
160-17630-B-2 MS ^2 - DL	Matrix Spike	Total/NA	Water	415.1	
LCS 160-256304/6	Lab Control Sample	Total/NA	Water	415.1	
MB 160-256304/5	Method Blank	Total/NA	Water	415.1	

Analysis Batch: 256321

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17592-1	MO-1-SDR	Total/NA	Water	350.1	
160-17592-1 DU	MO-1-SDR	Total/NA	Water	350.1	
160-17592-1 MS	MO-1-SDR	Total/NA	Water	350.1	
160-17592-2	MO-1-SS	Total/NA	Water	350.1	
LCS 160-256321/12	Lab Control Sample	Total/NA	Water	350.1	
MB 160-256321/11	Method Blank	Total/NA	Water	350.1	

Analysis Batch: 256509

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17592-3 - DL	MO-2-SD	Total/NA	Water	350.1	
160-17630-C-1 DU ^10 - DL	Duplicate	Total/NA	Water	350.1	
160-17630-C-1 MS ^10 - DL	Matrix Spike	Total/NA	Water	350.1	
LCS 160-256509/12	Lab Control Sample	Total/NA	Water	350.1	
MB 160-256509/11	Method Blank	Total/NA	Water	350.1	

Analysis Batch: 258378

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17592-1	MO-1-SDR	Total/NA	Water	353.1 Preserved	
160-17592-1 DU	MO-1-SDR	Total/NA	Water	353.1 Preserved	
160-17592-1 MS	MO-1-SDR	Total/NA	Water	353.1 Preserved	
160-17592-2	MO-1-SS	Total/NA	Water	353.1 Preserved	
160-17592-3	MO-2-SD	Total/NA	Water	353.1 Preserved	
LCS 160-258378/15	Lab Control Sample	Total/NA	Water	353.1 Preserved	
MB 160-258378/14	Method Blank	Total/NA	Water	353.1 Preserved	

Rad

Prep Batch: 257155

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17592-1	MO-1-SDR	Total/NA	Water	LSC_Dist_Susp	
160-17592-2	MO-1-SS	Total/NA	Water	LSC_Dist_Susp	
160-17592-3	MO-2-SD	Total/NA	Water	LSC_Dist_Susp	
160-17763-A-1-B DU	Duplicate	Total/NA	Water	LSC_Dist_Susp	

Rad (Continued)

Prep Batch: 257155 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17763-A-2-B MS	Matrix Spike	Total/NA	Water	LSC_Dist_Susp	
LCS 160-257155/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	
MB 160-257155/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	

Surrogate Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17592-1

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

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

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	12DCE	TOL
Lab Sample ID	Client Sample ID	(71-139)	(80-121)	(76-121)	(80-129)
160-17592-1	MO-1-SDR	111	98	103	108
160-17592-1 MS	MO-1-SDR	103	105	102	110
160-17592-1 MSD	MO-1-SDR	102	99	101	102
160-17592-2	MO-1-SS	111	97	103	104
160-17592-3	MO-2-SD	110	102	107	106
160-17592-4	TRIP BLANK	109	101	104	105
LCS 160-254556/5	Lab Control Sample	103	102	102	104
LCSD 160-254556/6	Lab Control Sample Dup	100	101	99	106
MB 160-254556/8	Method Blank	108	98	106	106

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Tel: (314)298-8566

TestAmerica Job ID: 160-17611-1
Client Project/Site: Groundwater - 2nd Quarter 2016

For:
Missouri Attorney General's Office
PO BOX 899
Jefferson City, Missouri 65102

Attn: Brenna McDonald

Authorized for release by:
7/1/2016 3:00:08 PM

Chenise Lambert-Sykes, Project Manager I
(314)298-8566
chenise.lambert-sykes@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

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.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Chain of Custody 8
Receipt Checklists 9
Definitions/Glossary 10
Method Summary 11
Sample Summary 12
Client Sample Results 13
QC Sample Results 34
QC Association Summary 55
Surrogate Summary 61
Tracer Carrier Summary 62

Job ID: 160-17611-1

Laboratory: TestAmerica St. Louis

Narrative

CASE NARRATIVE

Client: Missouri Attorney General's Office

Project: Groundwater - 2nd Quarter 2016

Report Number: 160-17611-1

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.

TestAmerica St. Louis attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

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.

All solid sample results for Chemistry analyses are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header. All soil/sediment sample results for radiochemistry analyses are based upon sample as dried and disaggregated with the exception of tritium, carbon-14, and iodine-129 by gamma spectroscopy unless requested as wet weight by the client."

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT
The samples were received on 06/02/2016; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 3.9º C, 10.7º C, 11.8º C and 12.3º C.

Receipt Exceptions
The following samples was received at the laboratory outside the required temperature criteria: PZ-209-SS (160-17611-1), TRIP BLANK 1 (160-17611-2), PZ-211-SD (160-17611-3), PZ-115-SS (160-17611-6), PZ-114-AS (160-17611-7) and TRIP BLANK 2 (160-17611-8).

A trip blank was submitted for analysis with these samples; however, it was not listed on the Chain of Custody (COC). No sample collection date or time was listed on vials, so sample date was used for login.

These samples were received in cooler that was 3.9 degrees C.
PZ-210-SD (160-17611-4) and PZ-116-SS (160-17611-5)

VOLATILE ORGANIC COMPOUNDS (GC MS)
Samples PZ-209-SS (160-17611-1), TRIP BLANK 1 (160-17611-2), PZ-211-SD (160-17611-3), PZ-210-SD (160-17611-4), PZ-116-SS (160-17611-5), PZ-115-SS (160-17611-6), PZ-114-AS (160-17611-7) and TRIP BLANK 2 (160-17611-8) were analyzed for volatile organic

Job ID: 160-17611-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

compounds (GC MS) in accordance with EPA SW-846 Method 8260C. The samples were analyzed on 06/03/2016.

Analytical Batch: 254556
The following compounds did not meet the minimum relative response factor limits int eh continuing calibration verification (CCV) associated with batch 160-254556: 2-Butanone, and Acetone. A low level CCV was analyzed at the base reporting limit of 5ug/L and the affected analytes were detected. Target analytes recovering above the reporting limit will be qualified and reported. (CCVIS 160-254556/4)

The method blank for analytical batch 160-254556 contained Toluene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-analysis of samples was not performed. (MB 160-254556/8)

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

TOTAL METALS (ICP)
Samples PZ-209-SS (160-17611-1), PZ-211-SD (160-17611-3), PZ-210-SD (160-17611-4), PZ-116-SS (160-17611-5), PZ-115-SS (160-17611-6) and PZ-114-AS (160-17611-7) were analyzed for total metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 06/20/2016 and analyzed on 06/28/2016 and 06/30/2016.

Analytical Batch: 258532
The continuing calibration verification (CCV) associated with analytical batch 160-258532 recovered above the upper control limit for Phosphorus. The samples associated with this CCV were below the reporting limit for the affected analytes; therefore, the data have been reported. The following samples are impacted: (CCV 160-258532/64), (CCV 160-258532/77) and (CCV 160-258532/90).

The following samples were diluted due to the nature of the sample matrix. Samples had high concentrations of salts which could cause internal standard and instrument QC failure.: PZ-209-SS (160-17611-1), PZ-211-SD (160-17611-3), PZ-210-SD (160-17611-4), PZ-116-SS (160-17611-5), PZ-115-SS (160-17611-6), PZ-114-AS (160-17611-7), (160-17611-G-1-B MS ^), (160-17611-G-1-C MSD) and (160-17611-G-1-A SD ^). Elevated reporting limits (RLs) are provided.

Antimony was detected in method blank MB 160-257124/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

Analytical Batch: 258751
The following samples were diluted to bring the concentration of target analytes within the calibration range: PZ-114-AS (160-17611-7). Elevated reporting limits (RLs) are provided.

The sequence was such that the samples were analyzed immediately following the LRC. Our standard analysis sequence is set up to analyze a CCVL/CCV/CCB before running the samples. This however is an internal requirement and not one governed by the analytical method. Original results will be reported. PZ-114-AS (160-17611-7) and (LCS 160-257124/2-A)

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

TOTAL MERCURY
Samples PZ-209-SS (160-17611-1), PZ-211-SD (160-17611-3), PZ-210-SD (160-17611-4), PZ-116-SS (160-17611-5), PZ-115-SS (160-17611-6) and PZ-114-AS (160-17611-7) were analyzed for total mercury in accordance with EPA SW-846 Methods 7470A. The samples were prepared on 06/22/2016 and analyzed on 06/23/2016.

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

TOTAL DISSOLVED SOLIDS
Samples PZ-209-SS (160-17611-1), PZ-211-SD (160-17611-3), PZ-210-SD (160-17611-4), PZ-116-SS (160-17611-5), PZ-115-SS (160-17611-6) and PZ-114-AS (160-17611-7) were analyzed for total dissolved solids in accordance with EPA Method 160.1. The samples were analyzed on 06/03/2016.

Analytical Batch: 254559
The following samples in TDS batch 160-254559 were diluted to bring the concentration of target analytes within the calibration range:

Job ID: 160-17611-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

PZ-115-SS (160-17611-6), PZ-114-AS (160-17611-7), (160-17614-B-1) and (160-17614-B-1 DU). Elevated reporting limits (RLs) are provided.

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

ANIONS, ION CHROMATOGRAPHY

Samples PZ-209-SS (160-17611-1), PZ-211-SD (160-17611-3), PZ-210-SD (160-17611-4), PZ-116-SS (160-17611-5), PZ-115-SS (160-17611-6) and PZ-114-AS (160-17611-7) were analyzed for Anions, Ion Chromatography in accordance with EPA Method 300.0. The samples were analyzed on 06/10/2016 and 06/22/2016.

Analytical Batch: 255873

The following samples in Anion batch 160-255873 were diluted to bring the concentrations of target analytes within the calibration range: PZ-209-SS (160-17611-1), PZ-211-SD (160-17611-3), PZ-116-SS (160-17611-5), PZ-115-SS (160-17611-6) and PZ-114-AS (160-17611-7). Elevated reporting limits (RLs) are provided.

The following samples in Anion batch 160-255873 were analyzed at dilution to start (2x) due to high sample conductivities which made undiluted analysis inadvisable: PZ-115-SS (160-17611-6) and PZ-114-AS (160-17611-7). As a result, sample 17662-1 is non-detect (ND) for Sulfate at the initial dilution and sample 17611-7 is ND for Fluoride and Sulfate at the initial dilution.

Analytical Batch: 257330

The following samples in Anion batch 160-257330 were diluted to bring the concentrations of target analytes within the calibration range: PZ-210-SD (160-17611-4). Elevated reporting limits (RLs) are provided.

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

AMMONIA

Samples PZ-209-SS (160-17611-1), PZ-211-SD (160-17611-3), PZ-210-SD (160-17611-4), PZ-116-SS (160-17611-5), PZ-115-SS (160-17611-6) and PZ-114-AS (160-17611-7) were analyzed for ammonia in accordance with EPA Method 350.1. The samples were analyzed on 06/13/2016 and 06/14/2016.

Analytical Batch: 256321

The following matrix spike (MS) recoveries for NH3 analytical batch 160-256321 were outside control limits: (160-17592-E-1 MS). Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Analytical Batch: 256509

Due to the high concentration of NH3 in the following sample, the matrix spike (MS) for analytical batch 160-256509 could not be evaluated for accuracy: (160-17630-C-1 MS ^10). The associated laboratory control sample (LCS) met acceptance criteria.

The following samples in NH3 analytical batch 160-256509 were diluted to bring the concentration of the target analyte within the calibration range: PZ-210-SD (160-17611-4) and PZ-114-AS (160-17611-7). Elevated reporting limits (RLs) are provided.

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

NITROGEN, NITRATE-NITRITE

Samples PZ-209-SS (160-17611-1), PZ-211-SD (160-17611-3), PZ-210-SD (160-17611-4), PZ-116-SS (160-17611-5), PZ-115-SS (160-17611-6) and PZ-114-AS (160-17611-7) were analyzed for Nitrogen, Nitrate-Nitrite in accordance with Method 353.1 Preserved. The samples were analyzed on 06/28/2016.

Analytical Batch: 258378

The following matrix spike (MS) recoveries for NO3-NO2 analytical batch 160-258378 were outside control limits: (160-17592-E-1 MS). Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

CHEMICAL OXYGEN DEMAND

Job ID: 160-17611-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

Samples PZ-209-SS (160-17611-1), PZ-211-SD (160-17611-3), PZ-210-SD (160-17611-4), PZ-116-SS (160-17611-5), PZ-115-SS (160-17611-6) and PZ-114-AS (160-17611-7) were analyzed for chemical oxygen demand in accordance with EPA Method 410.4. The samples were prepared and analyzed on 06/07/2016.

Analytical Batch: 255249
The matrix spike (MS) recovery for COD batch 160-255249 was outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits. (160-17611-E-4-B MS)

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

TOTAL ORGANIC CARBON
Samples PZ-209-SS (160-17611-1), PZ-211-SD (160-17611-3), PZ-210-SD (160-17611-4), PZ-116-SS (160-17611-5), PZ-115-SS (160-17611-6) and PZ-114-AS (160-17611-7) were analyzed for total organic carbon in accordance with EPA Method 415.1. The samples were analyzed on 06/10/2016.

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

RADIUM-226 (GFPC)-DISSOLVED
Samples PZ-209-SS (160-17611-1), PZ-211-SD (160-17611-3), PZ-210-SD (160-17611-4) and PZ-116-SS (160-17611-5) were analyzed for Radium-226 (GFPC) in accordance with EPA Method 903.0. The samples were prepared on 06/03/2016 and analyzed on 06/27/2016.

Prep Batch: 254774
Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples:
PZ-209-SS (160-17611-1), PZ-211-SD (160-17611-3), PZ-210-SD (160-17611-4) and PZ-116-SS (160-17611-5). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead.

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

RADIUM-226 (GFPC)-TOTAL
Samples PZ-209-SS (160-17611-1), PZ-211-SD (160-17611-3), PZ-210-SD (160-17611-4) and PZ-116-SS (160-17611-5) were analyzed for Radium-226 (GFPC) in accordance with EPA Method 903.0. The samples were prepared on 06/03/2016 and analyzed on 06/27/2016.

Prep Batch: 254770
Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples:
PZ-209-SS (160-17611-1), PZ-211-SD (160-17611-3), PZ-210-SD (160-17611-4) and PZ-116-SS (160-17611-5). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead.

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

RADIUM-228 (GFPC)-DISSOLVED
Samples PZ-209-SS (160-17611-1), PZ-211-SD (160-17611-3), PZ-210-SD (160-17611-4) and PZ-116-SS (160-17611-5) were analyzed for Radium-228 (GFPC)-Dissolved in accordance with EPA 904. The samples were prepared on 06/03/2016 and analyzed on 06/23/2016.

Prep Batch: 254777
Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples:
PZ-209-SS (160-17611-1), PZ-211-SD (160-17611-3), PZ-210-SD (160-17611-4) and PZ-116-SS (160-17611-5). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead.

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

RADIUM-228 (GFPC)-TOTAL
Samples PZ-209-SS (160-17611-1), PZ-211-SD (160-17611-3), PZ-210-SD (160-17611-4) and PZ-116-SS (160-17611-5) were analyzed for Radium-228 (GFPC) in accordance with EPA 904. The samples were prepared on 06/03/2016 and analyzed on 06/23/2016.

Prep Batch: 254773

Job ID: 160-17611-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples:
PZ-209-SS (160-17611-1), PZ-211-SD (160-17611-3), PZ-210-SD (160-17611-4) and PZ-116-SS (160-17611-5). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead.

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

TRITIUM, TOTAL (LSC)
Samples PZ-209-SS (160-17611-1), PZ-211-SD (160-17611-3), PZ-210-SD (160-17611-4), PZ-116-SS (160-17611-5), PZ-115-SS (160-17611-6) and PZ-114-AS (160-17611-7) were analyzed for Tritium, Total (LSC) in accordance with USEPA 906.0. The samples were prepared on 06/22/2016 and analyzed on 06/22/2016 and 06/23/2016.

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

ISOTOPIC THORIUM (ALPHA SPECTROMETRY)
Samples PZ-209-SS (160-17611-1), PZ-211-SD (160-17611-3), PZ-210-SD (160-17611-4) and PZ-116-SS (160-17611-5) were analyzed for Isotopic Thorium (Alpha Spectrometry) in accordance with DOE. The samples were prepared on 06/15/2016 and analyzed on 06/22/2016.

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

ISOTOPIC URANIUM (ALPHA SPECTROMETRY)
Samples PZ-209-SS (160-17611-1), PZ-211-SD (160-17611-3), PZ-210-SD (160-17611-4) and PZ-116-SS (160-17611-5) were analyzed for Isotopic Uranium (Alpha Spectrometry) in accordance with DOE. The samples were prepared on 06/15/2016 and analyzed on 06/21/2016 and 06/22/2016.

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

TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Phone (314) 298-8566 Fax (314) 298-8757

Chain of Custody Record

testAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information

Client Contact: Brenna McDonald
Company: Missouri Attorney General's Office
Address: PO BOX 899
City: Jefferson City
State, Zip: MO, 65102
Phone: 573-368-2163(Tel)
Email: brenna.mcdonald@dnr.mo.gov
Project Name: Groundwater Samples
Site: Bridgeton LF

Sampler: LYNN MILBERG
Phone:
Due Date Requested: Standard
TAT Requested (days): Standard
PO #: Purchase Order not required
WO #:
Project #: 16005117
SSOW#:

Lab PM: Lambert-Sykes, Chenise Y
E-Mail: chenise.lambert-sykes@testamericainc.com
Carrier Tracking No(s):
COC No: 160-3809-1856.1
Page: Page 1 of 1
Job #:

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	350.1, 353.1_Pres, 410.4	160.1_Calcd, 300_ORGFM_28D	6010C, 7470A	415.1 - Total Organic Carbon	8260C - (MOD) OLM 4.2	8270D - (MOD) Appendix IX Semi-Volatiles	903.0, 904.0, A01R_Th, A01R_U	903.0, 904.0	908.0 - Tritium					Total Number of containers	Special Instructions/Note:
			Preservation Code:				S	N	D	S	A	N	D	N	N						
PZ-209-SS	6/1/16	0932	G	Water	N		✓	✓	✓	✓	✓	✓	✓	✓	✓					12	
Tripblank 1	6/1/16	0800	G	Water	N						✓									3	
PZ-211-SD	6/1/16	1130	G	Water	N		✓	✓	✓	✓	✓	✓	✓	✓	✓					12	
PZ-210-SD	6/1/16	1411	G	Water	N		✓	✓	✓	✓	✓	✓	✓	✓	✓					12	
PZ-116-SS	6/1/16	1602	G	Water	N		✓	✓	✓	✓	✓	✓	✓	✓	✓					12	
PZ-115-SS	6/1/16	1736	G	Water	N		✓	✓	✓	✓	✓	✓			✓					9	
PZ-114-AS	6/1/16	1816	G	Water	N		✓	✓	✓	✓	✓	✓			✓					9	
				Water																	

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2SO3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - ph 4-5
Z - other (specify)

Other:

160-17611 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	6/2/2016 0822		[signature]	6-2-16 0822	TASL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks:

Login Sample Receipt Checklist

Client: Missouri Attorney General's Office

Job Number: 160-17611-1

Login Number: 17611
List Number: 1
Creator: Clarke, Jill C

List Source: TestAmerica St. Louis

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
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 for all but -4 and -5.
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.	False	Trip Blank 2 was received but not listed on the CoC.
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Trip Blank 2 was received but not listed on the CoC.
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	

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

HPLC/IC

Qualifier	Qualifier Description
E	Result exceeded calibration range.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
*	LCS or LCSD is outside acceptance limits.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
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.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
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.

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

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

Method Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17611-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL SL
300.0	Anions, Ion Chromatography	MCAWW	TAL SL
6010C	Metals (ICP)	SW846	TAL SL
7470A	Mercury (CVAA)	SW846	TAL SL
160.1	Solids, Total Dissolved (TDS)	MCAWW	TAL SL
350.1	Nitrogen, Ammonia	MCAWW	TAL SL
353.1 Preserved	Nitrogen, Nitrate-Nitrite	MCAWW	TAL SL
410.4	COD	MCAWW	TAL SL
415.1	TOC	MCAWW	TAL SL
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
906.0	Tritium, Total (LSC)	EPA	TAL SL
A-01-R	Isotopic Thorium (Alpha Spectrometry)	DOE	TAL SL
A-01-R	Isotopic Uranium (Alpha Spectrometry)	DOE	TAL SL

Protocol References:

DOE = U.S. Department of Energy
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17611-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
160-17611-1	PZ-209-SS	Water	06/01/16 09:32	06/02/16 08:22
160-17611-2	TRIP BLANK 1	Water	06/01/16 08:00	06/02/16 08:22
160-17611-3	PZ-211-SD	Water	06/01/16 11:30	06/02/16 08:22
160-17611-4	PZ-210-SD	Water	06/01/16 14:11	06/02/16 08:22
160-17611-5	PZ-116-SS	Water	06/01/16 16:02	06/02/16 08:22
160-17611-6	PZ-115-SS	Water	06/01/16 17:36	06/02/16 08:22
160-17611-7	PZ-114-AS	Water	06/01/16 18:16	06/02/16 08:22
160-17611-8	TRIP BLANK 2	Water	06/01/16 00:00	06/02/16 08:22

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17611-1

Client Sample ID: PZ-209-SS

Date Collected: 06/01/16 09:32
Date Received: 06/02/16 08:22

Lab Sample ID: 160-17611-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/03/16 15:20	1
Acrylonitrile	ND		50	1.7	ug/L			06/03/16 15:20	1
Benzene	ND		5.0	0.25	ug/L			06/03/16 15:20	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/03/16 15:20	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/03/16 15:20	1
Bromoform	ND		5.0	0.37	ug/L			06/03/16 15:20	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/03/16 15:20	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/03/16 15:20	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/03/16 15:20	1
Chloroethane	ND		10	0.38	ug/L			06/03/16 15:20	1
Chloroform	ND		5.0	0.15	ug/L			06/03/16 15:20	1
Chloroprene	ND		5.0	0.39	ug/L			06/03/16 15:20	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/03/16 15:20	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/03/16 15:20	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/03/16 15:20	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/03/16 15:20	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/03/16 15:20	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/03/16 15:20	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/03/16 15:20	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/03/16 15:20	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/03/16 15:20	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/03/16 15:20	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/03/16 15:20	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/03/16 15:20	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/03/16 15:20	1
2-Hexanone	ND		20	0.59	ug/L			06/03/16 15:20	1
Methyl bromide	ND		10	0.40	ug/L			06/03/16 15:20	1
Methyl chloride	ND		10	0.55	ug/L			06/03/16 15:20	1
Methylene bromide	ND		5.0	0.41	ug/L			06/03/16 15:20	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/03/16 15:20	1
Methyl Ethyl Ketone	ND		20	0.39	ug/L			06/03/16 15:20	1
Methyl iodide	ND		5.0	1.5	ug/L			06/03/16 15:20	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/03/16 15:20	1
Styrene	ND		5.0	0.35	ug/L			06/03/16 15:20	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/03/16 15:20	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/03/16 15:20	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/03/16 15:20	1
Toluene	**1.9**	**J B**	5.0	1.0	ug/L			06/03/16 15:20	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/03/16 15:20	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/03/16 15:20	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/03/16 15:20	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/03/16 15:20	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/03/16 15:20	1
Trichloroethene	ND		5.0	0.29	ug/L			06/03/16 15:20	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/03/16 15:20	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/03/16 15:20	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/03/16 15:20	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/03/16 15:20	1
Xylenes, Total	ND		10	0.85	ug/L			06/03/16 15:20	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17611-1

Client Sample ID: PZ-209-SS

Date Collected: 06/01/16 09:32
Date Received: 06/02/16 08:22

Lab Sample ID: 160-17611-1

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*71 - 139*		*06/03/16 15:20*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 121*		*06/03/16 15:20*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*76 - 121*		*06/03/16 15:20*	*1*
Toluene-d8 (Surr)	*108*		*80 - 129*		*06/03/16 15:20*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**1.9**		0.10	0.010	mg/L			06/10/16 06:38	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**36**		10	1.0	mg/L			06/10/16 06:51	20
Chloride	**10**		4.0	0.40	mg/L			06/10/16 06:51	20

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**15**	**J B**	50	15	ug/L		06/20/16 12:21	06/28/16 15:26	5
Arsenic	ND		50	20	ug/L		06/20/16 12:21	06/28/16 15:26	5
Barium	ND		250	75	ug/L		06/20/16 12:21	06/28/16 15:26	5
Beryllium	ND		25	7.5	ug/L		06/20/16 12:21	06/28/16 15:26	5
Boron	ND		500	130	ug/L		06/20/16 12:21	06/28/16 15:26	5
Cadmium	ND		25	7.5	ug/L		06/20/16 12:21	06/28/16 15:26	5
CaHard	**170000**		12000	3700	ug/L		06/20/16 12:21	06/28/16 15:26	5
Calcium	**69000**		5000	1500	ug/L		06/20/16 12:21	06/28/16 15:26	5
Chromium	ND		50	15	ug/L		06/20/16 12:21	06/28/16 15:26	5
Cobalt	ND		250	75	ug/L		06/20/16 12:21	06/28/16 15:26	5
Copper	ND		130	25	ug/L		06/20/16 12:21	06/28/16 15:26	5
Iron	**800**		500	150	ug/L		06/20/16 12:21	06/28/16 15:26	5
Lead	ND		50	15	ug/L		06/20/16 12:21	06/28/16 15:26	5
Magnesium	**39**		5.0	1.5	mg/L		06/20/16 12:21	06/28/16 15:26	5
Manganese	**110**		75	13	ug/L		06/20/16 12:21	06/28/16 15:26	5
MgHard	**160000**		21000	6200	ug/L		06/20/16 12:21	06/28/16 15:26	5
Nickel	ND		0.20	0.050	mg/L		06/20/16 12:21	06/28/16 15:26	5
Phosphorus	ND	^ *	1300	380	ug/L		06/20/16 12:21	06/28/16 15:26	5
Selenium	ND		75	25	ug/L		06/20/16 12:21	06/28/16 15:26	5
Silver	ND		50	15	ug/L		06/20/16 12:21	06/28/16 15:26	5
Sodium	**70000**		5000	1500	ug/L		06/20/16 12:21	06/28/16 15:26	5
Thallium	ND		100	25	ug/L		06/20/16 12:21	06/28/16 15:26	5
Total Hardness	**340000**		33000	9900	ug/L		06/20/16 12:21	06/28/16 15:26	5
Vanadium	ND		250	75	ug/L		06/20/16 12:21	06/28/16 15:26	5
Zinc	ND		100	30	ug/L		06/20/16 12:21	06/28/16 15:26	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		06/22/16 14:58	06/23/16 11:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	**500**		5.0	3.5	mg/L			06/03/16 08:36	1
Ammonia	**0.088**		0.050	0.022	mg/L			06/13/16 19:30	1
Nitrate/Nitrite	ND		0.050	0.011	mg/L			06/28/16 13:41	1

Client Sample ID: PZ-209-SS

Date Collected: 06/01/16 09:32
Date Received: 06/02/16 08:22

Lab Sample ID: 160-17611-1

Matrix: Water

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	7.0		5.0	1.1	mg/L		06/07/16 10:04	06/07/16 15:00	1
Total Organic Carbon	1.1		1.0	0.72	mg/L			06/10/16 18:27	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.364		0.107	0.112	1.00	0.102	pCi/L	06/03/16 14:26	06/27/16 07:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.5*		*40 - 110*	*06/03/16 14:26*	*06/27/16 07:57*	*1*

Method: 903.0 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.563		0.135	0.144	1.00	0.109	pCi/L	06/03/16 15:27	06/27/16 07:50	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*70.9*		*40 - 110*	*06/03/16 15:27*	*06/27/16 07:50*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.434	U	0.306	0.309	1.00	0.481	pCi/L	06/03/16 15:05	06/23/16 13:18	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.5*		*40 - 110*	*06/03/16 15:05*	*06/23/16 13:18*	*1*
Y Carrier	*88.2*		*40 - 110*	*06/03/16 15:05*	*06/23/16 13:18*	*1*

Method: 904.0 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.212	U	0.270	0.270	1.00	0.521	pCi/L	06/03/16 15:35	06/23/16 13:26	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*70.9*		*40 - 110*	*06/03/16 15:35*	*06/23/16 13:26*	*1*
Y Carrier	*89.7*		*40 - 110*	*06/03/16 15:35*	*06/23/16 13:26*	*1*

Method: 906.0 - Tritium, Total (LSC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	41.4	U	152	152	500	269	pCi/L	06/22/16 13:29	06/22/16 21:34	1

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Thorium-230	0.240		0.105	0.107	1.00	0.0343	pCi/L	06/15/16 15:38	06/22/16 12:57	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17611-1

Client Sample ID: PZ-209-SS

Lab Sample ID: 160-17611-1
Matrix: Water

Date Collected: 06/01/16 09:32
Date Received: 06/02/16 08:22

Tracer	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Thorium-229	77.4		30 - 110	06/15/16 15:38	06/22/16 12:57	1

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Uranium-233/234	**2.22**		0.352	0.399	1.00	0.0911	pCi/L	06/15/16 15:38	06/21/16 13:34	1
Uranium-235/236	0.0446	U	0.0615	0.0616	1.00	0.0954	pCi/L	06/15/16 15:38	06/21/16 13:34	1
Uranium-238	**0.872**		0.220	0.232	1.00	0.0415	pCi/L	06/15/16 15:38	06/21/16 13:34	1

Tracer	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Uranium-232	63.8		30 - 110	06/15/16 15:38	06/21/16 13:34	1

Client Sample ID: TRIP BLANK 1

Lab Sample ID: 160-17611-2
Matrix: Water

Date Collected: 06/01/16 08:00
Date Received: 06/02/16 08:22

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/03/16 15:45	1
Acrylonitrile	ND		50	1.7	ug/L			06/03/16 15:45	1
Benzene	ND		5.0	0.25	ug/L			06/03/16 15:45	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/03/16 15:45	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/03/16 15:45	1
Bromoform	ND		5.0	0.37	ug/L			06/03/16 15:45	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/03/16 15:45	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/03/16 15:45	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/03/16 15:45	1
Chloroethane	ND		10	0.38	ug/L			06/03/16 15:45	1
Chloroform	ND		5.0	0.15	ug/L			06/03/16 15:45	1
Chloroprene	ND		5.0	0.39	ug/L			06/03/16 15:45	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/03/16 15:45	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/03/16 15:45	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/03/16 15:45	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/03/16 15:45	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/03/16 15:45	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/03/16 15:45	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/03/16 15:45	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/03/16 15:45	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/03/16 15:45	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/03/16 15:45	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/03/16 15:45	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/03/16 15:45	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/03/16 15:45	1
2-Hexanone	ND		20	0.59	ug/L			06/03/16 15:45	1
Methyl bromide	ND		10	0.40	ug/L			06/03/16 15:45	1
Methyl chloride	ND		10	0.55	ug/L			06/03/16 15:45	1
Methylene bromide	ND		5.0	0.41	ug/L			06/03/16 15:45	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/03/16 15:45	1
Methyl Ethyl Ketone	ND		20	0.39	ug/L			06/03/16 15:45	1
Methyl iodide	ND		5.0	1.5	ug/L			06/03/16 15:45	1

Client Sample ID: TRIP BLANK 1

Lab Sample ID: 160-17611-2
Date Collected: 06/01/16 08:00
Matrix: Water
Date Received: 06/02/16 08:22

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/03/16 15:45	1
Styrene	ND		5.0	0.35	ug/L			06/03/16 15:45	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/03/16 15:45	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/03/16 15:45	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/03/16 15:45	1
Toluene	**1.7**	**J B**	5.0	1.0	ug/L			06/03/16 15:45	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/03/16 15:45	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/03/16 15:45	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/03/16 15:45	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/03/16 15:45	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/03/16 15:45	1
Trichloroethene	ND		5.0	0.29	ug/L			06/03/16 15:45	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/03/16 15:45	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/03/16 15:45	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/03/16 15:45	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/03/16 15:45	1
Xylenes, Total	ND		10	0.85	ug/L			06/03/16 15:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*71 - 139*		*06/03/16 15:45*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 121*		*06/03/16 15:45*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*76 - 121*		*06/03/16 15:45*	*1*
Toluene-d8 (Surr)	*105*		*80 - 129*		*06/03/16 15:45*	*1*

Client Sample ID: PZ-211-SD

Lab Sample ID: 160-17611-3
Date Collected: 06/01/16 11:30
Matrix: Water
Date Received: 06/02/16 08:22

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/03/16 16:11	1
Acrylonitrile	ND		50	1.7	ug/L			06/03/16 16:11	1
Benzene	**3.9**	**J**	5.0	0.25	ug/L			06/03/16 16:11	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/03/16 16:11	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/03/16 16:11	1
Bromoform	ND		5.0	0.37	ug/L			06/03/16 16:11	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/03/16 16:11	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/03/16 16:11	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/03/16 16:11	1
Chloroethane	ND		10	0.38	ug/L			06/03/16 16:11	1
Chloroform	ND		5.0	0.15	ug/L			06/03/16 16:11	1
Chloroprene	ND		5.0	0.39	ug/L			06/03/16 16:11	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/03/16 16:11	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/03/16 16:11	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/03/16 16:11	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/03/16 16:11	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/03/16 16:11	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/03/16 16:11	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/03/16 16:11	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/03/16 16:11	1

Client Sample ID: PZ-211-SD

Date Collected: 06/01/16 11:30
Date Received: 06/02/16 08:22

Lab Sample ID: 160-17611-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/03/16 16:11	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/03/16 16:11	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/03/16 16:11	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/03/16 16:11	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/03/16 16:11	1
2-Hexanone	ND		20	0.59	ug/L			06/03/16 16:11	1
Methyl bromide	ND		10	0.40	ug/L			06/03/16 16:11	1
Methyl chloride	ND		10	0.55	ug/L			06/03/16 16:11	1
Methylene bromide	ND		5.0	0.41	ug/L			06/03/16 16:11	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/03/16 16:11	1
Methyl Ethyl Ketone	ND		20	0.39	ug/L			06/03/16 16:11	1
Methyl iodide	ND		5.0	1.5	ug/L			06/03/16 16:11	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/03/16 16:11	1
Styrene	ND		5.0	0.35	ug/L			06/03/16 16:11	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/03/16 16:11	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/03/16 16:11	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/03/16 16:11	1
Toluene	**1.9**	**J B**	5.0	1.0	ug/L			06/03/16 16:11	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/03/16 16:11	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/03/16 16:11	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/03/16 16:11	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/03/16 16:11	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/03/16 16:11	1
Trichloroethene	ND		5.0	0.29	ug/L			06/03/16 16:11	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/03/16 16:11	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/03/16 16:11	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/03/16 16:11	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/03/16 16:11	1
Xylenes, Total	ND		10	0.85	ug/L			06/03/16 16:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*71 - 139*		*06/03/16 16:11*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 121*		*06/03/16 16:11*	*1*
1,2-Dichloroethane-d4 (Surr)	*110*		*76 - 121*		*06/03/16 16:11*	*1*
Toluene-d8 (Surr)	*111*		*80 - 129*		*06/03/16 16:11*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**1.9**		0.10	0.010	mg/L			06/10/16 07:19	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**70**		10	1.0	mg/L			06/10/16 07:33	20
Chloride	**25**		4.0	0.40	mg/L			06/10/16 07:33	20

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		50	15	ug/L		06/20/16 12:21	06/28/16 15:44	5
Arsenic	ND		50	20	ug/L		06/20/16 12:21	06/28/16 15:44	5
Barium	ND		250	75	ug/L		06/20/16 12:21	06/28/16 15:44	5

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17611-1

Client Sample ID: PZ-211-SD

Date Collected: 06/01/16 11:30
Date Received: 06/02/16 08:22

Lab Sample ID: 160-17611-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		25	7.5	ug/L		06/20/16 12:21	06/28/16 15:44	5
Boron	**130**	**J**	500	130	ug/L		06/20/16 12:21	06/28/16 15:44	5
Cadmium	ND		25	7.5	ug/L		06/20/16 12:21	06/28/16 15:44	5
CaHard	**160000**		12000	3700	ug/L		06/20/16 12:21	06/28/16 15:44	5
Calcium	**63000**		5000	1500	ug/L		06/20/16 12:21	06/28/16 15:44	5
Chromium	ND		50	15	ug/L		06/20/16 12:21	06/28/16 15:44	5
Cobalt	ND		250	75	ug/L		06/20/16 12:21	06/28/16 15:44	5
Copper	ND		130	25	ug/L		06/20/16 12:21	06/28/16 15:44	5
Iron	**640**		500	150	ug/L		06/20/16 12:21	06/28/16 15:44	5
Lead	ND		50	15	ug/L		06/20/16 12:21	06/28/16 15:44	5
Magnesium	**28**		5.0	1.5	mg/L		06/20/16 12:21	06/28/16 15:44	5
Manganese	**49**	**J**	75	13	ug/L		06/20/16 12:21	06/28/16 15:44	5
MgHard	**110000**		21000	6200	ug/L		06/20/16 12:21	06/28/16 15:44	5
Nickel	ND		0.20	0.050	mg/L		06/20/16 12:21	06/28/16 15:44	5
Phosphorus	ND	^ *	1300	380	ug/L		06/20/16 12:21	06/28/16 15:44	5
Selenium	ND		75	25	ug/L		06/20/16 12:21	06/28/16 15:44	5
Silver	ND		50	15	ug/L		06/20/16 12:21	06/28/16 15:44	5
Sodium	**130000**		5000	1500	ug/L		06/20/16 12:21	06/28/16 15:44	5
Thallium	ND		100	25	ug/L		06/20/16 12:21	06/28/16 15:44	5
Total Hardness	**270000**		33000	9900	ug/L		06/20/16 12:21	06/28/16 15:44	5
Vanadium	ND		250	75	ug/L		06/20/16 12:21	06/28/16 15:44	5
Zinc	**31**	**J**	100	30	ug/L		06/20/16 12:21	06/28/16 15:44	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		06/22/16 14:58	06/23/16 11:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	**600**		5.0	3.5	mg/L			06/03/16 08:36	1
Ammonia	**0.63**		0.050	0.022	mg/L			06/13/16 19:32	1
Nitrate/Nitrite	ND		0.050	0.011	mg/L			06/28/16 13:45	1
Chemical Oxygen Demand	**8.0**		5.0	1.1	mg/L		06/07/16 10:04	06/07/16 15:00	1
Total Organic Carbon	**1.9**		1.0	0.72	mg/L			06/10/16 18:38	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.316**		0.105	0.108	1.00	0.106	pCi/L	06/03/16 14:26	06/27/16 07:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*72.6*		*40 - 110*	*06/03/16 14:26*	*06/27/16 07:57*	*1*

Method: 903.0 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.391**		0.126	0.131	1.00	0.131	pCi/L	06/03/16 15:27	06/27/16 07:50	1

Client Sample ID: PZ-211-SD

Date Collected: 06/01/16 11:30
Date Received: 06/02/16 08:22

Lab Sample ID: 160-17611-3

Matrix: Water

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	68.4		40 - 110	06/03/16 15:27	06/27/16 07:50	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.506**		0.322	0.326	1.00	0.496	pCi/L	06/03/16 15:05	06/23/16 13:18	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	72.6		40 - 110	06/03/16 15:05	06/23/16 13:18	1
Y Carrier	91.6		40 - 110	06/03/16 15:05	06/23/16 13:18	1

Method: 904.0 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.239	U	0.269	0.269	1.00	0.441	pCi/L	06/03/16 15:35	06/23/16 13:26	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	68.4		40 - 110	06/03/16 15:35	06/23/16 13:26	1
Y Carrier	92.0		40 - 110	06/03/16 15:35	06/23/16 13:26	1

Method: 906.0 - Tritium, Total (LSC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	119	U	159	160	500	264	pCi/L	06/22/16 13:29	06/22/16 22:20	1

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Thorium-230	**0.529**		0.158	0.164	1.00	0.0754	pCi/L	06/15/16 15:38	06/22/16 12:57	1

Tracer	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Thorium-229	77.7		30 - 110	06/15/16 15:38	06/22/16 12:57	1

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Uranium-233/234	**6.59**		0.586	0.806	1.00	0.0854	pCi/L	06/15/16 15:38	06/21/16 13:34	1
Uranium-235/236	0.0350	U	0.0592	0.0592	1.00	0.106	pCi/L	06/15/16 15:38	06/21/16 13:34	1
Uranium-238	**3.10**		0.402	0.479	1.00	0.0853	pCi/L	06/15/16 15:38	06/21/16 13:34	1

Tracer	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Uranium-232	68.5		30 - 110	06/15/16 15:38	06/21/16 13:34	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17611-1

Client Sample ID: PZ-210-SD

Date Collected: 06/01/16 14:11
Date Received: 06/02/16 08:22

Lab Sample ID: 160-17611-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/03/16 16:37	1
Acrylonitrile	ND		50	1.7	ug/L			06/03/16 16:37	1
Benzene	ND		5.0	0.25	ug/L			06/03/16 16:37	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/03/16 16:37	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/03/16 16:37	1
Bromoform	ND		5.0	0.37	ug/L			06/03/16 16:37	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/03/16 16:37	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/03/16 16:37	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/03/16 16:37	1
Chloroethane	ND		10	0.38	ug/L			06/03/16 16:37	1
Chloroform	ND		5.0	0.15	ug/L			06/03/16 16:37	1
Chloroprene	ND		5.0	0.39	ug/L			06/03/16 16:37	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/03/16 16:37	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/03/16 16:37	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/03/16 16:37	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/03/16 16:37	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/03/16 16:37	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/03/16 16:37	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/03/16 16:37	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/03/16 16:37	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/03/16 16:37	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/03/16 16:37	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/03/16 16:37	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/03/16 16:37	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/03/16 16:37	1
2-Hexanone	ND		20	0.59	ug/L			06/03/16 16:37	1
Methyl bromide	ND		10	0.40	ug/L			06/03/16 16:37	1
Methyl chloride	ND		10	0.55	ug/L			06/03/16 16:37	1
Methylene bromide	ND		5.0	0.41	ug/L			06/03/16 16:37	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/03/16 16:37	1
Methyl Ethyl Ketone	ND		20	0.39	ug/L			06/03/16 16:37	1
Methyl iodide	ND		5.0	1.5	ug/L			06/03/16 16:37	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/03/16 16:37	1
Styrene	ND		5.0	0.35	ug/L			06/03/16 16:37	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/03/16 16:37	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/03/16 16:37	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/03/16 16:37	1
Toluene	**1.9**	**J B**	5.0	1.0	ug/L			06/03/16 16:37	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/03/16 16:37	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/03/16 16:37	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/03/16 16:37	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/03/16 16:37	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/03/16 16:37	1
Trichloroethene	ND		5.0	0.29	ug/L			06/03/16 16:37	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/03/16 16:37	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/03/16 16:37	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/03/16 16:37	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/03/16 16:37	1
Xylenes, Total	ND		10	0.85	ug/L			06/03/16 16:37	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17611-1

Client Sample ID: PZ-210-SD

Date Collected: 06/01/16 14:11
Date Received: 06/02/16 08:22

Lab Sample ID: 160-17611-4

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*71 - 139*		*06/03/16 16:37*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 121*		*06/03/16 16:37*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*76 - 121*		*06/03/16 16:37*	*1*
Toluene-d8 (Surr)	*103*		*80 - 129*		*06/03/16 16:37*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**1.6**		0.10	0.010	mg/L			06/10/16 09:23	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**34**		10	1.0	mg/L			06/22/16 10:03	20
Chloride	**43**		4.0	0.40	mg/L			06/22/16 10:03	20

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		50	15	ug/L		06/20/16 12:21	06/28/16 15:48	5
Arsenic	ND		50	20	ug/L		06/20/16 12:21	06/28/16 15:48	5
Barium	ND		250	75	ug/L		06/20/16 12:21	06/28/16 15:48	5
Beryllium	ND		25	7.5	ug/L		06/20/16 12:21	06/28/16 15:48	5
Boron	**180**	**J**	500	130	ug/L		06/20/16 12:21	06/28/16 15:48	5
Cadmium	ND		25	7.5	ug/L		06/20/16 12:21	06/28/16 15:48	5
CaHard	**210000**		12000	3700	ug/L		06/20/16 12:21	06/28/16 15:48	5
Calcium	**85000**		5000	1500	ug/L		06/20/16 12:21	06/28/16 15:48	5
Chromium	ND		50	15	ug/L		06/20/16 12:21	06/28/16 15:48	5
Cobalt	ND		250	75	ug/L		06/20/16 12:21	06/28/16 15:48	5
Copper	ND		130	25	ug/L		06/20/16 12:21	06/28/16 15:48	5
Iron	**3200**		500	150	ug/L		06/20/16 12:21	06/28/16 15:48	5
Lead	ND		50	15	ug/L		06/20/16 12:21	06/28/16 15:48	5
Magnesium	**46**		5.0	1.5	mg/L		06/20/16 12:21	06/28/16 15:48	5
Manganese	**91**		75	13	ug/L		06/20/16 12:21	06/28/16 15:48	5
MgHard	**190000**		21000	6200	ug/L		06/20/16 12:21	06/28/16 15:48	5
Nickel	ND		0.20	0.050	mg/L		06/20/16 12:21	06/28/16 15:48	5
Phosphorus	ND	^ *	1300	380	ug/L		06/20/16 12:21	06/28/16 15:48	5
Selenium	ND		75	25	ug/L		06/20/16 12:21	06/28/16 15:48	5
Silver	ND		50	15	ug/L		06/20/16 12:21	06/28/16 15:48	5
Sodium	**74000**		5000	1500	ug/L		06/20/16 12:21	06/28/16 15:48	5
Thallium	ND		100	25	ug/L		06/20/16 12:21	06/28/16 15:48	5
Total Hardness	**400000**		33000	9900	ug/L		06/20/16 12:21	06/28/16 15:48	5
Vanadium	ND		250	75	ug/L		06/20/16 12:21	06/28/16 15:48	5
Zinc	**30**	**J**	100	30	ug/L		06/20/16 12:21	06/28/16 15:48	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		06/22/16 14:58	06/23/16 11:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	**570**		5.0	3.5	mg/L			06/03/16 08:36	1
Nitrate/Nitrite	ND		0.050	0.011	mg/L			06/28/16 13:46	1
Chemical Oxygen Demand	**28**	**F1**	5.0	1.1	mg/L		06/07/16 10:04	06/07/16 15:00	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17611-1

Client Sample ID: PZ-210-SD

Date Collected: 06/01/16 14:11
Date Received: 06/02/16 08:22

Lab Sample ID: 160-17611-4

Matrix: Water

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	9.7		1.0	0.72	mg/L			06/10/16 18:50	1

General Chemistry - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	2.8		0.50	0.22	mg/L			06/14/16 22:02	10

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.655		0.127	0.140	1.00	0.0800	pCi/L	06/03/16 14:26	06/27/16 07:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.6*		*40 - 110*	*06/03/16 14:26*	*06/27/16 07:57*	*1*

Method: 903.0 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.538		0.172	0.178	1.00	0.171	pCi/L	06/03/16 15:27	06/27/16 07:50	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*44.7*		*40 - 110*	*06/03/16 15:27*	*06/27/16 07:50*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.312	U	0.231	0.233	1.00	0.362	pCi/L	06/03/16 15:05	06/23/16 13:18	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.6*		*40 - 110*	*06/03/16 15:05*	*06/23/16 13:18*	*1*
Y Carrier	*92.0*		*40 - 110*	*06/03/16 15:05*	*06/23/16 13:18*	*1*

Method: 904.0 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.400	U	0.439	0.440	1.00	0.718	pCi/L	06/03/16 15:35	06/23/16 13:26	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*44.7*		*40 - 110*	*06/03/16 15:35*	*06/23/16 13:26*	*1*
Y Carrier	*91.6*		*40 - 110*	*06/03/16 15:35*	*06/23/16 13:26*	*1*

Method: 906.0 - Tritium, Total (LSC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	198	U	163	164	500	250	pCi/L	06/22/16 13:29	06/22/16 23:06	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17611-1

Client Sample ID: PZ-210-SD

Lab Sample ID: 160-17611-4
Date Collected: 06/01/16 14:11
Matrix: Water
Date Received: 06/02/16 08:22

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Thorium-230	**0.159**		0.0918	0.0927	1.00	0.0699	pCi/L	06/15/16 15:38	06/22/16 12:57	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Thorium-229	*73.9*		*30 - 110*	*06/15/16 15:38*	*06/22/16 12:57*	*1*

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Uranium-233/234	**1.64**		0.302	0.332	1.00	0.0417	pCi/L	06/15/16 15:38	06/22/16 12:58	1
Uranium-235/236	**0.0518**		0.0599	0.0600	1.00	0.0518	pCi/L	06/15/16 15:38	06/22/16 12:58	1
Uranium-238	**0.471**		0.162	0.166	1.00	0.0416	pCi/L	06/15/16 15:38	06/22/16 12:58	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*61.5*		*30 - 110*	*06/15/16 15:38*	*06/22/16 12:58*	*1*

Client Sample ID: PZ-116-SS

Lab Sample ID: 160-17611-5
Date Collected: 06/01/16 16:02
Matrix: Water
Date Received: 06/02/16 08:22

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/03/16 17:02	1
Acrylonitrile	ND		50	1.7	ug/L			06/03/16 17:02	1
Benzene	**3.9**	**J**	5.0	0.25	ug/L			06/03/16 17:02	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/03/16 17:02	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/03/16 17:02	1
Bromoform	ND		5.0	0.37	ug/L			06/03/16 17:02	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/03/16 17:02	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/03/16 17:02	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/03/16 17:02	1
Chloroethane	ND		10	0.38	ug/L			06/03/16 17:02	1
Chloroform	ND		5.0	0.15	ug/L			06/03/16 17:02	1
Chloroprene	ND		5.0	0.39	ug/L			06/03/16 17:02	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/03/16 17:02	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/03/16 17:02	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/03/16 17:02	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/03/16 17:02	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/03/16 17:02	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/03/16 17:02	1
1,4-Dichlorobenzene	**2.0**	**J**	5.0	0.35	ug/L			06/03/16 17:02	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/03/16 17:02	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/03/16 17:02	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/03/16 17:02	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/03/16 17:02	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/03/16 17:02	1
Ethylbenzene	**0.72**	**J**	5.0	0.30	ug/L			06/03/16 17:02	1
2-Hexanone	ND		20	0.59	ug/L			06/03/16 17:02	1

Client Sample ID: PZ-116-SS

Date Collected: 06/01/16 16:02
Date Received: 06/02/16 08:22

Lab Sample ID: 160-17611-5

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl bromide	ND		10	0.40	ug/L			06/03/16 17:02	1
Methyl chloride	ND		10	0.55	ug/L			06/03/16 17:02	1
Methylene bromide	ND		5.0	0.41	ug/L			06/03/16 17:02	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/03/16 17:02	1
Methyl Ethyl Ketone	ND		20	0.39	ug/L			06/03/16 17:02	1
Methyl iodide	ND		5.0	1.5	ug/L			06/03/16 17:02	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/03/16 17:02	1
Styrene	ND		5.0	0.35	ug/L			06/03/16 17:02	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/03/16 17:02	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/03/16 17:02	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/03/16 17:02	1
Toluene	**3.1**	**J B**	5.0	1.0	ug/L			06/03/16 17:02	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/03/16 17:02	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/03/16 17:02	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/03/16 17:02	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/03/16 17:02	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/03/16 17:02	1
Trichloroethene	ND		5.0	0.29	ug/L			06/03/16 17:02	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/03/16 17:02	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/03/16 17:02	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/03/16 17:02	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/03/16 17:02	1
Xylenes, Total	**1.8**	**J**	10	0.85	ug/L			06/03/16 17:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*71 - 139*		*06/03/16 17:02*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 121*		*06/03/16 17:02*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*76 - 121*		*06/03/16 17:02*	*1*
Toluene-d8 (Surr)	*109*		*80 - 129*		*06/03/16 17:02*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3.3**		0.20	0.020	mg/L			06/10/16 09:50	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**2.6**		2.0	0.20	mg/L			06/10/16 10:04	20
Sulfate	**32**		10	1.0	mg/L			06/10/16 10:04	20

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**17**	**J B**	50	15	ug/L		06/20/16 12:21	06/28/16 16:06	5
Arsenic	ND		50	20	ug/L		06/20/16 12:21	06/28/16 16:06	5
Barium	**76**	**J**	250	75	ug/L		06/20/16 12:21	06/28/16 16:06	5
Beryllium	ND		25	7.5	ug/L		06/20/16 12:21	06/28/16 16:06	5
Boron	**310**	**J**	500	130	ug/L		06/20/16 12:21	06/28/16 16:06	5
Cadmium	ND		25	7.5	ug/L		06/20/16 12:21	06/28/16 16:06	5
CaHard	**120000**		12000	3700	ug/L		06/20/16 12:21	06/28/16 16:06	5
Calcium	**48000**		5000	1500	ug/L		06/20/16 12:21	06/28/16 16:06	5
Chromium	ND		50	15	ug/L		06/20/16 12:21	06/28/16 16:06	5

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17611-1

Client Sample ID: PZ-116-SS

Date Collected: 06/01/16 16:02
Date Received: 06/02/16 08:22

Lab Sample ID: 160-17611-5

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND		250	75	ug/L		06/20/16 12:21	06/28/16 16:06	5
Copper	ND		130	25	ug/L		06/20/16 12:21	06/28/16 16:06	5
Iron	**190**	**J**	500	150	ug/L		06/20/16 12:21	06/28/16 16:06	5
Lead	ND		50	15	ug/L		06/20/16 12:21	06/28/16 16:06	5
Magnesium	**32**		5.0	1.5	mg/L		06/20/16 12:21	06/28/16 16:06	5
Manganese	**29**	**J**	75	13	ug/L		06/20/16 12:21	06/28/16 16:06	5
MgHard	**130000**		21000	6200	ug/L		06/20/16 12:21	06/28/16 16:06	5
Nickel	ND		0.20	0.050	mg/L		06/20/16 12:21	06/28/16 16:06	5
Phosphorus	ND	^ *	1300	380	ug/L		06/20/16 12:21	06/28/16 16:06	5
Selenium	ND		75	25	ug/L		06/20/16 12:21	06/28/16 16:06	5
Silver	ND		50	15	ug/L		06/20/16 12:21	06/28/16 16:06	5
Sodium	**41000**		5000	1500	ug/L		06/20/16 12:21	06/28/16 16:06	5
Thallium	ND		100	25	ug/L		06/20/16 12:21	06/28/16 16:06	5
Total Hardness	**250000**		33000	9900	ug/L		06/20/16 12:21	06/28/16 16:06	5
Vanadium	ND		250	75	ug/L		06/20/16 12:21	06/28/16 16:06	5
Zinc	**33**	**J**	100	30	ug/L		06/20/16 12:21	06/28/16 16:06	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		06/22/16 14:58	06/23/16 11:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	**380**		5.0	3.5	mg/L			06/03/16 08:36	1
Ammonia	**0.028**	**J**	0.050	0.022	mg/L			06/13/16 19:37	1
Nitrate/Nitrite	ND		0.050	0.011	mg/L			06/28/16 13:50	1
Chemical Oxygen Demand	**4.0**	**J**	5.0	1.1	mg/L		06/07/16 10:04	06/07/16 15:00	1
Total Organic Carbon	ND		1.0	0.72	mg/L			06/10/16 19:01	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.281**		0.0908	0.0942	1.00	0.0908	pCi/L	06/03/16 14:26	06/27/16 07:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.4*		*40 - 110*	*06/03/16 14:26*	*06/27/16 07:58*	*1*

Method: 903.0 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.889**		0.202	0.217	1.00	0.163	pCi/L	06/03/16 15:27	06/27/16 07:50	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*47.6*		*40 - 110*	*06/03/16 15:27*	*06/27/16 07:50*	*1*

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17611-1

Client Sample ID: PZ-116-SS

Lab Sample ID: 160-17611-5
Date Collected: 06/01/16 16:02
Matrix: Water
Date Received: 06/02/16 08:22

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.256	U	0.232	0.234	1.00	0.373	pCi/L	06/03/16 15:05	06/23/16 13:18	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.4*		*40 - 110*	*06/03/16 15:05*	*06/23/16 13:18*	*1*
Y Carrier	*87.5*		*40 - 110*	*06/03/16 15:05*	*06/23/16 13:18*	*1*

Method: 904.0 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.419	U	0.439	0.441	1.00	0.717	pCi/L	06/03/16 15:35	06/23/16 13:26	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*47.6*		*40 - 110*	*06/03/16 15:35*	*06/23/16 13:26*	*1*
Y Carrier	*89.7*		*40 - 110*	*06/03/16 15:35*	*06/23/16 13:26*	*1*

Method: 906.0 - Tritium, Total (LSC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-109	U	126	126	500	256	pCi/L	06/22/16 13:29	06/22/16 23:29	1

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Thorium-230	**0.143**		0.0825	0.0834	1.00	0.0628	pCi/L	06/15/16 15:38	06/22/16 12:57	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Thorium-229	*80.6*		*30 - 110*	*06/15/16 15:38*	*06/22/16 12:57*	*1*

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Uranium-233/234	**5.03**		0.521	0.671	1.00	0.0886	pCi/L	06/15/16 15:38	06/21/16 13:34	1
Uranium-235/236	**0.151**		0.101	0.101	1.00	0.0503	pCi/L	06/15/16 15:38	06/21/16 13:34	1
Uranium-238	**1.56**		0.290	0.318	1.00	0.0403	pCi/L	06/15/16 15:38	06/21/16 13:34	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*69.3*		*30 - 110*	*06/15/16 15:38*	*06/21/16 13:34*	*1*

Client Sample ID: PZ-115-SS

Lab Sample ID: 160-17611-6
Date Collected: 06/01/16 17:36
Matrix: Water
Date Received: 06/02/16 08:22

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/03/16 17:28	1
Acrylonitrile	ND		50	1.7	ug/L			06/03/16 17:28	1

Client Sample ID: PZ-115-SS

Date Collected: 06/01/16 17:36
Date Received: 06/02/16 08:22

Lab Sample ID: 160-17611-6

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		5.0	0.25	ug/L			06/03/16 17:28	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/03/16 17:28	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/03/16 17:28	1
Bromoform	ND		5.0	0.37	ug/L			06/03/16 17:28	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/03/16 17:28	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/03/16 17:28	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/03/16 17:28	1
Chloroethane	ND		10	0.38	ug/L			06/03/16 17:28	1
Chloroform	ND		5.0	0.15	ug/L			06/03/16 17:28	1
Chloroprene	ND		5.0	0.39	ug/L			06/03/16 17:28	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/03/16 17:28	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/03/16 17:28	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/03/16 17:28	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/03/16 17:28	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/03/16 17:28	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/03/16 17:28	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/03/16 17:28	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/03/16 17:28	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/03/16 17:28	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/03/16 17:28	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/03/16 17:28	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/03/16 17:28	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/03/16 17:28	1
2-Hexanone	ND		20	0.59	ug/L			06/03/16 17:28	1
Methyl bromide	ND		10	0.40	ug/L			06/03/16 17:28	1
Methyl chloride	ND		10	0.55	ug/L			06/03/16 17:28	1
Methylene bromide	ND		5.0	0.41	ug/L			06/03/16 17:28	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/03/16 17:28	1
Methyl Ethyl Ketone	ND		20	0.39	ug/L			06/03/16 17:28	1
Methyl iodide	ND		5.0	1.5	ug/L			06/03/16 17:28	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/03/16 17:28	1
Styrene	ND		5.0	0.35	ug/L			06/03/16 17:28	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/03/16 17:28	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/03/16 17:28	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/03/16 17:28	1
Toluene	**1.7**	**J B**	5.0	1.0	ug/L			06/03/16 17:28	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/03/16 17:28	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/03/16 17:28	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/03/16 17:28	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/03/16 17:28	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/03/16 17:28	1
Trichloroethene	ND		5.0	0.29	ug/L			06/03/16 17:28	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/03/16 17:28	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/03/16 17:28	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/03/16 17:28	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/03/16 17:28	1
Xylenes, Total	ND		10	0.85	ug/L			06/03/16 17:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*71 - 139*		*06/03/16 17:28*	*1*

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17611-1

Client Sample ID: PZ-115-SS

Date Collected: 06/01/16 17:36
Date Received: 06/02/16 08:22

Lab Sample ID: 160-17611-6

Matrix: Water

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*100*		*80 - 121*		*06/03/16 17:28*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*76 - 121*		*06/03/16 17:28*	*1*
Toluene-d8 (Surr)	*105*		*80 - 129*		*06/03/16 17:28*	*1*

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.42**		0.20	0.020	mg/L			06/10/16 10:46	2
Sulfate	**3.1**		1.0	0.10	mg/L			06/10/16 10:46	2

Method: 300.0 - Anions, Ion Chromatography - DL2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**580**		100	10	mg/L			06/10/16 11:14	500

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		50	15	ug/L		06/20/16 12:21	06/28/16 16:10	5
Arsenic	ND		50	20	ug/L		06/20/16 12:21	06/28/16 16:10	5
Barium	**470**		250	75	ug/L		06/20/16 12:21	06/28/16 16:10	5
Beryllium	ND		25	7.5	ug/L		06/20/16 12:21	06/28/16 16:10	5
Boron	**430**	**J**	500	130	ug/L		06/20/16 12:21	06/28/16 16:10	5
Cadmium	ND		25	7.5	ug/L		06/20/16 12:21	06/28/16 16:10	5
CaHard	**600000**		12000	3700	ug/L		06/20/16 12:21	06/28/16 16:10	5
Calcium	**240000**		5000	1500	ug/L		06/20/16 12:21	06/28/16 16:10	5
Chromium	ND		50	15	ug/L		06/20/16 12:21	06/28/16 16:10	5
Cobalt	ND		250	75	ug/L		06/20/16 12:21	06/28/16 16:10	5
Copper	ND		130	25	ug/L		06/20/16 12:21	06/28/16 16:10	5
Iron	**3200**		500	150	ug/L		06/20/16 12:21	06/28/16 16:10	5
Lead	ND		50	15	ug/L		06/20/16 12:21	06/28/16 16:10	5
Magnesium	**100**		5.0	1.5	mg/L		06/20/16 12:21	06/28/16 16:10	5
Manganese	**78**		75	13	ug/L		06/20/16 12:21	06/28/16 16:10	5
MgHard	**420000**		21000	6200	ug/L		06/20/16 12:21	06/28/16 16:10	5
Nickel	**0.093**	**J**	0.20	0.050	mg/L		06/20/16 12:21	06/28/16 16:10	5
Phosphorus	ND	^ *	1300	380	ug/L		06/20/16 12:21	06/28/16 16:10	5
Selenium	ND		75	25	ug/L		06/20/16 12:21	06/28/16 16:10	5
Silver	ND		50	15	ug/L		06/20/16 12:21	06/28/16 16:10	5
Sodium	**170000**		5000	1500	ug/L		06/20/16 12:21	06/28/16 16:10	5
Thallium	ND		100	25	ug/L		06/20/16 12:21	06/28/16 16:10	5
Total Hardness	**1000000**		33000	9900	ug/L		06/20/16 12:21	06/28/16 16:10	5
Vanadium	ND		250	75	ug/L		06/20/16 12:21	06/28/16 16:10	5
Zinc	**32**	**J**	100	30	ug/L		06/20/16 12:21	06/28/16 16:10	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		06/22/16 14:58	06/23/16 11:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	**1.2**		0.050	0.022	mg/L			06/13/16 19:39	1
Nitrate/Nitrite	ND		0.050	0.011	mg/L			06/28/16 13:50	1
Chemical Oxygen Demand	**40**		5.0	1.1	mg/L		06/07/16 10:04	06/07/16 15:00	1

Client Sample ID: PZ-115-SS

Lab Sample ID: 160-17611-6
Date Collected: 06/01/16 17:36
Matrix: Water
Date Received: 06/02/16 08:22

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	**15**		1.0	0.72	mg/L			06/10/16 19:13	1

General Chemistry - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	**1300**		10	7.0	mg/L			06/03/16 08:36	2

Method: 906.0 - Tritium, Total (LSC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	167	U	165	166	500	264	pCi/L	06/22/16 13:29	06/22/16 23:52	1

Client Sample ID: PZ-114-AS

Lab Sample ID: 160-17611-7
Date Collected: 06/01/16 18:16
Matrix: Water
Date Received: 06/02/16 08:22

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/03/16 17:53	1
Acrylonitrile	ND		50	1.7	ug/L			06/03/16 17:53	1
Benzene	**5.1**		5.0	0.25	ug/L			06/03/16 17:53	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/03/16 17:53	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/03/16 17:53	1
Bromoform	ND		5.0	0.37	ug/L			06/03/16 17:53	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/03/16 17:53	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/03/16 17:53	1
Chlorobenzene	**52**		5.0	0.38	ug/L			06/03/16 17:53	1
Chloroethane	ND		10	0.38	ug/L			06/03/16 17:53	1
Chloroform	ND		5.0	0.15	ug/L			06/03/16 17:53	1
Chloroprene	ND		5.0	0.39	ug/L			06/03/16 17:53	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/03/16 17:53	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/03/16 17:53	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/03/16 17:53	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/03/16 17:53	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/03/16 17:53	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/03/16 17:53	1
1,4-Dichlorobenzene	**7.5**		5.0	0.35	ug/L			06/03/16 17:53	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/03/16 17:53	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/03/16 17:53	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/03/16 17:53	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/03/16 17:53	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/03/16 17:53	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/03/16 17:53	1
2-Hexanone	ND		20	0.59	ug/L			06/03/16 17:53	1
Methyl bromide	ND		10	0.40	ug/L			06/03/16 17:53	1
Methyl chloride	ND		10	0.55	ug/L			06/03/16 17:53	1
Methylene bromide	ND		5.0	0.41	ug/L			06/03/16 17:53	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/03/16 17:53	1
Methyl Ethyl Ketone	ND		20	0.39	ug/L			06/03/16 17:53	1
Methyl iodide	ND		5.0	1.5	ug/L			06/03/16 17:53	1

Client Sample ID: PZ-114-AS

Date Collected: 06/01/16 18:16
Date Received: 06/02/16 08:22

Lab Sample ID: 160-17611-7

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/03/16 17:53	1
Styrene	ND		5.0	0.35	ug/L			06/03/16 17:53	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/03/16 17:53	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/03/16 17:53	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/03/16 17:53	1
Toluene	**2.0**	**J B**	5.0	1.0	ug/L			06/03/16 17:53	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/03/16 17:53	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/03/16 17:53	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/03/16 17:53	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/03/16 17:53	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/03/16 17:53	1
Trichloroethene	ND		5.0	0.29	ug/L			06/03/16 17:53	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/03/16 17:53	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/03/16 17:53	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/03/16 17:53	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/03/16 17:53	1
Xylenes, Total	ND		10	0.85	ug/L			06/03/16 17:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*71 - 139*		*06/03/16 17:53*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 121*		*06/03/16 17:53*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*76 - 121*		*06/03/16 17:53*	*1*
Toluene-d8 (Surr)	*108*		*80 - 129*		*06/03/16 17:53*	*1*

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.18**	**J**	0.20	0.020	mg/L			06/10/16 11:56	2
Sulfate	**0.18**	**J**	1.0	0.10	mg/L			06/10/16 11:56	2

Method: 300.0 - Anions, Ion Chromatography - DL2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**590**		100	10	mg/L			06/10/16 12:24	500

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		50	15	ug/L		06/20/16 12:21	06/28/16 16:15	5
Arsenic	**110**		50	20	ug/L		06/20/16 12:21	06/28/16 16:15	5
Barium	**840**		250	75	ug/L		06/20/16 12:21	06/28/16 16:15	5
Beryllium	ND		25	7.5	ug/L		06/20/16 12:21	06/28/16 16:15	5
Boron	**310**	**J**	500	130	ug/L		06/20/16 12:21	06/28/16 16:15	5
Cadmium	ND		25	7.5	ug/L		06/20/16 12:21	06/28/16 16:15	5
CaHard	**510000**		12000	3700	ug/L		06/20/16 12:21	06/28/16 16:15	5
Calcium	**200000**		5000	1500	ug/L		06/20/16 12:21	06/28/16 16:15	5
Chromium	ND		50	15	ug/L		06/20/16 12:21	06/28/16 16:15	5
Cobalt	ND		250	75	ug/L		06/20/16 12:21	06/28/16 16:15	5
Copper	ND		130	25	ug/L		06/20/16 12:21	06/28/16 16:15	5
Iron	**68000**		500	150	ug/L		06/20/16 12:21	06/28/16 16:15	5
Lead	ND		50	15	ug/L		06/20/16 12:21	06/28/16 16:15	5
Magnesium	**46**		5.0	1.5	mg/L		06/20/16 12:21	06/28/16 16:15	5
Manganese	**2800**		75	13	ug/L		06/20/16 12:21	06/28/16 16:15	5

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17611-1

Client Sample ID: PZ-114-AS

Lab Sample ID: 160-17611-7
Date Collected: 06/01/16 18:16
Matrix: Water
Date Received: 06/02/16 08:22

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MgHard	**190000**		21000	6200	ug/L		06/20/16 12:21	06/28/16 16:15	5
Nickel	ND		0.20	0.050	mg/L		06/20/16 12:21	06/28/16 16:15	5
Phosphorus	**1900**		1300	380	ug/L		06/20/16 12:21	06/30/16 12:15	5
Selenium	ND		75	25	ug/L		06/20/16 12:21	06/28/16 16:15	5
Silver	ND		50	15	ug/L		06/20/16 12:21	06/28/16 16:15	5
Sodium	**180000**		5000	1500	ug/L		06/20/16 12:21	06/28/16 16:15	5
Thallium	ND		100	25	ug/L		06/20/16 12:21	06/28/16 16:15	5
Total Hardness	**700000**		33000	9900	ug/L		06/20/16 12:21	06/28/16 16:15	5
Vanadium	ND		250	75	ug/L		06/20/16 12:21	06/28/16 16:15	5
Zinc	**39**	**J**	100	30	ug/L		06/20/16 12:21	06/28/16 16:15	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		06/22/16 14:58	06/23/16 11:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate/Nitrite	**0.34**		0.050	0.011	mg/L			06/28/16 13:54	1
Chemical Oxygen Demand	**40**		5.0	1.1	mg/L		06/07/16 10:04	06/07/16 15:00	1
Total Organic Carbon	**10**		1.0	0.72	mg/L			06/10/16 19:24	1

General Chemistry - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	**1400**		10	7.0	mg/L			06/03/16 08:36	2
Ammonia	**5.8**		0.50	0.22	mg/L			06/14/16 22:04	10

Method: 906.0 - Tritium, Total (LSC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	150	U	165	165	500	268	pCi/L	06/22/16 13:29	06/23/16 00:15	1

Client Sample ID: TRIP BLANK 2

Lab Sample ID: 160-17611-8
Date Collected: 06/01/16 00:00
Matrix: Water
Date Received: 06/02/16 08:22

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/03/16 18:19	1
Acrylonitrile	ND		50	1.7	ug/L			06/03/16 18:19	1
Benzene	ND		5.0	0.25	ug/L			06/03/16 18:19	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/03/16 18:19	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/03/16 18:19	1
Bromoform	ND		5.0	0.37	ug/L			06/03/16 18:19	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/03/16 18:19	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/03/16 18:19	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/03/16 18:19	1
Chloroethane	ND		10	0.38	ug/L			06/03/16 18:19	1
Chloroform	ND		5.0	0.15	ug/L			06/03/16 18:19	1
Chloroprene	ND		5.0	0.39	ug/L			06/03/16 18:19	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/03/16 18:19	1

Client Sample ID: TRIP BLANK 2

Lab Sample ID: 160-17611-8

Date Collected: 06/01/16 00:00

Matrix: Water

Date Received: 06/02/16 08:22

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/03/16 18:19	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/03/16 18:19	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/03/16 18:19	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/03/16 18:19	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/03/16 18:19	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/03/16 18:19	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/03/16 18:19	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/03/16 18:19	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/03/16 18:19	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/03/16 18:19	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/03/16 18:19	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/03/16 18:19	1
2-Hexanone	ND		20	0.59	ug/L			06/03/16 18:19	1
Methyl bromide	ND		10	0.40	ug/L			06/03/16 18:19	1
Methyl chloride	ND		10	0.55	ug/L			06/03/16 18:19	1
Methylene bromide	ND		5.0	0.41	ug/L			06/03/16 18:19	1
Methylene Chloride	**1.7**	**J**	5.0	1.7	ug/L			06/03/16 18:19	1
Methyl Ethyl Ketone	ND		20	0.39	ug/L			06/03/16 18:19	1
Methyl iodide	ND		5.0	1.5	ug/L			06/03/16 18:19	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/03/16 18:19	1
Styrene	ND		5.0	0.35	ug/L			06/03/16 18:19	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/03/16 18:19	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/03/16 18:19	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/03/16 18:19	1
Toluene	**1.7**	**J B**	5.0	1.0	ug/L			06/03/16 18:19	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/03/16 18:19	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/03/16 18:19	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/03/16 18:19	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/03/16 18:19	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/03/16 18:19	1
Trichloroethene	ND		5.0	0.29	ug/L			06/03/16 18:19	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/03/16 18:19	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/03/16 18:19	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/03/16 18:19	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/03/16 18:19	1
Xylenes, Total	ND		10	0.85	ug/L			06/03/16 18:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*71 - 139*		*06/03/16 18:19*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 121*		*06/03/16 18:19*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*76 - 121*		*06/03/16 18:19*	*1*
Toluene-d8 (Surr)	*103*		*80 - 129*		*06/03/16 18:19*	*1*

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

Lab Sample ID: MB 160-254556/8
Matrix: Water
Analysis Batch: 254556

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/03/16 10:12	1
Acrylonitrile	ND		50	1.7	ug/L			06/03/16 10:12	1
Benzene	ND		5.0	0.25	ug/L			06/03/16 10:12	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/03/16 10:12	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/03/16 10:12	1
Bromoform	ND		5.0	0.37	ug/L			06/03/16 10:12	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/03/16 10:12	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/03/16 10:12	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/03/16 10:12	1
Chloroethane	ND		10	0.38	ug/L			06/03/16 10:12	1
Chloroform	ND		5.0	0.15	ug/L			06/03/16 10:12	1
Chloroprene	ND		5.0	0.39	ug/L			06/03/16 10:12	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/03/16 10:12	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/03/16 10:12	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/03/16 10:12	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/03/16 10:12	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/03/16 10:12	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/03/16 10:12	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/03/16 10:12	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/03/16 10:12	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/03/16 10:12	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/03/16 10:12	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/03/16 10:12	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/03/16 10:12	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/03/16 10:12	1
2-Hexanone	ND		20	0.59	ug/L			06/03/16 10:12	1
Methyl bromide	ND		10	0.40	ug/L			06/03/16 10:12	1
Methyl chloride	ND		10	0.55	ug/L			06/03/16 10:12	1
Methylene bromide	ND		5.0	0.41	ug/L			06/03/16 10:12	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/03/16 10:12	1
Methyl Ethyl Ketone	ND		20	0.39	ug/L			06/03/16 10:12	1
Methyl iodide	ND		5.0	1.5	ug/L			06/03/16 10:12	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/03/16 10:12	1
Styrene	ND		5.0	0.35	ug/L			06/03/16 10:12	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/03/16 10:12	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/03/16 10:12	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/03/16 10:12	1
Toluene	2.61	J	5.0	1.0	ug/L			06/03/16 10:12	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/03/16 10:12	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/03/16 10:12	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/03/16 10:12	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/03/16 10:12	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/03/16 10:12	1
Trichloroethene	ND		5.0	0.29	ug/L			06/03/16 10:12	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/03/16 10:12	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/03/16 10:12	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/03/16 10:12	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/03/16 10:12	1

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

Lab Sample ID: MB 160-254556/8
Matrix: Water
Analysis Batch: 254556

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		10	0.85	ug/L			06/03/16 10:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*71 - 139*		*06/03/16 10:12*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 121*		*06/03/16 10:12*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*76 - 121*		*06/03/16 10:12*	*1*
Toluene-d8 (Surr)	*106*		*80 - 129*		*06/03/16 10:12*	*1*

Lab Sample ID: LCS 160-254556/5
Matrix: Water
Analysis Batch: 254556

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	50.0	48.3		ug/L		97	63 - 131
Acrylonitrile	500	448		ug/L		90	81 - 117
Benzene	50.0	48.2		ug/L		96	80 - 120
Bromochloromethane	50.0	45.7		ug/L		91	80 - 120
Bromodichloromethane	50.0	49.5		ug/L		99	80 - 120
Bromoform	50.0	49.1		ug/L		98	80 - 120
Carbon disulfide	50.0	48.5		ug/L		97	79 - 126
Carbon tetrachloride	50.0	49.7		ug/L		99	73 - 123
Chlorobenzene	50.0	49.7		ug/L		99	80 - 120
Chloroethane	50.0	47.6		ug/L		95	52 - 140
Chloroform	50.0	47.9		ug/L		96	80 - 120
Chloroprene	50.0	49.6		ug/L		99	80 - 120
cis-1,2-Dichloroethene	50.0	48.5		ug/L		97	80 - 120
cis-1,3-Dichloropropene	50.0	49.8		ug/L		100	80 - 122
Dibromochloromethane	50.0	49.4		ug/L		99	80 - 120
1,2-Dibromo-3-Chloropropane	50.0	42.6		ug/L		85	77 - 125
1,2-Dibromoethane (EDB)	50.0	48.8		ug/L		98	80 - 120
1,3-Dichlorobenzene	50.0	50.8		ug/L		102	80 - 120
1,4-Dichlorobenzene	50.0	50.2		ug/L		100	80 - 120
Dichlorodifluoromethane	50.0	52.7		ug/L		105	62 - 140
1,1-Dichloroethane	50.0	47.8		ug/L		96	80 - 120
1,2-Dichloroethane	50.0	47.5		ug/L		95	69 - 124
1,1-Dichloroethene	50.0	47.0		ug/L		94	77 - 126
1,2-Dichloropropane	50.0	48.4		ug/L		97	80 - 120
Ethylbenzene	50.0	49.3		ug/L		99	80 - 120
2-Hexanone	50.0	47.9		ug/L		96	64 - 136
Methyl bromide	50.0	46.8		ug/L		94	57 - 139
Methyl chloride	50.0	50.1		ug/L		100	70 - 127
Methylene bromide	50.0	47.4		ug/L		95	78 - 120
Methylene Chloride	50.0	46.4		ug/L		93	80 - 120
Methyl Ethyl Ketone	50.0	41.2		ug/L		82	70 - 130
Methyl iodide	50.0	47.9		ug/L		96	73 - 125
4-Methyl-2-pentanone (MIBK)	50.0	45.3		ug/L		91	76 - 129
Styrene	50.0	51.2		ug/L		102	80 - 120
1,1,1,2-Tetrachloroethane	50.0	50.6		ug/L		101	80 - 120

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

Lab Sample ID: LCS 160-254556/5
Matrix: Water
Analysis Batch: 254556

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2,2-Tetrachloroethane	50.0	47.1		ug/L		94	80 - 120
Tetrachloroethene	50.0	50.8		ug/L		102	80 - 120
Toluene	50.0	48.0		ug/L		96	80 - 120
trans-1,4-Dichloro-2-butene	50.0	46.7		ug/L		93	75 - 127
trans-1,2-Dichloroethene	50.0	49.3		ug/L		99	80 - 120
trans-1,3-Dichloropropene	50.0	50.5		ug/L		101	80 - 130
1,1,1-Trichloroethane	50.0	49.4		ug/L		99	76 - 120
1,1,2-Trichloroethane	50.0	47.7		ug/L		95	80 - 120
Trichloroethene	50.0	49.0		ug/L		98	73 - 120
Trichlorofluoromethane	50.0	48.6		ug/L		97	74 - 130
1,2,3-Trichloropropane	50.0	49.6		ug/L		99	80 - 120
Vinyl acetate	50.0	48.2		ug/L		96	37 - 140
Vinyl chloride	50.0	49.2		ug/L		98	51 - 140
Xylenes, Total	100	100		ug/L		100	80 - 121

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*71 - 139*
Dibromofluoromethane (Surr)	*102*		*80 - 121*
1,2-Dichloroethane-d4 (Surr)	*102*		*76 - 121*
Toluene-d8 (Surr)	*104*		*80 - 129*

Lab Sample ID: LCSD 160-254556/6
Matrix: Water
Analysis Batch: 254556

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
Acetone	50.0	47.9		ug/L		96	63 - 131	1	20
Acrylonitrile	500	436		ug/L		87	81 - 117	3	20
Benzene	50.0	47.3		ug/L		95	80 - 120	2	20
Bromochloromethane	50.0	46.2		ug/L		92	80 - 120	1	20
Bromodichloromethane	50.0	48.8		ug/L		98	80 - 120	1	20
Bromoform	50.0	49.7		ug/L		99	80 - 120	1	20
Carbon disulfide	50.0	47.1		ug/L		94	79 - 126	3	20
Carbon tetrachloride	50.0	48.6		ug/L		97	73 - 123	2	20
Chlorobenzene	50.0	50.7		ug/L		101	80 - 120	2	20
Chloroethane	50.0	45.7		ug/L		91	52 - 140	4	20
Chloroform	50.0	47.5		ug/L		95	80 - 120	1	20
Chloroprene	50.0	47.6		ug/L		95	80 - 120	4	20
cis-1,2-Dichloroethene	50.0	46.9		ug/L		94	80 - 120	3	20
cis-1,3-Dichloropropene	50.0	46.9		ug/L		94	80 - 122	6	20
Dibromochloromethane	50.0	50.7		ug/L		101	80 - 120	3	20
1,2-Dibromo-3-Chloropropane	50.0	43.0		ug/L		86	77 - 125	1	20
1,2-Dibromoethane (EDB)	50.0	48.1		ug/L		96	80 - 120	1	20
1,3-Dichlorobenzene	50.0	49.9		ug/L		100	80 - 120	2	20
1,4-Dichlorobenzene	50.0	49.8		ug/L		100	80 - 120	1	20
Dichlorodifluoromethane	50.0	51.0		ug/L		102	62 - 140	3	20
1,1-Dichloroethane	50.0	47.2		ug/L		94	80 - 120	1	20
1,2-Dichloroethane	50.0	46.8		ug/L		94	69 - 124	2	20

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

Lab Sample ID: LCSD 160-254556/6
Matrix: Water
Analysis Batch: 254556

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
1,1-Dichloroethene	50.0	47.1		ug/L		94	77 - 126	0	20
1,2-Dichloropropane	50.0	46.8		ug/L		94	80 - 120	3	20
Ethylbenzene	50.0	50.6		ug/L		101	80 - 120	3	20
2-Hexanone	50.0	48.0		ug/L		96	64 - 136	0	20
Methyl bromide	50.0	44.2		ug/L		88	57 - 139	6	20
Methyl chloride	50.0	47.4		ug/L		95	70 - 127	6	20
Methylene bromide	50.0	45.6		ug/L		91	78 - 120	4	20
Methylene Chloride	50.0	46.2		ug/L		92	80 - 120	1	20
Methyl Ethyl Ketone	50.0	41.7		ug/L		83	70 - 130	1	20
Methyl iodide	50.0	47.1		ug/L		94	73 - 125	2	20
4-Methyl-2-pentanone (MIBK)	50.0	44.6		ug/L		89	76 - 129	2	20
Styrene	50.0	50.5		ug/L		101	80 - 120	1	20
1,1,1,2-Tetrachloroethane	50.0	51.2		ug/L		102	80 - 120	1	20
1,1,2,2-Tetrachloroethane	50.0	47.1		ug/L		94	80 - 120	0	20
Tetrachloroethene	50.0	51.4		ug/L		103	80 - 120	1	20
Toluene	50.0	49.1		ug/L		98	80 - 120	2	20
trans-1,4-Dichloro-2-butene	50.0	46.4		ug/L		93	75 - 127	1	20
trans-1,2-Dichloroethene	50.0	47.9		ug/L		96	80 - 120	3	20
trans-1,3-Dichloropropene	50.0	51.1		ug/L		102	80 - 130	1	20
1,1,1-Trichloroethane	50.0	48.6		ug/L		97	76 - 120	2	20
1,1,2-Trichloroethane	50.0	47.9		ug/L		96	80 - 120	1	20
Trichloroethene	50.0	48.5		ug/L		97	73 - 120	1	20
Trichlorofluoromethane	50.0	48.4		ug/L		97	74 - 130	0	20
1,2,3-Trichloropropane	50.0	46.2		ug/L		92	80 - 120	7	20
Vinyl acetate	50.0	46.7		ug/L		93	37 - 140	3	20
Vinyl chloride	50.0	46.2		ug/L		92	51 - 140	6	20
Xylenes, Total	100	100		ug/L		100	80 - 121	0	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*71 - 139*
Dibromofluoromethane (Surr)	*101*		*80 - 121*
1,2-Dichloroethane-d4 (Surr)	*99*		*76 - 121*
Toluene-d8 (Surr)	*106*		*80 - 129*

Lab Sample ID: 160-17592-A-1 MS
Matrix: Water
Analysis Batch: 254556

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND		50.0	51.9		ug/L		104	52 - 138
Acrylonitrile	ND		500	482		ug/L		96	58 - 142
Benzene	ND		50.0	49.5		ug/L		99	80 - 120
Bromochloromethane	ND		50.0	49.4		ug/L		99	72 - 125
Bromodichloromethane	ND		50.0	49.6		ug/L		99	71 - 128
Bromoform	ND		50.0	55.5		ug/L		111	65 - 133
Carbon disulfide	ND		50.0	51.4		ug/L		103	69 - 139
Carbon tetrachloride	ND		50.0	51.8		ug/L		104	70 - 126
Chlorobenzene	ND		50.0	50.4		ug/L		101	80 - 120

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

Lab Sample ID: 160-17592-A-1 MS
Matrix: Water
Analysis Batch: 254556

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloroethane	ND		50.0	52.0		ug/L		104	59 - 144
Chloroform	ND		50.0	51.0		ug/L		102	80 - 120
Chloroprene	ND		50.0	50.2		ug/L		100	77 - 121
cis-1,2-Dichloroethene	ND		50.0	50.5		ug/L		101	80 - 124
cis-1,3-Dichloropropene	ND		50.0	47.7		ug/L		95	67 - 130
Dibromochloromethane	ND		50.0	53.5		ug/L		107	68 - 133
1,2-Dibromo-3-Chloropropane	ND		50.0	49.8		ug/L		100	58 - 148
1,2-Dibromoethane (EDB)	ND		50.0	53.1		ug/L		106	65 - 138
1,3-Dichlorobenzene	ND		50.0	51.0		ug/L		102	80 - 120
1,4-Dichlorobenzene	ND		50.0	50.8		ug/L		102	80 - 120
Dichlorodifluoromethane	ND		50.0	58.4		ug/L		117	65 - 140
1,1-Dichloroethane	ND		50.0	51.3		ug/L		103	80 - 120
1,2-Dichloroethane	ND		50.0	50.9		ug/L		102	56 - 136
1,1-Dichloroethene	ND		50.0	49.9		ug/L		100	66 - 137
1,2-Dichloropropane	ND		50.0	50.5		ug/L		101	80 - 123
Ethylbenzene	ND		50.0	49.7		ug/L		99	80 - 121
2-Hexanone	ND		50.0	50.8		ug/L		102	47 - 150
Methyl bromide	ND		50.0	49.0		ug/L		98	53 - 146
Methyl chloride	ND		50.0	49.3		ug/L		99	61 - 137
Methylene bromide	ND		50.0	49.7		ug/L		99	61 - 136
Methylene Chloride	ND		50.0	51.8		ug/L		104	80 - 120
Methyl Ethyl Ketone	ND		50.0	45.3		ug/L		91	58 - 143
Methyl iodide	ND		50.0	51.2		ug/L		102	69 - 124
4-Methyl-2-pentanone (MIBK)	ND		50.0	50.2		ug/L		100	53 - 150
Styrene	ND		50.0	50.4		ug/L		101	44 - 150
1,1,1,2-Tetrachloroethane	ND		50.0	54.3		ug/L		109	80 - 120
1,1,2,2-Tetrachloroethane	ND		50.0	53.5		ug/L		107	60 - 150
Tetrachloroethene	ND		50.0	49.8		ug/L		100	66 - 132
Toluene	2.4	J B	50.0	50.2		ug/L		96	75 - 134
trans-1,4-Dichloro-2-butene	ND		50.0	45.0		ug/L		90	55 - 146
trans-1,2-Dichloroethene	ND		50.0	50.9		ug/L		102	79 - 121
trans-1,3-Dichloropropene	ND		50.0	52.9		ug/L		106	68 - 143
1,1,1-Trichloroethane	ND		50.0	52.4		ug/L		105	74 - 123
1,1,2-Trichloroethane	ND		50.0	53.9		ug/L		108	70 - 134
Trichloroethene	ND		50.0	47.6		ug/L		95	63 - 120
Trichlorofluoromethane	ND		50.0	54.5		ug/L		109	53 - 150
1,2,3-Trichloropropane	ND		50.0	55.9		ug/L		112	62 - 137
Vinyl acetate	ND		50.0	50.9		ug/L		102	63 - 150
Vinyl chloride	ND		50.0	52.2		ug/L		104	54 - 140
Xylenes, Total	ND		100	99.9		ug/L		100	80 - 124

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*71 - 139*
Dibromofluoromethane (Surr)	*105*		*80 - 121*
1,2-Dichloroethane-d4 (Surr)	*102*		*76 - 121*
Toluene-d8 (Surr)	*110*		*80 - 129*

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

Lab Sample ID: 160-17592-A-1 MSD
Matrix: Water
Analysis Batch: 254556

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	ND		50.0	50.3		ug/L		101	52 - 138	3	20
Acrylonitrile	ND		500	454		ug/L		91	58 - 142	6	20
Benzene	ND		50.0	47.5		ug/L		95	80 - 120	4	20
Bromochloromethane	ND		50.0	45.7		ug/L		91	72 - 125	8	20
Bromodichloromethane	ND		50.0	48.9		ug/L		98	71 - 128	1	20
Bromoform	ND		50.0	52.0		ug/L		104	65 - 133	6	20
Carbon disulfide	ND		50.0	47.5		ug/L		95	69 - 139	8	20
Carbon tetrachloride	ND		50.0	48.2		ug/L		96	70 - 126	7	20
Chlorobenzene	ND		50.0	48.9		ug/L		98	80 - 120	3	20
Chloroethane	ND		50.0	48.1		ug/L		96	59 - 144	8	20
Chloroform	ND		50.0	46.9		ug/L		94	80 - 120	8	20
Chloroprene	ND		50.0	47.5		ug/L		95	77 - 121	6	20
cis-1,2-Dichloroethene	ND		50.0	46.9		ug/L		94	80 - 124	7	20
cis-1,3-Dichloropropene	ND		50.0	48.0		ug/L		96	67 - 130	0	20
Dibromochloromethane	ND		50.0	51.7		ug/L		103	68 - 133	4	20
1,2-Dibromo-3-Chloropropane	ND		50.0	43.5		ug/L		87	58 - 148	14	20
1,2-Dibromoethane (EDB)	ND		50.0	50.1		ug/L		100	65 - 138	6	20
1,3-Dichlorobenzene	ND		50.0	49.5		ug/L		99	80 - 120	3	20
1,4-Dichlorobenzene	ND		50.0	49.4		ug/L		99	80 - 120	3	20
Dichlorodifluoromethane	ND		50.0	53.1		ug/L		106	65 - 140	10	20
1,1-Dichloroethane	ND		50.0	47.0		ug/L		94	80 - 120	9	20
1,2-Dichloroethane	ND		50.0	48.5		ug/L		97	56 - 136	5	20
1,1-Dichloroethene	ND		50.0	46.4		ug/L		93	66 - 137	7	20
1,2-Dichloropropane	ND		50.0	48.2		ug/L		96	80 - 123	5	20
Ethylbenzene	ND		50.0	48.5		ug/L		97	80 - 121	3	20
2-Hexanone	ND		50.0	50.0		ug/L		100	47 - 150	2	20
Methyl bromide	ND		50.0	44.1		ug/L		88	53 - 146	11	20
Methyl chloride	ND		50.0	43.2		ug/L		86	61 - 137	13	20
Methylene bromide	ND		50.0	47.0		ug/L		94	61 - 136	6	20
Methylene Chloride	ND		50.0	46.1		ug/L		92	80 - 120	12	20
Methyl Ethyl Ketone	ND		50.0	38.7		ug/L		77	58 - 143	16	20
Methyl iodide	ND		50.0	46.5		ug/L		93	69 - 124	10	20
4-Methyl-2-pentanone (MIBK)	ND		50.0	46.5		ug/L		93	53 - 150	8	20
Styrene	ND		50.0	49.7		ug/L		99	44 - 150	1	20
1,1,1,2-Tetrachloroethane	ND		50.0	51.1		ug/L		102	80 - 120	6	20
1,1,2,2-Tetrachloroethane	ND		50.0	49.2		ug/L		98	60 - 150	8	20
Tetrachloroethene	ND		50.0	48.7		ug/L		97	66 - 132	2	20
Toluene	2.4	J B	50.0	47.5		ug/L		90	75 - 134	6	20
trans-1,4-Dichloro-2-butene	ND		50.0	42.6		ug/L		85	55 - 146	6	20
trans-1,2-Dichloroethene	ND		50.0	45.9		ug/L		92	79 - 121	10	20
trans-1,3-Dichloropropene	ND		50.0	49.7		ug/L		99	68 - 143	6	20
1,1,1-Trichloroethane	ND		50.0	48.8		ug/L		98	74 - 123	7	20
1,1,2-Trichloroethane	ND		50.0	50.9		ug/L		102	70 - 134	6	20
Trichloroethene	ND		50.0	47.3		ug/L		95	63 - 120	1	20
Trichlorofluoromethane	ND		50.0	48.2		ug/L		96	53 - 150	12	20
1,2,3-Trichloropropane	ND		50.0	50.8		ug/L		102	62 - 137	10	20
Vinyl acetate	ND		50.0	51.7		ug/L		103	63 - 150	2	20
Vinyl chloride	ND		50.0	46.6		ug/L		93	54 - 140	11	20

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

Lab Sample ID: 160-17592-A-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 254556

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Xylenes, Total	ND		100	96.5		ug/L		97	80 - 124	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*71 - 139*
Dibromofluoromethane (Surr)	*99*		*80 - 121*
1,2-Dichloroethane-d4 (Surr)	*101*		*76 - 121*
Toluene-d8 (Surr)	*102*		*80 - 129*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 160-255873/11 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 255873

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.10	0.010	mg/L			06/09/16 17:24	1
Sulfate	ND		0.50	0.050	mg/L			06/09/16 17:24	1
Chloride	ND		0.20	0.020	mg/L			06/09/16 17:24	1

Lab Sample ID: LCS 160-255873/12 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 255873

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.00	1.01		mg/L		101	90 - 110
Sulfate	8.00	7.56		mg/L		94	90 - 110
Chloride	2.00	1.97		mg/L		99	90 - 110

Lab Sample ID: 160-17611-5 MS — **Client Sample ID: PZ-116-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 255873

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	3.3		2.00	5.23	E	mg/L		97	90 - 110

Lab Sample ID: 160-17630-D-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 255873

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.5		2.00	3.61	E	mg/L		104	90 - 110

Lab Sample ID: 160-17630-D-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 255873

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Fluoride	1.5		1.52		mg/L		0.05	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 160-257330/44 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257330

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.10	0.010	mg/L			06/22/16 01:14	1
Sulfate	ND		0.50	0.050	mg/L			06/22/16 01:14	1
Chloride	ND		0.20	0.020	mg/L			06/22/16 01:14	1

Lab Sample ID: LCS 160-257330/45 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257330

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.00	0.997		mg/L		100	90 - 110
Sulfate	8.00	7.75		mg/L		97	90 - 110
Chloride	2.00	1.94		mg/L		97	90 - 110

Lab Sample ID: 160-17695-D-3 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257330

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	2.0		2.00	4.15	E	mg/L		106	90 - 110
Chloride	3.4		2.00	5.60	E	mg/L		109	90 - 110

Lab Sample ID: 160-17695-D-3 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257330

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Fluoride	2.0		2.06		mg/L		2	20
Chloride	3.4		3.54		mg/L		4	20

Method: 300.0 - Anions, Ion Chromatography - DL

Lab Sample ID: 160-17611-5 MS — **Client Sample ID: PZ-116-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 255873

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride - DL	2.6		40.0	42.5		mg/L		100	90 - 110
Sulfate - DL	32		80.0	104		mg/L		91	90 - 110

Lab Sample ID: 160-17630-D-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 255873

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate - DL	58		80.0	132		mg/L		93	90 - 110
Chloride - DL	49		40.0	87.4		mg/L		95	90 - 110

Method: 300.0 - Anions, Ion Chromatography - DL (Continued)

Lab Sample ID: 160-17630-D-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 255873

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Sulfate - DL	58			57.6		mg/L				0	20
Chloride - DL	49			49.0		mg/L				0.4	20

Lab Sample ID: 160-17695-D-3 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257330

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate - DL	23		40.0	60.1		mg/L		93	90 - 110		

Lab Sample ID: 160-17695-D-3 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257330

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Sulfate - DL	23			22.3		mg/L				3	20

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 160-257124/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258532 — **Prep Batch: 257124**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	3.00	J	10	3.0	ug/L		06/20/16 12:21	06/28/16 15:17	1
Arsenic	ND		10	4.0	ug/L		06/20/16 12:21	06/28/16 15:17	1
Barium	ND		50	15	ug/L		06/20/16 12:21	06/28/16 15:17	1
Beryllium	ND		5.0	1.5	ug/L		06/20/16 12:21	06/28/16 15:17	1
Boron	ND		100	25	ug/L		06/20/16 12:21	06/28/16 15:17	1
Cadmium	ND		5.0	1.5	ug/L		06/20/16 12:21	06/28/16 15:17	1
CaHard	ND		2500	750	ug/L		06/20/16 12:21	06/28/16 15:17	1
Calcium	ND		1000	300	ug/L		06/20/16 12:21	06/28/16 15:17	1
Chromium	ND		10	3.0	ug/L		06/20/16 12:21	06/28/16 15:17	1
Cobalt	ND		50	15	ug/L		06/20/16 12:21	06/28/16 15:17	1
Copper	ND		25	5.0	ug/L		06/20/16 12:21	06/28/16 15:17	1
Iron	ND		100	30	ug/L		06/20/16 12:21	06/28/16 15:17	1
Lead	ND		10	3.0	ug/L		06/20/16 12:21	06/28/16 15:17	1
Magnesium	ND		1.0	0.30	mg/L		06/20/16 12:21	06/28/16 15:17	1
Manganese	ND		15	2.5	ug/L		06/20/16 12:21	06/28/16 15:17	1
MgHard	ND		4100	1200	ug/L		06/20/16 12:21	06/28/16 15:17	1
Nickel	ND		0.040	0.010	mg/L		06/20/16 12:21	06/28/16 15:17	1
Phosphorus	ND	^	250	75	ug/L		06/20/16 12:21	06/28/16 15:17	1
Selenium	ND		15	5.0	ug/L		06/20/16 12:21	06/28/16 15:17	1
Silver	ND		10	3.0	ug/L		06/20/16 12:21	06/28/16 15:17	1
Sodium	ND		1000	300	ug/L		06/20/16 12:21	06/28/16 15:17	1
Thallium	ND		20	5.0	ug/L		06/20/16 12:21	06/28/16 15:17	1
Total Hardness	ND		6600	2000	ug/L		06/20/16 12:21	06/28/16 15:17	1
Vanadium	ND		50	15	ug/L		06/20/16 12:21	06/28/16 15:17	1

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

Lab Sample ID: MB 160-257124/1-A
Matrix: Water
Analysis Batch: 258532

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 257124

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	ND		20	6.0	ug/L		06/20/16 12:21	06/28/16 15:17	1

Lab Sample ID: LCS 160-257124/2-A
Matrix: Water
Analysis Batch: 258532

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 257124

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	500	503		ug/L		101	80 - 120
Arsenic	1000	1010		ug/L		101	80 - 120
Barium	1000	946		ug/L		95	80 - 120
Beryllium	1000	962		ug/L		96	80 - 120
Boron	2000	1890		ug/L		95	80 - 120
Cadmium	1000	1030		ug/L		103	80 - 120
Calcium	10000	10600		ug/L		106	80 - 120
Chromium	1000	1050		ug/L		105	80 - 120
Cobalt	1000	1040		ug/L		104	80 - 120
Copper	1000	954		ug/L		95	80 - 120
Iron	10000	9570		ug/L		96	80 - 120
Lead	1000	1020		ug/L		102	80 - 120
Magnesium	10.0	9.61		mg/L		96	80 - 120
Manganese	1000	953		ug/L		95	80 - 120
Nickel	1.00	1.05		mg/L		105	80 - 120
Selenium	500	504		ug/L		101	80 - 120
Silver	200	194		ug/L		97	80 - 120
Sodium	10000	10000		ug/L		100	80 - 120
Thallium	200	195		ug/L		98	80 - 120
Vanadium	1000	947		ug/L		95	80 - 120
Zinc	1000	1060		ug/L		106	80 - 120

Lab Sample ID: LCS 160-257124/2-A
Matrix: Water
Analysis Batch: 258751

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 257124

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	1000	1120		ug/L		112	80 - 120

Lab Sample ID: 160-17611-1 MS
Matrix: Water
Analysis Batch: 258532

Client Sample ID: PZ-209-SS
Prep Type: Total/NA
Prep Batch: 257124

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	15	J B	500	500		ug/L		100	75 - 125
Arsenic	ND		1000	1010		ug/L		101	75 - 125
Barium	ND		1000	1000		ug/L		100	75 - 125
Beryllium	ND		1000	975		ug/L		97	75 - 125
Boron	ND		2000	2030		ug/L		101	75 - 125
Cadmium	ND		1000	1020		ug/L		102	75 - 125
Calcium	69000		10000	79400	4	ug/L		100	75 - 125
Chromium	ND		1000	1030		ug/L		103	75 - 125

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

Lab Sample ID: 160-17611-1 MS
Matrix: Water
Analysis Batch: 258532

Client Sample ID: PZ-209-SS
Prep Type: Total/NA
Prep Batch: 257124

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	ND		1000	1020		ug/L		102	75 - 125
Copper	ND		1000	926		ug/L		93	75 - 125
Iron	800		10000	10500		ug/L		97	75 - 125
Lead	ND		1000	996		ug/L		100	75 - 125
Magnesium	39		10.0	49.5		mg/L		101	75 - 125
Manganese	110		1000	1080		ug/L		97	75 - 125
Nickel	ND		1.00	1.04		mg/L		104	75 - 125
Phosphorus	ND	^ *	1000	1220	J ^	ug/L		122	75 - 125
Selenium	ND		500	425		ug/L		85	75 - 125
Silver	ND		200	196		ug/L		98	75 - 125
Sodium	70000		10000	80500	4	ug/L		104	75 - 125
Thallium	ND		200	195		ug/L		97	75 - 125
Vanadium	ND		1000	960		ug/L		96	75 - 125
Zinc	ND		1000	1080		ug/L		108	75 - 125

Lab Sample ID: 160-17611-1 MSD
Matrix: Water
Analysis Batch: 258532

Client Sample ID: PZ-209-SS
Prep Type: Total/NA
Prep Batch: 257124

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	15	J B	500	474		ug/L		95	75 - 125	5	20
Arsenic	ND		1000	984		ug/L		98	75 - 125	3	20
Barium	ND		1000	965		ug/L		97	75 - 125	4	20
Beryllium	ND		1000	941		ug/L		94	75 - 125	4	20
Boron	ND		2000	1950		ug/L		97	75 - 125	4	20
Cadmium	ND		1000	986		ug/L		99	75 - 125	3	20
Calcium	69000		10000	78100	4	ug/L		87	75 - 125	2	20
Chromium	ND		1000	1000		ug/L		100	75 - 125	3	20
Cobalt	ND		1000	987		ug/L		99	75 - 125	3	20
Copper	ND		1000	903		ug/L		90	75 - 125	3	20
Iron	800		10000	10200		ug/L		94	75 - 125	4	20
Lead	ND		1000	966		ug/L		97	75 - 125	3	20
Magnesium	39		10.0	48.4		mg/L		90	75 - 125	2	20
Manganese	110		1000	1040		ug/L		93	75 - 125	3	20
Nickel	ND		1.00	1.01		mg/L		101	75 - 125	3	20
Phosphorus	ND	^ *	1000	1200	J ^	ug/L		120	75 - 125	2	20
Selenium	ND		500	400		ug/L		80	75 - 125	6	20
Silver	ND		200	190		ug/L		95	75 - 125	3	20
Sodium	70000		10000	79600	4	ug/L		96	75 - 125	1	20
Thallium	ND		200	186		ug/L		93	75 - 125	5	20
Vanadium	ND		1000	919		ug/L		92	75 - 125	4	20
Zinc	ND		1000	1040		ug/L		104	75 - 125	3	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 160-257625/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257909 — **Prep Batch: 257625**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		06/22/16 14:58	06/23/16 10:46	1

Lab Sample ID: LCS 160-257625/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257909 — **Prep Batch: 257625**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	5.00	5.10		ug/L		102	80 - 120

Lab Sample ID: 160-17602-A-4-H MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257909 — **Prep Batch: 257625**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		5.00	4.97		ug/L		99	80 - 120

Lab Sample ID: 160-17602-A-4-I MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257909 — **Prep Batch: 257625**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		5.00	5.07		ug/L		101	80 - 120	2	20

Method: 160.1 - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 160-254559/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 254559

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		5.0	3.5	mg/L			06/03/16 08:36	1

Lab Sample ID: LCS 160-254559/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 254559

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids (TDS)	500	504		mg/L		101	90 - 110

Method: 160.1 - Solids, Total Dissolved (TDS) - DL

Lab Sample ID: 160-17614-B-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 254559

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids (TDS) - DL	2800		2800		mg/L		0.5	20

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 160-256321/11 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256321

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.050	0.022	mg/L			06/13/16 19:01	1

Lab Sample ID: LCS 160-256321/12 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256321

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia			0.500	0.503		mg/L		101	90 - 110		

Lab Sample ID: 160-17592-E-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256321

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia	0.43	F1	0.500	1.01	F1	mg/L		116	90 - 110		

Lab Sample ID: 160-17592-E-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256321

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Ammonia	0.43	F1		0.440		mg/L				2	20

Lab Sample ID: MB 160-256509/11 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256509

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.050	0.022	mg/L			06/14/16 21:55	1

Lab Sample ID: LCS 160-256509/12 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256509

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia			0.500	0.497		mg/L		99	90 - 110		

Method: 350.1 - Nitrogen, Ammonia - DL

Lab Sample ID: 160-17630-C-1 MS ^10 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256509

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia - DL	3.5	F1	0.500	4.18	4	mg/L		129	90 - 110		

Method: 350.1 - Nitrogen, Ammonia - DL (Continued)

Lab Sample ID: 160-17630-C-1 DU ^10 — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256509

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Ammonia - DL	3.5	F1		3.42		mg/L				3	20

Method: 353.1 Preserved - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 160-258378/14 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258378

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate/Nitrite	ND		0.050	0.011	mg/L			06/27/16 18:30	1

Lab Sample ID: LCS 160-258378/15 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258378

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrate/Nitrite			0.500	0.472		mg/L		94	90 - 110		

Lab Sample ID: 160-17592-E-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258378

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrate/Nitrite	ND	F1	0.500	ND	F1	mg/L		0	90 - 110		

Lab Sample ID: 160-17592-E-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258378

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Nitrate/Nitrite	ND	F1		ND		mg/L				NC	20

Method: 410.4 - COD

Lab Sample ID: MB 160-255177/3-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 255249 — **Prep Batch: 255177**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		5.0	1.1	mg/L		06/07/16 10:04	06/07/16 15:00	1

Lab Sample ID: LCS 160-255177/4-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 255249 — **Prep Batch: 255177**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chemical Oxygen Demand			50.0	53.0		mg/L		106	90 - 110		

Method: 410.4 - COD (Continued)

Lab Sample ID: 160-17611-4 MS — **Client Sample ID: PZ-210-SD**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 255249 — **Prep Batch: 255177**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	28	F1	50.0	88.0	F1	mg/L		120	90 - 110

Lab Sample ID: 160-17582-B-6-B DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 255249 — **Prep Batch: 255177**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chemical Oxygen Demand	ND		ND		mg/L		NC	20

Method: 415.1 - TOC

Lab Sample ID: MB 160-256121/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256121

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		1.0	0.72	mg/L			06/10/16 14:31	1

Lab Sample ID: LCS 160-256121/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256121

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	10.0	10.1		mg/L		101	90 - 110

Lab Sample ID: 160-17611-7 MS — **Client Sample ID: PZ-114-AS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256121

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	10		5.00	15.2		mg/L		103	76 - 120

Lab Sample ID: 160-17630-B-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256121

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	9.0		5.00	14.2		mg/L		104	76 - 120

Lab Sample ID: 160-17630-B-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256121

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Organic Carbon	9.0		8.90		mg/L		0.6	20

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-254770/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258026 — **Prep Batch: 254770**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.07857	U	0.0713	0.0717	1.00	0.112	pCi/L	06/03/16 14:26	06/27/16 07:56	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*86.3*		*40 - 110*	*06/03/16 14:26*	*06/27/16 07:56*	*1*

Lab Sample ID: LCS 160-254770/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258026 — **Prep Batch: 254770**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.2	15.14		1.48	1.00	0.110	pCi/L	136	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*88.0*		*40 - 110*

Lab Sample ID: LCSD 160-254770/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258026 — **Prep Batch: 254770**

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.2	13.28		1.31	1.00	0.114	pCi/L	119	68 - 137	0.67	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*97.2*		*40 - 110*

Lab Sample ID: MB 160-254774/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258025 — **Prep Batch: 254774**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.07807	U	0.0613	0.0617	1.00	0.0909	pCi/L	06/03/16 15:27	06/27/16 07:50	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.1*		*40 - 110*	*06/03/16 15:27*	*06/27/16 07:50*	*1*

Lab Sample ID: LCS 160-254774/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258025 — **Prep Batch: 254774**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.2	14.83		1.45	1.00	0.0872	pCi/L	133	68 - 137		

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCS 160-254774/2-A
Matrix: Water
Analysis Batch: 258025

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 254774

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	98.0		40 - 110

Lab Sample ID: LCSD 160-254774/3-A
Matrix: Water
Analysis Batch: 258025

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 254774

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.2	13.09		1.30	1.00	0.112	pCi/L	117	68 - 137	0.63	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	99.4		40 - 110

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-254773/1-A
Matrix: Water
Analysis Batch: 257754

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 254773

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.2220	U	0.245	0.246	1.00	0.401	pCi/L	06/03/16 15:05	06/23/16 13:17	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	86.3		40 - 110	06/03/16 15:05	06/23/16 13:17	1
Y Carrier	95.0		40 - 110	06/03/16 15:05	06/23/16 13:17	1

Lab Sample ID: LCS 160-254773/2-A
Matrix: Water
Analysis Batch: 257754

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 254773

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			15.0	17.99		1.89	1.00	0.418	pCi/L	120	56 - 140		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	88.0		40 - 110
Y Carrier	93.5		40 - 110

Lab Sample ID: LCSD 160-254773/3-A
Matrix: Water
Analysis Batch: 257754

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 254773

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			15.0	16.92		1.77	1.00	0.391	pCi/L	113	56 - 140	0.29	1

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCSD 160-254773/3-A
Matrix: Water
Analysis Batch: 257754

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 254773

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	97.2		40 - 110
Y Carrier	89.3		40 - 110

Lab Sample ID: MB 160-254777/1-A
Matrix: Water
Analysis Batch: 257669

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 254777

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.1789	U	0.225	0.225	1.00	0.372	pCi/L	06/03/16 15:35	06/23/16 13:26	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	99.1		40 - 110	06/03/16 15:35	06/23/16 13:26	1
Y Carrier	90.8		40 - 110	06/03/16 15:35	06/23/16 13:26	1

Lab Sample ID: LCS 160-254777/2-A
Matrix: Water
Analysis Batch: 257669

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 254777

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			15.0	15.80		1.68	1.00	0.380	pCi/L	106	56 - 140		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	98.0		40 - 110
Y Carrier	87.1		40 - 110

Lab Sample ID: LCSD 160-254777/3-A
Matrix: Water
Analysis Batch: 257669

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 254777

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			15.0	17.70		1.85	1.00	0.362	pCi/L	118	56 - 140	0.54	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	99.4		40 - 110
Y Carrier	89.0		40 - 110

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-257602/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257696 — **Prep Batch: 257602**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-68.92	U	135	135	500	265	pCi/L	06/22/16 13:29	06/22/16 20:48	1

Lab Sample ID: LCS 160-257602/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257696 — **Prep Batch: 257602**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium			3070	3036		459	500	268	pCi/L	99	74 - 114		

Lab Sample ID: 160-17611-3 MS — **Client Sample ID: PZ-211-SD**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257696 — **Prep Batch: 257602**

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium	119	U	3060	3225		478	500	269	pCi/L	105	67 - 130		

Lab Sample ID: 160-17611-1 DU — **Client Sample ID: PZ-209-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257696 — **Prep Batch: 257602**

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Tritium	41.4	U		-33.78	U	139	500	263	pCi/L			0.26	1

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

Lab Sample ID: MB 160-256563/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257515 — **Prep Batch: 256563**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Thorium-230	0.3100		0.113	0.116	1.00	0.0310	pCi/L	06/15/16 15:38	06/22/16 12:57	1

Tracer	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Thorium-229	*89.1*		*30 - 110*	*06/15/16 15:38*	*06/22/16 12:57*	*1*

Lab Sample ID: LCS 160-256563/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257516 — **Prep Batch: 256563**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Thorium-230			8.03	10.06		1.07	1.00	0.0318	pCi/L	125	81 - 125		

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry) (Continued)

Lab Sample ID: LCS 160-256563/2-A
Matrix: Water
Analysis Batch: 257516

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 256563

Tracer	LCS %Yield	LCS Qualifier	Limits
Thorium-229	80.1		30 - 110

Lab Sample ID: 160-17611-1 DU
Matrix: Water
Analysis Batch: 257784

Client Sample ID: PZ-209-SS
Prep Type: Total/NA
Prep Batch: 256563

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Thorium-230	0.240			0.3055		0.127	1.00	0.0687	pCi/L			0.28	1

Tracer	DU %Yield	DU Qualifier	Limits
Thorium-229	68.0		30 - 110

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-256581/1-A
Matrix: Water
Analysis Batch: 257395

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 256581

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Uranium-233/234	0.06665		0.0596	0.0599	1.00	0.0400	pCi/L	06/15/16 15:38	06/21/16 13:34	1
Uranium-235/236	0.03317	U	0.0469	0.0470	1.00	0.0498	pCi/L	06/15/16 15:38	06/21/16 13:34	1
Uranium-238	0.007760	U	0.0288	0.0288	1.00	0.0735	pCi/L	06/15/16 15:38	06/21/16 13:34	1

Tracer	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Uranium-232	69.0		30 - 110	06/15/16 15:38	06/21/16 13:34	1

Lab Sample ID: LCS 160-256581/2-A
Matrix: Water
Analysis Batch: 257396

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 256581

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Uranium-233/234			12.7	12.14		1.26	1.00	0.0617	pCi/L	95	84 - 120		
Uranium-238			13.0	13.17		1.35	1.00	0.0334	pCi/L	101	83 - 121		

Tracer	LCS %Yield	LCS Qualifier	Limits
Uranium-232	76.0		30 - 110

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) (Continued)

Lab Sample ID: 160-17611-1 DU
Matrix: Water
Analysis Batch: 257540

Client Sample ID: PZ-209-SS
Prep Type: Total/NA
Prep Batch: 256581

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Uranium-233/234	2.22			2.021		0.398	1.00	0.117	pCi/L			0.25	1
Uranium-235/236	0.0446	U		0.1181		0.0970	1.00	0.0591	pCi/L			0.46	1
Uranium-238	0.872			0.9473		0.257	1.00	0.0474	pCi/L			0.15	1

Tracer	*DU %Yield*	*DU Qualifier*	*Limits*
Uranium-232	*55.2*		*30 - 110*

QC Association Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17611-1

GC/MS VOA

Analysis Batch: 254556

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17592-A-1 MS	Matrix Spike	Total/NA	Water	8260C	
160-17592-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260C	
160-17611-1	PZ-209-SS	Total/NA	Water	8260C	
160-17611-2	TRIP BLANK 1	Total/NA	Water	8260C	
160-17611-3	PZ-211-SD	Total/NA	Water	8260C	
160-17611-4	PZ-210-SD	Total/NA	Water	8260C	
160-17611-5	PZ-116-SS	Total/NA	Water	8260C	
160-17611-6	PZ-115-SS	Total/NA	Water	8260C	
160-17611-7	PZ-114-AS	Total/NA	Water	8260C	
160-17611-8	TRIP BLANK 2	Total/NA	Water	8260C	
LCS 160-254556/5	Lab Control Sample	Total/NA	Water	8260C	
LCSD 160-254556/6	Lab Control Sample Dup	Total/NA	Water	8260C	
MB 160-254556/8	Method Blank	Total/NA	Water	8260C	

HPLC/IC

Analysis Batch: 255873

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17611-1	PZ-209-SS	Total/NA	Water	300.0	
160-17611-1 - DL	PZ-209-SS	Total/NA	Water	300.0	
160-17611-3	PZ-211-SD	Total/NA	Water	300.0	
160-17611-3 - DL	PZ-211-SD	Total/NA	Water	300.0	
160-17611-4	PZ-210-SD	Total/NA	Water	300.0	
160-17611-5	PZ-116-SS	Total/NA	Water	300.0	
160-17611-5 - DL	PZ-116-SS	Total/NA	Water	300.0	
160-17611-5 MS	PZ-116-SS	Total/NA	Water	300.0	
160-17611-5 MS - DL	PZ-116-SS	Total/NA	Water	300.0	
160-17611-6 - DL	PZ-115-SS	Total/NA	Water	300.0	
160-17611-6 - DL2	PZ-115-SS	Total/NA	Water	300.0	
160-17611-7 - DL	PZ-114-AS	Total/NA	Water	300.0	
160-17611-7 - DL2	PZ-114-AS	Total/NA	Water	300.0	
160-17630-D-1 DU	Duplicate	Total/NA	Water	300.0	
160-17630-D-1 DU - DL	Duplicate	Total/NA	Water	300.0	
160-17630-D-1 MS	Matrix Spike	Total/NA	Water	300.0	
160-17630-D-1 MS - DL	Matrix Spike	Total/NA	Water	300.0	
LCS 160-255873/12	Lab Control Sample	Total/NA	Water	300.0	
MB 160-255873/11	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 257330

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17611-4 - DL	PZ-210-SD	Total/NA	Water	300.0	
160-17695-D-3 DU	Duplicate	Total/NA	Water	300.0	
160-17695-D-3 DU - DL	Duplicate	Total/NA	Water	300.0	
160-17695-D-3 MS	Matrix Spike	Total/NA	Water	300.0	
160-17695-D-3 MS - DL	Matrix Spike	Total/NA	Water	300.0	
LCS 160-257330/45	Lab Control Sample	Total/NA	Water	300.0	
MB 160-257330/44	Method Blank	Total/NA	Water	300.0	

QC Association Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17611-1

Metals

Prep Batch: 257124

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17611-1	PZ-209-SS	Total/NA	Water	3010A	
160-17611-1 MS	PZ-209-SS	Total/NA	Water	3010A	
160-17611-1 MSD	PZ-209-SS	Total/NA	Water	3010A	
160-17611-3	PZ-211-SD	Total/NA	Water	3010A	
160-17611-4	PZ-210-SD	Total/NA	Water	3010A	
160-17611-5	PZ-116-SS	Total/NA	Water	3010A	
160-17611-6	PZ-115-SS	Total/NA	Water	3010A	
160-17611-7	PZ-114-AS	Total/NA	Water	3010A	
LCS 160-257124/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 160-257124/1-A	Method Blank	Total/NA	Water	3010A	

Prep Batch: 257625

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17602-A-4-H MS	Matrix Spike	Total/NA	Water	7470A	
160-17602-A-4-I MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	
160-17611-1	PZ-209-SS	Total/NA	Water	7470A	
160-17611-3	PZ-211-SD	Total/NA	Water	7470A	
160-17611-4	PZ-210-SD	Total/NA	Water	7470A	
160-17611-5	PZ-116-SS	Total/NA	Water	7470A	
160-17611-6	PZ-115-SS	Total/NA	Water	7470A	
160-17611-7	PZ-114-AS	Total/NA	Water	7470A	
LCS 160-257625/2-A	Lab Control Sample	Total/NA	Water	7470A	
MB 160-257625/1-A	Method Blank	Total/NA	Water	7470A	

Analysis Batch: 257909

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17602-A-4-H MS	Matrix Spike	Total/NA	Water	7470A	257625
160-17602-A-4-I MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	257625
160-17611-1	PZ-209-SS	Total/NA	Water	7470A	257625
160-17611-3	PZ-211-SD	Total/NA	Water	7470A	257625
160-17611-4	PZ-210-SD	Total/NA	Water	7470A	257625
160-17611-5	PZ-116-SS	Total/NA	Water	7470A	257625
160-17611-6	PZ-115-SS	Total/NA	Water	7470A	257625
160-17611-7	PZ-114-AS	Total/NA	Water	7470A	257625
LCS 160-257625/2-A	Lab Control Sample	Total/NA	Water	7470A	257625
MB 160-257625/1-A	Method Blank	Total/NA	Water	7470A	257625

Analysis Batch: 258532

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17611-1	PZ-209-SS	Total/NA	Water	6010C	257124
160-17611-1 MS	PZ-209-SS	Total/NA	Water	6010C	257124
160-17611-1 MSD	PZ-209-SS	Total/NA	Water	6010C	257124
160-17611-3	PZ-211-SD	Total/NA	Water	6010C	257124
160-17611-4	PZ-210-SD	Total/NA	Water	6010C	257124
160-17611-5	PZ-116-SS	Total/NA	Water	6010C	257124
160-17611-6	PZ-115-SS	Total/NA	Water	6010C	257124
160-17611-7	PZ-114-AS	Total/NA	Water	6010C	257124
LCS 160-257124/2-A	Lab Control Sample	Total/NA	Water	6010C	257124
MB 160-257124/1-A	Method Blank	Total/NA	Water	6010C	257124

Metals (Continued)

Analysis Batch: 258751

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17611-7	PZ-114-AS	Total/NA	Water	6010C	257124
LCS 160-257124/2-A	Lab Control Sample	Total/NA	Water	6010C	257124

General Chemistry

Analysis Batch: 254559

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17611-1	PZ-209-SS	Total/NA	Water	160.1	
160-17611-3	PZ-211-SD	Total/NA	Water	160.1	
160-17611-4	PZ-210-SD	Total/NA	Water	160.1	
160-17611-5	PZ-116-SS	Total/NA	Water	160.1	
160-17611-6 - DL	PZ-115-SS	Total/NA	Water	160.1	
160-17611-7 - DL	PZ-114-AS	Total/NA	Water	160.1	
160-17614-B-1 DU - DL	Duplicate	Total/NA	Water	160.1	
LCS 160-254559/2	Lab Control Sample	Total/NA	Water	160.1	
MB 160-254559/1	Method Blank	Total/NA	Water	160.1	

Prep Batch: 255177

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17582-B-6-B DU	Duplicate	Total/NA	Water	410.4	
160-17611-1	PZ-209-SS	Total/NA	Water	410.4	
160-17611-3	PZ-211-SD	Total/NA	Water	410.4	
160-17611-4	PZ-210-SD	Total/NA	Water	410.4	
160-17611-4 MS	PZ-210-SD	Total/NA	Water	410.4	
160-17611-5	PZ-116-SS	Total/NA	Water	410.4	
160-17611-6	PZ-115-SS	Total/NA	Water	410.4	
160-17611-7	PZ-114-AS	Total/NA	Water	410.4	
LCS 160-255177/4-A	Lab Control Sample	Total/NA	Water	410.4	
MB 160-255177/3-A	Method Blank	Total/NA	Water	410.4	

Analysis Batch: 255249

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17582-B-6-B DU	Duplicate	Total/NA	Water	410.4	255177
160-17611-1	PZ-209-SS	Total/NA	Water	410.4	255177
160-17611-3	PZ-211-SD	Total/NA	Water	410.4	255177
160-17611-4	PZ-210-SD	Total/NA	Water	410.4	255177
160-17611-4 MS	PZ-210-SD	Total/NA	Water	410.4	255177
160-17611-5	PZ-116-SS	Total/NA	Water	410.4	255177
160-17611-6	PZ-115-SS	Total/NA	Water	410.4	255177
160-17611-7	PZ-114-AS	Total/NA	Water	410.4	255177
LCS 160-255177/4-A	Lab Control Sample	Total/NA	Water	410.4	255177
MB 160-255177/3-A	Method Blank	Total/NA	Water	410.4	255177

Analysis Batch: 256121

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17611-1	PZ-209-SS	Total/NA	Water	415.1	
160-17611-3	PZ-211-SD	Total/NA	Water	415.1	
160-17611-4	PZ-210-SD	Total/NA	Water	415.1	
160-17611-5	PZ-116-SS	Total/NA	Water	415.1	
160-17611-6	PZ-115-SS	Total/NA	Water	415.1	

General Chemistry (Continued)

Analysis Batch: 256121 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17611-7	PZ-114-AS	Total/NA	Water	415.1	
160-17611-7 MS	PZ-114-AS	Total/NA	Water	415.1	
160-17630-B-1 DU	Duplicate	Total/NA	Water	415.1	
160-17630-B-1 MS	Matrix Spike	Total/NA	Water	415.1	
LCS 160-256121/5	Lab Control Sample	Total/NA	Water	415.1	
MB 160-256121/4	Method Blank	Total/NA	Water	415.1	

Analysis Batch: 256321

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17592-E-1 DU	Duplicate	Total/NA	Water	350.1	
160-17592-E-1 MS	Matrix Spike	Total/NA	Water	350.1	
160-17611-1	PZ-209-SS	Total/NA	Water	350.1	
160-17611-3	PZ-211-SD	Total/NA	Water	350.1	
160-17611-5	PZ-116-SS	Total/NA	Water	350.1	
160-17611-6	PZ-115-SS	Total/NA	Water	350.1	
LCS 160-256321/12	Lab Control Sample	Total/NA	Water	350.1	
MB 160-256321/11	Method Blank	Total/NA	Water	350.1	

Analysis Batch: 256509

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17611-4 - DL	PZ-210-SD	Total/NA	Water	350.1	
160-17611-7 - DL	PZ-114-AS	Total/NA	Water	350.1	
160-17630-C-1 DU ^10 - DL	Duplicate	Total/NA	Water	350.1	
160-17630-C-1 MS ^10 - DL	Matrix Spike	Total/NA	Water	350.1	
LCS 160-256509/12	Lab Control Sample	Total/NA	Water	350.1	
MB 160-256509/11	Method Blank	Total/NA	Water	350.1	

Analysis Batch: 258378

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17592-E-1 DU	Duplicate	Total/NA	Water	353.1 Preserved	
160-17592-E-1 MS	Matrix Spike	Total/NA	Water	353.1 Preserved	
160-17611-1	PZ-209-SS	Total/NA	Water	353.1 Preserved	
160-17611-3	PZ-211-SD	Total/NA	Water	353.1 Preserved	
160-17611-4	PZ-210-SD	Total/NA	Water	353.1 Preserved	
160-17611-5	PZ-116-SS	Total/NA	Water	353.1 Preserved	
160-17611-6	PZ-115-SS	Total/NA	Water	353.1 Preserved	
160-17611-7	PZ-114-AS	Total/NA	Water	353.1 Preserved	
LCS 160-258378/15	Lab Control Sample	Total/NA	Water	353.1 Preserved	
MB 160-258378/14	Method Blank	Total/NA	Water	353.1 Preserved	

Rad

Filtration Batch: 254553

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17611-1	PZ-209-SS	Dissolved	Water	Filtration	
160-17611-3	PZ-211-SD	Dissolved	Water	Filtration	
160-17611-4	PZ-210-SD	Dissolved	Water	Filtration	
160-17611-5	PZ-116-SS	Dissolved	Water	Filtration	

Rad (Continued)

Prep Batch: 254770

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17611-1	PZ-209-SS	Total/NA	Water	PrecSep-21	
160-17611-3	PZ-211-SD	Total/NA	Water	PrecSep-21	
160-17611-4	PZ-210-SD	Total/NA	Water	PrecSep-21	
160-17611-5	PZ-116-SS	Total/NA	Water	PrecSep-21	
LCS 160-254770/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-254770/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	
MB 160-254770/1-A	Method Blank	Total/NA	Water	PrecSep-21	

Prep Batch: 254773

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17611-1	PZ-209-SS	Total/NA	Water	PrecSep_0	
160-17611-3	PZ-211-SD	Total/NA	Water	PrecSep_0	
160-17611-4	PZ-210-SD	Total/NA	Water	PrecSep_0	
160-17611-5	PZ-116-SS	Total/NA	Water	PrecSep_0	
LCS 160-254773/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-254773/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	
MB 160-254773/1-A	Method Blank	Total/NA	Water	PrecSep_0	

Prep Batch: 254774

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17611-1	PZ-209-SS	Dissolved	Water	PrecSep-21	254553
160-17611-3	PZ-211-SD	Dissolved	Water	PrecSep-21	254553
160-17611-4	PZ-210-SD	Dissolved	Water	PrecSep-21	254553
160-17611-5	PZ-116-SS	Dissolved	Water	PrecSep-21	254553
LCS 160-254774/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-254774/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	
MB 160-254774/1-A	Method Blank	Total/NA	Water	PrecSep-21	

Prep Batch: 254777

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17611-1	PZ-209-SS	Dissolved	Water	PrecSep_0	254553
160-17611-3	PZ-211-SD	Dissolved	Water	PrecSep_0	254553
160-17611-4	PZ-210-SD	Dissolved	Water	PrecSep_0	254553
160-17611-5	PZ-116-SS	Dissolved	Water	PrecSep_0	254553
LCS 160-254777/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-254777/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	
MB 160-254777/1-A	Method Blank	Total/NA	Water	PrecSep_0	

Prep Batch: 256563

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17611-1	PZ-209-SS	Total/NA	Water	ExtChrom	
160-17611-1 DU	PZ-209-SS	Total/NA	Water	ExtChrom	
160-17611-3	PZ-211-SD	Total/NA	Water	ExtChrom	
160-17611-4	PZ-210-SD	Total/NA	Water	ExtChrom	
160-17611-5	PZ-116-SS	Total/NA	Water	ExtChrom	
LCS 160-256563/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
MB 160-256563/1-A	Method Blank	Total/NA	Water	ExtChrom	

Prep Batch: 256581

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17611-1	PZ-209-SS	Total/NA	Water	ExtChrom	

Rad (Continued)

Prep Batch: 256581 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17611-1 DU	PZ-209-SS	Total/NA	Water	ExtChrom	
160-17611-3	PZ-211-SD	Total/NA	Water	ExtChrom	
160-17611-4	PZ-210-SD	Total/NA	Water	ExtChrom	
160-17611-5	PZ-116-SS	Total/NA	Water	ExtChrom	
LCS 160-256581/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
MB 160-256581/1-A	Method Blank	Total/NA	Water	ExtChrom	

Prep Batch: 257602

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17611-1	PZ-209-SS	Total/NA	Water	LSC_Dist_Susp	
160-17611-1 DU	PZ-209-SS	Total/NA	Water	LSC_Dist_Susp	
160-17611-3	PZ-211-SD	Total/NA	Water	LSC_Dist_Susp	
160-17611-3 MS	PZ-211-SD	Total/NA	Water	LSC_Dist_Susp	
160-17611-4	PZ-210-SD	Total/NA	Water	LSC_Dist_Susp	
160-17611-5	PZ-116-SS	Total/NA	Water	LSC_Dist_Susp	
160-17611-6	PZ-115-SS	Total/NA	Water	LSC_Dist_Susp	
160-17611-7	PZ-114-AS	Total/NA	Water	LSC_Dist_Susp	
LCS 160-257602/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	
MB 160-257602/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	

Surrogate Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17611-1

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

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

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	12DCE	TOL
Lab Sample ID	Client Sample ID	(71-139)	(80-121)	(76-121)	(80-129)
160-17592-A-1 MS	Matrix Spike	103	105	102	110
160-17592-A-1 MSD	Matrix Spike Duplicate	102	99	101	102
160-17611-1	PZ-209-SS	111	101	106	108
160-17611-2	TRIP BLANK 1	108	99	103	105
160-17611-3	PZ-211-SD	115	104	110	111
160-17611-4	PZ-210-SD	109	101	104	103
160-17611-5	PZ-116-SS	114	102	106	109
160-17611-6	PZ-115-SS	115	100	104	105
160-17611-7	PZ-114-AS	110	100	107	108
160-17611-8	TRIP BLANK 2	110	103	109	103
LCS 160-254556/5	Lab Control Sample	103	102	102	104
LCSD 160-254556/6	Lab Control Sample Dup	100	101	99	106
MB 160-254556/8	Method Blank	108	98	106	106

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Tracer/Carrier Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17611-1

Method: 903.0 - Radium-226 (GFPC)

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

		Percent Yield (Acceptance Limits)							
Lab Sample ID	Client Sample ID	Ba (40-110)							
160-17611-1	PZ-209-SS	85.5							
160-17611-3	PZ-211-SD	72.6							
160-17611-4	PZ-210-SD	90.6							
160-17611-5	PZ-116-SS	93.4							
LCS 160-254770/2-A	Lab Control Sample	88.0							
LCS 160-254774/2-A	Lab Control Sample	98.0							
LCSD 160-254770/3-A	Lab Control Sample Dup	97.2							
LCSD 160-254774/3-A	Lab Control Sample Dup	99.4							
MB 160-254770/1-A	Method Blank	86.3							
MB 160-254774/1-A	Method Blank	99.1							

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Dissolved**

		Percent Yield (Acceptance Limits)							
Lab Sample ID	Client Sample ID	Ba (40-110)							
160-17611-1	PZ-209-SS	70.9							
160-17611-3	PZ-211-SD	68.4							
160-17611-4	PZ-210-SD	44.7							
160-17611-5	PZ-116-SS	47.6							

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

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

		Percent Yield (Acceptance Limits)							
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)						
160-17611-1	PZ-209-SS	85.5	88.2						
160-17611-3	PZ-211-SD	72.6	91.6						
160-17611-4	PZ-210-SD	90.6	92.0						
160-17611-5	PZ-116-SS	93.4	87.5						
LCS 160-254773/2-A	Lab Control Sample	88.0	93.5						
LCS 160-254777/2-A	Lab Control Sample	98.0	87.1						
LCSD 160-254773/3-A	Lab Control Sample Dup	97.2	89.3						
LCSD 160-254777/3-A	Lab Control Sample Dup	99.4	89.0						
MB 160-254773/1-A	Method Blank	86.3	95.0						
MB 160-254777/1-A	Method Blank	99.1	90.8						

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Tracer/Carrier Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17611-1

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Dissolved**

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
160-17611-1	PZ-209-SS	70.9	89.7
160-17611-3	PZ-211-SD	68.4	92.0
160-17611-4	PZ-210-SD	44.7	91.6
160-17611-5	PZ-116-SS	47.6	89.7

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

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

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Th-229 (30-110)
160-17611-1	PZ-209-SS	77.4
160-17611-1 DU	PZ-209-SS	68.0
160-17611-3	PZ-211-SD	77.7
160-17611-4	PZ-210-SD	73.9
160-17611-5	PZ-116-SS	80.6
LCS 160-256563/2-A	Lab Control Sample	80.1
MB 160-256563/1-A	Method Blank	89.1

Tracer/Carrier Legend

Th-229 = Thorium-229

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

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

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	U-232 (30-110)
160-17611-1	PZ-209-SS	63.8
160-17611-1 DU	PZ-209-SS	55.2
160-17611-3	PZ-211-SD	68.5
160-17611-4	PZ-210-SD	61.5
160-17611-5	PZ-116-SS	69.3
LCS 160-256581/2-A	Lab Control Sample	76.0
MB 160-256581/1-A	Method Blank	69.0

Tracer/Carrier Legend

U-232 = Uranium-232

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Tel: (314)298-8566

TestAmerica Job ID: 160-17630-1
Client Project/Site: Groundwater - 2nd Quarter 2016

For:
Missouri Attorney General's Office
PO BOX 899
Jefferson City, Missouri 65102

Attn: Brenna McDonald

Authorized for release by:
6/30/2016 5:44:05 PM

Chenise Lambert-Sykes, Project Manager I
(314)298-8566
chenise.lambert-sykes@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

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.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Chain of Custody 7
Receipt Checklists 8
Definitions/Glossary 9
Method Summary 10
Sample Summary 11
Client Sample Results 12
QC Sample Results 18
QC Association Summary 33
Surrogate Summary 36

Job ID: 160-17630-1

Laboratory: TestAmerica St. Louis

Narrative

CASE NARRATIVE

Client: Missouri Attorney General's Office

Project: Groundwater - 2nd Quarter 2016

Report Number: 160-17630-1

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.

TestAmerica St. Louis attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

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.

All solid sample results for Chemistry analyses are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header. All soil/sediment sample results for radiochemistry analyses are based upon sample as dried and disaggregated with the exception of tritium, carbon-14, and iodine-129 by gamma spectroscopy unless requested as wet weight by the client."

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT
The samples were received on 06/02/2016; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 12.7 C.

Receipt Exceptions
Samples were received at the laboratory outside the required temperature criteria: MO-3-SS (160-17630-1), MO-3-SD (160-17630-2) and TRIP BLANK (160-17630-3). The samples are considered acceptable since it was collected and submitted to the laboratory on the same day and there is evidence that the chilling process has begun.

VOLATILE ORGANIC COMPOUNDS (GC MS)
Samples MO-3-SS (160-17630-1), MO-3-SD (160-17630-2) and TRIP BLANK (160-17630-3) were analyzed for volatile organic compounds (GC MS) in accordance with EPA SW-846 Method 8260C. The samples were analyzed on 06/05/2016.

Analytical Batch: 254807
The continuing calibration verification (CCV) associated with batch 160-254807 recovered outside acceptance criteria, low biased, for Iodomethane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples, except 160-17630-2 which is being re-analyzed, were non-detect for this analyte, the data have been reported. (CCVIS 160-254807/5)

Job ID: 160-17630-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

The following compounds did not meet the minimum relative response factor limits in the continuing calibration verification (CCV) associated with batch 160-254807: 2-Butanone, 2-Hexanone, and Acetone. A low level CCV was analyzed at the base reporting limit of 1ug/L and the affected analytes were detected. Affected target analytes recovering above the reporting limit in the associated samples will be qualified and reported. (CCVIS 160-254807/5)

Toluene was detected in method blank MB 160-254807/9 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

Methyl iodide failed the recovery criteria low for the MS of sample MO-3-SSMS (160-17630-1) in batch 160-254807. Methyl iodide exceeded the RPD limit for the MSD of sample MO-3-SSMSD (160-17630-1) in batch 160-254807.

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

TOTAL METALS (ICP)
Samples MO-3-SS (160-17630-1) and MO-3-SD (160-17630-2) were analyzed for total metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 06/06/2016 and analyzed on 06/28/2016.

Analytical Batch: 258532
The continuing calibration verification (CCV) associated with batch 160-258532 recovered above the upper control limit for Phosphorus. The samples associated with this CCV were below the reporting limit for the affected analytes; therefore, the data have been reported. The following samples are impacted: (CCV 160-258532/77) and (CCV 160-258532/90).

The following samples were diluted due to the nature of the sample matrix. Samples had high concentrations of salts which could cause internal standard and instrument QC failure. MO-3-SS (160-17630-1), MO-3-SD (160-17630-2), (160-17630-E-1-B MS ^), (160-17630-E-1-C MSD) and (160-17630-E-1-A SD ^). Elevated reporting limits (RLs) are provided.

The laboratory control sample (LCS) for preparation batch 160-254928 and analytical batch 160-258532 recovered outside control limits for the following analytes: Phosphorus. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported. (LCS 160-254928/2-A)

Due to the high concentration of Calcium, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 160-254928 and analytical batch 160-258532 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria. The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount. Refer to the QC report for details. (160-17630-E-1-B MS ^) and (160-17630-E-1-C MSD)

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 160-254928 and analytical batch 160-258532 were outside control limits for Phosphorus. Sample matrix interference are suspected. (160-17630-E-1-B MS ^) and (160-17630-E-1-C MSD)

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

TOTAL MERCURY
Samples MO-3-SS (160-17630-1) and MO-3-SD (160-17630-2) were analyzed for total mercury in accordance with EPA SW-846 Methods 7470A. The samples were prepared and analyzed on 06/13/2016.

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

TOTAL DISSOLVED SOLIDS
Samples MO-3-SS (160-17630-1) and MO-3-SD (160-17630-2) were analyzed for total dissolved solids in accordance with EPA Method 160.1. The samples were analyzed on 06/03/2016.

Analytical Batch: 254559
The following QC samples in TDS batch 160-254559 were diluted to bring the concentration of target analytes within the calibration range: (160-17614-B-1) and (160-17614-B-1 DU). Elevated reporting limits (RLs) are provided.

Job ID: 160-17630-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

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

ANIONS, ION CHROMATOGRAPHY
Samples MO-3-SS (160-17630-1) and MO-3-SD (160-17630-2) were analyzed for Anions, Ion Chromatography in accordance with EPA Method 300.0. The samples were analyzed on 06/09/2016.

Analytical Batch: 255873
The following samples in Anion batch 160-255873 were diluted to bring the concentrations of target analytes within the calibration range: MO-3-SS (160-17630-1) and MO-3-SD (160-17630-2). Elevated reporting limits (RLs) are provided.

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

AMMONIA
Samples MO-3-SS (160-17630-1) and MO-3-SD (160-17630-2) were analyzed for ammonia in accordance with EPA Method 350.1. The samples were analyzed on 06/14/2016.

Analytical Batch: 256509
The following samples in NH3 analytical batch 160-256509 were diluted to bring the concentration of the target analyte within the calibration range: MO-3-SS (160-17630-1) and MO-3-SD (160-17630-2). Elevated reporting limits (RLs) are provided.

Due to the high concentration of NH3 in the following sample, the matrix spike (MS) for analytical batch 160-256509 could not be evaluated for accuracy: (160-17630-C-1 MS ^10). The associated laboratory control sample (LCS) met acceptance criteria.

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

NITROGEN, NITRATE-NITRITE
Samples MO-3-SS (160-17630-1) and MO-3-SD (160-17630-2) were analyzed for Nitrogen, Nitrate-Nitrite in accordance with Method 353.1 Preserved. The samples were analyzed on 06/28/2016.

Analytical Batch: 258378
The following matrix spike (MS) recoveries for NO3-NO2 analytical batch 160-258378 were outside control limits: (160-17592-E-1 MS) and (160-17630-C-1 MS). Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

CHEMICAL OXYGEN DEMAND
Samples MO-3-SS (160-17630-1) and MO-3-SD (160-17630-2) were analyzed for chemical oxygen demand in accordance with EPA Method 410.4. The samples were prepared and analyzed on 06/13/2016.

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

TOTAL ORGANIC CARBON
Samples MO-3-SS (160-17630-1) and MO-3-SD (160-17630-2) were analyzed for total organic carbon in accordance with EPA Method 415.1. The samples were analyzed on 06/10/2016 and 06/13/2016.

Analytical Batch: 256304
The following samples in TOC batch 160-256304 were diluted to bring the concentrations of the target analyte within the calibration range: MO-3-SD (160-17630-2). Elevated reporting limits (RLs) are provided.

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

TRITIUM, TOTAL (LSC)
Samples MO-3-SS (160-17630-1) and MO-3-SD (160-17630-2) were analyzed for Tritium, Total (LSC) in accordance with USEPA 906.0.

Job ID: 160-17630-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

The samples were prepared on 06/22/2016 and analyzed on 06/23/2016.

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

TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Phone (314) 298-8566 Fax (314) 298-8757

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Jessie Hahn / Peter Price	Lab PM: Lambert-Sykes, Chenise Y	Carrier Tracking No(s):	COC No: 160-4182-2039.1
Client Contact: Brenna McDonald	Phone: 314-997-7440	E-Mail: chenise.lambert-sykes@testamericainc.com		Page: Page 1 of 1
Company: Missouri Attorney General's Office				Job #:
Address: PO BOX 899	Due Date Requested:			
City: Jefferson City	TAT Requested (days):			
State, Zip: MO, 65102				
Phone: 573-368-2163(Tel)	PO #: Purchase Order Requested			
Email: brenna.mcdonald@dnr.mo.gov	WO #:			
Project Name: Groundwater - 2nd Quarter 2016	Project #: 16005341			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	906.0 - Tritium	350.1, 353.1_Pres, 410.4	903.0, 904.0, A01R_Th, A01R_U	903.0, 904.0	160.1_Calcd, 300_ORGFM_28D	6010C, 7470A	415.1 - Total Organic Carbon	8260C - (MOD) OLM 4.2	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	S	D	D	N	D	S	A		
MO-3-SS	6-2-2016	0845	G	Water	N		1	1	0	0	1	1	1	3	8	
MO-3-SD	6-2-2016	1305	G	Water	N		1	1	0	0	1	1	1	3	8	
Trip blank	6-2-2016	0700	G	Water	N									2	2	
				Water												
				Water												

160-17630 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☑ Unknown ☑ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: Peter Price	Date/Time: 6-2-2016 1430	Company: MGS	Received by: B.	Date/Time: 6/2/16 1430	Company: TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

Login Sample Receipt Checklist

Client: Missouri Attorney General's Office

Job Number: 160-17630-1

Login Number: 17630
List Number: 1
Creator: Daniels, Brian J

List Source: TestAmerica St. Louis

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
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	

Definitions/Glossary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17630-1

Qualifiers

GC/MS VOA

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

HPLC/IC

Qualifier	Qualifier Description
E	Result exceeded calibration range.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
*	LCS or LCSD is outside acceptance limits.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.
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.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
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.

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

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

Method Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17630-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL SL
300.0	Anions, Ion Chromatography	MCAWW	TAL SL
6010C	Metals (ICP)	SW846	TAL SL
7470A	Mercury (CVAA)	SW846	TAL SL
160.1	Solids, Total Dissolved (TDS)	MCAWW	TAL SL
350.1	Nitrogen, Ammonia	MCAWW	TAL SL
353.1 Preserved	Nitrogen, Nitrate-Nitrite	MCAWW	TAL SL
410.4	COD	MCAWW	TAL SL
415.1	TOC	MCAWW	TAL SL
906.0	Tritium, Total (LSC)	EPA	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17630-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
160-17630-1	MO-3-SS	Water	06/02/16 08:45	06/02/16 14:30
160-17630-2	MO-3-SD	Water	06/02/16 13:05	06/02/16 14:30
160-17630-3	TRIP BLANK	Water	06/02/16 07:00	06/02/16 14:30

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17630-1

Client Sample ID: MO-3-SS

Date Collected: 06/02/16 08:45
Date Received: 06/02/16 14:30

Lab Sample ID: 160-17630-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/05/16 15:19	1
Acrylonitrile	ND		50	1.7	ug/L			06/05/16 15:19	1
Benzene	**5.7**		5.0	0.25	ug/L			06/05/16 15:19	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/05/16 15:19	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/05/16 15:19	1
Bromoform	ND		5.0	0.37	ug/L			06/05/16 15:19	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/05/16 15:19	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/05/16 15:19	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/05/16 15:19	1
Chloroethane	ND		10	0.38	ug/L			06/05/16 15:19	1
Chloroform	ND		5.0	0.15	ug/L			06/05/16 15:19	1
Chloroprene	ND		5.0	0.39	ug/L			06/05/16 15:19	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/05/16 15:19	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/05/16 15:19	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/05/16 15:19	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/05/16 15:19	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/05/16 15:19	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/05/16 15:19	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/05/16 15:19	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/05/16 15:19	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/05/16 15:19	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/05/16 15:19	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/05/16 15:19	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/05/16 15:19	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/05/16 15:19	1
2-Hexanone	ND		20	0.59	ug/L			06/05/16 15:19	1
Methyl bromide	**0.62**	**J**	10	0.40	ug/L			06/05/16 15:19	1
Methyl chloride	ND		10	0.55	ug/L			06/05/16 15:19	1
Methylene bromide	ND		5.0	0.41	ug/L			06/05/16 15:19	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/05/16 15:19	1
Methyl Ethyl Ketone	ND		20	0.39	ug/L			06/05/16 15:19	1
Methyl iodide	ND	F1 F2	5.0	1.5	ug/L			06/05/16 15:19	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/05/16 15:19	1
Styrene	ND		5.0	0.35	ug/L			06/05/16 15:19	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/05/16 15:19	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/05/16 15:19	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/05/16 15:19	1
Toluene	**2.9**	**J B**	5.0	1.0	ug/L			06/05/16 15:19	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/05/16 15:19	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/05/16 15:19	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/05/16 15:19	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/05/16 15:19	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/05/16 15:19	1
Trichloroethene	ND		5.0	0.29	ug/L			06/05/16 15:19	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/05/16 15:19	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/05/16 15:19	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/05/16 15:19	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/05/16 15:19	1
Xylenes, Total	**1.4**	**J**	10	0.85	ug/L			06/05/16 15:19	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17630-1

Client Sample ID: MO-3-SS

Date Collected: 06/02/16 08:45
Date Received: 06/02/16 14:30

Lab Sample ID: 160-17630-1

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*71 - 139*		*06/05/16 15:19*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 121*		*06/05/16 15:19*	*1*
1,2-Dichloroethane-d4 (Surr)	*94*		*76 - 121*		*06/05/16 15:19*	*1*
Toluene-d8 (Surr)	*104*		*80 - 129*		*06/05/16 15:19*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**1.5**		0.10	0.010	mg/L			06/09/16 17:52	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**58**		10	1.0	mg/L			06/09/16 18:06	20
Chloride	**49**		4.0	0.40	mg/L			06/09/16 18:06	20

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		50	15	ug/L		06/06/16 13:24	06/28/16 16:28	5
Arsenic	ND		50	20	ug/L		06/06/16 13:24	06/28/16 16:28	5
Barium	**140**	**J**	250	75	ug/L		06/06/16 13:24	06/28/16 16:28	5
Beryllium	ND		25	7.5	ug/L		06/06/16 13:24	06/28/16 16:28	5
Boron	**180**	**J**	500	130	ug/L		06/06/16 13:24	06/28/16 16:28	5
Cadmium	ND		25	7.5	ug/L		06/06/16 13:24	06/28/16 16:28	5
CaHard	**250000**		12000	3700	ug/L		06/06/16 13:24	06/28/16 16:28	5
Calcium	**100000**		5000	1500	ug/L		06/06/16 13:24	06/28/16 16:28	5
Chromium	**18**	**J**	50	15	ug/L		06/06/16 13:24	06/28/16 16:28	5
Cobalt	ND		250	75	ug/L		06/06/16 13:24	06/28/16 16:28	5
Copper	ND		130	25	ug/L		06/06/16 13:24	06/28/16 16:28	5
Iron	**2100**		500	150	ug/L		06/06/16 13:24	06/28/16 16:28	5
Lead	ND		50	15	ug/L		06/06/16 13:24	06/28/16 16:28	5
Magnesium	**54**		5.0	1.5	mg/L		06/06/16 13:24	06/28/16 16:28	5
Manganese	**550**		75	13	ug/L		06/06/16 13:24	06/28/16 16:28	5
MgHard	**220000**		21000	6200	ug/L		06/06/16 13:24	06/28/16 16:28	5
Nickel	ND		0.20	0.050	mg/L		06/06/16 13:24	06/28/16 16:28	5
Phosphorus	ND	F1 ^ *	1300	380	ug/L		06/06/16 13:24	06/28/16 16:28	5
Selenium	ND		75	25	ug/L		06/06/16 13:24	06/28/16 16:28	5
Silver	ND		50	15	ug/L		06/06/16 13:24	06/28/16 16:28	5
Sodium	**58000**		5000	1500	ug/L		06/06/16 13:24	06/28/16 16:28	5
Thallium	ND		100	25	ug/L		06/06/16 13:24	06/28/16 16:28	5
Total Hardness	**470000**		33000	9900	ug/L		06/06/16 13:24	06/28/16 16:28	5
Vanadium	ND		250	75	ug/L		06/06/16 13:24	06/28/16 16:28	5
Zinc	**36**	**J**	100	30	ug/L		06/06/16 13:24	06/28/16 16:28	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		06/13/16 08:39	06/13/16 17:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	**630**		5.0	3.5	mg/L			06/03/16 08:36	1
Nitrate/Nitrite	ND	F1	0.050	0.011	mg/L			06/28/16 13:55	1
Chemical Oxygen Demand	**33**		5.0	1.1	mg/L		06/13/16 11:06	06/13/16 15:02	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17630-1

Client Sample ID: MO-3-SS

Lab Sample ID: 160-17630-1
Date Collected: 06/02/16 08:45
Matrix: Water
Date Received: 06/02/16 14:30

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	9.0		1.0	0.72	mg/L			06/10/16 14:58	1

General Chemistry - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	3.5	F1	0.50	0.22	mg/L			06/14/16 22:06	10

Method: 906.0 - Tritium, Total (LSC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	432		193	197	500	264	pCi/L	06/22/16 13:29	06/23/16 00:38	1

Client Sample ID: MO-3-SD

Lab Sample ID: 160-17630-2
Date Collected: 06/02/16 13:05
Matrix: Water
Date Received: 06/02/16 14:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/05/16 16:59	1
Acrylonitrile	ND		50	1.7	ug/L			06/05/16 16:59	1
Benzene	8.0		5.0	0.25	ug/L			06/05/16 16:59	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/05/16 16:59	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/05/16 16:59	1
Bromoform	ND		5.0	0.37	ug/L			06/05/16 16:59	1
Carbon disulfide	0.98	J	5.0	0.37	ug/L			06/05/16 16:59	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/05/16 16:59	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/05/16 16:59	1
Chloroethane	ND		10	0.38	ug/L			06/05/16 16:59	1
Chloroform	ND		5.0	0.15	ug/L			06/05/16 16:59	1
Chloroprene	ND		5.0	0.39	ug/L			06/05/16 16:59	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/05/16 16:59	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/05/16 16:59	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/05/16 16:59	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/05/16 16:59	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/05/16 16:59	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/05/16 16:59	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/05/16 16:59	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/05/16 16:59	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/05/16 16:59	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/05/16 16:59	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/05/16 16:59	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/05/16 16:59	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/05/16 16:59	1
2-Hexanone	ND		20	0.59	ug/L			06/05/16 16:59	1
Methyl bromide	2.8	J	10	0.40	ug/L			06/05/16 16:59	1
Methyl chloride	ND		10	0.55	ug/L			06/05/16 16:59	1
Methylene bromide	ND		5.0	0.41	ug/L			06/05/16 16:59	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/05/16 16:59	1
Methyl Ethyl Ketone	14	J	20	0.39	ug/L			06/05/16 16:59	1
Methyl iodide	3.6	J	5.0	1.5	ug/L			06/05/16 16:59	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17630-1

Client Sample ID: MO-3-SD

Date Collected: 06/02/16 13:05
Date Received: 06/02/16 14:30

Lab Sample ID: 160-17630-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Methyl-2-pentanone (MIBK)	**2.5**	**J**	20	0.33	ug/L			06/05/16 16:59	1
Styrene	ND		5.0	0.35	ug/L			06/05/16 16:59	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/05/16 16:59	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/05/16 16:59	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/05/16 16:59	1
Toluene	**3.0**	**J B**	5.0	1.0	ug/L			06/05/16 16:59	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/05/16 16:59	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/05/16 16:59	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/05/16 16:59	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/05/16 16:59	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/05/16 16:59	1
Trichloroethene	ND		5.0	0.29	ug/L			06/05/16 16:59	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/05/16 16:59	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/05/16 16:59	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/05/16 16:59	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/05/16 16:59	1
Xylenes, Total	**1.4**	**J**	10	0.85	ug/L			06/05/16 16:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*71 - 139*		*06/05/16 16:59*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 121*		*06/05/16 16:59*	*1*
1,2-Dichloroethane-d4 (Surr)	*92*		*76 - 121*		*06/05/16 16:59*	*1*
Toluene-d8 (Surr)	*108*		*80 - 129*		*06/05/16 16:59*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**1.0**		0.10	0.010	mg/L			06/09/16 20:25	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**140**		10	1.0	mg/L			06/09/16 20:39	20

Method: 300.0 - Anions, Ion Chromatography - DL2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**110**		40	4.0	mg/L			06/09/16 20:53	200

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		50	15	ug/L		06/06/16 13:24	06/28/16 16:46	5
Arsenic	ND		50	20	ug/L		06/06/16 13:24	06/28/16 16:46	5
Barium	**250**		250	75	ug/L		06/06/16 13:24	06/28/16 16:46	5
Beryllium	ND		25	7.5	ug/L		06/06/16 13:24	06/28/16 16:46	5
Boron	**200**	**J**	500	130	ug/L		06/06/16 13:24	06/28/16 16:46	5
Cadmium	ND		25	7.5	ug/L		06/06/16 13:24	06/28/16 16:46	5
CaHard	**230000**		12000	3700	ug/L		06/06/16 13:24	06/28/16 16:46	5
Calcium	**93000**		5000	1500	ug/L		06/06/16 13:24	06/28/16 16:46	5
Chromium	ND		50	15	ug/L		06/06/16 13:24	06/28/16 16:46	5
Cobalt	ND		250	75	ug/L		06/06/16 13:24	06/28/16 16:46	5
Copper	ND		130	25	ug/L		06/06/16 13:24	06/28/16 16:46	5
Iron	**1100**		500	150	ug/L		06/06/16 13:24	06/28/16 16:46	5
Lead	ND		50	15	ug/L		06/06/16 13:24	06/28/16 16:46	5

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17630-1

Client Sample ID: MO-3-SD

Lab Sample ID: 160-17630-2
Matrix: Water
Date Collected: 06/02/16 13:05
Date Received: 06/02/16 14:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	45		5.0	1.5	mg/L		06/06/16 13:24	06/28/16 16:46	5
Manganese	1200		75	13	ug/L		06/06/16 13:24	06/28/16 16:46	5
MgHard	190000		21000	6200	ug/L		06/06/16 13:24	06/28/16 16:46	5
Nickel	ND		0.20	0.050	mg/L		06/06/16 13:24	06/28/16 16:46	5
Phosphorus	ND	^ *	1300	380	ug/L		06/06/16 13:24	06/28/16 16:46	5
Selenium	ND		75	25	ug/L		06/06/16 13:24	06/28/16 16:46	5
Silver	ND		50	15	ug/L		06/06/16 13:24	06/28/16 16:46	5
Sodium	160000		5000	1500	ug/L		06/06/16 13:24	06/28/16 16:46	5
Thallium	ND		100	25	ug/L		06/06/16 13:24	06/28/16 16:46	5
Total Hardness	420000		33000	9900	ug/L		06/06/16 13:24	06/28/16 16:46	5
Vanadium	ND		250	75	ug/L		06/06/16 13:24	06/28/16 16:46	5
Zinc	43	J	100	30	ug/L		06/06/16 13:24	06/28/16 16:46	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		06/13/16 08:39	06/13/16 17:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	880		5.0	3.5	mg/L			06/03/16 08:36	1
Nitrate/Nitrite	ND		0.050	0.011	mg/L			06/28/16 14:04	1
Chemical Oxygen Demand	110		5.0	1.1	mg/L		06/13/16 11:06	06/13/16 15:02	1

General Chemistry - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	6.9		0.50	0.22	mg/L			06/14/16 22:14	10
Total Organic Carbon	27		2.0	1.4	mg/L			06/13/16 20:52	2

Method: 906.0 - Tritium, Total (LSC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	986		242	257	500	263	pCi/L	06/22/16 13:29	06/23/16 01:01	1

Client Sample ID: TRIP BLANK

Lab Sample ID: 160-17630-3
Matrix: Water
Date Collected: 06/02/16 07:00
Date Received: 06/02/16 14:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/05/16 17:24	1
Acrylonitrile	ND		50	1.7	ug/L			06/05/16 17:24	1
Benzene	ND		5.0	0.25	ug/L			06/05/16 17:24	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/05/16 17:24	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/05/16 17:24	1
Bromoform	ND		5.0	0.37	ug/L			06/05/16 17:24	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/05/16 17:24	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/05/16 17:24	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/05/16 17:24	1
Chloroethane	ND		10	0.38	ug/L			06/05/16 17:24	1
Chloroform	ND		5.0	0.15	ug/L			06/05/16 17:24	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17630-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 160-17630-3

Date Collected: 06/02/16 07:00
Date Received: 06/02/16 14:30

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroprene	ND		5.0	0.39	ug/L			06/05/16 17:24	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/05/16 17:24	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/05/16 17:24	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/05/16 17:24	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/05/16 17:24	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/05/16 17:24	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/05/16 17:24	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/05/16 17:24	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/05/16 17:24	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/05/16 17:24	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/05/16 17:24	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/05/16 17:24	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/05/16 17:24	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/05/16 17:24	1
2-Hexanone	ND		20	0.59	ug/L			06/05/16 17:24	1
Methyl bromide	**0.54**	**J**	10	0.40	ug/L			06/05/16 17:24	1
Methyl chloride	ND		10	0.55	ug/L			06/05/16 17:24	1
Methylene bromide	ND		5.0	0.41	ug/L			06/05/16 17:24	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/05/16 17:24	1
Methyl Ethyl Ketone	**16**	**J**	20	0.39	ug/L			06/05/16 17:24	1
Methyl iodide	ND		5.0	1.5	ug/L			06/05/16 17:24	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/05/16 17:24	1
Styrene	ND		5.0	0.35	ug/L			06/05/16 17:24	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/05/16 17:24	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/05/16 17:24	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/05/16 17:24	1
Toluene	**2.7**	**J B**	5.0	1.0	ug/L			06/05/16 17:24	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/05/16 17:24	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/05/16 17:24	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/05/16 17:24	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/05/16 17:24	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/05/16 17:24	1
Trichloroethene	ND		5.0	0.29	ug/L			06/05/16 17:24	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/05/16 17:24	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/05/16 17:24	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/05/16 17:24	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/05/16 17:24	1
Xylenes, Total	ND		10	0.85	ug/L			06/05/16 17:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*71 - 139*		*06/05/16 17:24*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 121*		*06/05/16 17:24*	*1*
1,2-Dichloroethane-d4 (Surr)	*95*		*76 - 121*		*06/05/16 17:24*	*1*
Toluene-d8 (Surr)	*109*		*80 - 129*		*06/05/16 17:24*	*1*

QC Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17630-1

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

Lab Sample ID: MB 160-254807/9
Matrix: Water
Analysis Batch: 254807

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/05/16 14:55	1
Acrylonitrile	ND		50	1.7	ug/L			06/05/16 14:55	1
Benzene	ND		5.0	0.25	ug/L			06/05/16 14:55	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/05/16 14:55	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/05/16 14:55	1
Bromoform	ND		5.0	0.37	ug/L			06/05/16 14:55	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/05/16 14:55	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/05/16 14:55	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/05/16 14:55	1
Chloroethane	ND		10	0.38	ug/L			06/05/16 14:55	1
Chloroform	ND		5.0	0.15	ug/L			06/05/16 14:55	1
Chloroprene	ND		5.0	0.39	ug/L			06/05/16 14:55	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/05/16 14:55	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/05/16 14:55	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/05/16 14:55	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/05/16 14:55	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/05/16 14:55	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/05/16 14:55	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/05/16 14:55	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/05/16 14:55	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/05/16 14:55	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/05/16 14:55	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/05/16 14:55	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/05/16 14:55	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/05/16 14:55	1
2-Hexanone	ND		20	0.59	ug/L			06/05/16 14:55	1
Methyl bromide	ND		10	0.40	ug/L			06/05/16 14:55	1
Methyl chloride	ND		10	0.55	ug/L			06/05/16 14:55	1
Methylene bromide	ND		5.0	0.41	ug/L			06/05/16 14:55	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/05/16 14:55	1
Methyl Ethyl Ketone	ND		20	0.39	ug/L			06/05/16 14:55	1
Methyl iodide	ND		5.0	1.5	ug/L			06/05/16 14:55	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/05/16 14:55	1
Styrene	ND		5.0	0.35	ug/L			06/05/16 14:55	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/05/16 14:55	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/05/16 14:55	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/05/16 14:55	1
Toluene	3.32	J	5.0	1.0	ug/L			06/05/16 14:55	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/05/16 14:55	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/05/16 14:55	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/05/16 14:55	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/05/16 14:55	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/05/16 14:55	1
Trichloroethene	ND		5.0	0.29	ug/L			06/05/16 14:55	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/05/16 14:55	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/05/16 14:55	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/05/16 14:55	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/05/16 14:55	1

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

Lab Sample ID: MB 160-254807/9
Matrix: Water
Analysis Batch: 254807

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		10	0.85	ug/L			06/05/16 14:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*71 - 139*		*06/05/16 14:55*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 121*		*06/05/16 14:55*	*1*
1,2-Dichloroethane-d4 (Surr)	*95*		*76 - 121*		*06/05/16 14:55*	*1*
Toluene-d8 (Surr)	*107*		*80 - 129*		*06/05/16 14:55*	*1*

Lab Sample ID: LCS 160-254807/6
Matrix: Water
Analysis Batch: 254807

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	50.0	45.5		ug/L		91	63 - 131
Acrylonitrile	500	468		ug/L		94	81 - 117
Benzene	50.0	50.4		ug/L		101	80 - 120
Bromochloromethane	50.0	48.4		ug/L		97	80 - 120
Bromodichloromethane	50.0	47.2		ug/L		94	80 - 120
Bromoform	50.0	46.3		ug/L		93	80 - 120
Carbon disulfide	50.0	50.6		ug/L		101	79 - 126
Carbon tetrachloride	50.0	49.5		ug/L		99	73 - 123
Chlorobenzene	50.0	48.5		ug/L		97	80 - 120
Chloroethane	50.0	53.1		ug/L		106	52 - 140
Chloroform	50.0	47.9		ug/L		96	80 - 120
Chloroprene	50.0	52.7		ug/L		105	80 - 120
cis-1,2-Dichloroethene	50.0	51.6		ug/L		103	80 - 120
cis-1,3-Dichloropropene	50.0	50.3		ug/L		101	80 - 122
Dibromochloromethane	50.0	48.2		ug/L		96	80 - 120
1,2-Dibromo-3-Chloropropane	50.0	47.0		ug/L		94	77 - 125
1,2-Dibromoethane (EDB)	50.0	47.3		ug/L		95	80 - 120
1,3-Dichlorobenzene	50.0	50.4		ug/L		101	80 - 120
1,4-Dichlorobenzene	50.0	48.2		ug/L		96	80 - 120
Dichlorodifluoromethane	50.0	61.8		ug/L		124	62 - 140
1,1-Dichloroethane	50.0	48.9		ug/L		98	80 - 120
1,2-Dichloroethane	50.0	46.5		ug/L		93	69 - 124
1,1-Dichloroethene	50.0	49.9		ug/L		100	77 - 126
1,2-Dichloropropane	50.0	49.5		ug/L		99	80 - 120
Ethylbenzene	50.0	49.9		ug/L		100	80 - 120
2-Hexanone	50.0	46.5		ug/L		93	64 - 136
Methyl bromide	50.0	48.4		ug/L		97	57 - 139
Methyl chloride	50.0	52.8		ug/L		106	70 - 127
Methylene bromide	50.0	47.1		ug/L		94	78 - 120
Methylene Chloride	50.0	48.7		ug/L		97	80 - 120
Methyl Ethyl Ketone	50.0	45.6		ug/L		91	70 - 130
Methyl iodide	50.0	44.0		ug/L		88	73 - 125
4-Methyl-2-pentanone (MIBK)	50.0	47.3		ug/L		95	76 - 129
Styrene	50.0	52.2		ug/L		104	80 - 120
1,1,1,2-Tetrachloroethane	50.0	47.9		ug/L		96	80 - 120

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

Lab Sample ID: LCS 160-254807/6
Matrix: Water
Analysis Batch: 254807

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2,2-Tetrachloroethane	50.0	44.3		ug/L		89	80 - 120
Tetrachloroethene	50.0	51.6		ug/L		103	80 - 120
Toluene	50.0	47.8		ug/L		96	80 - 120
trans-1,4-Dichloro-2-butene	50.0	47.2		ug/L		94	75 - 127
trans-1,2-Dichloroethene	50.0	50.9		ug/L		102	80 - 120
trans-1,3-Dichloropropene	50.0	50.6		ug/L		101	80 - 130
1,1,1-Trichloroethane	50.0	50.0		ug/L		100	76 - 120
1,1,2-Trichloroethane	50.0	46.7		ug/L		93	80 - 120
Trichloroethene	50.0	51.1		ug/L		102	73 - 120
Trichlorofluoromethane	50.0	51.3		ug/L		103	74 - 130
1,2,3-Trichloropropane	50.0	45.7		ug/L		91	80 - 120
Vinyl acetate	50.0	47.3		ug/L		95	37 - 140
Vinyl chloride	50.0	53.9		ug/L		108	51 - 140
Xylenes, Total	100	103		ug/L		103	80 - 121

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*71 - 139*
Dibromofluoromethane (Surr)	*94*		*80 - 121*
1,2-Dichloroethane-d4 (Surr)	*92*		*76 - 121*
Toluene-d8 (Surr)	*101*		*80 - 129*

Lab Sample ID: LCSD 160-254807/7
Matrix: Water
Analysis Batch: 254807

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
Acetone	50.0	49.8		ug/L		100	63 - 131	9	20
Acrylonitrile	500	487		ug/L		97	81 - 117	4	20
Benzene	50.0	50.7		ug/L		101	80 - 120	1	20
Bromochloromethane	50.0	50.5		ug/L		101	80 - 120	4	20
Bromodichloromethane	50.0	47.9		ug/L		96	80 - 120	1	20
Bromoform	50.0	48.7		ug/L		97	80 - 120	5	20
Carbon disulfide	50.0	50.5		ug/L		101	79 - 126	0	20
Carbon tetrachloride	50.0	50.4		ug/L		101	73 - 123	2	20
Chlorobenzene	50.0	47.6		ug/L		95	80 - 120	2	20
Chloroethane	50.0	52.4		ug/L		105	52 - 140	1	20
Chloroform	50.0	48.9		ug/L		98	80 - 120	2	20
Chloroprene	50.0	54.0		ug/L		108	80 - 120	2	20
cis-1,2-Dichloroethene	50.0	52.4		ug/L		105	80 - 120	1	20
cis-1,3-Dichloropropene	50.0	51.2		ug/L		102	80 - 122	2	20
Dibromochloromethane	50.0	49.2		ug/L		98	80 - 120	2	20
1,2-Dibromo-3-Chloropropane	50.0	49.1		ug/L		98	77 - 125	4	20
1,2-Dibromoethane (EDB)	50.0	48.2		ug/L		96	80 - 120	2	20
1,3-Dichlorobenzene	50.0	50.3		ug/L		101	80 - 120	0	20
1,4-Dichlorobenzene	50.0	48.9		ug/L		98	80 - 120	2	20
Dichlorodifluoromethane	50.0	60.9		ug/L		122	62 - 140	1	20
1,1-Dichloroethane	50.0	49.0		ug/L		98	80 - 120	0	20
1,2-Dichloroethane	50.0	48.3		ug/L		97	69 - 124	4	20

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

Lab Sample ID: LCSD 160-254807/7
Matrix: Water
Analysis Batch: 254807

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
1,1-Dichloroethene	50.0	49.2		ug/L		98	77 - 126	1	20
1,2-Dichloropropane	50.0	50.2		ug/L		100	80 - 120	1	20
Ethylbenzene	50.0	48.4		ug/L		97	80 - 120	3	20
2-Hexanone	50.0	47.6		ug/L		95	64 - 136	2	20
Methyl bromide	50.0	47.4		ug/L		95	57 - 139	2	20
Methyl chloride	50.0	51.7		ug/L		103	70 - 127	2	20
Methylene bromide	50.0	48.0		ug/L		96	78 - 120	2	20
Methylene Chloride	50.0	49.9		ug/L		100	80 - 120	2	20
Methyl Ethyl Ketone	50.0	48.2		ug/L		96	70 - 130	5	20
Methyl iodide	50.0	48.4		ug/L		97	73 - 125	10	20
4-Methyl-2-pentanone (MIBK)	50.0	50.0		ug/L		100	76 - 129	6	20
Styrene	50.0	52.4		ug/L		105	80 - 120	0	20
1,1,1,2-Tetrachloroethane	50.0	47.5		ug/L		95	80 - 120	1	20
1,1,2,2-Tetrachloroethane	50.0	46.5		ug/L		93	80 - 120	5	20
Tetrachloroethene	50.0	50.4		ug/L		101	80 - 120	2	20
Toluene	50.0	47.3		ug/L		95	80 - 120	1	20
trans-1,4-Dichloro-2-butene	50.0	49.3		ug/L		99	75 - 127	4	20
trans-1,2-Dichloroethene	50.0	51.4		ug/L		103	80 - 120	1	20
trans-1,3-Dichloropropene	50.0	51.6		ug/L		103	80 - 130	2	20
1,1,1-Trichloroethane	50.0	50.3		ug/L		101	76 - 120	1	20
1,1,2-Trichloroethane	50.0	46.3		ug/L		93	80 - 120	1	20
Trichloroethene	50.0	51.1		ug/L		102	73 - 120	0	20
Trichlorofluoromethane	50.0	50.2		ug/L		100	74 - 130	2	20
1,2,3-Trichloropropane	50.0	46.9		ug/L		94	80 - 120	3	20
Vinyl acetate	50.0	48.0		ug/L		96	37 - 140	1	20
Vinyl chloride	50.0	53.8		ug/L		108	51 - 140	0	20
Xylenes, Total	100	103		ug/L		103	80 - 121	0	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*71 - 139*
Dibromofluoromethane (Surr)	*97*		*80 - 121*
1,2-Dichloroethane-d4 (Surr)	*95*		*76 - 121*
Toluene-d8 (Surr)	*100*		*80 - 129*

Lab Sample ID: 160-17630-1 MS
Matrix: Water
Analysis Batch: 254807

Client Sample ID: MO-3-SS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND		50.0	48.0		ug/L		96	52 - 138
Acrylonitrile	ND		500	484		ug/L		97	58 - 142
Benzene	5.7		50.0	56.4		ug/L		102	80 - 120
Bromochloromethane	ND		50.0	49.9		ug/L		100	72 - 125
Bromodichloromethane	ND		50.0	49.2		ug/L		98	71 - 128
Bromoform	ND		50.0	47.2		ug/L		94	65 - 133
Carbon disulfide	ND		50.0	50.9		ug/L		102	69 - 139
Carbon tetrachloride	ND		50.0	49.7		ug/L		99	70 - 126
Chlorobenzene	ND		50.0	48.2		ug/L		96	80 - 120

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

Lab Sample ID: 160-17630-1 MS
Matrix: Water
Analysis Batch: 254807

Client Sample ID: MO-3-SS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloroethane	ND		50.0	51.1		ug/L		102	59 - 144
Chloroform	ND		50.0	49.2		ug/L		98	80 - 120
Chloroprene	ND		50.0	53.4		ug/L		107	77 - 121
cis-1,2-Dichloroethene	ND		50.0	53.4		ug/L		107	80 - 124
cis-1,3-Dichloropropene	ND		50.0	51.3		ug/L		103	67 - 130
Dibromochloromethane	ND		50.0	47.7		ug/L		95	68 - 133
1,2-Dibromo-3-Chloropropane	ND		50.0	47.5		ug/L		95	58 - 148
1,2-Dibromoethane (EDB)	ND		50.0	47.8		ug/L		96	65 - 138
1,3-Dichlorobenzene	ND		50.0	50.9		ug/L		102	80 - 120
1,4-Dichlorobenzene	ND		50.0	49.0		ug/L		98	80 - 120
Dichlorodifluoromethane	ND		50.0	58.4		ug/L		117	65 - 140
1,1-Dichloroethane	ND		50.0	48.9		ug/L		98	80 - 120
1,2-Dichloroethane	ND		50.0	48.0		ug/L		96	56 - 136
1,1-Dichloroethene	ND		50.0	48.1		ug/L		96	66 - 137
1,2-Dichloropropane	ND		50.0	50.4		ug/L		101	80 - 123
Ethylbenzene	ND		50.0	49.5		ug/L		99	80 - 121
2-Hexanone	ND		50.0	44.8		ug/L		90	47 - 150
Methyl bromide	0.62	J	50.0	39.0		ug/L		77	53 - 146
Methyl chloride	ND		50.0	51.3		ug/L		103	61 - 137
Methylene bromide	ND		50.0	48.9		ug/L		98	61 - 136
Methylene Chloride	ND		50.0	50.6		ug/L		101	80 - 120
Methyl Ethyl Ketone	ND		50.0	45.8		ug/L		92	58 - 143
Methyl iodide	ND	F1 F2	50.0	31.8	F1	ug/L		64	69 - 124
4-Methyl-2-pentanone (MIBK)	ND		50.0	49.3		ug/L		99	53 - 150
Styrene	ND		50.0	51.7		ug/L		103	44 - 150
1,1,1,2-Tetrachloroethane	ND		50.0	47.1		ug/L		94	80 - 120
1,1,2,2-Tetrachloroethane	ND		50.0	46.5		ug/L		93	60 - 150
Tetrachloroethene	ND		50.0	50.8		ug/L		102	66 - 132
Toluene	2.9	J B	50.0	46.4		ug/L		87	75 - 134
trans-1,4-Dichloro-2-butene	ND		50.0	46.5		ug/L		93	55 - 146
trans-1,2-Dichloroethene	ND		50.0	52.3		ug/L		105	79 - 121
trans-1,3-Dichloropropene	ND		50.0	51.0		ug/L		102	68 - 143
1,1,1-Trichloroethane	ND		50.0	50.8		ug/L		102	74 - 123
1,1,2-Trichloroethane	ND		50.0	47.2		ug/L		94	70 - 134
Trichloroethene	ND		50.0	49.7		ug/L		99	63 - 120
Trichlorofluoromethane	ND		50.0	50.0		ug/L		100	53 - 150
1,2,3-Trichloropropane	ND		50.0	46.1		ug/L		92	62 - 137
Vinyl acetate	ND		50.0	58.8		ug/L		118	63 - 150
Vinyl chloride	ND		50.0	50.5		ug/L		101	54 - 140
Xylenes, Total	1.4	J	100	103		ug/L		102	80 - 124

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*71 - 139*
Dibromofluoromethane (Surr)	*100*		*80 - 121*
1,2-Dichloroethane-d4 (Surr)	*93*		*76 - 121*
Toluene-d8 (Surr)	*101*		*80 - 129*

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

Lab Sample ID: 160-17630-1 MSD
Matrix: Water
Analysis Batch: 254807

Client Sample ID: MO-3-SS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	ND		50.0	50.8		ug/L		102	52 - 138	6	20
Acrylonitrile	ND		500	506		ug/L		101	58 - 142	4	20
Benzene	5.7		50.0	57.1		ug/L		103	80 - 120	1	20
Bromochloromethane	ND		50.0	51.4		ug/L		103	72 - 125	3	20
Bromodichloromethane	ND		50.0	49.4		ug/L		99	71 - 128	0	20
Bromoform	ND		50.0	49.5		ug/L		99	65 - 133	5	20
Carbon disulfide	ND		50.0	50.8		ug/L		102	69 - 139	0	20
Carbon tetrachloride	ND		50.0	50.6		ug/L		101	70 - 126	2	20
Chlorobenzene	ND		50.0	48.5		ug/L		97	80 - 120	1	20
Chloroethane	ND		50.0	43.6		ug/L		87	59 - 144	16	20
Chloroform	ND		50.0	49.2		ug/L		98	80 - 120	0	20
Chloroprene	ND		50.0	53.5		ug/L		107	77 - 121	0	20
cis-1,2-Dichloroethene	ND		50.0	53.4		ug/L		107	80 - 124	0	20
cis-1,3-Dichloropropene	ND		50.0	50.7		ug/L		101	67 - 130	1	20
Dibromochloromethane	ND		50.0	50.2		ug/L		100	68 - 133	5	20
1,2-Dibromo-3-Chloropropane	ND		50.0	51.0		ug/L		102	58 - 148	7	20
1,2-Dibromoethane (EDB)	ND		50.0	50.5		ug/L		101	65 - 138	6	20
1,3-Dichlorobenzene	ND		50.0	50.0		ug/L		100	80 - 120	2	20
1,4-Dichlorobenzene	ND		50.0	48.6		ug/L		97	80 - 120	1	20
Dichlorodifluoromethane	ND		50.0	60.3		ug/L		121	65 - 140	3	20
1,1-Dichloroethane	ND		50.0	49.4		ug/L		99	80 - 120	1	20
1,2-Dichloroethane	ND		50.0	48.7		ug/L		97	56 - 136	2	20
1,1-Dichloroethene	ND		50.0	48.3		ug/L		97	66 - 137	0	20
1,2-Dichloropropane	ND		50.0	51.3		ug/L		103	80 - 123	2	20
Ethylbenzene	ND		50.0	49.1		ug/L		98	80 - 121	1	20
2-Hexanone	ND		50.0	50.8		ug/L		102	47 - 150	13	20
Methyl bromide	0.62	J	50.0	38.3		ug/L		75	53 - 146	2	20
Methyl chloride	ND		50.0	49.2		ug/L		98	61 - 137	4	20
Methylene bromide	ND		50.0	49.5		ug/L		99	61 - 136	1	20
Methylene Chloride	ND		50.0	51.0		ug/L		102	80 - 120	1	20
Methyl Ethyl Ketone	ND		50.0	49.2		ug/L		98	58 - 143	7	20
Methyl iodide	ND	F1 F2	50.0	39.2	F2	ug/L		78	69 - 124	21	20
4-Methyl-2-pentanone (MIBK)	ND		50.0	53.4		ug/L		107	53 - 150	8	20
Styrene	ND		50.0	52.6		ug/L		105	44 - 150	2	20
1,1,1,2-Tetrachloroethane	ND		50.0	48.9		ug/L		98	80 - 120	4	20
1,1,2,2-Tetrachloroethane	ND		50.0	48.3		ug/L		97	60 - 150	4	20
Tetrachloroethene	ND		50.0	51.3		ug/L		103	66 - 132	1	20
Toluene	2.9	J B	50.0	47.3		ug/L		89	75 - 134	2	20
trans-1,4-Dichloro-2-butene	ND		50.0	48.2		ug/L		96	55 - 146	4	20
trans-1,2-Dichloroethene	ND		50.0	52.6		ug/L		105	79 - 121	1	20
trans-1,3-Dichloropropene	ND		50.0	52.8		ug/L		106	68 - 143	4	20
1,1,1-Trichloroethane	ND		50.0	50.8		ug/L		102	74 - 123	0	20
1,1,2-Trichloroethane	ND		50.0	49.2		ug/L		98	70 - 134	4	20
Trichloroethene	ND		50.0	49.6		ug/L		99	63 - 120	0	20
Trichlorofluoromethane	ND		50.0	50.1		ug/L		100	53 - 150	0	20
1,2,3-Trichloropropane	ND		50.0	47.6		ug/L		95	62 - 137	3	20
Vinyl acetate	ND		50.0	61.2		ug/L		122	63 - 150	4	20
Vinyl chloride	ND		50.0	52.9		ug/L		106	54 - 140	5	20

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

Lab Sample ID: 160-17630-1 MSD — **Client Sample ID: MO-3-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 254807

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Xylenes, Total	1.4	J	100	105		ug/L		104	80 - 124	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*71 - 139*
Dibromofluoromethane (Surr)	*100*		*80 - 121*
1,2-Dichloroethane-d4 (Surr)	*96*		*76 - 121*
Toluene-d8 (Surr)	*102*		*80 - 129*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 160-255873/11 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 255873

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.10	0.010	mg/L			06/09/16 17:24	1
Sulfate	ND		0.50	0.050	mg/L			06/09/16 17:24	1
Chloride	ND		0.20	0.020	mg/L			06/09/16 17:24	1

Lab Sample ID: LCS 160-255873/12 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 255873

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.00	1.01		mg/L		101	90 - 110
Sulfate	8.00	7.56		mg/L		94	90 - 110
Chloride	2.00	1.97		mg/L		99	90 - 110

Lab Sample ID: 160-17630-1 MS — **Client Sample ID: MO-3-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 255873

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.5		2.00	3.61	E	mg/L		104	90 - 110

Lab Sample ID: 160-17630-1 DU — **Client Sample ID: MO-3-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 255873

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Fluoride	1.5		1.52		mg/L		0.05	20

QC Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17630-1

Method: 300.0 - Anions, Ion Chromatography - DL

Lab Sample ID: 160-17630-1 MS
Matrix: Water
Analysis Batch: 255873

Client Sample ID: MO-3-SS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate - DL	58		80.0	132		mg/L		93	90 - 110
Chloride - DL	49		40.0	87.4		mg/L		95	90 - 110

Lab Sample ID: 160-17630-1 DU
Matrix: Water
Analysis Batch: 255873

Client Sample ID: MO-3-SS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate - DL	58		57.6		mg/L		0	20
Chloride - DL	49		49.0		mg/L		0.4	20

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 160-254928/1-A
Matrix: Water
Analysis Batch: 258532

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 254928

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		10	3.0	ug/L		06/06/16 13:24	06/28/16 16:19	1
Arsenic	ND		10	4.0	ug/L		06/06/16 13:24	06/28/16 16:19	1
Barium	ND		50	15	ug/L		06/06/16 13:24	06/28/16 16:19	1
Beryllium	ND		5.0	1.5	ug/L		06/06/16 13:24	06/28/16 16:19	1
Boron	ND		100	25	ug/L		06/06/16 13:24	06/28/16 16:19	1
Cadmium	ND		5.0	1.5	ug/L		06/06/16 13:24	06/28/16 16:19	1
CaHard	ND		2500	750	ug/L		06/06/16 13:24	06/28/16 16:19	1
Calcium	ND		1000	300	ug/L		06/06/16 13:24	06/28/16 16:19	1
Chromium	ND		10	3.0	ug/L		06/06/16 13:24	06/28/16 16:19	1
Cobalt	ND		50	15	ug/L		06/06/16 13:24	06/28/16 16:19	1
Copper	ND		25	5.0	ug/L		06/06/16 13:24	06/28/16 16:19	1
Iron	ND		100	30	ug/L		06/06/16 13:24	06/28/16 16:19	1
Lead	ND		10	3.0	ug/L		06/06/16 13:24	06/28/16 16:19	1
Magnesium	ND		1.0	0.30	mg/L		06/06/16 13:24	06/28/16 16:19	1
Manganese	ND		15	2.5	ug/L		06/06/16 13:24	06/28/16 16:19	1
MgHard	ND		4100	1200	ug/L		06/06/16 13:24	06/28/16 16:19	1
Nickel	ND		0.040	0.010	mg/L		06/06/16 13:24	06/28/16 16:19	1
Phosphorus	ND	^	250	75	ug/L		06/06/16 13:24	06/28/16 16:19	1
Selenium	ND		15	5.0	ug/L		06/06/16 13:24	06/28/16 16:19	1
Silver	ND		10	3.0	ug/L		06/06/16 13:24	06/28/16 16:19	1
Sodium	ND		1000	300	ug/L		06/06/16 13:24	06/28/16 16:19	1
Thallium	ND		20	5.0	ug/L		06/06/16 13:24	06/28/16 16:19	1
Total Hardness	ND		6600	2000	ug/L		06/06/16 13:24	06/28/16 16:19	1
Vanadium	ND		50	15	ug/L		06/06/16 13:24	06/28/16 16:19	1
Zinc	ND		20	6.0	ug/L		06/06/16 13:24	06/28/16 16:19	1

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

Lab Sample ID: LCS 160-254928/2-A
Matrix: Water
Analysis Batch: 258532

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 254928

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	500	503		ug/L		101	80 - 120
Arsenic	1000	1010		ug/L		101	80 - 120
Barium	1000	941		ug/L		94	80 - 120
Beryllium	1000	962		ug/L		96	80 - 120
Boron	2000	1910		ug/L		95	80 - 120
Cadmium	1000	1040		ug/L		104	80 - 120
Calcium	10000	10700		ug/L		107	80 - 120
Chromium	1000	1050		ug/L		105	80 - 120
Cobalt	1000	1050		ug/L		105	80 - 120
Copper	1000	956		ug/L		96	80 - 120
Iron	10000	9530		ug/L		95	80 - 120
Lead	1000	1020		ug/L		102	80 - 120
Magnesium	10.0	9.64		mg/L		96	80 - 120
Manganese	1000	947		ug/L		95	80 - 120
Nickel	1.00	1.06		mg/L		106	80 - 120
Phosphorus	1000	1230	^ *	ug/L		123	80 - 120
Selenium	500	509		ug/L		102	80 - 120
Silver	200	195		ug/L		97	80 - 120
Sodium	10000	10000		ug/L		100	80 - 120
Thallium	200	195		ug/L		98	80 - 120
Vanadium	1000	952		ug/L		95	80 - 120
Zinc	1000	1070		ug/L		107	80 - 120

Lab Sample ID: 160-17630-1 MS
Matrix: Water
Analysis Batch: 258532

Client Sample ID: MO-3-SS
Prep Type: Total/NA
Prep Batch: 254928

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND		500	499		ug/L		100	75 - 125
Arsenic	ND		1000	1010		ug/L		101	75 - 125
Barium	140	J	1000	1080		ug/L		93	75 - 125
Beryllium	ND		1000	950		ug/L		95	75 - 125
Boron	180	J	2000	2070		ug/L		94	75 - 125
Cadmium	ND		1000	1000		ug/L		100	75 - 125
Calcium	100000		10000	109000	4	ug/L		92	75 - 125
Chromium	18	J	1000	1010		ug/L		100	75 - 125
Cobalt	ND		1000	1000		ug/L		100	75 - 125
Copper	ND		1000	899		ug/L		90	75 - 125
Iron	2100		10000	11400		ug/L		93	75 - 125
Lead	ND		1000	990		ug/L		99	75 - 125
Magnesium	54		10.0	62.1	4	mg/L		83	75 - 125
Manganese	550		1000	1470		ug/L		92	75 - 125
Nickel	ND		1.00	1.03		mg/L		103	75 - 125
Phosphorus	ND	F1 ^ *	1000	1280	J F1 ^	ug/L		128	75 - 125
Selenium	ND		500	403		ug/L		81	75 - 125
Silver	ND		200	195		ug/L		98	75 - 125
Sodium	58000		10000	66900	4	ug/L		86	75 - 125
Thallium	ND		200	191		ug/L		95	75 - 125

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

Lab Sample ID: 160-17630-1 MS — **Client Sample ID: MO-3-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258532 — **Prep Batch: 254928**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Vanadium	ND		1000	937		ug/L		94	75 - 125
Zinc	36	J	1000	1060		ug/L		103	75 - 125

Lab Sample ID: 160-17630-1 MSD — **Client Sample ID: MO-3-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258532 — **Prep Batch: 254928**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	ND		500	510		ug/L		102	75 - 125	2	20
Arsenic	ND		1000	1040		ug/L		104	75 - 125	3	20
Barium	140	J	1000	1120		ug/L		97	75 - 125	4	20
Beryllium	ND		1000	993		ug/L		99	75 - 125	4	20
Boron	180	J	2000	2120		ug/L		97	75 - 125	3	20
Cadmium	ND		1000	1050		ug/L		105	75 - 125	5	20
Calcium	100000		10000	114000	4	ug/L		140	75 - 125	4	20
Chromium	18	J	1000	1070		ug/L		105	75 - 125	5	20
Cobalt	ND		1000	1050		ug/L		105	75 - 125	5	20
Copper	ND		1000	962		ug/L		96	75 - 125	7	20
Iron	2100		10000	12000		ug/L		98	75 - 125	5	20
Lead	ND		1000	1020		ug/L		102	75 - 125	3	20
Magnesium	54		10.0	64.9	4	mg/L		111	75 - 125	4	20
Manganese	550		1000	1530		ug/L		98	75 - 125	4	20
Nickel	ND		1.00	1.08		mg/L		108	75 - 125	5	20
Phosphorus	ND	F1 ^ *	1000	1330	F1 ^	ug/L		133	75 - 125	4	20
Selenium	ND		500	410		ug/L		82	75 - 125	2	20
Silver	ND		200	199		ug/L		99	75 - 125	2	20
Sodium	58000		10000	69600	4	ug/L		113	75 - 125	4	20
Thallium	ND		200	192		ug/L		96	75 - 125	1	20
Vanadium	ND		1000	985		ug/L		99	75 - 125	5	20
Zinc	36	J	1000	1110		ug/L		108	75 - 125	5	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 160-256101/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256345 — **Prep Batch: 256101**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		06/13/16 08:39	06/13/16 17:46	1

Lab Sample ID: LCS 160-256101/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256345 — **Prep Batch: 256101**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	5.00	5.10		ug/L		102	80 - 120

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: 160-17635-A-3-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256345 — **Prep Batch: 256101**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	ND		5.00	4.98		ug/L		100	80 - 120		

Lab Sample ID: 160-17635-A-3-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256345 — **Prep Batch: 256101**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		5.00	5.25		ug/L		105	80 - 120	5	20

Method: 160.1 - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 160-254559/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 254559

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		5.0	3.5	mg/L			06/03/16 08:36	1

Lab Sample ID: LCS 160-254559/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 254559

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids (TDS)			500	504		mg/L		101	90 - 110		

Method: 160.1 - Solids, Total Dissolved (TDS) - DL

Lab Sample ID: 160-17614-B-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 254559

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids (TDS) - DL	2800			2800		mg/L				0.5	20

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 160-256509/11 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256509

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.050	0.022	mg/L			06/14/16 21:55	1

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: LCS 160-256509/12 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256509

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	0.500	0.497		mg/L		99	90 - 110

Method: 350.1 - Nitrogen, Ammonia - DL

Lab Sample ID: 160-17630-1 MS — **Client Sample ID: MO-3-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256509

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia - DL	3.5	F1	0.500	4.18	4	mg/L		129	90 - 110

Lab Sample ID: 160-17630-1 DU — **Client Sample ID: MO-3-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256509

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Ammonia - DL	3.5	F1	3.42		mg/L		3	20

Method: 353.1 Preserved - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 160-258378/14 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258378

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate/Nitrite	ND		0.050	0.011	mg/L			06/27/16 18:30	1

Lab Sample ID: LCS 160-258378/15 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258378

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate/Nitrite	0.500	0.472		mg/L		94	90 - 110

Lab Sample ID: 160-17592-E-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258378

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate/Nitrite	ND	F1	0.500	ND	F1	mg/L		0	90 - 110

Lab Sample ID: 160-17630-1 MS — **Client Sample ID: MO-3-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258378

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate/Nitrite	ND	F1	0.500	ND	F1	mg/L		0	90 - 110

Method: 353.1 Preserved - Nitrogen, Nitrate-Nitrite (Continued)

Lab Sample ID: 160-17592-E-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258378

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Nitrate/Nitrite	ND	F1		ND		mg/L				NC	20

Method: 410.4 - COD

Lab Sample ID: MB 160-256131/3-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256170 — **Prep Batch: 256131**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		5.0	1.1	mg/L		06/13/16 11:06	06/13/16 15:02	1

Lab Sample ID: LCS 160-256131/4-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256170 — **Prep Batch: 256131**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chemical Oxygen Demand			50.0	51.0		mg/L		102	90 - 110		

Lab Sample ID: 160-17635-C-2-F MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256170 — **Prep Batch: 256131**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chemical Oxygen Demand	16		50.0	71.0		mg/L		110	90 - 110		

Lab Sample ID: 160-17635-C-2-E DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256170 — **Prep Batch: 256131**

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Chemical Oxygen Demand	16			14.0		mg/L				13	20

Method: 415.1 - TOC

Lab Sample ID: MB 160-256121/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256121

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		1.0	0.72	mg/L			06/10/16 14:31	1

Lab Sample ID: LCS 160-256121/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256121

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon			10.0	10.1		mg/L		101	90 - 110		

Method: 415.1 - TOC (Continued)

Lab Sample ID: 160-17630-1 MS — **Client Sample ID: MO-3-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256121

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	9.0		5.00	14.2		mg/L		104	76 - 120

Lab Sample ID: 160-17630-1 DU — **Client Sample ID: MO-3-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256121

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Organic Carbon	9.0		8.90		mg/L		0.6	20

Lab Sample ID: MB 160-256304/5 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256304

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		1.0	0.72	mg/L			06/13/16 19:27	1

Lab Sample ID: LCS 160-256304/6 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256304

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	10.0	9.97		mg/L		100	90 - 110

Method: 415.1 - TOC - DL

Lab Sample ID: 160-17630-2 MS — **Client Sample ID: MO-3-SD**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256304

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - DL	27		10.0	38.3		mg/L		113	76 - 120

Lab Sample ID: 160-17630-2 DU — **Client Sample ID: MO-3-SD**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256304

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Organic Carbon - DL	27		27.8		mg/L		3	20

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-257602/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257696 — **Prep Batch: 257602**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-68.92	U	135	135	500	265	pCi/L	06/22/16 13:29	06/22/16 20:48	1

QC Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17630-1

Method: 906.0 - Tritium, Total (LSC) (Continued)

Lab Sample ID: LCS 160-257602/2-A
Matrix: Water
Analysis Batch: 257696

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 257602

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium			3070	3036		459	500	268	pCi/L	99	74 - 114		

Lab Sample ID: 160-17611-H-3-B MS
Matrix: Water
Analysis Batch: 257696

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 257602

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium	119	U	3060	3225		478	500	269	pCi/L	105	67 - 130		

Lab Sample ID: 160-17611-H-1-B DU
Matrix: Water
Analysis Batch: 257696

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 257602

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Tritium	41.4	U		-33.78	U	139	500	263	pCi/L			0.26	1

QC Association Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17630-1

GC/MS VOA

Analysis Batch: 254807

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17630-1	MO-3-SS	Total/NA	Water	8260C	
160-17630-1 MS	MO-3-SS	Total/NA	Water	8260C	
160-17630-1 MSD	MO-3-SS	Total/NA	Water	8260C	
160-17630-2	MO-3-SD	Total/NA	Water	8260C	
160-17630-3	TRIP BLANK	Total/NA	Water	8260C	
LCS 160-254807/6	Lab Control Sample	Total/NA	Water	8260C	
LCSD 160-254807/7	Lab Control Sample Dup	Total/NA	Water	8260C	
MB 160-254807/9	Method Blank	Total/NA	Water	8260C	

HPLC/IC

Analysis Batch: 255873

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17630-1	MO-3-SS	Total/NA	Water	300.0	
160-17630-1 - DL	MO-3-SS	Total/NA	Water	300.0	
160-17630-1 DU	MO-3-SS	Total/NA	Water	300.0	
160-17630-1 DU - DL	MO-3-SS	Total/NA	Water	300.0	
160-17630-1 MS	MO-3-SS	Total/NA	Water	300.0	
160-17630-1 MS - DL	MO-3-SS	Total/NA	Water	300.0	
160-17630-2	MO-3-SD	Total/NA	Water	300.0	
160-17630-2 - DL	MO-3-SD	Total/NA	Water	300.0	
160-17630-2 - DL2	MO-3-SD	Total/NA	Water	300.0	
LCS 160-255873/12	Lab Control Sample	Total/NA	Water	300.0	
MB 160-255873/11	Method Blank	Total/NA	Water	300.0	

Metals

Prep Batch: 254928

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17630-1	MO-3-SS	Total/NA	Water	3010A	
160-17630-1 MS	MO-3-SS	Total/NA	Water	3010A	
160-17630-1 MSD	MO-3-SS	Total/NA	Water	3010A	
160-17630-2	MO-3-SD	Total/NA	Water	3010A	
LCS 160-254928/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 160-254928/1-A	Method Blank	Total/NA	Water	3010A	

Prep Batch: 256101

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17630-1	MO-3-SS	Total/NA	Water	7470A	
160-17630-2	MO-3-SD	Total/NA	Water	7470A	
160-17635-A-3-C MS	Matrix Spike	Total/NA	Water	7470A	
160-17635-A-3-D MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	
LCS 160-256101/2-A	Lab Control Sample	Total/NA	Water	7470A	
MB 160-256101/1-A	Method Blank	Total/NA	Water	7470A	

Analysis Batch: 256345

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17630-1	MO-3-SS	Total/NA	Water	7470A	256101
160-17630-2	MO-3-SD	Total/NA	Water	7470A	256101
160-17635-A-3-C MS	Matrix Spike	Total/NA	Water	7470A	256101

Metals (Continued)

Analysis Batch: 256345 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17635-A-3-D MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	256101
LCS 160-256101/2-A	Lab Control Sample	Total/NA	Water	7470A	256101
MB 160-256101/1-A	Method Blank	Total/NA	Water	7470A	256101

Analysis Batch: 258532

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17630-1	MO-3-SS	Total/NA	Water	6010C	254928
160-17630-1 MS	MO-3-SS	Total/NA	Water	6010C	254928
160-17630-1 MSD	MO-3-SS	Total/NA	Water	6010C	254928
160-17630-2	MO-3-SD	Total/NA	Water	6010C	254928
LCS 160-254928/2-A	Lab Control Sample	Total/NA	Water	6010C	254928
MB 160-254928/1-A	Method Blank	Total/NA	Water	6010C	254928

General Chemistry

Analysis Batch: 254559

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17614-B-1 DU - DL	Duplicate	Total/NA	Water	160.1	
160-17630-1	MO-3-SS	Total/NA	Water	160.1	
160-17630-2	MO-3-SD	Total/NA	Water	160.1	
LCS 160-254559/2	Lab Control Sample	Total/NA	Water	160.1	
MB 160-254559/1	Method Blank	Total/NA	Water	160.1	

Analysis Batch: 256121

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17630-1	MO-3-SS	Total/NA	Water	415.1	
160-17630-1 DU	MO-3-SS	Total/NA	Water	415.1	
160-17630-1 MS	MO-3-SS	Total/NA	Water	415.1	
LCS 160-256121/5	Lab Control Sample	Total/NA	Water	415.1	
MB 160-256121/4	Method Blank	Total/NA	Water	415.1	

Prep Batch: 256131

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17630-1	MO-3-SS	Total/NA	Water	410.4	
160-17630-2	MO-3-SD	Total/NA	Water	410.4	
160-17635-C-2-E DU	Duplicate	Total/NA	Water	410.4	
160-17635-C-2-F MS	Matrix Spike	Total/NA	Water	410.4	
LCS 160-256131/4-A	Lab Control Sample	Total/NA	Water	410.4	
MB 160-256131/3-A	Method Blank	Total/NA	Water	410.4	

Analysis Batch: 256170

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17630-1	MO-3-SS	Total/NA	Water	410.4	256131
160-17630-2	MO-3-SD	Total/NA	Water	410.4	256131
160-17635-C-2-E DU	Duplicate	Total/NA	Water	410.4	256131
160-17635-C-2-F MS	Matrix Spike	Total/NA	Water	410.4	256131
LCS 160-256131/4-A	Lab Control Sample	Total/NA	Water	410.4	256131
MB 160-256131/3-A	Method Blank	Total/NA	Water	410.4	256131

QC Association Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17630-1

General Chemistry (Continued)

Analysis Batch: 256304

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17630-2 - DL	MO-3-SD	Total/NA	Water	415.1	
160-17630-2 DU - DL	MO-3-SD	Total/NA	Water	415.1	
160-17630-2 MS - DL	MO-3-SD	Total/NA	Water	415.1	
LCS 160-256304/6	Lab Control Sample	Total/NA	Water	415.1	
MB 160-256304/5	Method Blank	Total/NA	Water	415.1	

Analysis Batch: 256509

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17630-1 - DL	MO-3-SS	Total/NA	Water	350.1	
160-17630-1 DU - DL	MO-3-SS	Total/NA	Water	350.1	
160-17630-1 MS - DL	MO-3-SS	Total/NA	Water	350.1	
160-17630-2 - DL	MO-3-SD	Total/NA	Water	350.1	
LCS 160-256509/12	Lab Control Sample	Total/NA	Water	350.1	
MB 160-256509/11	Method Blank	Total/NA	Water	350.1	

Analysis Batch: 258378

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17592-E-1 DU	Duplicate	Total/NA	Water	353.1 Preserved	
160-17592-E-1 MS	Matrix Spike	Total/NA	Water	353.1 Preserved	
160-17630-1	MO-3-SS	Total/NA	Water	353.1 Preserved	
160-17630-1 MS	MO-3-SS	Total/NA	Water	353.1 Preserved	
160-17630-2	MO-3-SD	Total/NA	Water	353.1 Preserved	
LCS 160-258378/15	Lab Control Sample	Total/NA	Water	353.1 Preserved	
MB 160-258378/14	Method Blank	Total/NA	Water	353.1 Preserved	

Rad

Prep Batch: 257602

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17611-H-1-B DU	Duplicate	Total/NA	Water	LSC_Dist_Susp	
160-17611-H-3-B MS	Matrix Spike	Total/NA	Water	LSC_Dist_Susp	
160-17630-1	MO-3-SS	Total/NA	Water	LSC_Dist_Susp	
160-17630-2	MO-3-SD	Total/NA	Water	LSC_Dist_Susp	
LCS 160-257602/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	
MB 160-257602/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	

Surrogate Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17630-1

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

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

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	12DCE	TOL
Lab Sample ID	Client Sample ID	(71-139)	(80-121)	(76-121)	(80-129)
160-17630-1	MO-3-SS	109	98	94	104
160-17630-1 MS	MO-3-SS	103	100	93	101
160-17630-1 MSD	MO-3-SS	103	100	96	102
160-17630-2	MO-3-SD	113	100	92	108
160-17630-3	TRIP BLANK	112	100	95	109
LCS 160-254807/6	Lab Control Sample	101	94	92	101
LCSD 160-254807/7	Lab Control Sample Dup	103	97	95	100
MB 160-254807/9	Method Blank	110	98	95	107

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Tel: (314)298-8566

TestAmerica Job ID: 160-17635-1
Client Project/Site: Groundwater - 2nd Quarter 2016

For:
Missouri Attorney General's Office
PO BOX 899
Jefferson City, Missouri 65102

Attn: Brenna McDonald

Authorized for release by:
6/30/2016 6:11:42 PM

Chenise Lambert-Sykes, Project Manager I
(314)298-8566
chenise.lambert-sykes@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

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.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Chain of Custody 8
Receipt Checklists 10
Definitions/Glossary 11
Method Summary 12
Sample Summary 13
Client Sample Results 14
QC Sample Results 30
QC Association Summary 50
Surrogate Summary 55
Tracer Carrier Summary 56

Job ID: 160-17635-1

Laboratory: TestAmerica St. Louis

Narrative

CASE NARRATIVE

Client: Missouri Attorney General's Office

Project: Groundwater - 2nd Quarter 2016

Report Number: 160-17635-1

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.

TestAmerica St. Louis attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

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.

All solid sample results for Chemistry analyses are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header. All soil/sediment sample results for radiochemistry analyses are based upon sample as dried and disaggregated with the exception of tritium, carbon-14, and iodine-129 by gamma spectroscopy unless requested as wet weight by the client."

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT
The samples were received on 06/02/2016; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 0.9º C, 1.2º C, 2.0º C and 2.2º C.

Receipt Exceptions
The following samples was improperly preserved in the field: PZ-106-SD & PZ-106-SS PZ-106-SD (160-17635-1) and PZ-106-SS (160-17635-2). None of the 1L polys for RAD analysis were received with nitric acid.

VOLATILE ORGANIC COMPOUNDS (GC MS)
Samples PZ-106-SD (160-17635-1), PZ-106-SS (160-17635-2), PZ-212-SD (160-17635-3), PZ-212-SS (160-17635-4) and TRIPBLANK 2 (160-17635-5) were analyzed for volatile organic compounds (GC MS) in accordance with EPA SW-846 Method 8260C. The samples were analyzed on 06/05/2016.

Analytical Batch: 254807
The continuing calibration verification (CCV) associated with batch 160-254807 recovered outside acceptance criteria, low biased, for Iodomethane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples, except 160-17630-2 which is being re-analyzed, were non-detect for this analyte, the data have been reported. (CCVIS 160-254807/5)

Job ID: 160-17635-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

The following compounds did not meet the minimum relative response factor limits in the continuing calibration verification (CCV) associated with batch 160-254807: 2-Butanone, 2-Hexanone, and Acetone. A low level CCV was analyzed at the base reporting limit of 1ug/L and the affected analytes were detected. Affected target analytes recovering above the reporting limit in the associated samples will be qualified and reported. (CCVIS 160-254807/5)

For 160-254807, samples PZ-106-SD (160-17635-1) and TRIPBLANK 2 (160-17635-5) had headspace. Data is reported with this narrative.

Toluene was detected in method blank MB 160-254807/9 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

Methyl iodide failed the recovery criteria low for the MS of sample 160-17630-1 in batch 160-254807.
Methyl iodide exceeded the RPD limit for the MSD of sample 160-17630-1 in batch 160-254807.
Refer to the QC report for details.

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

TOTAL METALS (ICP)
Samples PZ-106-SD (160-17635-1), PZ-106-SS (160-17635-2), PZ-212-SD (160-17635-3) and PZ-212-SS (160-17635-4) were analyzed for total metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 06/06/2016 and analyzed on 06/28/2016.

Analytical Batch: 258532
The continuing calibration verification (CCV) associated with batch 160-258532 recovered above the upper control limit for Phosphorus. The samples associated with this CCV were below the reporting limit for the affected analytes; therefore, the data have been reported. The following samples are impacted: (CCV 160-258532/103), (CCV 160-258532/77) and (CCV 160-258532/90).

The following sample(s) was diluted due to the nature of the sample matrix. Samples had high concentrations of salts which could cause internal standard and instrument QC failure.: PZ-106-SD (160-17635-1), PZ-106-SS (160-17635-2), PZ-212-SD (160-17635-3), PZ-212-SS (160-17635-4), (160-17630-E-1-A ^5), (160-17630-E-1-B MS ^), (160-17630-E-1-C MSD) and (160-17630-E-1-A SD ^). Elevated reporting limits (RLs) are provided.

The laboratory control sample (LCS) for preparation batch 160-254928 and analytical batch 160-258532 recovered outside control limits for the following analytes: Phosphorus. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported. (LCS 160-254928/2-A)

Due to the high concentration of Calcium, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 160-254928 and analytical batch 160-258532 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria. The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount. Refer to the QC report for details. (160-17630-E-1-B MS ^) and (160-17630-E-1-C MSD)

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 160-254928 and analytical batch 160-258532 were outside control limits for Phosphorus. Sample matrix interference are suspected. (160-17630-E-1-B MS ^) and (160-17630-E-1-C MSD)

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

TOTAL MERCURY
Samples PZ-106-SD (160-17635-1), PZ-106-SS (160-17635-2), PZ-212-SD (160-17635-3) and PZ-212-SS (160-17635-4) were analyzed for total mercury in accordance with EPA SW-846 Methods 7470A. The samples were prepared and analyzed on 06/13/2016.

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

TOTAL DISSOLVED SOLIDS

Job ID: 160-17635-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

Samples PZ-106-SD (160-17635-1), PZ-106-SS (160-17635-2), PZ-212-SD (160-17635-3) and PZ-212-SS (160-17635-4) were analyzed for total dissolved solids in accordance with EPA Method 160.1. The samples were analyzed on 06/03/2016.

Analytical Batch: 254559
The following samples in TDS batch 160-254559 were diluted to bring the concentration of target analytes within the calibration range: PZ-106-SD (160-17635-1), (160-17614-B-1) and (160-17614-B-1 DU). Elevated reporting limits (RLs) are provided.

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

ANIONS, ION CHROMATOGRAPHY
Samples PZ-106-SD (160-17635-1), PZ-106-SS (160-17635-2), PZ-212-SD (160-17635-3) and PZ-212-SS (160-17635-4) were analyzed for Anions, Ion Chromatography in accordance with EPA Method 300.0. The samples were analyzed on 06/09/2016.

Analytical Batch: 255873
The following samples in Anion batch 160-255873 were analyzed at dilution to start (2x) due to high sample conductivities which made undiluted analysis inadvisable: PZ-106-SD (160-17635-1). As a result, sample 17662-1 is non-detect (ND) for Sulfate at the initial dilution and sample 17611-7 is ND for Fluoride and Sulfate at the initial dilution.

Analytical Batch: 255873
The following samples in Anion batch 160-255873 were diluted to bring the concentrations of target analytes within the calibration range: PZ-106-SD (160-17635-1), PZ-106-SS (160-17635-2), PZ-212-SD (160-17635-3) and PZ-212-SS (160-17635-4). Elevated reporting limits (RLs) are provided.

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

AMMONIA
Samples PZ-106-SD (160-17635-1), PZ-106-SS (160-17635-2), PZ-212-SD (160-17635-3) and PZ-212-SS (160-17635-4) were analyzed for ammonia in accordance with EPA Method 350.1. The samples were analyzed on 06/13/2016 and 06/14/2016.

Analytical Batch: 256321
The following matrix spike (MS) recoveries for NH3 analytical batch 160-256321 were outside control limits: (160-17592-E-1 MS). Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Analytical Batch: 256509
The following samples in NH3 analytical batch 160-256509 were diluted to bring the concentration of the target analyte within the calibration range: PZ-106-SD (160-17635-1). Elevated reporting limits (RLs) are provided.

Due to the high concentration of NH3 in the following sample, the matrix spike (MS) for analytical batch 160-256509 could not be evaluated for accuracy: (160-17630-C-1 MS ^10). The associated laboratory control sample (LCS) met acceptance criteria.

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

NITROGEN, NITRATE-NITRITE
Samples PZ-106-SD (160-17635-1), PZ-106-SS (160-17635-2), PZ-212-SD (160-17635-3) and PZ-212-SS (160-17635-4) were analyzed for Nitrogen, Nitrate-Nitrite in accordance with Method 353.1 Preserved. The samples were analyzed on 06/28/2016.

Analytical Batch: 258378
The following matrix spike (MS) recoveries for NO3-NO2 analytical batch 160-258378 were outside control limits: (160-17592-E-1 MS). Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

CHEMICAL OXYGEN DEMAND
Samples PZ-106-SD (160-17635-1), PZ-106-SS (160-17635-2), PZ-212-SD (160-17635-3) and PZ-212-SS (160-17635-4) were analyzed for chemical oxygen demand in accordance with EPA Method 410.4. The samples were prepared and analyzed on 06/13/2016.

Job ID: 160-17635-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

Analytical Batch: 256170
The following samples in COD batch 160-256170 were diluted to bring the concentration of target analytes within the calibration range: PZ-106-SD (160-17635-1). Elevated reporting limits (RLs) are provided.

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

TOTAL ORGANIC CARBON
Samples PZ-106-SD (160-17635-1), PZ-106-SS (160-17635-2), PZ-212-SD (160-17635-3) and PZ-212-SS (160-17635-4) were analyzed for total organic carbon in accordance with EPA Method 415.1. The samples were analyzed on 06/10/2016 and 06/13/2016.

Analytical Batch: 256304
The following samples in TOC batch 160-256304 were diluted to bring the concentrations of the target analyte within the calibration range: PZ-106-SD (160-17635-1). Elevated reporting limits (RLs) are provided.

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

RADIUM-226 (GFPC)- DISSOLVED
Samples PZ-106-SD (160-17635-1), PZ-106-SS (160-17635-2), PZ-212-SD (160-17635-3) and PZ-212-SS (160-17635-4) were analyzed for Radium-226 (GFPC) in accordance with EPA Method 903.0. The samples were prepared on 06/07/2016 and analyzed on 06/29/2016.

Prep Batch: 255236
Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples:
PZ-106-SD (160-17635-1), PZ-106-SS (160-17635-2), PZ-212-SD (160-17635-3) and PZ-212-SS (160-17635-4). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead.

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

RADIUM-226 (GFPC)-TOTAL
Samples PZ-106-SD (160-17635-1), PZ-106-SS (160-17635-2), PZ-212-SD (160-17635-3) and PZ-212-SS (160-17635-4) were analyzed for Radium-226 (GFPC) in accordance with EPA Method 903.0. The samples were prepared on 06/06/2016 and analyzed on 06/28/2016.

Prep Batch: 254941
Insufficient volume was available to perform sample duplicate (DUP) for the following samples: PZ-106-SD (160-17635-1), PZ-106-SS (160-17635-2), PZ-212-SD (160-17635-3) and PZ-212-SS (160-17635-4). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead.

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

RADIUM-228 (GFPC)-DISSOLVED
Samples PZ-106-SD (160-17635-1), PZ-106-SS (160-17635-2), PZ-212-SD (160-17635-3) and PZ-212-SS (160-17635-4) were analyzed for Radium-228 (GFPC)-Dissolved in accordance with EPA 904. The samples were prepared on 06/07/2016 and analyzed on 06/14/2016.

Prep Batch: 255239
Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples:
PZ-106-SD (160-17635-1), PZ-106-SS (160-17635-2), PZ-212-SD (160-17635-3) and PZ-212-SS (160-17635-4). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead.

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

RADIUM-228 (GFPC)-TOTAL
Samples PZ-106-SD (160-17635-1), PZ-106-SS (160-17635-2), PZ-212-SD (160-17635-3) and PZ-212-SS (160-17635-4) were analyzed for Radium-228 (GFPC) in accordance with EPA 904. The samples were prepared on 06/06/2016 and analyzed on 06/23/2016.

Prep Batch: 254943

Job ID: 160-17635-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

Insufficient volume was available to perform sample duplicate (DUP) for the following samples: PZ-106-SD (160-17635-1), PZ-106-SS (160-17635-2), PZ-212-SD (160-17635-3) and PZ-212-SS (160-17635-4). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead.

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

TRITIUM, TOTAL (LSC)
Samples PZ-106-SD (160-17635-1), PZ-106-SS (160-17635-2), PZ-212-SD (160-17635-3) and PZ-212-SS (160-17635-4) were analyzed for Tritium, Total (LSC) in accordance with USEPA 906.0. The samples were prepared on 06/22/2016 and analyzed on 06/23/2016.

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

ISOTOPIC THORIUM (ALPHA SPECTROMETRY)
Samples PZ-106-SD (160-17635-1), PZ-106-SS (160-17635-2), PZ-212-SD (160-17635-3) and PZ-212-SS (160-17635-4) were analyzed for Isotopic Thorium (Alpha Spectrometry) in accordance with DOE. The samples were prepared on 06/15/2016 and analyzed on 06/22/2016 and 06/23/2016.

Prep Batch: 256563
Samples are yellow/brown and appear to be soapy. A reduced aliquot was used to prevent matrix interference. PZ-106-SD (160-17635-1)

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

ISOTOPIC URANIUM (ALPHA SPECTROMETRY)
Samples PZ-106-SD (160-17635-1), PZ-106-SS (160-17635-2), PZ-212-SD (160-17635-3) and PZ-212-SS (160-17635-4) were analyzed for Isotopic Uranium (Alpha Spectrometry) in accordance with DOE. The samples were prepared on 06/15/2016 and analyzed on 06/21/2016 and 06/22/2016.

Prep Batch: 256581
Samples are yellow/brown and appear to be soapy. A reduced aliquot was used to prevent matrix interference. PZ-106-SD (160-17635-1)

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

TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Phone (314) 298-8566 Fax (314) 298-8757

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Brenna McDonald	Lab PM: Lambert-Sykes, Chenise Y	Carrier Tracking No(s):	COC No: 160-3821-1864.1
Client Contact: Brenna McDonald	Phone: 573-453-9329	E-Mail: chenise.lambert-sykes@testamericainc.com		Page: Page 1 of 1
Company: Missouri Attorney General's Office				Job #:
Address: PO BOX 899	Due Date Requested: Standard			
City: Jefferson City	TAT Requested (days):			
State, Zip: MO, 65102				
Phone: 573-368-2163(Tel)	PO #: Purchase Order not required			
Email: brenna.mcdonald@dnr.mo.gov	WO #:			
Project Name: Groundwater Samples	Project #: 16005117			
Site: Bridgeton Landfill	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	350.1, 353.1_Pres, 410.4	160.1_Calcd, 300_ORGFM_28D	6010C, 7470A	415.1 - Total Organic Carbon	8260C - (MOD) OLM 4.2	8270D - (MOD) Appendix IX Semi-Volatiles	903.0, 904.0, A01R_Th, A01R_U	903.0, 904.0	906.0 - Tritium				Total Number of containers	Special Instructions/Note:
			Preservation Code:				S	N	D	S	A	N	D	N	N					
PZ-106-SD	6/2/16	G	1420	Water	N		✓	✓	✓	✓	✓	✓	✓	✓	✓					
PZ-106-SS	6/2/16	G	1546	Water	N		✓	✓	✓	✓	✓	✓	✓	✓	✓					
				Water																
				Water																
				Water																

160-17635 Chain of Custody

Possible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* ☐ *Poison B* ☐ *Unknown* ☐ *Radiological*

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Brenna McDonald	6/2/16 1700		[illegible]	060216 1700	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Phone (314) 298-8566 Fax (314) 298-8757

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: LYNN MILBERG	Lab PM: Lambert-Sykes, Chenise Y	Carrier Tracking No(s):	COC No: 160-3816-1862.1
Client Contact: Brenna McDonald	Phone: 573-453-4329	E-Mail: chenise.lambert-sykes@testamericainc.com		Page: Page 1 of 1
Company: Missouri Attorney General's Office				Job #:
Address: PO BOX 899	Due Date Requested: Standard			
City: Jefferson City	TAT Requested (days): standard			
State, Zip: MO, 65102				
Phone: 573-368-2163(Tel)	PO #: Purchase Order not required			
Email: brenna.mcdonald@dnr.mo.gov	WO #:			
Project Name: Groundwater Samples	Project #: 16005117			
Site: Bridgeton Landfill	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	350.1, 353.1_Pres., 410.4	160.1_Calcd, 300_ORGFM_28D	6010C, 7470A	415.1 - Total Organic Carbon	8260C - (MOD) OLM 4.2	8270D - (MOD) Appendix IX Semi-Volatiles	903.0, 904.0, A01R_Th, A01R_U	903.0, 904.0	906.0 - Tritium					Total Number of containers	Special Instructions/Note:
			Preservation Code:				S	N	D	S	A	N	D	N	N						
PZ-212-SD	6/2/16	0919	G	Water	N		✓	✓	✓	✓	✓	✓	✓	✓	✓					14	
PZ-212-SS	6/2/16	1054	G	Water	N		✓	✓	✓	✓	✓	✓	✓	✓	✓					14	
TRIPBLANK 2	6/2/16	0800	G	Water	N						✓									2	
				Water																	
				Water																	
				Water																	

Possible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* ☐ *Poison B* ☐ *Unknown* ☐ *Radiological*

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	6/2/2016 1245		[signature]	6/2/16 1245	
[signature]	6/2/16 1700		[signature]	060216 1700	

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Login Sample Receipt Checklist

Client: Missouri Attorney General's Office

Job Number: 160-17635-1

Login Number: 17635
List Number: 1
Creator: McKinney, Gerrod E

List Source: TestAmerica St. Louis

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
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").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Qualifiers

GC/MS VOA

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

HPLC/IC

Qualifier	Qualifier Description
E	Result exceeded calibration range.

Metals

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.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
*	LCS or LCSD is outside acceptance limits.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
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.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

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

Method Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17635-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL SL
300.0	Anions, Ion Chromatography	MCAWW	TAL SL
6010C	Metals (ICP)	SW846	TAL SL
7470A	Mercury (CVAA)	SW846	TAL SL
160.1	Solids, Total Dissolved (TDS)	MCAWW	TAL SL
350.1	Nitrogen, Ammonia	MCAWW	TAL SL
353.1 Preserved	Nitrogen, Nitrate-Nitrite	MCAWW	TAL SL
410.4	COD	MCAWW	TAL SL
415.1	TOC	MCAWW	TAL SL
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
906.0	Tritium, Total (LSC)	EPA	TAL SL
A-01-R	Isotopic Thorium (Alpha Spectrometry)	DOE	TAL SL
A-01-R	Isotopic Uranium (Alpha Spectrometry)	DOE	TAL SL

Protocol References:

DOE = U.S. Department of Energy
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17635-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
160-17635-1	PZ-106-SD	Water	06/02/16 14:20	06/02/16 17:00
160-17635-2	PZ-106-SS	Water	06/02/16 15:46	06/02/16 17:00
160-17635-3	PZ-212-SD	Water	06/02/16 09:19	06/02/16 17:00
160-17635-4	PZ-212-SS	Water	06/02/16 10:54	06/02/16 17:00
160-17635-5	TRIPBLANK 2	Water	06/02/16 08:00	06/02/16 17:00

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17635-1

Client Sample ID: PZ-106-SD

Date Collected: 06/02/16 14:20
Date Received: 06/02/16 17:00

Lab Sample ID: 160-17635-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**21**		20	6.7	ug/L			06/05/16 17:48	1
Acrylonitrile	ND		50	1.7	ug/L			06/05/16 17:48	1
Benzene	**2.6**	**J**	5.0	0.25	ug/L			06/05/16 17:48	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/05/16 17:48	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/05/16 17:48	1
Bromoform	ND		5.0	0.37	ug/L			06/05/16 17:48	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/05/16 17:48	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/05/16 17:48	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/05/16 17:48	1
Chloroethane	ND		10	0.38	ug/L			06/05/16 17:48	1
Chloroform	ND		5.0	0.15	ug/L			06/05/16 17:48	1
Chloroprene	ND		5.0	0.39	ug/L			06/05/16 17:48	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/05/16 17:48	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/05/16 17:48	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/05/16 17:48	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/05/16 17:48	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/05/16 17:48	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/05/16 17:48	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/05/16 17:48	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/05/16 17:48	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/05/16 17:48	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/05/16 17:48	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/05/16 17:48	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/05/16 17:48	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/05/16 17:48	1
2-Hexanone	ND		20	0.59	ug/L			06/05/16 17:48	1
Methyl bromide	**0.58**	**J**	10	0.40	ug/L			06/05/16 17:48	1
Methyl chloride	ND		10	0.55	ug/L			06/05/16 17:48	1
Methylene bromide	ND		5.0	0.41	ug/L			06/05/16 17:48	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/05/16 17:48	1
Methyl Ethyl Ketone	**17**	**J**	20	0.39	ug/L			06/05/16 17:48	1
Methyl iodide	ND		5.0	1.5	ug/L			06/05/16 17:48	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/05/16 17:48	1
Styrene	ND		5.0	0.35	ug/L			06/05/16 17:48	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/05/16 17:48	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/05/16 17:48	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/05/16 17:48	1
Toluene	**2.5**	**J B**	5.0	1.0	ug/L			06/05/16 17:48	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/05/16 17:48	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/05/16 17:48	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/05/16 17:48	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/05/16 17:48	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/05/16 17:48	1
Trichloroethene	ND		5.0	0.29	ug/L			06/05/16 17:48	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/05/16 17:48	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/05/16 17:48	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/05/16 17:48	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/05/16 17:48	1
Xylenes, Total	ND		10	0.85	ug/L			06/05/16 17:48	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17635-1

Client Sample ID: PZ-106-SD

Date Collected: 06/02/16 14:20
Date Received: 06/02/16 17:00

Lab Sample ID: 160-17635-1

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*71 - 139*		*06/05/16 17:48*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 121*		*06/05/16 17:48*	*1*
1,2-Dichloroethane-d4 (Surr)	*93*		*76 - 121*		*06/05/16 17:48*	*1*
Toluene-d8 (Surr)	*106*		*80 - 129*		*06/05/16 17:48*	*1*

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**1.3**		0.20	0.020	mg/L			06/09/16 21:07	2
Sulfate	**32**		1.0	0.10	mg/L			06/09/16 21:07	2

Method: 300.0 - Anions, Ion Chromatography - DL2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**470**		200	20	mg/L			06/09/16 21:35	1000

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		50	15	ug/L		06/06/16 13:24	06/28/16 17:04	5
Arsenic	ND		50	20	ug/L		06/06/16 13:24	06/28/16 17:04	5
Barium	**860**		250	75	ug/L		06/06/16 13:24	06/28/16 17:04	5
Beryllium	ND		25	7.5	ug/L		06/06/16 13:24	06/28/16 17:04	5
Boron	**1900**		500	130	ug/L		06/06/16 13:24	06/28/16 17:04	5
Cadmium	ND		25	7.5	ug/L		06/06/16 13:24	06/28/16 17:04	5
CaHard	**310000**		12000	3700	ug/L		06/06/16 13:24	06/28/16 17:04	5
Calcium	**120000**		5000	1500	ug/L		06/06/16 13:24	06/28/16 17:04	5
Chromium	ND		50	15	ug/L		06/06/16 13:24	06/28/16 17:04	5
Cobalt	ND		250	75	ug/L		06/06/16 13:24	06/28/16 17:04	5
Copper	ND		130	25	ug/L		06/06/16 13:24	06/28/16 17:04	5
Iron	**2800**		500	150	ug/L		06/06/16 13:24	06/28/16 17:04	5
Lead	ND		50	15	ug/L		06/06/16 13:24	06/28/16 17:04	5
Magnesium	**87**		5.0	1.5	mg/L		06/06/16 13:24	06/28/16 17:04	5
Manganese	**58**	**J**	75	13	ug/L		06/06/16 13:24	06/28/16 17:04	5
MgHard	**360000**		21000	6200	ug/L		06/06/16 13:24	06/28/16 17:04	5
Nickel	ND		0.20	0.050	mg/L		06/06/16 13:24	06/28/16 17:04	5
Phosphorus	ND	^ *	1300	380	ug/L		06/06/16 13:24	06/28/16 17:04	5
Selenium	ND		75	25	ug/L		06/06/16 13:24	06/28/16 17:04	5
Silver	ND		50	15	ug/L		06/06/16 13:24	06/28/16 17:04	5
Sodium	**340000**		5000	1500	ug/L		06/06/16 13:24	06/28/16 17:04	5
Thallium	ND		100	25	ug/L		06/06/16 13:24	06/28/16 17:04	5
Total Hardness	**660000**		33000	9900	ug/L		06/06/16 13:24	06/28/16 17:04	5
Vanadium	ND		250	75	ug/L		06/06/16 13:24	06/28/16 17:04	5
Zinc	ND		100	30	ug/L		06/06/16 13:24	06/28/16 17:04	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		06/13/16 08:39	06/13/16 17:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate/Nitrite	ND		0.050	0.011	mg/L			06/28/16 14:08	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17635-1

Client Sample ID: PZ-106-SD

Date Collected: 06/02/16 14:20
Date Received: 06/02/16 17:00

Lab Sample ID: 160-17635-1

Matrix: Water

General Chemistry - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	1800		10	7.0	mg/L			06/03/16 13:48	2
Ammonia	93		2.5	1.1	mg/L			06/14/16 22:16	50
Chemical Oxygen Demand	330		25	5.6	mg/L		06/13/16 11:06	06/13/16 15:02	5
Total Organic Carbon	110		10	7.2	mg/L			06/13/16 21:28	10

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	13.7		0.515	1.33	1.00	0.0803	pCi/L	06/06/16 14:18	06/28/16 07:21	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.0*		*40 - 110*	*06/06/16 14:18*	*06/28/16 07:21*	*1*

Method: 903.0 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	10.5		0.389	1.02	1.00	0.0571	pCi/L	06/07/16 13:14	06/29/16 06:47	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.9*		*40 - 110*	*06/07/16 13:14*	*06/29/16 06:47*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	3.44		0.420	0.526	1.00	0.340	pCi/L	06/06/16 14:42	06/23/16 13:23	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.0*		*40 - 110*	*06/06/16 14:42*	*06/23/16 13:23*	*1*
Y Carrier	*88.2*		*40 - 110*	*06/06/16 14:42*	*06/23/16 13:23*	*1*

Method: 904.0 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.93		0.424	0.502	1.00	0.404	pCi/L	06/07/16 13:33	06/14/16 17:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.9*		*40 - 110*	*06/07/16 13:33*	*06/14/16 17:58*	*1*
Y Carrier	*83.4*		*40 - 110*	*06/07/16 13:33*	*06/14/16 17:58*	*1*

Method: 906.0 - Tritium, Total (LSC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	17300		822	1730	500	260	pCi/L	06/22/16 13:29	06/23/16 01:24	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17635-1

Client Sample ID: PZ-106-SD

Lab Sample ID: 160-17635-1
Matrix: Water

Date Collected: 06/02/16 14:20
Date Received: 06/02/16 17:00

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Thorium-230	0.976		0.447	0.454	1.00	0.347	pCi/L	06/15/16 15:38	06/23/16 12:05	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Thorium-229	*93.4*		*30 - 110*	*06/15/16 15:38*	*06/23/16 12:05*	*1*

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Uranium-233/234	0.306	U	0.339	0.340	1.00	0.483	pCi/L	06/15/16 15:38	06/21/16 13:34	1
Uranium-235/236	-0.0381	U	0.0761	0.0762	1.00	0.505	pCi/L	06/15/16 15:38	06/21/16 13:34	1
Uranium-238	0.262	U	0.299	0.300	1.00	0.405	pCi/L	06/15/16 15:38	06/21/16 13:34	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*61.3*		*30 - 110*	*06/15/16 15:38*	*06/21/16 13:34*	*1*

Client Sample ID: PZ-106-SS

Lab Sample ID: 160-17635-2
Matrix: Water

Date Collected: 06/02/16 15:46
Date Received: 06/02/16 17:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/05/16 18:13	1
Acrylonitrile	ND		50	1.7	ug/L			06/05/16 18:13	1
Benzene	ND		5.0	0.25	ug/L			06/05/16 18:13	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/05/16 18:13	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/05/16 18:13	1
Bromoform	ND		5.0	0.37	ug/L			06/05/16 18:13	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/05/16 18:13	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/05/16 18:13	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/05/16 18:13	1
Chloroethane	ND		10	0.38	ug/L			06/05/16 18:13	1
Chloroform	ND		5.0	0.15	ug/L			06/05/16 18:13	1
Chloroprene	ND		5.0	0.39	ug/L			06/05/16 18:13	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/05/16 18:13	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/05/16 18:13	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/05/16 18:13	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/05/16 18:13	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/05/16 18:13	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/05/16 18:13	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/05/16 18:13	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/05/16 18:13	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/05/16 18:13	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/05/16 18:13	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/05/16 18:13	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/05/16 18:13	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/05/16 18:13	1
2-Hexanone	ND		20	0.59	ug/L			06/05/16 18:13	1

Client Sample ID: PZ-106-SS

Date Collected: 06/02/16 15:46
Date Received: 06/02/16 17:00

Lab Sample ID: 160-17635-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl bromide	**0.70**	**J**	10	0.40	ug/L			06/05/16 18:13	1
Methyl chloride	ND		10	0.55	ug/L			06/05/16 18:13	1
Methylene bromide	ND		5.0	0.41	ug/L			06/05/16 18:13	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/05/16 18:13	1
Methyl Ethyl Ketone	**9.8**	**J**	20	0.39	ug/L			06/05/16 18:13	1
Methyl iodide	ND		5.0	1.5	ug/L			06/05/16 18:13	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/05/16 18:13	1
Styrene	ND		5.0	0.35	ug/L			06/05/16 18:13	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/05/16 18:13	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/05/16 18:13	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/05/16 18:13	1
Toluene	**2.3**	**J B**	5.0	1.0	ug/L			06/05/16 18:13	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/05/16 18:13	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/05/16 18:13	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/05/16 18:13	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/05/16 18:13	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/05/16 18:13	1
Trichloroethene	ND		5.0	0.29	ug/L			06/05/16 18:13	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/05/16 18:13	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/05/16 18:13	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/05/16 18:13	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/05/16 18:13	1
Xylenes, Total	ND		10	0.85	ug/L			06/05/16 18:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*71 - 139*		*06/05/16 18:13*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 121*		*06/05/16 18:13*	*1*
1,2-Dichloroethane-d4 (Surr)	*95*		*76 - 121*		*06/05/16 18:13*	*1*
Toluene-d8 (Surr)	*108*		*80 - 129*		*06/05/16 18:13*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**1.7**		0.10	0.010	mg/L			06/09/16 22:16	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**47**		10	1.0	mg/L			06/09/16 22:30	20
Chloride	**36**		4.0	0.40	mg/L			06/09/16 22:30	20

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		50	15	ug/L		06/06/16 13:24	06/28/16 17:08	5
Arsenic	ND		50	20	ug/L		06/06/16 13:24	06/28/16 17:08	5
Barium	**170**	**J**	250	75	ug/L		06/06/16 13:24	06/28/16 17:08	5
Beryllium	ND		25	7.5	ug/L		06/06/16 13:24	06/28/16 17:08	5
Boron	ND		500	130	ug/L		06/06/16 13:24	06/28/16 17:08	5
Cadmium	ND		25	7.5	ug/L		06/06/16 13:24	06/28/16 17:08	5
CaHard	**270000**		12000	3700	ug/L		06/06/16 13:24	06/28/16 17:08	5
Calcium	**110000**		5000	1500	ug/L		06/06/16 13:24	06/28/16 17:08	5
Chromium	**28**	**J**	50	15	ug/L		06/06/16 13:24	06/28/16 17:08	5

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17635-1

Client Sample ID: PZ-106-SS

Date Collected: 06/02/16 15:46
Date Received: 06/02/16 17:00

Lab Sample ID: 160-17635-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND		250	75	ug/L		06/06/16 13:24	06/28/16 17:08	5
Copper	ND		130	25	ug/L		06/06/16 13:24	06/28/16 17:08	5
Iron	**2700**		500	150	ug/L		06/06/16 13:24	06/28/16 17:08	5
Lead	ND		50	15	ug/L		06/06/16 13:24	06/28/16 17:08	5
Magnesium	**51**		5.0	1.5	mg/L		06/06/16 13:24	06/28/16 17:08	5
Manganese	**21**	**J**	75	13	ug/L		06/06/16 13:24	06/28/16 17:08	5
MgHard	**210000**		21000	6200	ug/L		06/06/16 13:24	06/28/16 17:08	5
Nickel	ND		0.20	0.050	mg/L		06/06/16 13:24	06/28/16 17:08	5
Phosphorus	ND	^ *	1300	380	ug/L		06/06/16 13:24	06/28/16 17:08	5
Selenium	ND		75	25	ug/L		06/06/16 13:24	06/28/16 17:08	5
Silver	ND		50	15	ug/L		06/06/16 13:24	06/28/16 17:08	5
Sodium	**22000**		5000	1500	ug/L		06/06/16 13:24	06/28/16 17:08	5
Thallium	ND		100	25	ug/L		06/06/16 13:24	06/28/16 17:08	5
Total Hardness	**480000**		33000	9900	ug/L		06/06/16 13:24	06/28/16 17:08	5
Vanadium	ND		250	75	ug/L		06/06/16 13:24	06/28/16 17:08	5
Zinc	ND		100	30	ug/L		06/06/16 13:24	06/28/16 17:08	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		06/13/16 08:39	06/13/16 17:58	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	**550**		5.0	3.5	mg/L			06/03/16 13:48	1
Ammonia	**0.21**		0.050	0.022	mg/L			06/13/16 19:58	1
Nitrate/Nitrite	ND		0.050	0.011	mg/L			06/28/16 14:09	1
Chemical Oxygen Demand	**16**		5.0	1.1	mg/L		06/13/16 11:06	06/13/16 15:02	1
Total Organic Carbon	**5.6**		1.0	0.72	mg/L			06/10/16 15:56	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**3.16**		0.256	0.382	1.00	0.0810	pCi/L	06/06/16 14:18	06/28/16 07:21	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.5*		*40 - 110*	*06/06/16 14:18*	*06/28/16 07:21*	*1*

Method: 903.0 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**2.52**		0.207	0.307	1.00	0.0734	pCi/L	06/07/16 13:14	06/29/16 06:47	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.9*		*40 - 110*	*06/07/16 13:14*	*06/29/16 06:47*	*1*

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17635-1

Client Sample ID: PZ-106-SS

Lab Sample ID: 160-17635-2
Date Collected: 06/02/16 15:46
Matrix: Water
Date Received: 06/02/16 17:00

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.509**		0.256	0.260	1.00	0.372	pCi/L	06/06/16 14:42	06/23/16 13:23	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.5*		*40 - 110*	*06/06/16 14:42*	*06/23/16 13:23*	*1*
Y Carrier	*84.5*		*40 - 110*	*06/06/16 14:42*	*06/23/16 13:23*	*1*

Method: 904.0 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.357**		0.229	0.231	1.00	0.347	pCi/L	06/07/16 13:33	06/14/16 17:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.9*		*40 - 110*	*06/07/16 13:33*	*06/14/16 17:58*	*1*
Y Carrier	*92.7*		*40 - 110*	*06/07/16 13:33*	*06/14/16 17:58*	*1*

Method: 906.0 - Tritium, Total (LSC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	207	U	166	167	500	256	pCi/L	06/22/16 13:29	06/23/16 01:47	1

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Thorium-230	**0.281**		0.129	0.131	1.00	0.0444	pCi/L	06/15/16 15:38	06/23/16 12:05	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Thorium-229	*62.2*		*30 - 110*	*06/15/16 15:38*	*06/23/16 12:05*	*1*

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Uranium-233/234	**0.322**		0.169	0.171	1.00	0.198	pCi/L	06/15/16 15:38	06/22/16 12:58	1
Uranium-235/236	-0.0402	U	0.0359	0.0361	1.00	0.167	pCi/L	06/15/16 15:38	06/22/16 12:58	1
Uranium-238	**0.327**		0.146	0.149	1.00	0.102	pCi/L	06/15/16 15:38	06/22/16 12:58	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*56.2*		*30 - 110*	*06/15/16 15:38*	*06/22/16 12:58*	*1*

Client Sample ID: PZ-212-SD

Lab Sample ID: 160-17635-3
Date Collected: 06/02/16 09:19
Matrix: Water
Date Received: 06/02/16 17:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/05/16 18:38	1
Acrylonitrile	ND		50	1.7	ug/L			06/05/16 18:38	1

Client Sample ID: PZ-212-SD

Date Collected: 06/02/16 09:19
Date Received: 06/02/16 17:00

Lab Sample ID: 160-17635-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		5.0	0.25	ug/L			06/05/16 18:38	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/05/16 18:38	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/05/16 18:38	1
Bromoform	ND		5.0	0.37	ug/L			06/05/16 18:38	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/05/16 18:38	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/05/16 18:38	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/05/16 18:38	1
Chloroethane	ND		10	0.38	ug/L			06/05/16 18:38	1
Chloroform	ND		5.0	0.15	ug/L			06/05/16 18:38	1
Chloroprene	ND		5.0	0.39	ug/L			06/05/16 18:38	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/05/16 18:38	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/05/16 18:38	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/05/16 18:38	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/05/16 18:38	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/05/16 18:38	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/05/16 18:38	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/05/16 18:38	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/05/16 18:38	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/05/16 18:38	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/05/16 18:38	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/05/16 18:38	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/05/16 18:38	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/05/16 18:38	1
2-Hexanone	ND		20	0.59	ug/L			06/05/16 18:38	1
Methyl bromide	**0.51**	**J**	10	0.40	ug/L			06/05/16 18:38	1
Methyl chloride	ND		10	0.55	ug/L			06/05/16 18:38	1
Methylene bromide	ND		5.0	0.41	ug/L			06/05/16 18:38	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/05/16 18:38	1
Methyl Ethyl Ketone	**8.9**	**J**	20	0.39	ug/L			06/05/16 18:38	1
Methyl iodide	ND		5.0	1.5	ug/L			06/05/16 18:38	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/05/16 18:38	1
Styrene	ND		5.0	0.35	ug/L			06/05/16 18:38	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/05/16 18:38	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/05/16 18:38	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/05/16 18:38	1
Toluene	**2.9**	**J B**	5.0	1.0	ug/L			06/05/16 18:38	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/05/16 18:38	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/05/16 18:38	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/05/16 18:38	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/05/16 18:38	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/05/16 18:38	1
Trichloroethene	ND		5.0	0.29	ug/L			06/05/16 18:38	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/05/16 18:38	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/05/16 18:38	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/05/16 18:38	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/05/16 18:38	1
Xylenes, Total	ND		10	0.85	ug/L			06/05/16 18:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*71 - 139*		*06/05/16 18:38*	*1*

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17635-1

Client Sample ID: PZ-212-SD

Date Collected: 06/02/16 09:19
Date Received: 06/02/16 17:00

Lab Sample ID: 160-17635-3

Matrix: Water

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*100*		*80 - 121*		*06/05/16 18:38*	*1*
1,2-Dichloroethane-d4 (Surr)	*96*		*76 - 121*		*06/05/16 18:38*	*1*
Toluene-d8 (Surr)	*107*		*80 - 129*		*06/05/16 18:38*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.21**		0.10	0.010	mg/L			06/09/16 22:58	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**79**		10	1.0	mg/L			06/09/16 23:12	20

Method: 300.0 - Anions, Ion Chromatography - DL2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**120**		40	4.0	mg/L			06/09/16 23:26	200

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		50	15	ug/L		06/06/16 13:24	06/28/16 17:13	5
Arsenic	ND		50	20	ug/L		06/06/16 13:24	06/28/16 17:13	5
Barium	**210**	**J**	250	75	ug/L		06/06/16 13:24	06/28/16 17:13	5
Beryllium	ND		25	7.5	ug/L		06/06/16 13:24	06/28/16 17:13	5
Boron	ND		500	130	ug/L		06/06/16 13:24	06/28/16 17:13	5
Cadmium	ND		25	7.5	ug/L		06/06/16 13:24	06/28/16 17:13	5
CaHard	**290000**		12000	3700	ug/L		06/06/16 13:24	06/28/16 17:13	5
Calcium	**110000**		5000	1500	ug/L		06/06/16 13:24	06/28/16 17:13	5
Chromium	ND		50	15	ug/L		06/06/16 13:24	06/28/16 17:13	5
Cobalt	ND		250	75	ug/L		06/06/16 13:24	06/28/16 17:13	5
Copper	ND		130	25	ug/L		06/06/16 13:24	06/28/16 17:13	5
Iron	ND		500	150	ug/L		06/06/16 13:24	06/28/16 17:13	5
Lead	ND		50	15	ug/L		06/06/16 13:24	06/28/16 17:13	5
Magnesium	**50**		5.0	1.5	mg/L		06/06/16 13:24	06/28/16 17:13	5
Manganese	**400**		75	13	ug/L		06/06/16 13:24	06/28/16 17:13	5
MgHard	**210000**		21000	6200	ug/L		06/06/16 13:24	06/28/16 17:13	5
Nickel	ND		0.20	0.050	mg/L		06/06/16 13:24	06/28/16 17:13	5
Phosphorus	ND	^ *	1300	380	ug/L		06/06/16 13:24	06/28/16 17:13	5
Selenium	ND		75	25	ug/L		06/06/16 13:24	06/28/16 17:13	5
Silver	ND		50	15	ug/L		06/06/16 13:24	06/28/16 17:13	5
Sodium	**59000**		5000	1500	ug/L		06/06/16 13:24	06/28/16 17:13	5
Thallium	ND		100	25	ug/L		06/06/16 13:24	06/28/16 17:13	5
Total Hardness	**490000**		33000	9900	ug/L		06/06/16 13:24	06/28/16 17:13	5
Vanadium	ND		250	75	ug/L		06/06/16 13:24	06/28/16 17:13	5
Zinc	**30**	**J**	100	30	ug/L		06/06/16 13:24	06/28/16 17:13	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		06/13/16 08:39	06/13/16 18:00	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17635-1

Client Sample ID: PZ-212-SD

Date Collected: 06/02/16 09:19
Date Received: 06/02/16 17:00

Lab Sample ID: 160-17635-3

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	690		5.0	3.5	mg/L			06/03/16 13:48	1
Ammonia	0.066		0.050	0.022	mg/L			06/13/16 20:01	1
Nitrate/Nitrite	ND		0.050	0.011	mg/L			06/28/16 14:13	1
Chemical Oxygen Demand	12		5.0	1.1	mg/L		06/13/16 11:06	06/13/16 15:02	1
Total Organic Carbon	1.4		1.0	0.72	mg/L			06/10/16 16:07	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.409		0.0946	0.101	1.00	0.0665	pCi/L	06/06/16 14:18	06/28/16 07:21	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.6*		*40 - 110*	*06/06/16 14:18*	*06/28/16 07:21*	*1*

Method: 903.0 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.237		0.0729	0.0759	1.00	0.0709	pCi/L	06/07/16 13:14	06/29/16 06:48	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.3*		*40 - 110*	*06/07/16 13:14*	*06/29/16 06:48*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.417		0.243	0.246	1.00	0.367	pCi/L	06/06/16 14:42	06/23/16 13:23	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.6*		*40 - 110*	*06/06/16 14:42*	*06/23/16 13:23*	*1*
Y Carrier	*89.3*		*40 - 110*	*06/06/16 14:42*	*06/23/16 13:23*	*1*

Method: 904.0 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.401	U	0.265	0.268	1.00	0.407	pCi/L	06/07/16 13:33	06/14/16 17:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.3*		*40 - 110*	*06/07/16 13:33*	*06/14/16 17:58*	*1*
Y Carrier	*88.6*		*40 - 110*	*06/07/16 13:33*	*06/14/16 17:58*	*1*

Method: 906.0 - Tritium, Total (LSC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	12.6	U	144	144	500	260	pCi/L	06/22/16 13:29	06/23/16 02:10	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17635-1

Client Sample ID: PZ-212-SD

Lab Sample ID: 160-17635-3
Matrix: Water
Date Collected: 06/02/16 09:19
Date Received: 06/02/16 17:00

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Thorium-230	0.330		0.129	0.132	1.00	0.0686	pCi/L	06/15/16 15:38	06/22/16 12:57	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Thorium-229	*74.0*		*30 - 110*	*06/15/16 15:38*	*06/22/16 12:57*	*1*

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Uranium-233/234	6.08		0.570	0.765	1.00	0.0737	pCi/L	06/15/16 15:38	06/22/16 12:58	1
Uranium-235/236	0.216		0.120	0.121	1.00	0.0498	pCi/L	06/15/16 15:38	06/22/16 12:58	1
Uranium-238	3.61		0.438	0.533	1.00	0.0399	pCi/L	06/15/16 15:38	06/22/16 12:58	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*68.5*		*30 - 110*	*06/15/16 15:38*	*06/22/16 12:58*	*1*

Client Sample ID: PZ-212-SS

Lab Sample ID: 160-17635-4
Matrix: Water
Date Collected: 06/02/16 10:54
Date Received: 06/02/16 17:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/05/16 19:03	1
Acrylonitrile	ND		50	1.7	ug/L			06/05/16 19:03	1
Benzene	ND		5.0	0.25	ug/L			06/05/16 19:03	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/05/16 19:03	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/05/16 19:03	1
Bromoform	ND		5.0	0.37	ug/L			06/05/16 19:03	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/05/16 19:03	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/05/16 19:03	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/05/16 19:03	1
Chloroethane	ND		10	0.38	ug/L			06/05/16 19:03	1
Chloroform	ND		5.0	0.15	ug/L			06/05/16 19:03	1
Chloroprene	ND		5.0	0.39	ug/L			06/05/16 19:03	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/05/16 19:03	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/05/16 19:03	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/05/16 19:03	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/05/16 19:03	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/05/16 19:03	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/05/16 19:03	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/05/16 19:03	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/05/16 19:03	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/05/16 19:03	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/05/16 19:03	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/05/16 19:03	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/05/16 19:03	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/05/16 19:03	1
2-Hexanone	ND		20	0.59	ug/L			06/05/16 19:03	1

Client Sample ID: PZ-212-SS

Date Collected: 06/02/16 10:54
Date Received: 06/02/16 17:00

Lab Sample ID: 160-17635-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl bromide	**0.53**	**J**	10	0.40	ug/L			06/05/16 19:03	1
Methyl chloride	ND		10	0.55	ug/L			06/05/16 19:03	1
Methylene bromide	ND		5.0	0.41	ug/L			06/05/16 19:03	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/05/16 19:03	1
Methyl Ethyl Ketone	**11**	**J**	20	0.39	ug/L			06/05/16 19:03	1
Methyl iodide	ND		5.0	1.5	ug/L			06/05/16 19:03	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/05/16 19:03	1
Styrene	ND		5.0	0.35	ug/L			06/05/16 19:03	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/05/16 19:03	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/05/16 19:03	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/05/16 19:03	1
Toluene	**2.6**	**J B**	5.0	1.0	ug/L			06/05/16 19:03	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/05/16 19:03	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/05/16 19:03	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/05/16 19:03	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/05/16 19:03	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/05/16 19:03	1
Trichloroethene	ND		5.0	0.29	ug/L			06/05/16 19:03	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/05/16 19:03	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/05/16 19:03	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/05/16 19:03	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/05/16 19:03	1
Xylenes, Total	ND		10	0.85	ug/L			06/05/16 19:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*71 - 139*		*06/05/16 19:03*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 121*		*06/05/16 19:03*	*1*
1,2-Dichloroethane-d4 (Surr)	*94*		*76 - 121*		*06/05/16 19:03*	*1*
Toluene-d8 (Surr)	*106*		*80 - 129*		*06/05/16 19:03*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.38**		0.10	0.010	mg/L			06/09/16 23:40	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**85**		10	1.0	mg/L			06/09/16 23:54	20
Chloride	**7.1**		4.0	0.40	mg/L			06/09/16 23:54	20

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		50	15	ug/L		06/06/16 13:24	06/28/16 17:17	5
Arsenic	ND		50	20	ug/L		06/06/16 13:24	06/28/16 17:17	5
Barium	**93**	**J**	250	75	ug/L		06/06/16 13:24	06/28/16 17:17	5
Beryllium	ND		25	7.5	ug/L		06/06/16 13:24	06/28/16 17:17	5
Boron	ND		500	130	ug/L		06/06/16 13:24	06/28/16 17:17	5
Cadmium	ND		25	7.5	ug/L		06/06/16 13:24	06/28/16 17:17	5
CaHard	**260000**		12000	3700	ug/L		06/06/16 13:24	06/28/16 17:17	5
Calcium	**100000**		5000	1500	ug/L		06/06/16 13:24	06/28/16 17:17	5
Chromium	ND		50	15	ug/L		06/06/16 13:24	06/28/16 17:17	5

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17635-1

Client Sample ID: PZ-212-SS

Date Collected: 06/02/16 10:54
Date Received: 06/02/16 17:00

Lab Sample ID: 160-17635-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND		250	75	ug/L		06/06/16 13:24	06/28/16 17:17	5
Copper	ND		130	25	ug/L		06/06/16 13:24	06/28/16 17:17	5
Iron	**4300**		500	150	ug/L		06/06/16 13:24	06/28/16 17:17	5
Lead	ND		50	15	ug/L		06/06/16 13:24	06/28/16 17:17	5
Magnesium	**23**		5.0	1.5	mg/L		06/06/16 13:24	06/28/16 17:17	5
Manganese	**360**		75	13	ug/L		06/06/16 13:24	06/28/16 17:17	5
MgHard	**95000**		21000	6200	ug/L		06/06/16 13:24	06/28/16 17:17	5
Nickel	ND		0.20	0.050	mg/L		06/06/16 13:24	06/28/16 17:17	5
Phosphorus	ND	^ *	1300	380	ug/L		06/06/16 13:24	06/28/16 17:17	5
Selenium	ND		75	25	ug/L		06/06/16 13:24	06/28/16 17:17	5
Silver	ND		50	15	ug/L		06/06/16 13:24	06/28/16 17:17	5
Sodium	**39000**		5000	1500	ug/L		06/06/16 13:24	06/28/16 17:17	5
Thallium	ND		100	25	ug/L		06/06/16 13:24	06/28/16 17:17	5
Total Hardness	**350000**		33000	9900	ug/L		06/06/16 13:24	06/28/16 17:17	5
Vanadium	ND		250	75	ug/L		06/06/16 13:24	06/28/16 17:17	5
Zinc	**47**	**J**	100	30	ug/L		06/06/16 13:24	06/28/16 17:17	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		06/13/16 08:39	06/13/16 18:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	**490**		5.0	3.5	mg/L			06/03/16 13:48	1
Ammonia	**0.071**		0.050	0.022	mg/L			06/13/16 20:03	1
Nitrate/Nitrite	ND		0.050	0.011	mg/L			06/28/16 14:14	1
Chemical Oxygen Demand	**3.0**	**J**	5.0	1.1	mg/L		06/13/16 11:06	06/13/16 15:02	1
Total Organic Carbon	**1.4**		1.0	0.72	mg/L			06/10/16 16:18	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.228**		0.0811	0.0837	1.00	0.0839	pCi/L	06/06/16 14:18	06/28/16 07:21	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.5*		*40 - 110*	*06/06/16 14:18*	*06/28/16 07:21*	*1*

Method: 903.0 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0605	U	0.0447	0.0450	1.00	0.0653	pCi/L	06/07/16 13:14	06/29/16 06:48	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.2*		*40 - 110*	*06/07/16 13:14*	*06/29/16 06:48*	*1*

Client Sample ID: PZ-212-SS

Lab Sample ID: 160-17635-4
Date Collected: 06/02/16 10:54
Matrix: Water
Date Received: 06/02/16 17:00

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0760	U	0.271	0.271	1.00	0.471	pCi/L	06/06/16 14:42	06/23/16 13:23	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.5*		*40 - 110*	*06/06/16 14:42*	*06/23/16 13:23*	*1*
Y Carrier	*89.3*		*40 - 110*	*06/06/16 14:42*	*06/23/16 13:23*	*1*

Method: 904.0 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.107	U	0.216	0.216	1.00	0.370	pCi/L	06/07/16 13:33	06/14/16 17:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.2*		*40 - 110*	*06/07/16 13:33*	*06/14/16 17:58*	*1*
Y Carrier	*89.3*		*40 - 110*	*06/07/16 13:33*	*06/14/16 17:58*	*1*

Method: 906.0 - Tritium, Total (LSC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	138	U	160	161	500	261	pCi/L	06/22/16 13:29	06/23/16 02:33	1

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Thorium-230	**0.320**		0.125	0.128	1.00	0.0774	pCi/L	06/15/16 15:38	06/22/16 12:57	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Thorium-229	*75.0*		*30 - 110*	*06/15/16 15:38*	*06/22/16 12:57*	*1*

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Uranium-233/234	**2.22**		0.343	0.391	1.00	0.0731	pCi/L	06/15/16 15:38	06/21/16 13:34	1
Uranium-235/236	**0.115**		0.0871	0.0877	1.00	0.0494	pCi/L	06/15/16 15:38	06/21/16 13:34	1
Uranium-238	**1.12**		0.245	0.263	1.00	0.0868	pCi/L	06/15/16 15:38	06/21/16 13:34	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*69.4*		*30 - 110*	*06/15/16 15:38*	*06/21/16 13:34*	*1*

Client Sample ID: TRIPBLANK 2

Lab Sample ID: 160-17635-5
Date Collected: 06/02/16 08:00
Matrix: Water
Date Received: 06/02/16 17:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/05/16 19:28	1
Acrylonitrile	ND		50	1.7	ug/L			06/05/16 19:28	1

Client Sample ID: TRIPBLANK 2

Lab Sample ID: 160-17635-5

Date Collected: 06/02/16 08:00

Matrix: Water

Date Received: 06/02/16 17:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		5.0	0.25	ug/L			06/05/16 19:28	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/05/16 19:28	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/05/16 19:28	1
Bromoform	ND		5.0	0.37	ug/L			06/05/16 19:28	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/05/16 19:28	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/05/16 19:28	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/05/16 19:28	1
Chloroethane	ND		10	0.38	ug/L			06/05/16 19:28	1
Chloroform	ND		5.0	0.15	ug/L			06/05/16 19:28	1
Chloroprene	ND		5.0	0.39	ug/L			06/05/16 19:28	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/05/16 19:28	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/05/16 19:28	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/05/16 19:28	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/05/16 19:28	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/05/16 19:28	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/05/16 19:28	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/05/16 19:28	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/05/16 19:28	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/05/16 19:28	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/05/16 19:28	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/05/16 19:28	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/05/16 19:28	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/05/16 19:28	1
2-Hexanone	ND		20	0.59	ug/L			06/05/16 19:28	1
Methyl bromide	**0.49**	**J**	10	0.40	ug/L			06/05/16 19:28	1
Methyl chloride	ND		10	0.55	ug/L			06/05/16 19:28	1
Methylene bromide	ND		5.0	0.41	ug/L			06/05/16 19:28	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/05/16 19:28	1
Methyl Ethyl Ketone	**11**	**J**	20	0.39	ug/L			06/05/16 19:28	1
Methyl iodide	ND		5.0	1.5	ug/L			06/05/16 19:28	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/05/16 19:28	1
Styrene	ND		5.0	0.35	ug/L			06/05/16 19:28	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/05/16 19:28	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/05/16 19:28	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/05/16 19:28	1
Toluene	**3.0**	**J B**	5.0	1.0	ug/L			06/05/16 19:28	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/05/16 19:28	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/05/16 19:28	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/05/16 19:28	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/05/16 19:28	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/05/16 19:28	1
Trichloroethene	ND		5.0	0.29	ug/L			06/05/16 19:28	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/05/16 19:28	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/05/16 19:28	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/05/16 19:28	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/05/16 19:28	1
Xylenes, Total	ND		10	0.85	ug/L			06/05/16 19:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*71 - 139*		*06/05/16 19:28*	*1*

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17635-1

Client Sample ID: TRIPBLANK 2

Lab Sample ID: 160-17635-5

Date Collected: 06/02/16 08:00
Matrix: Water
Date Received: 06/02/16 17:00

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	101		80 - 121		06/05/16 19:28	1
1,2-Dichloroethane-d4 (Surr)	97		76 - 121		06/05/16 19:28	1
Toluene-d8 (Surr)	108		80 - 129		06/05/16 19:28	1

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

Lab Sample ID: MB 160-254807/9
Matrix: Water
Analysis Batch: 254807

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/05/16 14:55	1
Acrylonitrile	ND		50	1.7	ug/L			06/05/16 14:55	1
Benzene	ND		5.0	0.25	ug/L			06/05/16 14:55	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/05/16 14:55	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/05/16 14:55	1
Bromoform	ND		5.0	0.37	ug/L			06/05/16 14:55	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/05/16 14:55	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/05/16 14:55	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/05/16 14:55	1
Chloroethane	ND		10	0.38	ug/L			06/05/16 14:55	1
Chloroform	ND		5.0	0.15	ug/L			06/05/16 14:55	1
Chloroprene	ND		5.0	0.39	ug/L			06/05/16 14:55	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/05/16 14:55	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/05/16 14:55	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/05/16 14:55	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/05/16 14:55	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/05/16 14:55	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/05/16 14:55	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/05/16 14:55	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/05/16 14:55	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/05/16 14:55	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/05/16 14:55	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/05/16 14:55	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/05/16 14:55	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/05/16 14:55	1
2-Hexanone	ND		20	0.59	ug/L			06/05/16 14:55	1
Methyl bromide	ND		10	0.40	ug/L			06/05/16 14:55	1
Methyl chloride	ND		10	0.55	ug/L			06/05/16 14:55	1
Methylene bromide	ND		5.0	0.41	ug/L			06/05/16 14:55	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/05/16 14:55	1
Methyl Ethyl Ketone	ND		20	0.39	ug/L			06/05/16 14:55	1
Methyl iodide	ND		5.0	1.5	ug/L			06/05/16 14:55	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/05/16 14:55	1
Styrene	ND		5.0	0.35	ug/L			06/05/16 14:55	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/05/16 14:55	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/05/16 14:55	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/05/16 14:55	1
Toluene	3.32	J	5.0	1.0	ug/L			06/05/16 14:55	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/05/16 14:55	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/05/16 14:55	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/05/16 14:55	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/05/16 14:55	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/05/16 14:55	1
Trichloroethene	ND		5.0	0.29	ug/L			06/05/16 14:55	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/05/16 14:55	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/05/16 14:55	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/05/16 14:55	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/05/16 14:55	1

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

Lab Sample ID: MB 160-254807/9
Matrix: Water
Analysis Batch: 254807

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		10	0.85	ug/L			06/05/16 14:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*71 - 139*		*06/05/16 14:55*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 121*		*06/05/16 14:55*	*1*
1,2-Dichloroethane-d4 (Surr)	*95*		*76 - 121*		*06/05/16 14:55*	*1*
Toluene-d8 (Surr)	*107*		*80 - 129*		*06/05/16 14:55*	*1*

Lab Sample ID: LCS 160-254807/6
Matrix: Water
Analysis Batch: 254807

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	50.0	45.5		ug/L		91	63 - 131
Acrylonitrile	500	468		ug/L		94	81 - 117
Benzene	50.0	50.4		ug/L		101	80 - 120
Bromochloromethane	50.0	48.4		ug/L		97	80 - 120
Bromodichloromethane	50.0	47.2		ug/L		94	80 - 120
Bromoform	50.0	46.3		ug/L		93	80 - 120
Carbon disulfide	50.0	50.6		ug/L		101	79 - 126
Carbon tetrachloride	50.0	49.5		ug/L		99	73 - 123
Chlorobenzene	50.0	48.5		ug/L		97	80 - 120
Chloroethane	50.0	53.1		ug/L		106	52 - 140
Chloroform	50.0	47.9		ug/L		96	80 - 120
Chloroprene	50.0	52.7		ug/L		105	80 - 120
cis-1,2-Dichloroethene	50.0	51.6		ug/L		103	80 - 120
cis-1,3-Dichloropropene	50.0	50.3		ug/L		101	80 - 122
Dibromochloromethane	50.0	48.2		ug/L		96	80 - 120
1,2-Dibromo-3-Chloropropane	50.0	47.0		ug/L		94	77 - 125
1,2-Dibromoethane (EDB)	50.0	47.3		ug/L		95	80 - 120
1,3-Dichlorobenzene	50.0	50.4		ug/L		101	80 - 120
1,4-Dichlorobenzene	50.0	48.2		ug/L		96	80 - 120
Dichlorodifluoromethane	50.0	61.8		ug/L		124	62 - 140
1,1-Dichloroethane	50.0	48.9		ug/L		98	80 - 120
1,2-Dichloroethane	50.0	46.5		ug/L		93	69 - 124
1,1-Dichloroethene	50.0	49.9		ug/L		100	77 - 126
1,2-Dichloropropane	50.0	49.5		ug/L		99	80 - 120
Ethylbenzene	50.0	49.9		ug/L		100	80 - 120
2-Hexanone	50.0	46.5		ug/L		93	64 - 136
Methyl bromide	50.0	48.4		ug/L		97	57 - 139
Methyl chloride	50.0	52.8		ug/L		106	70 - 127
Methylene bromide	50.0	47.1		ug/L		94	78 - 120
Methylene Chloride	50.0	48.7		ug/L		97	80 - 120
Methyl Ethyl Ketone	50.0	45.6		ug/L		91	70 - 130
Methyl iodide	50.0	44.0		ug/L		88	73 - 125
4-Methyl-2-pentanone (MIBK)	50.0	47.3		ug/L		95	76 - 129
Styrene	50.0	52.2		ug/L		104	80 - 120
1,1,1,2-Tetrachloroethane	50.0	47.9		ug/L		96	80 - 120

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

Lab Sample ID: LCS 160-254807/6
Matrix: Water
Analysis Batch: 254807

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2,2-Tetrachloroethane	50.0	44.3		ug/L		89	80 - 120
Tetrachloroethene	50.0	51.6		ug/L		103	80 - 120
Toluene	50.0	47.8		ug/L		96	80 - 120
trans-1,4-Dichloro-2-butene	50.0	47.2		ug/L		94	75 - 127
trans-1,2-Dichloroethene	50.0	50.9		ug/L		102	80 - 120
trans-1,3-Dichloropropene	50.0	50.6		ug/L		101	80 - 130
1,1,1-Trichloroethane	50.0	50.0		ug/L		100	76 - 120
1,1,2-Trichloroethane	50.0	46.7		ug/L		93	80 - 120
Trichloroethene	50.0	51.1		ug/L		102	73 - 120
Trichlorofluoromethane	50.0	51.3		ug/L		103	74 - 130
1,2,3-Trichloropropane	50.0	45.7		ug/L		91	80 - 120
Vinyl acetate	50.0	47.3		ug/L		95	37 - 140
Vinyl chloride	50.0	53.9		ug/L		108	51 - 140
Xylenes, Total	100	103		ug/L		103	80 - 121

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*71 - 139*
Dibromofluoromethane (Surr)	*94*		*80 - 121*
1,2-Dichloroethane-d4 (Surr)	*92*		*76 - 121*
Toluene-d8 (Surr)	*101*		*80 - 129*

Lab Sample ID: LCSD 160-254807/7
Matrix: Water
Analysis Batch: 254807

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
Acetone	50.0	49.8		ug/L		100	63 - 131	9	20
Acrylonitrile	500	487		ug/L		97	81 - 117	4	20
Benzene	50.0	50.7		ug/L		101	80 - 120	1	20
Bromochloromethane	50.0	50.5		ug/L		101	80 - 120	4	20
Bromodichloromethane	50.0	47.9		ug/L		96	80 - 120	1	20
Bromoform	50.0	48.7		ug/L		97	80 - 120	5	20
Carbon disulfide	50.0	50.5		ug/L		101	79 - 126	0	20
Carbon tetrachloride	50.0	50.4		ug/L		101	73 - 123	2	20
Chlorobenzene	50.0	47.6		ug/L		95	80 - 120	2	20
Chloroethane	50.0	52.4		ug/L		105	52 - 140	1	20
Chloroform	50.0	48.9		ug/L		98	80 - 120	2	20
Chloroprene	50.0	54.0		ug/L		108	80 - 120	2	20
cis-1,2-Dichloroethene	50.0	52.4		ug/L		105	80 - 120	1	20
cis-1,3-Dichloropropene	50.0	51.2		ug/L		102	80 - 122	2	20
Dibromochloromethane	50.0	49.2		ug/L		98	80 - 120	2	20
1,2-Dibromo-3-Chloropropane	50.0	49.1		ug/L		98	77 - 125	4	20
1,2-Dibromoethane (EDB)	50.0	48.2		ug/L		96	80 - 120	2	20
1,3-Dichlorobenzene	50.0	50.3		ug/L		101	80 - 120	0	20
1,4-Dichlorobenzene	50.0	48.9		ug/L		98	80 - 120	2	20
Dichlorodifluoromethane	50.0	60.9		ug/L		122	62 - 140	1	20
1,1-Dichloroethane	50.0	49.0		ug/L		98	80 - 120	0	20
1,2-Dichloroethane	50.0	48.3		ug/L		97	69 - 124	4	20

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

Lab Sample ID: LCSD 160-254807/7
Matrix: Water
Analysis Batch: 254807

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
1,1-Dichloroethene	50.0	49.2		ug/L		98	77 - 126	1	20
1,2-Dichloropropane	50.0	50.2		ug/L		100	80 - 120	1	20
Ethylbenzene	50.0	48.4		ug/L		97	80 - 120	3	20
2-Hexanone	50.0	47.6		ug/L		95	64 - 136	2	20
Methyl bromide	50.0	47.4		ug/L		95	57 - 139	2	20
Methyl chloride	50.0	51.7		ug/L		103	70 - 127	2	20
Methylene bromide	50.0	48.0		ug/L		96	78 - 120	2	20
Methylene Chloride	50.0	49.9		ug/L		100	80 - 120	2	20
Methyl Ethyl Ketone	50.0	48.2		ug/L		96	70 - 130	5	20
Methyl iodide	50.0	48.4		ug/L		97	73 - 125	10	20
4-Methyl-2-pentanone (MIBK)	50.0	50.0		ug/L		100	76 - 129	6	20
Styrene	50.0	52.4		ug/L		105	80 - 120	0	20
1,1,1,2-Tetrachloroethane	50.0	47.5		ug/L		95	80 - 120	1	20
1,1,2,2-Tetrachloroethane	50.0	46.5		ug/L		93	80 - 120	5	20
Tetrachloroethene	50.0	50.4		ug/L		101	80 - 120	2	20
Toluene	50.0	47.3		ug/L		95	80 - 120	1	20
trans-1,4-Dichloro-2-butene	50.0	49.3		ug/L		99	75 - 127	4	20
trans-1,2-Dichloroethene	50.0	51.4		ug/L		103	80 - 120	1	20
trans-1,3-Dichloropropene	50.0	51.6		ug/L		103	80 - 130	2	20
1,1,1-Trichloroethane	50.0	50.3		ug/L		101	76 - 120	1	20
1,1,2-Trichloroethane	50.0	46.3		ug/L		93	80 - 120	1	20
Trichloroethene	50.0	51.1		ug/L		102	73 - 120	0	20
Trichlorofluoromethane	50.0	50.2		ug/L		100	74 - 130	2	20
1,2,3-Trichloropropane	50.0	46.9		ug/L		94	80 - 120	3	20
Vinyl acetate	50.0	48.0		ug/L		96	37 - 140	1	20
Vinyl chloride	50.0	53.8		ug/L		108	51 - 140	0	20
Xylenes, Total	100	103		ug/L		103	80 - 121	0	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*71 - 139*
Dibromofluoromethane (Surr)	*97*		*80 - 121*
1,2-Dichloroethane-d4 (Surr)	*95*		*76 - 121*
Toluene-d8 (Surr)	*100*		*80 - 129*

Lab Sample ID: 160-17630-F-1 MS
Matrix: Water
Analysis Batch: 254807

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND		50.0	48.0		ug/L		96	52 - 138
Acrylonitrile	ND		500	484		ug/L		97	58 - 142
Benzene	5.7		50.0	56.4		ug/L		102	80 - 120
Bromochloromethane	ND		50.0	49.9		ug/L		100	72 - 125
Bromodichloromethane	ND		50.0	49.2		ug/L		98	71 - 128
Bromoform	ND		50.0	47.2		ug/L		94	65 - 133
Carbon disulfide	ND		50.0	50.9		ug/L		102	69 - 139
Carbon tetrachloride	ND		50.0	49.7		ug/L		99	70 - 126
Chlorobenzene	ND		50.0	48.2		ug/L		96	80 - 120

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

Lab Sample ID: 160-17630-F-1 MS
Matrix: Water
Analysis Batch: 254807

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloroethane	ND		50.0	51.1		ug/L		102	59 - 144
Chloroform	ND		50.0	49.2		ug/L		98	80 - 120
Chloroprene	ND		50.0	53.4		ug/L		107	77 - 121
cis-1,2-Dichloroethene	ND		50.0	53.4		ug/L		107	80 - 124
cis-1,3-Dichloropropene	ND		50.0	51.3		ug/L		103	67 - 130
Dibromochloromethane	ND		50.0	47.7		ug/L		95	68 - 133
1,2-Dibromo-3-Chloropropane	ND		50.0	47.5		ug/L		95	58 - 148
1,2-Dibromoethane (EDB)	ND		50.0	47.8		ug/L		96	65 - 138
1,3-Dichlorobenzene	ND		50.0	50.9		ug/L		102	80 - 120
1,4-Dichlorobenzene	ND		50.0	49.0		ug/L		98	80 - 120
Dichlorodifluoromethane	ND		50.0	58.4		ug/L		117	65 - 140
1,1-Dichloroethane	ND		50.0	48.9		ug/L		98	80 - 120
1,2-Dichloroethane	ND		50.0	48.0		ug/L		96	56 - 136
1,1-Dichloroethene	ND		50.0	48.1		ug/L		96	66 - 137
1,2-Dichloropropane	ND		50.0	50.4		ug/L		101	80 - 123
Ethylbenzene	ND		50.0	49.5		ug/L		99	80 - 121
2-Hexanone	ND		50.0	44.8		ug/L		90	47 - 150
Methyl bromide	0.62	J	50.0	39.0		ug/L		77	53 - 146
Methyl chloride	ND		50.0	51.3		ug/L		103	61 - 137
Methylene bromide	ND		50.0	48.9		ug/L		98	61 - 136
Methylene Chloride	ND		50.0	50.6		ug/L		101	80 - 120
Methyl Ethyl Ketone	ND		50.0	45.8		ug/L		92	58 - 143
Methyl iodide	ND	F1 F2	50.0	31.8	F1	ug/L		64	69 - 124
4-Methyl-2-pentanone (MIBK)	ND		50.0	49.3		ug/L		99	53 - 150
Styrene	ND		50.0	51.7		ug/L		103	44 - 150
1,1,1,2-Tetrachloroethane	ND		50.0	47.1		ug/L		94	80 - 120
1,1,2,2-Tetrachloroethane	ND		50.0	46.5		ug/L		93	60 - 150
Tetrachloroethene	ND		50.0	50.8		ug/L		102	66 - 132
Toluene	2.9	J B	50.0	46.4		ug/L		87	75 - 134
trans-1,4-Dichloro-2-butene	ND		50.0	46.5		ug/L		93	55 - 146
trans-1,2-Dichloroethene	ND		50.0	52.3		ug/L		105	79 - 121
trans-1,3-Dichloropropene	ND		50.0	51.0		ug/L		102	68 - 143
1,1,1-Trichloroethane	ND		50.0	50.8		ug/L		102	74 - 123
1,1,2-Trichloroethane	ND		50.0	47.2		ug/L		94	70 - 134
Trichloroethene	ND		50.0	49.7		ug/L		99	63 - 120
Trichlorofluoromethane	ND		50.0	50.0		ug/L		100	53 - 150
1,2,3-Trichloropropane	ND		50.0	46.1		ug/L		92	62 - 137
Vinyl acetate	ND		50.0	58.8		ug/L		118	63 - 150
Vinyl chloride	ND		50.0	50.5		ug/L		101	54 - 140
Xylenes, Total	1.4	J	100	103		ug/L		102	80 - 124

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*71 - 139*
Dibromofluoromethane (Surr)	*100*		*80 - 121*
1,2-Dichloroethane-d4 (Surr)	*93*		*76 - 121*
Toluene-d8 (Surr)	*101*		*80 - 129*

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

Lab Sample ID: 160-17630-F-1 MSD
Matrix: Water
Analysis Batch: 254807

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	ND		50.0	50.8		ug/L		102	52 - 138	6	20
Acrylonitrile	ND		500	506		ug/L		101	58 - 142	4	20
Benzene	5.7		50.0	57.1		ug/L		103	80 - 120	1	20
Bromochloromethane	ND		50.0	51.4		ug/L		103	72 - 125	3	20
Bromodichloromethane	ND		50.0	49.4		ug/L		99	71 - 128	0	20
Bromoform	ND		50.0	49.5		ug/L		99	65 - 133	5	20
Carbon disulfide	ND		50.0	50.8		ug/L		102	69 - 139	0	20
Carbon tetrachloride	ND		50.0	50.6		ug/L		101	70 - 126	2	20
Chlorobenzene	ND		50.0	48.5		ug/L		97	80 - 120	1	20
Chloroethane	ND		50.0	43.6		ug/L		87	59 - 144	16	20
Chloroform	ND		50.0	49.2		ug/L		98	80 - 120	0	20
Chloroprene	ND		50.0	53.5		ug/L		107	77 - 121	0	20
cis-1,2-Dichloroethene	ND		50.0	53.4		ug/L		107	80 - 124	0	20
cis-1,3-Dichloropropene	ND		50.0	50.7		ug/L		101	67 - 130	1	20
Dibromochloromethane	ND		50.0	50.2		ug/L		100	68 - 133	5	20
1,2-Dibromo-3-Chloropropane	ND		50.0	51.0		ug/L		102	58 - 148	7	20
1,2-Dibromoethane (EDB)	ND		50.0	50.5		ug/L		101	65 - 138	6	20
1,3-Dichlorobenzene	ND		50.0	50.0		ug/L		100	80 - 120	2	20
1,4-Dichlorobenzene	ND		50.0	48.6		ug/L		97	80 - 120	1	20
Dichlorodifluoromethane	ND		50.0	60.3		ug/L		121	65 - 140	3	20
1,1-Dichloroethane	ND		50.0	49.4		ug/L		99	80 - 120	1	20
1,2-Dichloroethane	ND		50.0	48.7		ug/L		97	56 - 136	2	20
1,1-Dichloroethene	ND		50.0	48.3		ug/L		97	66 - 137	0	20
1,2-Dichloropropane	ND		50.0	51.3		ug/L		103	80 - 123	2	20
Ethylbenzene	ND		50.0	49.1		ug/L		98	80 - 121	1	20
2-Hexanone	ND		50.0	50.8		ug/L		102	47 - 150	13	20
Methyl bromide	0.62	J	50.0	38.3		ug/L		75	53 - 146	2	20
Methyl chloride	ND		50.0	49.2		ug/L		98	61 - 137	4	20
Methylene bromide	ND		50.0	49.5		ug/L		99	61 - 136	1	20
Methylene Chloride	ND		50.0	51.0		ug/L		102	80 - 120	1	20
Methyl Ethyl Ketone	ND		50.0	49.2		ug/L		98	58 - 143	7	20
Methyl iodide	ND	F1 F2	50.0	39.2	F2	ug/L		78	69 - 124	21	20
4-Methyl-2-pentanone (MIBK)	ND		50.0	53.4		ug/L		107	53 - 150	8	20
Styrene	ND		50.0	52.6		ug/L		105	44 - 150	2	20
1,1,1,2-Tetrachloroethane	ND		50.0	48.9		ug/L		98	80 - 120	4	20
1,1,2,2-Tetrachloroethane	ND		50.0	48.3		ug/L		97	60 - 150	4	20
Tetrachloroethene	ND		50.0	51.3		ug/L		103	66 - 132	1	20
Toluene	2.9	J B	50.0	47.3		ug/L		89	75 - 134	2	20
trans-1,4-Dichloro-2-butene	ND		50.0	48.2		ug/L		96	55 - 146	4	20
trans-1,2-Dichloroethene	ND		50.0	52.6		ug/L		105	79 - 121	1	20
trans-1,3-Dichloropropene	ND		50.0	52.8		ug/L		106	68 - 143	4	20
1,1,1-Trichloroethane	ND		50.0	50.8		ug/L		102	74 - 123	0	20
1,1,2-Trichloroethane	ND		50.0	49.2		ug/L		98	70 - 134	4	20
Trichloroethene	ND		50.0	49.6		ug/L		99	63 - 120	0	20
Trichlorofluoromethane	ND		50.0	50.1		ug/L		100	53 - 150	0	20
1,2,3-Trichloropropane	ND		50.0	47.6		ug/L		95	62 - 137	3	20
Vinyl acetate	ND		50.0	61.2		ug/L		122	63 - 150	4	20
Vinyl chloride	ND		50.0	52.9		ug/L		106	54 - 140	5	20

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

Lab Sample ID: 160-17630-F-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 254807

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Xylenes, Total	1.4	J	100	105		ug/L		104	80 - 124	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*71 - 139*
Dibromofluoromethane (Surr)	*100*		*80 - 121*
1,2-Dichloroethane-d4 (Surr)	*96*		*76 - 121*
Toluene-d8 (Surr)	*102*		*80 - 129*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 160-255873/11 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 255873

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.10	0.010	mg/L			06/09/16 17:24	1
Sulfate	ND		0.50	0.050	mg/L			06/09/16 17:24	1
Chloride	ND		0.20	0.020	mg/L			06/09/16 17:24	1

Lab Sample ID: LCS 160-255873/12 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 255873

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.00	1.01		mg/L		101	90 - 110
Sulfate	8.00	7.56		mg/L		94	90 - 110
Chloride	2.00	1.97		mg/L		99	90 - 110

Lab Sample ID: 160-17630-D-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 255873

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.5		2.00	3.61	E	mg/L		104	90 - 110

Lab Sample ID: 160-17630-D-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 255873

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Fluoride	1.5		1.52		mg/L		0.05	20

QC Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17635-1

Method: 300.0 - Anions, Ion Chromatography - DL

Lab Sample ID: 160-17630-D-1 MS
Matrix: Water
Analysis Batch: 255873

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate - DL	58		80.0	132		mg/L		93	90 - 110
Chloride - DL	49		40.0	87.4		mg/L		95	90 - 110

Lab Sample ID: 160-17630-D-1 DU
Matrix: Water
Analysis Batch: 255873

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate - DL	58		57.6		mg/L		0	20
Chloride - DL	49		49.0		mg/L		0.4	20

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 160-254928/1-A
Matrix: Water
Analysis Batch: 258532

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 254928

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		10	3.0	ug/L		06/06/16 13:24	06/28/16 16:19	1
Arsenic	ND		10	4.0	ug/L		06/06/16 13:24	06/28/16 16:19	1
Barium	ND		50	15	ug/L		06/06/16 13:24	06/28/16 16:19	1
Beryllium	ND		5.0	1.5	ug/L		06/06/16 13:24	06/28/16 16:19	1
Boron	ND		100	25	ug/L		06/06/16 13:24	06/28/16 16:19	1
Cadmium	ND		5.0	1.5	ug/L		06/06/16 13:24	06/28/16 16:19	1
CaHard	ND		2500	750	ug/L		06/06/16 13:24	06/28/16 16:19	1
Calcium	ND		1000	300	ug/L		06/06/16 13:24	06/28/16 16:19	1
Chromium	ND		10	3.0	ug/L		06/06/16 13:24	06/28/16 16:19	1
Cobalt	ND		50	15	ug/L		06/06/16 13:24	06/28/16 16:19	1
Copper	ND		25	5.0	ug/L		06/06/16 13:24	06/28/16 16:19	1
Iron	ND		100	30	ug/L		06/06/16 13:24	06/28/16 16:19	1
Lead	ND		10	3.0	ug/L		06/06/16 13:24	06/28/16 16:19	1
Magnesium	ND		1.0	0.30	mg/L		06/06/16 13:24	06/28/16 16:19	1
Manganese	ND		15	2.5	ug/L		06/06/16 13:24	06/28/16 16:19	1
MgHard	ND		4100	1200	ug/L		06/06/16 13:24	06/28/16 16:19	1
Nickel	ND		0.040	0.010	mg/L		06/06/16 13:24	06/28/16 16:19	1
Phosphorus	ND	^	250	75	ug/L		06/06/16 13:24	06/28/16 16:19	1
Selenium	ND		15	5.0	ug/L		06/06/16 13:24	06/28/16 16:19	1
Silver	ND		10	3.0	ug/L		06/06/16 13:24	06/28/16 16:19	1
Sodium	ND		1000	300	ug/L		06/06/16 13:24	06/28/16 16:19	1
Thallium	ND		20	5.0	ug/L		06/06/16 13:24	06/28/16 16:19	1
Total Hardness	ND		6600	2000	ug/L		06/06/16 13:24	06/28/16 16:19	1
Vanadium	ND		50	15	ug/L		06/06/16 13:24	06/28/16 16:19	1
Zinc	ND		20	6.0	ug/L		06/06/16 13:24	06/28/16 16:19	1

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

Lab Sample ID: LCS 160-254928/2-A
Matrix: Water
Analysis Batch: 258532

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 254928

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	500	503		ug/L		101	80 - 120
Arsenic	1000	1010		ug/L		101	80 - 120
Barium	1000	941		ug/L		94	80 - 120
Beryllium	1000	962		ug/L		96	80 - 120
Boron	2000	1910		ug/L		95	80 - 120
Cadmium	1000	1040		ug/L		104	80 - 120
Calcium	10000	10700		ug/L		107	80 - 120
Chromium	1000	1050		ug/L		105	80 - 120
Cobalt	1000	1050		ug/L		105	80 - 120
Copper	1000	956		ug/L		96	80 - 120
Iron	10000	9530		ug/L		95	80 - 120
Lead	1000	1020		ug/L		102	80 - 120
Magnesium	10.0	9.64		mg/L		96	80 - 120
Manganese	1000	947		ug/L		95	80 - 120
Nickel	1.00	1.06		mg/L		106	80 - 120
Phosphorus	1000	1230	^ *	ug/L		123	80 - 120
Selenium	500	509		ug/L		102	80 - 120
Silver	200	195		ug/L		97	80 - 120
Sodium	10000	10000		ug/L		100	80 - 120
Thallium	200	195		ug/L		98	80 - 120
Vanadium	1000	952		ug/L		95	80 - 120
Zinc	1000	1070		ug/L		107	80 - 120

Lab Sample ID: 160-17630-E-1-B MS ^5
Matrix: Water
Analysis Batch: 258532

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 254928

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND		500	499		ug/L		100	75 - 125
Arsenic	ND		1000	1010		ug/L		101	75 - 125
Barium	140	J	1000	1080		ug/L		93	75 - 125
Beryllium	ND		1000	950		ug/L		95	75 - 125
Boron	180	J	2000	2070		ug/L		94	75 - 125
Cadmium	ND		1000	1000		ug/L		100	75 - 125
Calcium	100000		10000	109000	4	ug/L		92	75 - 125
Chromium	18	J	1000	1010		ug/L		100	75 - 125
Cobalt	ND		1000	1000		ug/L		100	75 - 125
Copper	ND		1000	899		ug/L		90	75 - 125
Iron	2100		10000	11400		ug/L		93	75 - 125
Lead	ND		1000	990		ug/L		99	75 - 125
Magnesium	54		10.0	62.1	4	mg/L		83	75 - 125
Manganese	550		1000	1470		ug/L		92	75 - 125
Nickel	ND		1.00	1.03		mg/L		103	75 - 125
Phosphorus	ND	F1 ^ *	1000	1280	J F1 ^	ug/L		128	75 - 125
Selenium	ND		500	403		ug/L		81	75 - 125
Silver	ND		200	195		ug/L		98	75 - 125
Sodium	58000		10000	66900	4	ug/L		86	75 - 125
Thallium	ND		200	191		ug/L		95	75 - 125

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

Lab Sample ID: 160-17630-E-1-B MS ^5 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258532 — **Prep Batch: 254928**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Vanadium	ND		1000	937		ug/L		94	75 - 125
Zinc	36	J	1000	1060		ug/L		103	75 - 125

Lab Sample ID: 160-17630-E-1-C MSD ^5 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258532 — **Prep Batch: 254928**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	ND		500	510		ug/L		102	75 - 125	2	20
Arsenic	ND		1000	1040		ug/L		104	75 - 125	3	20
Barium	140	J	1000	1120		ug/L		97	75 - 125	4	20
Beryllium	ND		1000	993		ug/L		99	75 - 125	4	20
Boron	180	J	2000	2120		ug/L		97	75 - 125	3	20
Cadmium	ND		1000	1050		ug/L		105	75 - 125	5	20
Calcium	100000		10000	114000	4	ug/L		140	75 - 125	4	20
Chromium	18	J	1000	1070		ug/L		105	75 - 125	5	20
Cobalt	ND		1000	1050		ug/L		105	75 - 125	5	20
Copper	ND		1000	962		ug/L		96	75 - 125	7	20
Iron	2100		10000	12000		ug/L		98	75 - 125	5	20
Lead	ND		1000	1020		ug/L		102	75 - 125	3	20
Magnesium	54		10.0	64.9	4	mg/L		111	75 - 125	4	20
Manganese	550		1000	1530		ug/L		98	75 - 125	4	20
Nickel	ND		1.00	1.08		mg/L		108	75 - 125	5	20
Phosphorus	ND	F1 ^ *	1000	1330	F1 ^	ug/L		133	75 - 125	4	20
Selenium	ND		500	410		ug/L		82	75 - 125	2	20
Silver	ND		200	199		ug/L		99	75 - 125	2	20
Sodium	58000		10000	69600	4	ug/L		113	75 - 125	4	20
Thallium	ND		200	192		ug/L		96	75 - 125	1	20
Vanadium	ND		1000	985		ug/L		99	75 - 125	5	20
Zinc	36	J	1000	1110		ug/L		108	75 - 125	5	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 160-256101/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256345 — **Prep Batch: 256101**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		06/13/16 08:39	06/13/16 17:46	1

Lab Sample ID: LCS 160-256101/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256345 — **Prep Batch: 256101**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	5.00	5.10		ug/L		102	80 - 120

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: 160-17635-3 MS — **Client Sample ID: PZ-212-SD**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256345 — **Prep Batch: 256101**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	ND		5.00	4.98		ug/L		100	80 - 120		

Lab Sample ID: 160-17635-3 MSD — **Client Sample ID: PZ-212-SD**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256345 — **Prep Batch: 256101**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		5.00	5.25		ug/L		105	80 - 120	5	20

Method: 160.1 - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 160-254559/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 254559

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		5.0	3.5	mg/L			06/03/16 08:36	1

Lab Sample ID: LCS 160-254559/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 254559

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids (TDS)			500	504		mg/L		101	90 - 110		

Method: 160.1 - Solids, Total Dissolved (TDS) - DL

Lab Sample ID: 160-17614-B-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 254559

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids (TDS) - DL	2800			2800		mg/L				0.5	20

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 160-256321/11 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256321

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.050	0.022	mg/L			06/13/16 19:01	1

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: LCS 160-256321/12 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256321

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia			0.500	0.503		mg/L		101	90 - 110		

Lab Sample ID: 160-17592-E-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256321

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia	0.43	F1	0.500	1.01	F1	mg/L		116	90 - 110		

Lab Sample ID: 160-17592-E-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256321

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Ammonia	0.43	F1		0.440		mg/L				2	20

Lab Sample ID: MB 160-256509/11 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256509

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.050	0.022	mg/L			06/14/16 21:55	1

Lab Sample ID: LCS 160-256509/12 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256509

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia			0.500	0.497		mg/L		99	90 - 110		

Method: 350.1 - Nitrogen, Ammonia - DL

Lab Sample ID: 160-17630-C-1 MS ^10 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256509

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia - DL	3.5	F1	0.500	4.18	4	mg/L		129	90 - 110		

Lab Sample ID: 160-17630-C-1 DU ^10 — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256509

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Ammonia - DL	3.5	F1		3.42		mg/L				3	20

Method: 353.1 Preserved - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 160-258378/14 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258378

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate/Nitrite	ND		0.050	0.011	mg/L			06/27/16 18:30	1

Lab Sample ID: LCS 160-258378/15 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258378

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate/Nitrite	0.500	0.472		mg/L		94	90 - 110

Lab Sample ID: 160-17592-E-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258378

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate/Nitrite	ND	F1	0.500	ND	F1	mg/L		0	90 - 110

Lab Sample ID: 160-17592-E-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258378

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrate/Nitrite	ND	F1	ND		mg/L		NC	20

Method: 410.4 - COD

Lab Sample ID: MB 160-256131/3-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256170 — **Prep Batch: 256131**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		5.0	1.1	mg/L		06/13/16 11:06	06/13/16 15:02	1

Lab Sample ID: LCS 160-256131/4-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256170 — **Prep Batch: 256131**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	50.0	51.0		mg/L		102	90 - 110

Lab Sample ID: 160-17635-2 MS — **Client Sample ID: PZ-106-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256170 — **Prep Batch: 256131**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	16		50.0	71.0		mg/L		110	90 - 110

Method: 410.4 - COD (Continued)

Lab Sample ID: 160-17635-2 DU — **Client Sample ID: PZ-106-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256170 — **Prep Batch: 256131**

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Chemical Oxygen Demand	16			14.0		mg/L				13	20

Method: 415.1 - TOC

Lab Sample ID: MB 160-256121/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256121

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		1.0	0.72	mg/L			06/10/16 14:31	1

Lab Sample ID: LCS 160-256121/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256121

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon			10.0	10.1		mg/L		101	90 - 110		

Lab Sample ID: 160-17630-B-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256121

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon	9.0		5.00	14.2		mg/L		104	76 - 120		

Lab Sample ID: 160-17630-B-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256121

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Organic Carbon	9.0			8.90		mg/L				0.6	20

Lab Sample ID: MB 160-256304/5 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256304

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		1.0	0.72	mg/L			06/13/16 19:27	1

Lab Sample ID: LCS 160-256304/6 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256304

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon			10.0	9.97		mg/L		100	90 - 110		

QC Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17635-1

Method: 415.1 - TOC - DL

Lab Sample ID: 160-17630-B-2 MS ^2 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256304

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon - DL	27		10.0	38.3		mg/L		113	76 - 120		

Lab Sample ID: 160-17630-B-2 DU ^2 — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256304

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Organic Carbon - DL	27			27.8		mg/L				3	20

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-254941/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258248 — **Prep Batch: 254941**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.06661	U	0.0623	0.0626	1.00	0.0982	pCi/L	06/06/16 14:18	06/28/16 07:19	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.2*		*40 - 110*	*06/06/16 14:18*	*06/28/16 07:19*	*1*

Lab Sample ID: LCS 160-254941/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258248 — **Prep Batch: 254941**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.2	13.93		1.36	1.00	0.0935	pCi/L	125	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*94.6*		*40 - 110*

Lab Sample ID: LCSD 160-254941/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258248 — **Prep Batch: 254941**

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.2	15.00		1.46	1.00	0.0860	pCi/L	134	68 - 137	0.38	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*95.4*		*40 - 110*

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: MB 160-255236/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258547 — **Prep Batch: 255236**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.02005	U	0.0355	0.0356	1.00	0.0623	pCi/L	06/07/16 13:14	06/29/16 06:47	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.9*		*40 - 110*	*06/07/16 13:14*	*06/29/16 06:47*	*1*

Lab Sample ID: LCS 160-255236/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258547 — **Prep Batch: 255236**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.2	13.84		1.32	1.00	0.0590	pCi/L	124	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*93.4*		*40 - 110*

Lab Sample ID: LCSD 160-255236/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258547 — **Prep Batch: 255236**

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.2	13.63		1.30	1.00	0.0617	pCi/L	122	68 - 137	0.08	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*97.7*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-254943/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257669 — **Prep Batch: 254943**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.2468	U	0.249	0.250	1.00	0.405	pCi/L	06/06/16 14:42	06/23/16 13:21	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.2*		*40 - 110*	*06/06/16 14:42*	*06/23/16 13:21*	*1*
Y Carrier	*88.6*		*40 - 110*	*06/06/16 14:42*	*06/23/16 13:21*	*1*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-254943/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257669 — **Prep Batch: 254943**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			15.0	16.13		1.71	1.00	0.364	pCi/L	108	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*94.6*		*40 - 110*
Y Carrier	*89.3*		*40 - 110*

Lab Sample ID: LCSD 160-254943/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257669 — **Prep Batch: 254943**

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			15.0	15.32		1.64	1.00	0.352	pCi/L	102	56 - 140	0.24	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*95.4*		*40 - 110*
Y Carrier	*87.9*		*40 - 110*

Lab Sample ID: MB 160-255239/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256310 — **Prep Batch: 255239**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.2716	U	0.252	0.253	1.00	0.406	pCi/L	06/07/16 13:33	06/14/16 17:57	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.9*		*40 - 110*	*06/07/16 13:33*	*06/14/16 17:57*	*1*
Y Carrier	*87.5*		*40 - 110*	*06/07/16 13:33*	*06/14/16 17:57*	*1*

Lab Sample ID: LCS 160-255239/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256310 — **Prep Batch: 255239**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			15.0	18.54		1.95	1.00	0.410	pCi/L	123	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*93.4*		*40 - 110*
Y Carrier	*83.4*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCSD 160-255239/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256310 — **Prep Batch: 255239**

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			15.0	18.90		1.97	1.00	0.388	pCi/L	126	56 - 140	0.09	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*97.7*		*40 - 110*
Y Carrier	*83.0*		*40 - 110*

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-257602/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257696 — **Prep Batch: 257602**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-68.92	U	135	135	500	265	pCi/L	06/22/16 13:29	06/22/16 20:48	1

Lab Sample ID: LCS 160-257602/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257696 — **Prep Batch: 257602**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium			3070	3036		459	500	268	pCi/L	99	74 - 114		

Lab Sample ID: 160-17611-H-3-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257696 — **Prep Batch: 257602**

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium	119	U	3060	3225		478	500	269	pCi/L	105	67 - 130		

Lab Sample ID: 160-17611-H-1-B DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257696 — **Prep Batch: 257602**

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Tritium	41.4	U		-33.78	U	139	500	263	pCi/L			0.26	1

QC Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17635-1

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

Lab Sample ID: MB 160-256563/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257515 — **Prep Batch: 256563**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Thorium-230	0.3100		0.113	0.116	1.00	0.0310	pCi/L	06/15/16 15:38	06/22/16 12:57	1

Tracer	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Thorium-229	*89.1*		*30 - 110*	*06/15/16 15:38*	*06/22/16 12:57*	*1*

Lab Sample ID: LCS 160-256563/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257516 — **Prep Batch: 256563**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Thorium-230			8.03	10.06		1.07	1.00	0.0318	pCi/L	125	81 - 125		

Tracer	*LCS %Yield*	*LCS Qualifier*	*Limits*
Thorium-229	*80.1*		*30 - 110*

Lab Sample ID: 160-17611-K-1-C DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257784 — **Prep Batch: 256563**

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Thorium-230	0.240			0.3055		0.127	1.00	0.0687	pCi/L			0.28	1

Tracer	*DU %Yield*	*DU Qualifier*	*Limits*
Thorium-229	*68.0*		*30 - 110*

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-256581/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257395 — **Prep Batch: 256581**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Uranium-233/234	0.06665		0.0596	0.0599	1.00	0.0400	pCi/L	06/15/16 15:38	06/21/16 13:34	1
Uranium-235/236	0.03317	U	0.0469	0.0470	1.00	0.0498	pCi/L	06/15/16 15:38	06/21/16 13:34	1
Uranium-238	0.007760	U	0.0288	0.0288	1.00	0.0735	pCi/L	06/15/16 15:38	06/21/16 13:34	1

Tracer	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*69.0*		*30 - 110*	*06/15/16 15:38*	*06/21/16 13:34*	*1*

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) (Continued)

Lab Sample ID: LCS 160-256581/2-A
Matrix: Water
Analysis Batch: 257396

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 256581

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Uranium-233/234			12.7	12.14		1.26	1.00	0.0617	pCi/L	95	84 - 120		
Uranium-238			13.0	13.17		1.35	1.00	0.0334	pCi/L	101	83 - 121		

Tracer	*LCS %Yield*	*LCS Qualifier*	*Limits*
Uranium-232	*76.0*		*30 - 110*

Lab Sample ID: 160-17611-K-1-E DU
Matrix: Water
Analysis Batch: 257540

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 256581

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Uranium-233/234	2.22			2.021		0.398	1.00	0.117	pCi/L			0.25	1
Uranium-235/236	0.0446	U		0.1181		0.0970	1.00	0.0591	pCi/L			0.46	1
Uranium-238	0.872			0.9473		0.257	1.00	0.0474	pCi/L			0.15	1

Tracer	*DU %Yield*	*DU Qualifier*	*Limits*
Uranium-232	*55.2*		*30 - 110*

QC Association Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17635-1

GC/MS VOA

Analysis Batch: 254807

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17630-F-1 MS	Matrix Spike	Total/NA	Water	8260C	
160-17630-F-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260C	
160-17635-1	PZ-106-SD	Total/NA	Water	8260C	
160-17635-2	PZ-106-SS	Total/NA	Water	8260C	
160-17635-3	PZ-212-SD	Total/NA	Water	8260C	
160-17635-4	PZ-212-SS	Total/NA	Water	8260C	
160-17635-5	TRIPBLANK 2	Total/NA	Water	8260C	
LCS 160-254807/6	Lab Control Sample	Total/NA	Water	8260C	
LCSD 160-254807/7	Lab Control Sample Dup	Total/NA	Water	8260C	
MB 160-254807/9	Method Blank	Total/NA	Water	8260C	

HPLC/IC

Analysis Batch: 255873

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17630-D-1 DU	Duplicate	Total/NA	Water	300.0	
160-17630-D-1 DU - DL	Duplicate	Total/NA	Water	300.0	
160-17630-D-1 MS	Matrix Spike	Total/NA	Water	300.0	
160-17630-D-1 MS - DL	Matrix Spike	Total/NA	Water	300.0	
160-17635-1 - DL	PZ-106-SD	Total/NA	Water	300.0	
160-17635-1 - DL2	PZ-106-SD	Total/NA	Water	300.0	
160-17635-2	PZ-106-SS	Total/NA	Water	300.0	
160-17635-2 - DL	PZ-106-SS	Total/NA	Water	300.0	
160-17635-3	PZ-212-SD	Total/NA	Water	300.0	
160-17635-3 - DL	PZ-212-SD	Total/NA	Water	300.0	
160-17635-3 - DL2	PZ-212-SD	Total/NA	Water	300.0	
160-17635-4	PZ-212-SS	Total/NA	Water	300.0	
160-17635-4 - DL	PZ-212-SS	Total/NA	Water	300.0	
LCS 160-255873/12	Lab Control Sample	Total/NA	Water	300.0	
MB 160-255873/11	Method Blank	Total/NA	Water	300.0	

Metals

Prep Batch: 254928

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17630-E-1-B MS ^5	Matrix Spike	Total/NA	Water	3010A	
160-17630-E-1-C MSD ^5	Matrix Spike Duplicate	Total/NA	Water	3010A	
160-17635-1	PZ-106-SD	Total/NA	Water	3010A	
160-17635-2	PZ-106-SS	Total/NA	Water	3010A	
160-17635-3	PZ-212-SD	Total/NA	Water	3010A	
160-17635-4	PZ-212-SS	Total/NA	Water	3010A	
LCS 160-254928/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 160-254928/1-A	Method Blank	Total/NA	Water	3010A	

Prep Batch: 256101

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17635-1	PZ-106-SD	Total/NA	Water	7470A	
160-17635-2	PZ-106-SS	Total/NA	Water	7470A	
160-17635-3	PZ-212-SD	Total/NA	Water	7470A	
160-17635-3 MS	PZ-212-SD	Total/NA	Water	7470A	

Metals (Continued)

Prep Batch: 256101 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17635-3 MSD	PZ-212-SD	Total/NA	Water	7470A	
160-17635-4	PZ-212-SS	Total/NA	Water	7470A	
LCS 160-256101/2-A	Lab Control Sample	Total/NA	Water	7470A	
MB 160-256101/1-A	Method Blank	Total/NA	Water	7470A	

Analysis Batch: 256345

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17635-1	PZ-106-SD	Total/NA	Water	7470A	256101
160-17635-2	PZ-106-SS	Total/NA	Water	7470A	256101
160-17635-3	PZ-212-SD	Total/NA	Water	7470A	256101
160-17635-3 MS	PZ-212-SD	Total/NA	Water	7470A	256101
160-17635-3 MSD	PZ-212-SD	Total/NA	Water	7470A	256101
160-17635-4	PZ-212-SS	Total/NA	Water	7470A	256101
LCS 160-256101/2-A	Lab Control Sample	Total/NA	Water	7470A	256101
MB 160-256101/1-A	Method Blank	Total/NA	Water	7470A	256101

Analysis Batch: 258532

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17630-E-1-B MS ^5	Matrix Spike	Total/NA	Water	6010C	254928
160-17630-E-1-C MSD ^5	Matrix Spike Duplicate	Total/NA	Water	6010C	254928
160-17635-1	PZ-106-SD	Total/NA	Water	6010C	254928
160-17635-2	PZ-106-SS	Total/NA	Water	6010C	254928
160-17635-3	PZ-212-SD	Total/NA	Water	6010C	254928
160-17635-4	PZ-212-SS	Total/NA	Water	6010C	254928
LCS 160-254928/2-A	Lab Control Sample	Total/NA	Water	6010C	254928
MB 160-254928/1-A	Method Blank	Total/NA	Water	6010C	254928

General Chemistry

Analysis Batch: 254559

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17614-B-1 DU - DL	Duplicate	Total/NA	Water	160.1	
160-17635-1 - DL	PZ-106-SD	Total/NA	Water	160.1	
160-17635-2	PZ-106-SS	Total/NA	Water	160.1	
160-17635-3	PZ-212-SD	Total/NA	Water	160.1	
160-17635-4	PZ-212-SS	Total/NA	Water	160.1	
LCS 160-254559/2	Lab Control Sample	Total/NA	Water	160.1	
MB 160-254559/1	Method Blank	Total/NA	Water	160.1	

Analysis Batch: 256121

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17630-B-1 DU	Duplicate	Total/NA	Water	415.1	
160-17630-B-1 MS	Matrix Spike	Total/NA	Water	415.1	
160-17635-2	PZ-106-SS	Total/NA	Water	415.1	
160-17635-3	PZ-212-SD	Total/NA	Water	415.1	
160-17635-4	PZ-212-SS	Total/NA	Water	415.1	
LCS 160-256121/5	Lab Control Sample	Total/NA	Water	415.1	
MB 160-256121/4	Method Blank	Total/NA	Water	415.1	

General Chemistry (Continued)

Prep Batch: 256131

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17635-1 - DL	PZ-106-SD	Total/NA	Water	410.4	
160-17635-2	PZ-106-SS	Total/NA	Water	410.4	
160-17635-2 DU	PZ-106-SS	Total/NA	Water	410.4	
160-17635-2 MS	PZ-106-SS	Total/NA	Water	410.4	
160-17635-3	PZ-212-SD	Total/NA	Water	410.4	
160-17635-4	PZ-212-SS	Total/NA	Water	410.4	
LCS 160-256131/4-A	Lab Control Sample	Total/NA	Water	410.4	
MB 160-256131/3-A	Method Blank	Total/NA	Water	410.4	

Analysis Batch: 256170

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17635-1 - DL	PZ-106-SD	Total/NA	Water	410.4	256131
160-17635-2	PZ-106-SS	Total/NA	Water	410.4	256131
160-17635-2 DU	PZ-106-SS	Total/NA	Water	410.4	256131
160-17635-2 MS	PZ-106-SS	Total/NA	Water	410.4	256131
160-17635-3	PZ-212-SD	Total/NA	Water	410.4	256131
160-17635-4	PZ-212-SS	Total/NA	Water	410.4	256131
LCS 160-256131/4-A	Lab Control Sample	Total/NA	Water	410.4	256131
MB 160-256131/3-A	Method Blank	Total/NA	Water	410.4	256131

Analysis Batch: 256304

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17630-B-2 DU ^2 - DL	Duplicate	Total/NA	Water	415.1	
160-17630-B-2 MS ^2 - DL	Matrix Spike	Total/NA	Water	415.1	
160-17635-1 - DL	PZ-106-SD	Total/NA	Water	415.1	
LCS 160-256304/6	Lab Control Sample	Total/NA	Water	415.1	
MB 160-256304/5	Method Blank	Total/NA	Water	415.1	

Analysis Batch: 256321

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17592-E-1 DU	Duplicate	Total/NA	Water	350.1	
160-17592-E-1 MS	Matrix Spike	Total/NA	Water	350.1	
160-17635-2	PZ-106-SS	Total/NA	Water	350.1	
160-17635-3	PZ-212-SD	Total/NA	Water	350.1	
160-17635-4	PZ-212-SS	Total/NA	Water	350.1	
LCS 160-256321/12	Lab Control Sample	Total/NA	Water	350.1	
MB 160-256321/11	Method Blank	Total/NA	Water	350.1	

Analysis Batch: 256509

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17630-C-1 DU ^10 - DL	Duplicate	Total/NA	Water	350.1	
160-17630-C-1 MS ^10 - DL	Matrix Spike	Total/NA	Water	350.1	
160-17635-1 - DL	PZ-106-SD	Total/NA	Water	350.1	
LCS 160-256509/12	Lab Control Sample	Total/NA	Water	350.1	
MB 160-256509/11	Method Blank	Total/NA	Water	350.1	

Analysis Batch: 258378

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17592-E-1 DU	Duplicate	Total/NA	Water	353.1 Preserved	
160-17592-E-1 MS	Matrix Spike	Total/NA	Water	353.1 Preserved	
160-17635-1	PZ-106-SD	Total/NA	Water	353.1 Preserved	

General Chemistry (Continued)

Analysis Batch: 258378 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17635-2	PZ-106-SS	Total/NA	Water	353.1 Preserved	
160-17635-3	PZ-212-SD	Total/NA	Water	353.1 Preserved	
160-17635-4	PZ-212-SS	Total/NA	Water	353.1 Preserved	
LCS 160-258378/15	Lab Control Sample	Total/NA	Water	353.1 Preserved	
MB 160-258378/14	Method Blank	Total/NA	Water	353.1 Preserved	

Rad

Filtration Batch: 254848

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17635-1	PZ-106-SD	Dissolved	Water	Filtration	
160-17635-2	PZ-106-SS	Dissolved	Water	Filtration	
160-17635-3	PZ-212-SD	Dissolved	Water	Filtration	
160-17635-4	PZ-212-SS	Dissolved	Water	Filtration	

Prep Batch: 254941

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17635-1	PZ-106-SD	Total/NA	Water	PrecSep-21	
160-17635-2	PZ-106-SS	Total/NA	Water	PrecSep-21	
160-17635-3	PZ-212-SD	Total/NA	Water	PrecSep-21	
160-17635-4	PZ-212-SS	Total/NA	Water	PrecSep-21	
LCS 160-254941/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-254941/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	
MB 160-254941/1-A	Method Blank	Total/NA	Water	PrecSep-21	

Prep Batch: 254943

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17635-1	PZ-106-SD	Total/NA	Water	PrecSep_0	
160-17635-2	PZ-106-SS	Total/NA	Water	PrecSep_0	
160-17635-3	PZ-212-SD	Total/NA	Water	PrecSep_0	
160-17635-4	PZ-212-SS	Total/NA	Water	PrecSep_0	
LCS 160-254943/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-254943/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	
MB 160-254943/1-A	Method Blank	Total/NA	Water	PrecSep_0	

Prep Batch: 255236

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17635-1	PZ-106-SD	Dissolved	Water	PrecSep-21	254848
160-17635-2	PZ-106-SS	Dissolved	Water	PrecSep-21	254848
160-17635-3	PZ-212-SD	Dissolved	Water	PrecSep-21	254848
160-17635-4	PZ-212-SS	Dissolved	Water	PrecSep-21	254848
LCS 160-255236/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-255236/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	
MB 160-255236/1-A	Method Blank	Total/NA	Water	PrecSep-21	

Prep Batch: 255239

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17635-1	PZ-106-SD	Dissolved	Water	PrecSep_0	254848
160-17635-2	PZ-106-SS	Dissolved	Water	PrecSep_0	254848
160-17635-3	PZ-212-SD	Dissolved	Water	PrecSep_0	254848

Rad (Continued)

Prep Batch: 255239 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17635-4	PZ-212-SS	Dissolved	Water	PrecSep_0	254848
LCS 160-255239/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-255239/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	
MB 160-255239/1-A	Method Blank	Total/NA	Water	PrecSep_0	

Prep Batch: 256563

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17611-K-1-C DU	Duplicate	Total/NA	Water	ExtChrom	
160-17635-1	PZ-106-SD	Total/NA	Water	ExtChrom	
160-17635-2	PZ-106-SS	Total/NA	Water	ExtChrom	
160-17635-3	PZ-212-SD	Total/NA	Water	ExtChrom	
160-17635-4	PZ-212-SS	Total/NA	Water	ExtChrom	
LCS 160-256563/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
MB 160-256563/1-A	Method Blank	Total/NA	Water	ExtChrom	

Prep Batch: 256581

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17611-K-1-E DU	Duplicate	Total/NA	Water	ExtChrom	
160-17635-1	PZ-106-SD	Total/NA	Water	ExtChrom	
160-17635-2	PZ-106-SS	Total/NA	Water	ExtChrom	
160-17635-3	PZ-212-SD	Total/NA	Water	ExtChrom	
160-17635-4	PZ-212-SS	Total/NA	Water	ExtChrom	
LCS 160-256581/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
MB 160-256581/1-A	Method Blank	Total/NA	Water	ExtChrom	

Prep Batch: 257602

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17611-H-1-B DU	Duplicate	Total/NA	Water	LSC_Dist_Susp	
160-17611-H-3-B MS	Matrix Spike	Total/NA	Water	LSC_Dist_Susp	
160-17635-1	PZ-106-SD	Total/NA	Water	LSC_Dist_Susp	
160-17635-2	PZ-106-SS	Total/NA	Water	LSC_Dist_Susp	
160-17635-3	PZ-212-SD	Total/NA	Water	LSC_Dist_Susp	
160-17635-4	PZ-212-SS	Total/NA	Water	LSC_Dist_Susp	
LCS 160-257602/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	
MB 160-257602/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	

Surrogate Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17635-1

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

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

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	12DCE	TOL
Lab Sample ID	Client Sample ID	(71-139)	(80-121)	(76-121)	(80-129)
160-17630-F-1 MS	Matrix Spike	103	100	93	101
160-17630-F-1 MSD	Matrix Spike Duplicate	103	100	96	102
160-17635-1	PZ-106-SD	112	99	93	106
160-17635-2	PZ-106-SS	111	99	95	108
160-17635-3	PZ-212-SD	113	100	96	107
160-17635-4	PZ-212-SS	108	100	94	106
160-17635-5	TRIPBLANK 2	114	101	97	108
LCS 160-254807/6	Lab Control Sample	101	94	92	101
LCSD 160-254807/7	Lab Control Sample Dup	103	97	95	100
MB 160-254807/9	Method Blank	110	98	95	107

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Tracer/Carrier Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17635-1

Method: 903.0 - Radium-226 (GFPC)

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

		Percent Yield (Acceptance Limits)							
Lab Sample ID	Client Sample ID	Ba (40-110)							
160-17635-1	PZ-106-SD	98.0							
160-17635-2	PZ-106-SS	91.5							
160-17635-3	PZ-212-SD	96.6							
160-17635-4	PZ-212-SS	85.5							
LCS 160-254941/2-A	Lab Control Sample	94.6							
LCS 160-255236/2-A	Lab Control Sample	93.4							
LCSD 160-254941/3-A	Lab Control Sample Dup	95.4							
LCSD 160-255236/3-A	Lab Control Sample Dup	97.7							
MB 160-254941/1-A	Method Blank	91.2							
MB 160-255236/1-A	Method Blank	92.9							

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Dissolved**

		Percent Yield (Acceptance Limits)							
Lab Sample ID	Client Sample ID	Ba (40-110)							
160-17635-1	PZ-106-SD	96.9							
160-17635-2	PZ-106-SS	84.9							
160-17635-3	PZ-212-SD	80.3							
160-17635-4	PZ-212-SS	91.2							

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

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

		Percent Yield (Acceptance Limits)							
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)						
160-17635-1	PZ-106-SD	98.0	88.2						
160-17635-2	PZ-106-SS	91.5	84.5						
160-17635-3	PZ-212-SD	96.6	89.3						
160-17635-4	PZ-212-SS	85.5	89.3						
LCS 160-254943/2-A	Lab Control Sample	94.6	89.3						
LCS 160-255239/2-A	Lab Control Sample	93.4	83.4						
LCSD 160-254943/3-A	Lab Control Sample Dup	95.4	87.9						
LCSD 160-255239/3-A	Lab Control Sample Dup	97.7	83.0						
MB 160-254943/1-A	Method Blank	91.2	88.6						
MB 160-255239/1-A	Method Blank	92.9	87.5						

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Tracer/Carrier Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17635-1

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Dissolved**

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
160-17635-1	PZ-106-SD	96.9	83.4
160-17635-2	PZ-106-SS	84.9	92.7
160-17635-3	PZ-212-SD	80.3	88.6
160-17635-4	PZ-212-SS	91.2	89.3

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

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

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Th-229 (30-110)
160-17611-K-1-C DU	Duplicate	68.0
160-17635-1	PZ-106-SD	93.4
160-17635-2	PZ-106-SS	62.2
160-17635-3	PZ-212-SD	74.0
160-17635-4	PZ-212-SS	75.0
LCS 160-256563/2-A	Lab Control Sample	80.1
MB 160-256563/1-A	Method Blank	89.1

Tracer/Carrier Legend

Th-229 = Thorium-229

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

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

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	U-232 (30-110)
160-17611-K-1-E DU	Duplicate	55.2
160-17635-1	PZ-106-SD	61.3
160-17635-2	PZ-106-SS	56.2
160-17635-3	PZ-212-SD	68.5
160-17635-4	PZ-212-SS	69.4
LCS 160-256581/2-A	Lab Control Sample	76.0
MB 160-256581/1-A	Method Blank	69.0

Tracer/Carrier Legend

U-232 = Uranium-232

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Tel: (314)298-8566

TestAmerica Job ID: 160-17662-1
Client Project/Site: Groundwater - 2nd Quarter 2016

For:
Missouri Attorney General's Office
PO BOX 899
Jefferson City, Missouri 65102

Attn: Brenna McDonald

Elizabeth M. Hoerchler

Authorized for release by:
6/30/2016 5:52:57 PM
Elizabeth Hoerchler, Project Mgmt. Assistant
elizabeth.hoerchler@testamericainc.com

Designee for

Chenise Lambert-Sykes, Project Manager I
(314)298-8566
chenise.lambert-sykes@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

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.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Chain of Custody 8
Receipt Checklists 9
Definitions/Glossary 10
Method Summary 12
Sample Summary 13
Client Sample Results 14
QC Sample Results 26
QC Association Summary 56
Surrogate Summary 61
Tracer Carrier Summary 62

Job ID: 160-17662-1

Laboratory: TestAmerica St. Louis

Narrative

CASE NARRATIVE

Client: Missouri Attorney General's Office

Project: Groundwater - 2nd Quarter 2016

Report Number: 160-17662-1

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.

TestAmerica St. Louis attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

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.

All solid sample results for Chemistry analyses are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header. All soil/sediment sample results for radiochemistry analyses are based upon sample as dried and disaggregated with the exception of tritium, carbon-14, and iodine-129 by gamma spectroscopy unless requested as wet weight by the client.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT

The samples were received on 06/03/2016; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 0.3º C, 0.3º C and 2.5º C.

VOLATILE ORGANIC COMPOUNDS (GC MS)

Samples PZ-104-SD (160-17662-1), PZ-104-SS (160-17662-2), PZ-105-SS (160-17662-3) and PZ-111-SD (160-17662-4) were analyzed for volatile organic compounds (GC MS) in accordance with EPA SW-846 Method 8260C. The samples were analyzed on 06/05/2016, 06/06/2016, 06/08/2016 and 06/09/2016.

Toluene was detected in method blank MB 160-254807/9 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Toluene was detected in method blank MB 160-255479/9 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Toluene was detected in method blank MB 160-255734/9 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the

Job ID: 160-17662-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

The continuing calibration verification (CCV) associated with batch 160-254807 recovered outside acceptance criteria, low biased, for Iodomethane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples, except 160-17630-2 which is being re-analyzed, were non-detect for this analyte, the data have been reported. (CCVIS 160-254807/5)

The following compounds did not meet the minimum relative response factor limits in the continuing calibration verification (CCV) associated with batch 160-254807: 2-Butanone, 2-Hexanone, and Acetone. A low level CCV was analyzed at the base reporting limit of 1ug/L and the affected analytes were detected. Affected target analytes recovering above the reporting limit in the associated samples will be qualified and reported. (CCVIS 160-254807/5)

The continuing calibration verification (CCV) associated with batch 160-255479 recovered outside acceptance criteria, low biased, for Iodomethane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported. (CCVIS 160-255479/5)

The following compounds did not meet the minimum relative response factor limits in the continuing calibration verification (CCV) associated with batch 160-255479: 2-Butanone, 2-Hexanone, and Acetone. A low level CCV was analyzed at the base reporting limit of 1ug/L and the affected analytes were detected. Affected target analytes recovering above the reporting limit in the associated samples will be qualified and reported. (CCVIS 160-255479/5)

The following analyte recovered outside control limits for the MS associated with 160-255479: Iodomethane. Qualified results have been reported. Additionally, the LCSD, LCSD, and MSD all had acceptable recoveries for these analytes, thus fulfilling method QC requirements. All samples were non-detect for this analyte. (160-17662-F-1 MS)

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 160-255479 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected, because the associated laboratory control sample (LCS) recovery was within acceptance limits.

The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for analytical batch 160-255479 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits. (LCS 160-255479/6) and (LCSD 160-255479/7)

The continuing calibration verification (CCV) associated with batch 160-255734 recovered outside acceptance criteria, low biased, for Iodomethane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported. (CCVIS 160-255734/5)

The following compounds did not meet the minimum relative response factor limits in the continuing calibration verification (CCV) associated with batch 160-255734: 2-Butanone, 2-Hexanone, and Acetone. A low level CCV was analyzed at the base reporting limit of 1ug/L and the affected analytes were detected. Affected target analytes recovering above the reporting limit in the associated samples will be qualified and reported. (CCVIS 160-255734/5)

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with analytical batch 160-255734. Laboratory control sample (LCS) and duplicate (LCSD) were analyzed in order to demonstrate accuracy and replicate-precision. (LCS 160-255734/6) and (LCSD 160-255734/7)

The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 160-255734 recovered outside control limits for the following analytes: 2-Hexane, Acetone, Chloroethane, 4-Methyl-2-pentanone, and 2-Butanone. (LCS 160-255734/6) and (LCSD 160-255734/7)

The following sample in batch 160-255734 was analyzed at reduced volume due to high concentrations of target analytes: PZ-104-SD (160-17662-1). The reporting limits have been elevated by the appropriate factor.

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

TOTAL METALS (ICP)

Job ID: 160-17662-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

Samples PZ-104-SD (160-17662-1), PZ-104-SS (160-17662-2), PZ-105-SS (160-17662-3) and PZ-111-SD (160-17662-4) were analyzed for total metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 06/07/2016 and analyzed on 06/28/2016.

The continuing calibration verification (CCV) associated with batch 160-258532 recovered above the upper control limit for Phosphorus. The samples associated with this CCV were below the reporting limit for the affected analytes; therefore, the data have been reported. The following samples are impacted: (CCV 160-258532/103), (CCV 160-258532/116) and (CCV 160-258532/90).

preparation batch 160-255214 and analytical batch 160-258532
The following samples in preparation batch 160-255214 and analytical batch 160-258532 were diluted due to the nature of the sample matrix: PZ-104-SD (160-17662-1), PZ-104-SS (160-17662-2), PZ-105-SS (160-17662-3), PZ-111-SD (160-17662-4), (160-17662-A-1-B MS ^), (160-17662-A-1-C MSD) and (160-17662-A-1-A SD ^). Samples had high concentrations of salts which could cause internal standard and instrument QC failure. Elevated reporting limits (RLs) are provided.

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 160-255214 and analytical batch 160-258532 were outside control limits for Phosphorus. Sample matrix interference are suspected, because the associated laboratory control sample (LCS) recovery was within acceptance limits. (160-17662-A-1-B MS ^) and (160-17662-A-1-C MSD)

Due to the high concentration of Calcium and Sodium, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 160-255214 and analytical batch 160-258532 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria. (160-17662-A-1-B MS ^) and (160-17662-A-1-C MSD)

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

TOTAL MERCURY
Samples PZ-104-SD (160-17662-1), PZ-104-SS (160-17662-2), PZ-105-SS (160-17662-3) and PZ-111-SD (160-17662-4) were analyzed for total mercury in accordance with EPA SW-846 Methods 7470A. The samples were prepared and analyzed on 06/13/2016.

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

TOTAL DISSOLVED SOLIDS
Samples PZ-104-SD (160-17662-1), PZ-104-SS (160-17662-2), PZ-105-SS (160-17662-3) and PZ-111-SD (160-17662-4) were analyzed for total dissolved solids in accordance with EPA Method 160.1. The samples were analyzed on 06/10/2016.

The following samples in TDS batch 160-255905 were diluted to bring the concentration of target analytes within the calibration range: PZ-104-SD (160-17662-1), (160-17695-D-1) and (160-17695-D-1 DU). Elevated reporting limits (RLs) are provided.

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

ANIONS, ION CHROMATOGRAPHY
Samples PZ-104-SD (160-17662-1), PZ-104-SS (160-17662-2), PZ-105-SS (160-17662-3) and PZ-111-SD (160-17662-4) were analyzed for Anions, Ion Chromatography in accordance with EPA Method 300.0. The samples were analyzed on 06/10/2016.

The following samples in Anion batch 160-255873 were diluted to bring the concentrations of target analytes within the calibration range: PZ-104-SD (160-17662-1), PZ-105-SS (160-17662-3) and PZ-111-SD (160-17662-4). Elevated reporting limits (RLs) are provided.

The following samples in Anion batch 160-255873 were analyzed at dilution to start (2x) due to high sample conductivities which made undiluted analysis inadvisable: PZ-104-SD (160-17662-1). As a result, sample 17662-1 is non-detect (ND) for Sulfate at the initial dilution.

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

AMMONIA
Samples PZ-104-SD (160-17662-1), PZ-104-SS (160-17662-2), PZ-105-SS (160-17662-3) and PZ-111-SD (160-17662-4) were analyzed for ammonia in accordance with EPA Method 350.1. The samples were analyzed on 06/13/2016 and 06/14/2016.

Job ID: 160-17662-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

The following matrix spike (MS) recoveries for NH3 analytical batch 160-256321 were outside control limits: (160-17592-E-1 MS). Sample matrix interference is suspected, because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Due to the high concentration of NH3 in the following sample, the matrix spike (MS) for analytical batch 160-256509 could not be evaluated for accuracy: (160-17630-C-1 MS ^10). The associated laboratory control sample (LCS) met acceptance criteria.

The following samples in NH3 analytical batch 160-256509 were diluted to bring the concentration of the target analyte within the calibration range: PZ-104-SD (160-17662-1). Elevated reporting limits (RLs) are provided.

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

NITROGEN, NITRATE-NITRITE
Samples PZ-104-SD (160-17662-1), PZ-104-SS (160-17662-2), PZ-105-SS (160-17662-3) and PZ-111-SD (160-17662-4) were analyzed for Nitrogen, Nitrate-Nitrite in accordance with Method 353.1 Preserved. The samples were analyzed on 06/28/2016.

The following matrix spike (MS) recoveries for NO3-NO2 analytical batch 160-258378 were outside control limits: (160-17592-E-1 MS). Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

CHEMICAL OXYGEN DEMAND
Samples PZ-104-SD (160-17662-1), PZ-104-SS (160-17662-2), PZ-105-SS (160-17662-3) and PZ-111-SD (160-17662-4) were analyzed for chemical oxygen demand in accordance with EPA Method 410.4. The samples were prepared and analyzed on 06/13/2016.

The following samples in COD batch 160-256170 were diluted to bring the concentration of target analytes within the calibration range: PZ-104-SD (160-17662-1). Elevated reporting limits (RLs) are provided.

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

TOTAL ORGANIC CARBON
Samples PZ-104-SD (160-17662-1), PZ-104-SS (160-17662-2), PZ-105-SS (160-17662-3) and PZ-111-SD (160-17662-4) were analyzed for total organic carbon in accordance with EPA Method 415.1. The samples were analyzed on 06/10/2016 and 06/13/2016.

The following samples in TOC batch 160-256304 were diluted to bring the concentrations of the target analyte within the calibration range: PZ-104-SD (160-17662-1). Elevated reporting limits (RLs) are provided.

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

RADIUM-226 (GFPC)-DISSOLVED
Samples PZ-104-SD (160-17662-1) and PZ-104-SS (160-17662-2) were analyzed for Radium-226 (GFPC) in accordance with EPA Method 903.0. The samples were prepared on 06/07/2016 and analyzed on 06/29/2016.

Batch: 160-255236:
Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: PZ-104-SD (160-17662-1) and PZ-104-SS (160-17662-2). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead.

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

RADIUM-226 (GFPC)
Samples PZ-104-SD (160-17662-1) and PZ-104-SS (160-17662-2) were analyzed for Radium-226 (GFPC) in accordance with EPA Method 903.0. The samples were prepared on 06/07/2016 and analyzed on 06/29/2016.

Batch: 160-255240:
Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: PZ-104-SD (160-17662-1) and PZ-104-SS (160-17662-2). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead.

Job ID: 160-17662-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

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

RADIUM-228 (GFPC)-DISSOLVED
Samples PZ-104-SD (160-17662-1) and PZ-104-SS (160-17662-2) were analyzed for Radium-228 (GFPC)-Dissolved in accordance with EPA 904. The samples were prepared on 06/07/2016 and analyzed on 06/14/2016.

Batch: 160-255239:
Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: PZ-104-SD (160-17662-1) and PZ-104-SS (160-17662-2). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead.

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

RADIUM-228 (GFPC)
Samples PZ-104-SD (160-17662-1) and PZ-104-SS (160-17662-2) were analyzed for Radium-228 (GFPC) in accordance with EPA 904. The samples were prepared on 06/07/2016 and analyzed on 06/22/2016.

Batch: 160-255242:
Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: PZ-104-SD (160-17662-1) and PZ-104-SS (160-17662-2). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead.

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

TRITIUM, TOTAL (LSC)
Samples PZ-104-SD (160-17662-1), PZ-104-SS (160-17662-2), PZ-105-SS (160-17662-3) and PZ-111-SD (160-17662-4) were analyzed for Tritium, Total (LSC) in accordance with USEPA 906.0. The samples were prepared and analyzed on 06/23/2016.

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

ISOTOPIC THORIUM (ALPHA SPECTROMETRY)
Samples PZ-104-SD (160-17662-1) and PZ-104-SS (160-17662-2) were analyzed for Isotopic Thorium (Alpha Spectrometry) in accordance with DOE. The samples were prepared on 06/15/2016 and analyzed on 06/22/2016.

Prep Batch 160-256563: Samples are yellow/brown and appear to be soapy. A reduced aliquot was used to prevent matrix interference. PZ-104-SD (160-17662-1)

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

ISOTOPIC URANIUM (ALPHA SPECTROMETRY)
Samples PZ-104-SD (160-17662-1) and PZ-104-SS (160-17662-2) were analyzed for Isotopic Uranium (Alpha Spectrometry) in accordance with DOE. The samples were prepared on 06/15/2016 and analyzed on 06/21/2016.

Prep Batch 160-256581: Samples are yellow/brown and appear to be soapy. A reduced aliquot was used to prevent matrix interference. PZ-104-SD (160-17662-1)

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

TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Phone (314) 298-8566 Fax (314) 298-8757

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: LYNN MILBERG	Lab PM: Lambert-Sykes, Chenise Y	Carrier Tracking No(s):	COC No: 160-4182-2039.1
Client Contact: Brenna McDonald	Phone: 573-453-4329	E-Mail: chenise.lambert-sykes@testamericainc.com		Page: Page 1 of 1
Company: Missouri Attorney General's Office				Job #:
Address: PO BOX 899	Due Date Requested: Standard			
City: Jefferson City	TAT Requested (days): Standard			
State, Zip: MO, 65102				
Phone: 573-368-2163(Tel)	PO #: Purchase Order Requested			
Email: brenna.mcdonald@dnr.mo.gov	WO #:			
Project Name: Groundwater - 2nd Quarter 2016	Project #: 16005341			
Site: Bridgeton LF	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	906.0 - Tritium	350.1, 353.1_Pres, 410.4	903.0, 904.0, A01R_Th, A01R_U	903.0, 904.0	160.1_Calcd, 300_ORGFM_28D	6010C, 7470A	415.1 - Total Organic Carbon	8260C - (MOD) OLM 4.2	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	S	D	D	N	D	S	A		
PZ-104-SD	6/3/16	0928	G	Water	N		✓	✓	✓	✓	✓	✓	✓	✓	14	strong odor
PZ-104-SS	6/3/16	1135	G	Water	N		✓	✓	✓	✓	✓	✓	✓	✓	14	odor
PZ-105-SS	6/3/16	1426	G	Water	N		✓	✓			✓	✓	✓	✓	8	
PZ-111-SD	6/3/16	1526	G	Water	N		✓	✓			✓	✓	✓	✓	8	
				Water												

160-17662 Chain of Custody

Possible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* ☐ *Poison B* ☐ *Unknown* ☐ *Radiological*

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: Lynn Milberg	Date/Time: 6/3/2016 1555	Company: MO DNR	Received by: [signature]	Date/Time: 060316 1555	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		

Login Sample Receipt Checklist

Client: Missouri Attorney General's Office

Job Number: 160-17662-1

Login Number: 17662
List Number: 1
Creator: McKinney, Gerrod E

List Source: TestAmerica St. Louis

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
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").	False	Refer to Job Narrative for details.
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Qualifiers

GC/MS VOA

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

HPLC/IC

Qualifier	Qualifier Description
E	Result exceeded calibration range.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.
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.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
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.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

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

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEQ	Toxicity Equivalent Quotient (Dioxin)

Method Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17662-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL SL
300.0	Anions, Ion Chromatography	MCAWW	TAL SL
6010C	Metals (ICP)	SW846	TAL SL
7470A	Mercury (CVAA)	SW846	TAL SL
160.1	Solids, Total Dissolved (TDS)	MCAWW	TAL SL
350.1	Nitrogen, Ammonia	MCAWW	TAL SL
353.1 Preserved	Nitrogen, Nitrate-Nitrite	MCAWW	TAL SL
410.4	COD	MCAWW	TAL SL
415.1	TOC	MCAWW	TAL SL
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
906.0	Tritium, Total (LSC)	EPA	TAL SL
A-01-R	Isotopic Thorium (Alpha Spectrometry)	DOE	TAL SL
A-01-R	Isotopic Uranium (Alpha Spectrometry)	DOE	TAL SL

Protocol References:

DOE = U.S. Department of Energy
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17662-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
160-17662-1	PZ-104-SD	Water	06/03/16 09:28	06/03/16 15:55
160-17662-2	PZ-104-SS	Water	06/03/16 11:35	06/03/16 15:55
160-17662-3	PZ-105-SS	Water	06/03/16 14:26	06/03/16 15:55
160-17662-4	PZ-111-SD	Water	06/03/16 15:26	06/03/16 15:55

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17662-1

Client Sample ID: PZ-104-SD

Date Collected: 06/03/16 09:28
Date Received: 06/03/16 15:55

Lab Sample ID: 160-17662-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/08/16 14:31	1
Acrylonitrile	ND		50	1.7	ug/L			06/08/16 14:31	1
Benzene	**470**		25	1.3	ug/L			06/09/16 12:12	5
Bromochloromethane	ND		5.0	0.55	ug/L			06/08/16 14:31	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/08/16 14:31	1
Bromoform	ND		5.0	0.37	ug/L			06/08/16 14:31	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/08/16 14:31	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/08/16 14:31	1
Chlorobenzene	**3.3**	**J**	5.0	0.38	ug/L			06/08/16 14:31	1
Chloroethane	ND		10	0.38	ug/L			06/08/16 14:31	1
Chloroform	ND		5.0	0.15	ug/L			06/08/16 14:31	1
Chloroprene	ND		5.0	0.39	ug/L			06/08/16 14:31	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/08/16 14:31	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/08/16 14:31	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/08/16 14:31	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/08/16 14:31	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/08/16 14:31	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/08/16 14:31	1
1,4-Dichlorobenzene	**4.0**	**J**	5.0	0.35	ug/L			06/08/16 14:31	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/08/16 14:31	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/08/16 14:31	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/08/16 14:31	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/08/16 14:31	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/08/16 14:31	1
Ethylbenzene	**3.6**	**J**	5.0	0.30	ug/L			06/08/16 14:31	1
2-Hexanone	ND		20	0.59	ug/L			06/08/16 14:31	1
Methyl bromide	ND		10	0.40	ug/L			06/08/16 14:31	1
Methyl chloride	ND		10	0.55	ug/L			06/08/16 14:31	1
Methylene bromide	ND		5.0	0.41	ug/L			06/08/16 14:31	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/08/16 14:31	1
Methyl Ethyl Ketone	ND		20	0.39	ug/L			06/08/16 14:31	1
Methyl iodide	ND	F1 F2	5.0	1.5	ug/L			06/08/16 14:31	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/08/16 14:31	1
Styrene	ND		5.0	0.35	ug/L			06/08/16 14:31	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/08/16 14:31	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/08/16 14:31	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/08/16 14:31	1
Toluene	**7.9**	**B**	5.0	1.0	ug/L			06/08/16 14:31	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/08/16 14:31	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/08/16 14:31	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/08/16 14:31	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/08/16 14:31	1
1,1,2-Trichloroethane	ND	F1	5.0	0.57	ug/L			06/08/16 14:31	1
Trichloroethene	ND		5.0	0.29	ug/L			06/08/16 14:31	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/08/16 14:31	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/08/16 14:31	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/08/16 14:31	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/08/16 14:31	1
Xylenes, Total	**23**		10	0.85	ug/L			06/08/16 14:31	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17662-1

Client Sample ID: PZ-104-SD

Date Collected: 06/03/16 09:28
Date Received: 06/03/16 15:55

Lab Sample ID: 160-17662-1

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*71 - 139*		*06/08/16 14:31*	*1*
4-Bromofluorobenzene (Surr)	*117*		*71 - 139*		*06/09/16 12:12*	*5*
Dibromofluoromethane (Surr)	*95*		*80 - 121*		*06/08/16 14:31*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 121*		*06/09/16 12:12*	*5*
1,2-Dichloroethane-d4 (Surr)	*98*		*76 - 121*		*06/08/16 14:31*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*76 - 121*		*06/09/16 12:12*	*5*
Toluene-d8 (Surr)	*105*		*80 - 129*		*06/08/16 14:31*	*1*
Toluene-d8 (Surr)	*109*		*80 - 129*		*06/09/16 12:12*	*5*

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.82**		0.20	0.020	mg/L			06/10/16 00:50	2
Sulfate	**0.83**	**J**	1.0	0.10	mg/L			06/10/16 00:50	2

Method: 300.0 - Anions, Ion Chromatography - DL2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**340**		200	20	mg/L			06/10/16 01:17	1000

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		50	15	ug/L		06/07/16 11:58	06/28/16 17:31	5
Arsenic	**25**	**J**	50	20	ug/L		06/07/16 11:58	06/28/16 17:31	5
Barium	**790**		250	75	ug/L		06/07/16 11:58	06/28/16 17:31	5
Beryllium	ND		25	7.5	ug/L		06/07/16 11:58	06/28/16 17:31	5
Boron	**1200**		500	130	ug/L		06/07/16 11:58	06/28/16 17:31	5
Cadmium	ND		25	7.5	ug/L		06/07/16 11:58	06/28/16 17:31	5
CaHard	**300000**		12000	3700	ug/L		06/07/16 11:58	06/28/16 17:31	5
Calcium	**120000**		5000	1500	ug/L		06/07/16 11:58	06/28/16 17:31	5
Chromium	**50**		50	15	ug/L		06/07/16 11:58	06/28/16 17:31	5
Cobalt	ND		250	75	ug/L		06/07/16 11:58	06/28/16 17:31	5
Copper	ND		130	25	ug/L		06/07/16 11:58	06/28/16 17:31	5
Iron	**14000**		500	150	ug/L		06/07/16 11:58	06/28/16 17:31	5
Lead	ND		50	15	ug/L		06/07/16 11:58	06/28/16 17:31	5
Magnesium	**72**		5.0	1.5	mg/L		06/07/16 11:58	06/28/16 17:31	5
Manganese	**150**		75	13	ug/L		06/07/16 11:58	06/28/16 17:31	5
MgHard	**300000**		21000	6200	ug/L		06/07/16 11:58	06/28/16 17:31	5
Nickel	**0.11**	**J**	0.20	0.050	mg/L		06/07/16 11:58	06/28/16 17:31	5
Phosphorus	ND	F1 ^	1300	380	ug/L		06/07/16 11:58	06/28/16 17:31	5
Selenium	ND		75	25	ug/L		06/07/16 11:58	06/28/16 17:31	5
Silver	ND		50	15	ug/L		06/07/16 11:58	06/28/16 17:31	5
Sodium	**210000**		5000	1500	ug/L		06/07/16 11:58	06/28/16 17:31	5
Thallium	ND		100	25	ug/L		06/07/16 11:58	06/28/16 17:31	5
Total Hardness	**590000**		33000	9900	ug/L		06/07/16 11:58	06/28/16 17:31	5
Vanadium	ND		250	75	ug/L		06/07/16 11:58	06/28/16 17:31	5
Zinc	**38**	**J**	100	30	ug/L		06/07/16 11:58	06/28/16 17:31	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		06/13/16 08:39	06/13/16 18:10	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17662-1

Client Sample ID: PZ-104-SD

Date Collected: 06/03/16 09:28
Date Received: 06/03/16 15:55

Lab Sample ID: 160-17662-1

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate/Nitrite	0.10		0.050	0.011	mg/L			06/28/16 14:18	1

General Chemistry - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	1300		10	7.0	mg/L			06/10/16 09:10	2
Ammonia	61		2.5	1.1	mg/L			06/14/16 22:23	50
Chemical Oxygen Demand	340		25	5.6	mg/L		06/13/16 11:06	06/13/16 15:02	5
Total Organic Carbon	110		10	7.2	mg/L			06/13/16 21:39	10

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	3.06		0.237	0.364	1.00	0.0717	pCi/L	06/07/16 13:34	06/29/16 07:13	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.5*		*40 - 110*	*06/07/16 13:34*	*06/29/16 07:13*	*1*

Method: 903.0 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	2.86		0.237	0.350	1.00	0.0944	pCi/L	06/07/16 13:14	06/29/16 06:48	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*68.7*		*40 - 110*	*06/07/16 13:14*	*06/29/16 06:48*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.30		0.336	0.357	1.00	0.427	pCi/L	06/07/16 13:43	06/22/16 13:17	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.5*		*40 - 110*	*06/07/16 13:43*	*06/22/16 13:17*	*1*
Y Carrier	*88.6*		*40 - 110*	*06/07/16 13:43*	*06/22/16 13:17*	*1*

Method: 904.0 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.17		0.407	0.421	1.00	0.556	pCi/L	06/07/16 13:33	06/14/16 18:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*68.7*		*40 - 110*	*06/07/16 13:33*	*06/14/16 18:00*	*1*
Y Carrier	*86.4*		*40 - 110*	*06/07/16 13:33*	*06/14/16 18:00*	*1*

Method: 906.0 - Tritium, Total (LSC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	2500		322	390	500	266	pCi/L	06/23/16 13:42	06/23/16 22:15	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17662-1

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Thorium-230	**1.12**		0.515	0.524	1.00	0.367	pCi/L	06/15/16 15:38	06/22/16 12:57	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Thorium-229	*83.1*		*30 - 110*	*06/15/16 15:38*	*06/22/16 12:57*	*1*

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Uranium-233/234	0.259	U	0.325	0.325	1.00	0.510	pCi/L	06/15/16 15:38	06/21/16 13:34	1
Uranium-235/236	0.136	U	0.253	0.254	1.00	0.475	pCi/L	06/15/16 15:38	06/21/16 13:34	1
Uranium-238	0.0689	U	0.138	0.138	1.00	0.207	pCi/L	06/15/16 15:38	06/21/16 13:34	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*63.8*		*30 - 110*	*06/15/16 15:38*	*06/21/16 13:34*	*1*

Client Sample ID: PZ-104-SS

Lab Sample ID: 160-17662-2

Date Collected: 06/03/16 11:35

Matrix: Water

Date Received: 06/03/16 15:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/08/16 16:10	1
Acrylonitrile	ND		50	1.7	ug/L			06/08/16 16:10	1
Benzene	**35**		5.0	0.25	ug/L			06/08/16 16:10	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/08/16 16:10	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/08/16 16:10	1
Bromoform	ND		5.0	0.37	ug/L			06/08/16 16:10	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/08/16 16:10	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/08/16 16:10	1
Chlorobenzene	**1.5**	**J**	5.0	0.38	ug/L			06/08/16 16:10	1
Chloroethane	ND		10	0.38	ug/L			06/08/16 16:10	1
Chloroform	ND		5.0	0.15	ug/L			06/08/16 16:10	1
Chloroprene	ND		5.0	0.39	ug/L			06/08/16 16:10	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/08/16 16:10	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/08/16 16:10	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/08/16 16:10	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/08/16 16:10	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/08/16 16:10	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/08/16 16:10	1
1,4-Dichlorobenzene	**5.0**		5.0	0.35	ug/L			06/08/16 16:10	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/08/16 16:10	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/08/16 16:10	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/08/16 16:10	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/08/16 16:10	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/08/16 16:10	1
Ethylbenzene	**2.9**	**J**	5.0	0.30	ug/L			06/08/16 16:10	1
2-Hexanone	ND		20	0.59	ug/L			06/08/16 16:10	1
Methyl bromide	**1.5**	**J**	10	0.40	ug/L			06/08/16 16:10	1
Methyl chloride	ND		10	0.55	ug/L			06/08/16 16:10	1
Methylene bromide	ND		5.0	0.41	ug/L			06/08/16 16:10	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/08/16 16:10	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17662-1

Client Sample ID: PZ-104-SS

Date Collected: 06/03/16 11:35
Date Received: 06/03/16 15:55

Lab Sample ID: 160-17662-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl Ethyl Ketone	**3.3**	**J**	20	0.39	ug/L			06/08/16 16:10	1
Methyl iodide	ND		5.0	1.5	ug/L			06/08/16 16:10	1
4-Methyl-2-pentanone (MIBK)	**4.9**	**J**	20	0.33	ug/L			06/08/16 16:10	1
Styrene	ND		5.0	0.35	ug/L			06/08/16 16:10	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/08/16 16:10	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/08/16 16:10	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/08/16 16:10	1
Toluene	**6.4**	**B**	5.0	1.0	ug/L			06/08/16 16:10	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/08/16 16:10	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/08/16 16:10	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/08/16 16:10	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/08/16 16:10	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/08/16 16:10	1
Trichloroethene	ND		5.0	0.29	ug/L			06/08/16 16:10	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/08/16 16:10	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/08/16 16:10	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/08/16 16:10	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/08/16 16:10	1
Xylenes, Total	**11**		10	0.85	ug/L			06/08/16 16:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*71 - 139*		*06/08/16 16:10*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 121*		*06/08/16 16:10*	*1*
1,2-Dichloroethane-d4 (Surr)	*96*		*76 - 121*		*06/08/16 16:10*	*1*
Toluene-d8 (Surr)	*106*		*80 - 129*		*06/08/16 16:10*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.66**		0.10	0.010	mg/L			06/10/16 01:31	1
Sulfate	**12**		0.50	0.050	mg/L			06/10/16 01:31	1
Chloride	**4.2**		0.20	0.020	mg/L			06/10/16 01:31	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		50	15	ug/L		06/07/16 11:58	06/28/16 18:02	5
Arsenic	ND		50	20	ug/L		06/07/16 11:58	06/28/16 18:02	5
Barium	**95**	**J**	250	75	ug/L		06/07/16 11:58	06/28/16 18:02	5
Beryllium	ND		25	7.5	ug/L		06/07/16 11:58	06/28/16 18:02	5
Boron	ND		500	130	ug/L		06/07/16 11:58	06/28/16 18:02	5
Cadmium	ND		25	7.5	ug/L		06/07/16 11:58	06/28/16 18:02	5
CaHard	**210000**		12000	3700	ug/L		06/07/16 11:58	06/28/16 18:02	5
Calcium	**85000**		5000	1500	ug/L		06/07/16 11:58	06/28/16 18:02	5
Chromium	ND		50	15	ug/L		06/07/16 11:58	06/28/16 18:02	5
Cobalt	ND		250	75	ug/L		06/07/16 11:58	06/28/16 18:02	5
Copper	ND		130	25	ug/L		06/07/16 11:58	06/28/16 18:02	5
Iron	**930**		500	150	ug/L		06/07/16 11:58	06/28/16 18:02	5
Lead	ND		50	15	ug/L		06/07/16 11:58	06/28/16 18:02	5
Magnesium	**48**		5.0	1.5	mg/L		06/07/16 11:58	06/28/16 18:02	5
Manganese	**25**	**J**	75	13	ug/L		06/07/16 11:58	06/28/16 18:02	5
MgHard	**200000**		21000	6200	ug/L		06/07/16 11:58	06/28/16 18:02	5

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17662-1

Client Sample ID: PZ-104-SS

Date Collected: 06/03/16 11:35
Date Received: 06/03/16 15:55

Lab Sample ID: 160-17662-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nickel	ND		0.20	0.050	mg/L		06/07/16 11:58	06/28/16 18:02	5
Phosphorus	ND	^	1300	380	ug/L		06/07/16 11:58	06/28/16 18:02	5
Selenium	ND		75	25	ug/L		06/07/16 11:58	06/28/16 18:02	5
Silver	ND		50	15	ug/L		06/07/16 11:58	06/28/16 18:02	5
Sodium	**15000**		5000	1500	ug/L		06/07/16 11:58	06/28/16 18:02	5
Thallium	ND		100	25	ug/L		06/07/16 11:58	06/28/16 18:02	5
Total Hardness	**410000**		33000	9900	ug/L		06/07/16 11:58	06/28/16 18:02	5
Vanadium	ND		250	75	ug/L		06/07/16 11:58	06/28/16 18:02	5
Zinc	**38**	**J**	100	30	ug/L		06/07/16 11:58	06/28/16 18:02	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		06/13/16 08:39	06/13/16 18:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	**450**		5.0	3.5	mg/L			06/10/16 09:10	1
Ammonia	**0.098**		0.050	0.022	mg/L			06/13/16 20:08	1
Nitrate/Nitrite	ND		0.050	0.011	mg/L			06/28/16 14:18	1
Chemical Oxygen Demand	**25**		5.0	1.1	mg/L		06/13/16 11:06	06/13/16 15:02	1
Total Organic Carbon	**4.9**		1.0	0.72	mg/L			06/10/16 16:42	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**1.55**		0.168	0.218	1.00	0.0610	pCi/L	06/07/16 13:34	06/29/16 07:13	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.7*		*40 - 110*	*06/07/16 13:34*	*06/29/16 07:13*	*1*

Method: 903.0 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**1.24**		0.148	0.186	1.00	0.0855	pCi/L	06/07/16 13:14	06/29/16 06:48	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.5*		*40 - 110*	*06/07/16 13:14*	*06/29/16 06:48*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.722**		0.293	0.301	1.00	0.415	pCi/L	06/07/16 13:43	06/22/16 13:17	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.7*		*40 - 110*	*06/07/16 13:43*	*06/22/16 13:17*	*1*
Y Carrier	*86.4*		*40 - 110*	*06/07/16 13:43*	*06/22/16 13:17*	*1*

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17662-1

Client Sample ID: PZ-104-SS

Lab Sample ID: 160-17662-2
Date Collected: 06/03/16 11:35
Matrix: Water
Date Received: 06/03/16 15:55

Method: 904.0 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.653		0.324	0.330	1.00	0.481	pCi/L	06/07/16 13:33	06/14/16 18:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.5*		*40 - 110*	*06/07/16 13:33*	*06/14/16 18:00*	*1*
Y Carrier	*83.7*		*40 - 110*	*06/07/16 13:33*	*06/14/16 18:00*	*1*

Method: 906.0 - Tritium, Total (LSC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	39.2	U	150	150	500	266	pCi/L	06/23/16 13:42	06/23/16 22:37	1

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Thorium-230	0.174	U	0.150	0.151	1.00	0.208	pCi/L	06/15/16 15:38	06/22/16 12:57	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Thorium-229	*40.1*		*30 - 110*	*06/15/16 15:38*	*06/22/16 12:57*	*1*

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Uranium-233/234	1.22		0.268	0.287	1.00	0.0808	pCi/L	06/15/16 15:38	06/21/16 13:34	1
Uranium-235/236	0.0106	U	0.0394	0.0394	1.00	0.101	pCi/L	06/15/16 15:38	06/21/16 13:34	1
Uranium-238	0.627		0.191	0.198	1.00	0.0438	pCi/L	06/15/16 15:38	06/21/16 13:34	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*63.4*		*30 - 110*	*06/15/16 15:38*	*06/21/16 13:34*	*1*

Client Sample ID: PZ-105-SS

Lab Sample ID: 160-17662-3
Date Collected: 06/03/16 14:26
Matrix: Water
Date Received: 06/03/16 15:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/05/16 23:36	1
Acrylonitrile	ND		50	1.7	ug/L			06/05/16 23:36	1
Benzene	0.52	J	5.0	0.25	ug/L			06/05/16 23:36	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/05/16 23:36	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/05/16 23:36	1
Bromoform	ND		5.0	0.37	ug/L			06/05/16 23:36	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/05/16 23:36	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/05/16 23:36	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/05/16 23:36	1
Chloroethane	ND		10	0.38	ug/L			06/05/16 23:36	1
Chloroform	ND		5.0	0.15	ug/L			06/05/16 23:36	1

Client Sample ID: PZ-105-SS

Date Collected: 06/03/16 14:26
Date Received: 06/03/16 15:55

Lab Sample ID: 160-17662-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroprene	ND		5.0	0.39	ug/L			06/05/16 23:36	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/05/16 23:36	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/05/16 23:36	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/05/16 23:36	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/05/16 23:36	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/05/16 23:36	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/05/16 23:36	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/05/16 23:36	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/05/16 23:36	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/05/16 23:36	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/05/16 23:36	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/05/16 23:36	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/05/16 23:36	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/05/16 23:36	1
2-Hexanone	ND		20	0.59	ug/L			06/05/16 23:36	1
Methyl bromide	ND		10	0.40	ug/L			06/05/16 23:36	1
Methyl chloride	ND		10	0.55	ug/L			06/05/16 23:36	1
Methylene bromide	ND		5.0	0.41	ug/L			06/05/16 23:36	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/05/16 23:36	1
Methyl Ethyl Ketone	**13**	**J**	20	0.39	ug/L			06/05/16 23:36	1
Methyl iodide	ND		5.0	1.5	ug/L			06/05/16 23:36	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/05/16 23:36	1
Styrene	ND		5.0	0.35	ug/L			06/05/16 23:36	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/05/16 23:36	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/05/16 23:36	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/05/16 23:36	1
Toluene	**1.1**	**J B**	5.0	1.0	ug/L			06/05/16 23:36	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/05/16 23:36	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/05/16 23:36	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/05/16 23:36	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/05/16 23:36	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/05/16 23:36	1
Trichloroethene	ND		5.0	0.29	ug/L			06/05/16 23:36	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/05/16 23:36	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/05/16 23:36	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/05/16 23:36	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/05/16 23:36	1
Xylenes, Total	ND		10	0.85	ug/L			06/05/16 23:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*119*		*71 - 139*		*06/05/16 23:36*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 121*		*06/05/16 23:36*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*76 - 121*		*06/05/16 23:36*	*1*
Toluene-d8 (Surr)	*112*		*80 - 129*		*06/05/16 23:36*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.45**		0.10	0.010	mg/L			06/10/16 02:13	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17662-1

Client Sample ID: PZ-105-SS

Date Collected: 06/03/16 14:26
Date Received: 06/03/16 15:55

Lab Sample ID: 160-17662-3

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**49**		10	1.0	mg/L			06/10/16 02:27	20
Chloride	**67**		4.0	0.40	mg/L			06/10/16 02:27	20

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		50	15	ug/L		06/07/16 11:58	06/28/16 18:06	5
Arsenic	ND		50	20	ug/L		06/07/16 11:58	06/28/16 18:06	5
Barium	**180**	**J**	250	75	ug/L		06/07/16 11:58	06/28/16 18:06	5
Beryllium	ND		25	7.5	ug/L		06/07/16 11:58	06/28/16 18:06	5
Boron	ND		500	130	ug/L		06/07/16 11:58	06/28/16 18:06	5
Cadmium	ND		25	7.5	ug/L		06/07/16 11:58	06/28/16 18:06	5
CaHard	**300000**		12000	3700	ug/L		06/07/16 11:58	06/28/16 18:06	5
Calcium	**120000**		5000	1500	ug/L		06/07/16 11:58	06/28/16 18:06	5
Chromium	ND		50	15	ug/L		06/07/16 11:58	06/28/16 18:06	5
Cobalt	ND		250	75	ug/L		06/07/16 11:58	06/28/16 18:06	5
Copper	ND		130	25	ug/L		06/07/16 11:58	06/28/16 18:06	5
Iron	**7600**		500	150	ug/L		06/07/16 11:58	06/28/16 18:06	5
Lead	ND		50	15	ug/L		06/07/16 11:58	06/28/16 18:06	5
Magnesium	**56**		5.0	1.5	mg/L		06/07/16 11:58	06/28/16 18:06	5
Manganese	**130**		75	13	ug/L		06/07/16 11:58	06/28/16 18:06	5
MgHard	**230000**		21000	6200	ug/L		06/07/16 11:58	06/28/16 18:06	5
Nickel	ND		0.20	0.050	mg/L		06/07/16 11:58	06/28/16 18:06	5
Phosphorus	ND	^	1300	380	ug/L		06/07/16 11:58	06/28/16 18:06	5
Selenium	ND		75	25	ug/L		06/07/16 11:58	06/28/16 18:06	5
Silver	ND		50	15	ug/L		06/07/16 11:58	06/28/16 18:06	5
Sodium	**41000**		5000	1500	ug/L		06/07/16 11:58	06/28/16 18:06	5
Thallium	ND		100	25	ug/L		06/07/16 11:58	06/28/16 18:06	5
Total Hardness	**530000**		33000	9900	ug/L		06/07/16 11:58	06/28/16 18:06	5
Vanadium	ND		250	75	ug/L		06/07/16 11:58	06/28/16 18:06	5
Zinc	**48**	**J**	100	30	ug/L		06/07/16 11:58	06/28/16 18:06	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		06/13/16 08:39	06/13/16 18:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	**670**		5.0	3.5	mg/L			06/10/16 09:10	1
Ammonia	**0.076**		0.050	0.022	mg/L			06/13/16 20:10	1
Nitrate/Nitrite	**0.041**	**J**	0.050	0.011	mg/L			06/28/16 14:22	1
Chemical Oxygen Demand	**11**		5.0	1.1	mg/L		06/13/16 11:06	06/13/16 15:02	1
Total Organic Carbon	**3.3**		1.0	0.72	mg/L			06/10/16 16:53	1

Method: 906.0 - Tritium, Total (LSC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	164	U	161	162	500	260	pCi/L	06/23/16 13:42	06/23/16 23:00	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17662-1

Client Sample ID: PZ-111-SD

Date Collected: 06/03/16 15:26
Date Received: 06/03/16 15:55

Lab Sample ID: 160-17662-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/06/16 00:01	1
Acrylonitrile	ND		50	1.7	ug/L			06/06/16 00:01	1
Benzene	ND		5.0	0.25	ug/L			06/06/16 00:01	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/06/16 00:01	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/06/16 00:01	1
Bromoform	ND		5.0	0.37	ug/L			06/06/16 00:01	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/06/16 00:01	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/06/16 00:01	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/06/16 00:01	1
Chloroethane	ND		10	0.38	ug/L			06/06/16 00:01	1
Chloroform	ND		5.0	0.15	ug/L			06/06/16 00:01	1
Chloroprene	ND		5.0	0.39	ug/L			06/06/16 00:01	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/06/16 00:01	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/06/16 00:01	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/06/16 00:01	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/06/16 00:01	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/06/16 00:01	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/06/16 00:01	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/06/16 00:01	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/06/16 00:01	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/06/16 00:01	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/06/16 00:01	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/06/16 00:01	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/06/16 00:01	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/06/16 00:01	1
2-Hexanone	ND		20	0.59	ug/L			06/06/16 00:01	1
Methyl bromide	ND		10	0.40	ug/L			06/06/16 00:01	1
Methyl chloride	ND		10	0.55	ug/L			06/06/16 00:01	1
Methylene bromide	ND		5.0	0.41	ug/L			06/06/16 00:01	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/06/16 00:01	1
Methyl Ethyl Ketone	**15**	**J**	20	0.39	ug/L			06/06/16 00:01	1
Methyl iodide	ND		5.0	1.5	ug/L			06/06/16 00:01	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/06/16 00:01	1
Styrene	ND		5.0	0.35	ug/L			06/06/16 00:01	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/06/16 00:01	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/06/16 00:01	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/06/16 00:01	1
Toluene	**2.6**	**J B**	5.0	1.0	ug/L			06/06/16 00:01	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/06/16 00:01	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/06/16 00:01	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/06/16 00:01	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/06/16 00:01	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/06/16 00:01	1
Trichloroethene	ND		5.0	0.29	ug/L			06/06/16 00:01	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/06/16 00:01	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/06/16 00:01	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/06/16 00:01	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/06/16 00:01	1
Xylenes, Total	ND		10	0.85	ug/L			06/06/16 00:01	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17662-1

Client Sample ID: PZ-111-SD

Date Collected: 06/03/16 15:26
Date Received: 06/03/16 15:55

Lab Sample ID: 160-17662-4

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*71 - 139*		*06/06/16 00:01*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 121*		*06/06/16 00:01*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*76 - 121*		*06/06/16 00:01*	*1*
Toluene-d8 (Surr)	*108*		*80 - 129*		*06/06/16 00:01*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**1.8**		0.10	0.010	mg/L			06/10/16 03:23	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**44**		10	1.0	mg/L			06/10/16 03:37	20
Chloride	**11**		4.0	0.40	mg/L			06/10/16 03:37	20

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		50	15	ug/L		06/07/16 11:58	06/28/16 18:11	5
Arsenic	ND		50	20	ug/L		06/07/16 11:58	06/28/16 18:11	5
Barium	**94**	**J**	250	75	ug/L		06/07/16 11:58	06/28/16 18:11	5
Beryllium	ND		25	7.5	ug/L		06/07/16 11:58	06/28/16 18:11	5
Boron	ND		500	130	ug/L		06/07/16 11:58	06/28/16 18:11	5
Cadmium	ND		25	7.5	ug/L		06/07/16 11:58	06/28/16 18:11	5
CaHard	**240000**		12000	3700	ug/L		06/07/16 11:58	06/28/16 18:11	5
Calcium	**96000**		5000	1500	ug/L		06/07/16 11:58	06/28/16 18:11	5
Chromium	**15**	**J**	50	15	ug/L		06/07/16 11:58	06/28/16 18:11	5
Cobalt	ND		250	75	ug/L		06/07/16 11:58	06/28/16 18:11	5
Copper	ND		130	25	ug/L		06/07/16 11:58	06/28/16 18:11	5
Iron	**730**		500	150	ug/L		06/07/16 11:58	06/28/16 18:11	5
Lead	ND		50	15	ug/L		06/07/16 11:58	06/28/16 18:11	5
Magnesium	**49**		5.0	1.5	mg/L		06/07/16 11:58	06/28/16 18:11	5
Manganese	ND		75	13	ug/L		06/07/16 11:58	06/28/16 18:11	5
MgHard	**200000**		21000	6200	ug/L		06/07/16 11:58	06/28/16 18:11	5
Nickel	ND		0.20	0.050	mg/L		06/07/16 11:58	06/28/16 18:11	5
Phosphorus	ND	^	1300	380	ug/L		06/07/16 11:58	06/28/16 18:11	5
Selenium	ND		75	25	ug/L		06/07/16 11:58	06/28/16 18:11	5
Silver	ND		50	15	ug/L		06/07/16 11:58	06/28/16 18:11	5
Sodium	**18000**		5000	1500	ug/L		06/07/16 11:58	06/28/16 18:11	5
Thallium	ND		100	25	ug/L		06/07/16 11:58	06/28/16 18:11	5
Total Hardness	**440000**		33000	9900	ug/L		06/07/16 11:58	06/28/16 18:11	5
Vanadium	ND		250	75	ug/L		06/07/16 11:58	06/28/16 18:11	5
Zinc	ND		100	30	ug/L		06/07/16 11:58	06/28/16 18:11	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		06/13/16 08:39	06/13/16 18:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	**500**		5.0	3.5	mg/L			06/10/16 09:10	1
Ammonia	**0.12**		0.050	0.022	mg/L			06/13/16 20:13	1
Nitrate/Nitrite	ND		0.050	0.011	mg/L			06/28/16 14:23	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17662-1

Client Sample ID: PZ-111-SD

Date Collected: 06/03/16 15:26
Date Received: 06/03/16 15:55

Lab Sample ID: 160-17662-4

Matrix: Water

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		5.0	1.1	mg/L		06/13/16 11:06	06/13/16 15:02	1
Total Organic Carbon	**1.3**		1.0	0.72	mg/L			06/10/16 17:05	1

Method: 906.0 - Tritium, Total (LSC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	14.9	U	147	147	500	265	pCi/L	06/23/16 13:42	06/23/16 23:23	1

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

Lab Sample ID: MB 160-254807/9
Matrix: Water
Analysis Batch: 254807

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/05/16 14:55	1
Acrylonitrile	ND		50	1.7	ug/L			06/05/16 14:55	1
Benzene	ND		5.0	0.25	ug/L			06/05/16 14:55	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/05/16 14:55	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/05/16 14:55	1
Bromoform	ND		5.0	0.37	ug/L			06/05/16 14:55	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/05/16 14:55	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/05/16 14:55	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/05/16 14:55	1
Chloroethane	ND		10	0.38	ug/L			06/05/16 14:55	1
Chloroform	ND		5.0	0.15	ug/L			06/05/16 14:55	1
Chloroprene	ND		5.0	0.39	ug/L			06/05/16 14:55	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/05/16 14:55	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/05/16 14:55	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/05/16 14:55	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/05/16 14:55	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/05/16 14:55	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/05/16 14:55	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/05/16 14:55	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/05/16 14:55	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/05/16 14:55	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/05/16 14:55	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/05/16 14:55	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/05/16 14:55	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/05/16 14:55	1
2-Hexanone	ND		20	0.59	ug/L			06/05/16 14:55	1
Methyl bromide	ND		10	0.40	ug/L			06/05/16 14:55	1
Methyl chloride	ND		10	0.55	ug/L			06/05/16 14:55	1
Methylene bromide	ND		5.0	0.41	ug/L			06/05/16 14:55	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/05/16 14:55	1
Methyl Ethyl Ketone	ND		20	0.39	ug/L			06/05/16 14:55	1
Methyl iodide	ND		5.0	1.5	ug/L			06/05/16 14:55	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/05/16 14:55	1
Styrene	ND		5.0	0.35	ug/L			06/05/16 14:55	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/05/16 14:55	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/05/16 14:55	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/05/16 14:55	1
Toluene	3.32	J	5.0	1.0	ug/L			06/05/16 14:55	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/05/16 14:55	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/05/16 14:55	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/05/16 14:55	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/05/16 14:55	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/05/16 14:55	1
Trichloroethene	ND		5.0	0.29	ug/L			06/05/16 14:55	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/05/16 14:55	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/05/16 14:55	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/05/16 14:55	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/05/16 14:55	1

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

Lab Sample ID: MB 160-254807/9
Matrix: Water
Analysis Batch: 254807

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		10	0.85	ug/L			06/05/16 14:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*71 - 139*		*06/05/16 14:55*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 121*		*06/05/16 14:55*	*1*
1,2-Dichloroethane-d4 (Surr)	*95*		*76 - 121*		*06/05/16 14:55*	*1*
Toluene-d8 (Surr)	*107*		*80 - 129*		*06/05/16 14:55*	*1*

Lab Sample ID: LCS 160-254807/6
Matrix: Water
Analysis Batch: 254807

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	50.0	45.5		ug/L		91	63 - 131
Acrylonitrile	500	468		ug/L		94	81 - 117
Benzene	50.0	50.4		ug/L		101	80 - 120
Bromochloromethane	50.0	48.4		ug/L		97	80 - 120
Bromodichloromethane	50.0	47.2		ug/L		94	80 - 120
Bromoform	50.0	46.3		ug/L		93	80 - 120
Carbon disulfide	50.0	50.6		ug/L		101	79 - 126
Carbon tetrachloride	50.0	49.5		ug/L		99	73 - 123
Chlorobenzene	50.0	48.5		ug/L		97	80 - 120
Chloroethane	50.0	53.1		ug/L		106	52 - 140
Chloroform	50.0	47.9		ug/L		96	80 - 120
Chloroprene	50.0	52.7		ug/L		105	80 - 120
cis-1,2-Dichloroethene	50.0	51.6		ug/L		103	80 - 120
cis-1,3-Dichloropropene	50.0	50.3		ug/L		101	80 - 122
Dibromochloromethane	50.0	48.2		ug/L		96	80 - 120
1,2-Dibromo-3-Chloropropane	50.0	47.0		ug/L		94	77 - 125
1,2-Dibromoethane (EDB)	50.0	47.3		ug/L		95	80 - 120
1,3-Dichlorobenzene	50.0	50.4		ug/L		101	80 - 120
1,4-Dichlorobenzene	50.0	48.2		ug/L		96	80 - 120
Dichlorodifluoromethane	50.0	61.8		ug/L		124	62 - 140
1,1-Dichloroethane	50.0	48.9		ug/L		98	80 - 120
1,2-Dichloroethane	50.0	46.5		ug/L		93	69 - 124
1,1-Dichloroethene	50.0	49.9		ug/L		100	77 - 126
1,2-Dichloropropane	50.0	49.5		ug/L		99	80 - 120
Ethylbenzene	50.0	49.9		ug/L		100	80 - 120
2-Hexanone	50.0	46.5		ug/L		93	64 - 136
Methyl bromide	50.0	48.4		ug/L		97	57 - 139
Methyl chloride	50.0	52.8		ug/L		106	70 - 127
Methylene bromide	50.0	47.1		ug/L		94	78 - 120
Methylene Chloride	50.0	48.7		ug/L		97	80 - 120
Methyl Ethyl Ketone	50.0	45.6		ug/L		91	70 - 130
Methyl iodide	50.0	44.0		ug/L		88	73 - 125
4-Methyl-2-pentanone (MIBK)	50.0	47.3		ug/L		95	76 - 129
Styrene	50.0	52.2		ug/L		104	80 - 120
1,1,1,2-Tetrachloroethane	50.0	47.9		ug/L		96	80 - 120

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

Lab Sample ID: LCS 160-254807/6
Matrix: Water
Analysis Batch: 254807

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2,2-Tetrachloroethane	50.0	44.3		ug/L		89	80 - 120
Tetrachloroethene	50.0	51.6		ug/L		103	80 - 120
Toluene	50.0	47.8		ug/L		96	80 - 120
trans-1,4-Dichloro-2-butene	50.0	47.2		ug/L		94	75 - 127
trans-1,2-Dichloroethene	50.0	50.9		ug/L		102	80 - 120
trans-1,3-Dichloropropene	50.0	50.6		ug/L		101	80 - 130
1,1,1-Trichloroethane	50.0	50.0		ug/L		100	76 - 120
1,1,2-Trichloroethane	50.0	46.7		ug/L		93	80 - 120
Trichloroethene	50.0	51.1		ug/L		102	73 - 120
Trichlorofluoromethane	50.0	51.3		ug/L		103	74 - 130
1,2,3-Trichloropropane	50.0	45.7		ug/L		91	80 - 120
Vinyl acetate	50.0	47.3		ug/L		95	37 - 140
Vinyl chloride	50.0	53.9		ug/L		108	51 - 140
Xylenes, Total	100	103		ug/L		103	80 - 121

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*71 - 139*
Dibromofluoromethane (Surr)	*94*		*80 - 121*
1,2-Dichloroethane-d4 (Surr)	*92*		*76 - 121*
Toluene-d8 (Surr)	*101*		*80 - 129*

Lab Sample ID: LCSD 160-254807/7
Matrix: Water
Analysis Batch: 254807

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
Acetone	50.0	49.8		ug/L		100	63 - 131	9	20
Acrylonitrile	500	487		ug/L		97	81 - 117	4	20
Benzene	50.0	50.7		ug/L		101	80 - 120	1	20
Bromochloromethane	50.0	50.5		ug/L		101	80 - 120	4	20
Bromodichloromethane	50.0	47.9		ug/L		96	80 - 120	1	20
Bromoform	50.0	48.7		ug/L		97	80 - 120	5	20
Carbon disulfide	50.0	50.5		ug/L		101	79 - 126	0	20
Carbon tetrachloride	50.0	50.4		ug/L		101	73 - 123	2	20
Chlorobenzene	50.0	47.6		ug/L		95	80 - 120	2	20
Chloroethane	50.0	52.4		ug/L		105	52 - 140	1	20
Chloroform	50.0	48.9		ug/L		98	80 - 120	2	20
Chloroprene	50.0	54.0		ug/L		108	80 - 120	2	20
cis-1,2-Dichloroethene	50.0	52.4		ug/L		105	80 - 120	1	20
cis-1,3-Dichloropropene	50.0	51.2		ug/L		102	80 - 122	2	20
Dibromochloromethane	50.0	49.2		ug/L		98	80 - 120	2	20
1,2-Dibromo-3-Chloropropane	50.0	49.1		ug/L		98	77 - 125	4	20
1,2-Dibromoethane (EDB)	50.0	48.2		ug/L		96	80 - 120	2	20
1,3-Dichlorobenzene	50.0	50.3		ug/L		101	80 - 120	0	20
1,4-Dichlorobenzene	50.0	48.9		ug/L		98	80 - 120	2	20
Dichlorodifluoromethane	50.0	60.9		ug/L		122	62 - 140	1	20
1,1-Dichloroethane	50.0	49.0		ug/L		98	80 - 120	0	20
1,2-Dichloroethane	50.0	48.3		ug/L		97	69 - 124	4	20

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

Lab Sample ID: LCSD 160-254807/7
Matrix: Water
Analysis Batch: 254807

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
1,1-Dichloroethene	50.0	49.2		ug/L		98	77 - 126	1	20
1,2-Dichloropropane	50.0	50.2		ug/L		100	80 - 120	1	20
Ethylbenzene	50.0	48.4		ug/L		97	80 - 120	3	20
2-Hexanone	50.0	47.6		ug/L		95	64 - 136	2	20
Methyl bromide	50.0	47.4		ug/L		95	57 - 139	2	20
Methyl chloride	50.0	51.7		ug/L		103	70 - 127	2	20
Methylene bromide	50.0	48.0		ug/L		96	78 - 120	2	20
Methylene Chloride	50.0	49.9		ug/L		100	80 - 120	2	20
Methyl Ethyl Ketone	50.0	48.2		ug/L		96	70 - 130	5	20
Methyl iodide	50.0	48.4		ug/L		97	73 - 125	10	20
4-Methyl-2-pentanone (MIBK)	50.0	50.0		ug/L		100	76 - 129	6	20
Styrene	50.0	52.4		ug/L		105	80 - 120	0	20
1,1,1,2-Tetrachloroethane	50.0	47.5		ug/L		95	80 - 120	1	20
1,1,2,2-Tetrachloroethane	50.0	46.5		ug/L		93	80 - 120	5	20
Tetrachloroethene	50.0	50.4		ug/L		101	80 - 120	2	20
Toluene	50.0	47.3		ug/L		95	80 - 120	1	20
trans-1,4-Dichloro-2-butene	50.0	49.3		ug/L		99	75 - 127	4	20
trans-1,2-Dichloroethene	50.0	51.4		ug/L		103	80 - 120	1	20
trans-1,3-Dichloropropene	50.0	51.6		ug/L		103	80 - 130	2	20
1,1,1-Trichloroethane	50.0	50.3		ug/L		101	76 - 120	1	20
1,1,2-Trichloroethane	50.0	46.3		ug/L		93	80 - 120	1	20
Trichloroethene	50.0	51.1		ug/L		102	73 - 120	0	20
Trichlorofluoromethane	50.0	50.2		ug/L		100	74 - 130	2	20
1,2,3-Trichloropropane	50.0	46.9		ug/L		94	80 - 120	3	20
Vinyl acetate	50.0	48.0		ug/L		96	37 - 140	1	20
Vinyl chloride	50.0	53.8		ug/L		108	51 - 140	0	20
Xylenes, Total	100	103		ug/L		103	80 - 121	0	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*71 - 139*
Dibromofluoromethane (Surr)	*97*		*80 - 121*
1,2-Dichloroethane-d4 (Surr)	*95*		*76 - 121*
Toluene-d8 (Surr)	*100*		*80 - 129*

Lab Sample ID: 160-17630-F-1 MS
Matrix: Water
Analysis Batch: 254807

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND		50.0	48.0		ug/L		96	52 - 138
Acrylonitrile	ND		500	484		ug/L		97	58 - 142
Benzene	5.7		50.0	56.4		ug/L		102	80 - 120
Bromochloromethane	ND		50.0	49.9		ug/L		100	72 - 125
Bromodichloromethane	ND		50.0	49.2		ug/L		98	71 - 128
Bromoform	ND		50.0	47.2		ug/L		94	65 - 133
Carbon disulfide	ND		50.0	50.9		ug/L		102	69 - 139
Carbon tetrachloride	ND		50.0	49.7		ug/L		99	70 - 126
Chlorobenzene	ND		50.0	48.2		ug/L		96	80 - 120

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

Lab Sample ID: 160-17630-F-1 MS
Matrix: Water
Analysis Batch: 254807

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloroethane	ND		50.0	51.1		ug/L		102	59 - 144
Chloroform	ND		50.0	49.2		ug/L		98	80 - 120
Chloroprene	ND		50.0	53.4		ug/L		107	77 - 121
cis-1,2-Dichloroethene	ND		50.0	53.4		ug/L		107	80 - 124
cis-1,3-Dichloropropene	ND		50.0	51.3		ug/L		103	67 - 130
Dibromochloromethane	ND		50.0	47.7		ug/L		95	68 - 133
1,2-Dibromo-3-Chloropropane	ND		50.0	47.5		ug/L		95	58 - 148
1,2-Dibromoethane (EDB)	ND		50.0	47.8		ug/L		96	65 - 138
1,3-Dichlorobenzene	ND		50.0	50.9		ug/L		102	80 - 120
1,4-Dichlorobenzene	ND		50.0	49.0		ug/L		98	80 - 120
Dichlorodifluoromethane	ND		50.0	58.4		ug/L		117	65 - 140
1,1-Dichloroethane	ND		50.0	48.9		ug/L		98	80 - 120
1,2-Dichloroethane	ND		50.0	48.0		ug/L		96	56 - 136
1,1-Dichloroethene	ND		50.0	48.1		ug/L		96	66 - 137
1,2-Dichloropropane	ND		50.0	50.4		ug/L		101	80 - 123
Ethylbenzene	ND		50.0	49.5		ug/L		99	80 - 121
2-Hexanone	ND		50.0	44.8		ug/L		90	47 - 150
Methyl bromide	0.62	J	50.0	39.0		ug/L		77	53 - 146
Methyl chloride	ND		50.0	51.3		ug/L		103	61 - 137
Methylene bromide	ND		50.0	48.9		ug/L		98	61 - 136
Methylene Chloride	ND		50.0	50.6		ug/L		101	80 - 120
Methyl Ethyl Ketone	ND		50.0	45.8		ug/L		92	58 - 143
Methyl iodide	ND	F1 F2	50.0	31.8	F1	ug/L		64	69 - 124
4-Methyl-2-pentanone (MIBK)	ND		50.0	49.3		ug/L		99	53 - 150
Styrene	ND		50.0	51.7		ug/L		103	44 - 150
1,1,1,2-Tetrachloroethane	ND		50.0	47.1		ug/L		94	80 - 120
1,1,2,2-Tetrachloroethane	ND		50.0	46.5		ug/L		93	60 - 150
Tetrachloroethene	ND		50.0	50.8		ug/L		102	66 - 132
Toluene	2.9	J B	50.0	46.4		ug/L		87	75 - 134
trans-1,4-Dichloro-2-butene	ND		50.0	46.5		ug/L		93	55 - 146
trans-1,2-Dichloroethene	ND		50.0	52.3		ug/L		105	79 - 121
trans-1,3-Dichloropropene	ND		50.0	51.0		ug/L		102	68 - 143
1,1,1-Trichloroethane	ND		50.0	50.8		ug/L		102	74 - 123
1,1,2-Trichloroethane	ND		50.0	47.2		ug/L		94	70 - 134
Trichloroethene	ND		50.0	49.7		ug/L		99	63 - 120
Trichlorofluoromethane	ND		50.0	50.0		ug/L		100	53 - 150
1,2,3-Trichloropropane	ND		50.0	46.1		ug/L		92	62 - 137
Vinyl acetate	ND		50.0	58.8		ug/L		118	63 - 150
Vinyl chloride	ND		50.0	50.5		ug/L		101	54 - 140
Xylenes, Total	1.4	J	100	103		ug/L		102	80 - 124

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*71 - 139*
Dibromofluoromethane (Surr)	*100*		*80 - 121*
1,2-Dichloroethane-d4 (Surr)	*93*		*76 - 121*
Toluene-d8 (Surr)	*101*		*80 - 129*

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

Lab Sample ID: 160-17630-F-1 MSD
Matrix: Water
Analysis Batch: 254807

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	ND		50.0	50.8		ug/L		102	52 - 138	6	20
Acrylonitrile	ND		500	506		ug/L		101	58 - 142	4	20
Benzene	5.7		50.0	57.1		ug/L		103	80 - 120	1	20
Bromochloromethane	ND		50.0	51.4		ug/L		103	72 - 125	3	20
Bromodichloromethane	ND		50.0	49.4		ug/L		99	71 - 128	0	20
Bromoform	ND		50.0	49.5		ug/L		99	65 - 133	5	20
Carbon disulfide	ND		50.0	50.8		ug/L		102	69 - 139	0	20
Carbon tetrachloride	ND		50.0	50.6		ug/L		101	70 - 126	2	20
Chlorobenzene	ND		50.0	48.5		ug/L		97	80 - 120	1	20
Chloroethane	ND		50.0	43.6		ug/L		87	59 - 144	16	20
Chloroform	ND		50.0	49.2		ug/L		98	80 - 120	0	20
Chloroprene	ND		50.0	53.5		ug/L		107	77 - 121	0	20
cis-1,2-Dichloroethene	ND		50.0	53.4		ug/L		107	80 - 124	0	20
cis-1,3-Dichloropropene	ND		50.0	50.7		ug/L		101	67 - 130	1	20
Dibromochloromethane	ND		50.0	50.2		ug/L		100	68 - 133	5	20
1,2-Dibromo-3-Chloropropane	ND		50.0	51.0		ug/L		102	58 - 148	7	20
1,2-Dibromoethane (EDB)	ND		50.0	50.5		ug/L		101	65 - 138	6	20
1,3-Dichlorobenzene	ND		50.0	50.0		ug/L		100	80 - 120	2	20
1,4-Dichlorobenzene	ND		50.0	48.6		ug/L		97	80 - 120	1	20
Dichlorodifluoromethane	ND		50.0	60.3		ug/L		121	65 - 140	3	20
1,1-Dichloroethane	ND		50.0	49.4		ug/L		99	80 - 120	1	20
1,2-Dichloroethane	ND		50.0	48.7		ug/L		97	56 - 136	2	20
1,1-Dichloroethene	ND		50.0	48.3		ug/L		97	66 - 137	0	20
1,2-Dichloropropane	ND		50.0	51.3		ug/L		103	80 - 123	2	20
Ethylbenzene	ND		50.0	49.1		ug/L		98	80 - 121	1	20
2-Hexanone	ND		50.0	50.8		ug/L		102	47 - 150	13	20
Methyl bromide	0.62	J	50.0	38.3		ug/L		75	53 - 146	2	20
Methyl chloride	ND		50.0	49.2		ug/L		98	61 - 137	4	20
Methylene bromide	ND		50.0	49.5		ug/L		99	61 - 136	1	20
Methylene Chloride	ND		50.0	51.0		ug/L		102	80 - 120	1	20
Methyl Ethyl Ketone	ND		50.0	49.2		ug/L		98	58 - 143	7	20
Methyl iodide	ND	F1 F2	50.0	39.2	F2	ug/L		78	69 - 124	21	20
4-Methyl-2-pentanone (MIBK)	ND		50.0	53.4		ug/L		107	53 - 150	8	20
Styrene	ND		50.0	52.6		ug/L		105	44 - 150	2	20
1,1,1,2-Tetrachloroethane	ND		50.0	48.9		ug/L		98	80 - 120	4	20
1,1,2,2-Tetrachloroethane	ND		50.0	48.3		ug/L		97	60 - 150	4	20
Tetrachloroethene	ND		50.0	51.3		ug/L		103	66 - 132	1	20
Toluene	2.9	J B	50.0	47.3		ug/L		89	75 - 134	2	20
trans-1,4-Dichloro-2-butene	ND		50.0	48.2		ug/L		96	55 - 146	4	20
trans-1,2-Dichloroethene	ND		50.0	52.6		ug/L		105	79 - 121	1	20
trans-1,3-Dichloropropene	ND		50.0	52.8		ug/L		106	68 - 143	4	20
1,1,1-Trichloroethane	ND		50.0	50.8		ug/L		102	74 - 123	0	20
1,1,2-Trichloroethane	ND		50.0	49.2		ug/L		98	70 - 134	4	20
Trichloroethene	ND		50.0	49.6		ug/L		99	63 - 120	0	20
Trichlorofluoromethane	ND		50.0	50.1		ug/L		100	53 - 150	0	20
1,2,3-Trichloropropane	ND		50.0	47.6		ug/L		95	62 - 137	3	20
Vinyl acetate	ND		50.0	61.2		ug/L		122	63 - 150	4	20
Vinyl chloride	ND		50.0	52.9		ug/L		106	54 - 140	5	20

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

Lab Sample ID: 160-17630-F-1 MSD
Matrix: Water
Analysis Batch: 254807

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Xylenes, Total	1.4	J	100	105		ug/L		104	80 - 124	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*71 - 139*
Dibromofluoromethane (Surr)	*100*		*80 - 121*
1,2-Dichloroethane-d4 (Surr)	*96*		*76 - 121*
Toluene-d8 (Surr)	*102*		*80 - 129*

Lab Sample ID: MB 160-255479/9
Matrix: Water
Analysis Batch: 255479

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/08/16 12:44	1
Acrylonitrile	ND		50	1.7	ug/L			06/08/16 12:44	1
Benzene	ND		5.0	0.25	ug/L			06/08/16 12:44	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/08/16 12:44	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/08/16 12:44	1
Bromoform	ND		5.0	0.37	ug/L			06/08/16 12:44	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/08/16 12:44	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/08/16 12:44	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/08/16 12:44	1
Chloroethane	ND		10	0.38	ug/L			06/08/16 12:44	1
Chloroform	ND		5.0	0.15	ug/L			06/08/16 12:44	1
Chloroprene	ND		5.0	0.39	ug/L			06/08/16 12:44	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/08/16 12:44	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/08/16 12:44	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/08/16 12:44	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/08/16 12:44	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/08/16 12:44	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/08/16 12:44	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/08/16 12:44	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/08/16 12:44	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/08/16 12:44	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/08/16 12:44	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/08/16 12:44	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/08/16 12:44	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/08/16 12:44	1
2-Hexanone	ND		20	0.59	ug/L			06/08/16 12:44	1
Methyl bromide	ND		10	0.40	ug/L			06/08/16 12:44	1
Methyl chloride	ND		10	0.55	ug/L			06/08/16 12:44	1
Methylene bromide	ND		5.0	0.41	ug/L			06/08/16 12:44	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/08/16 12:44	1
Methyl Ethyl Ketone	ND		20	0.39	ug/L			06/08/16 12:44	1
Methyl iodide	ND		5.0	1.5	ug/L			06/08/16 12:44	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/08/16 12:44	1
Styrene	ND		5.0	0.35	ug/L			06/08/16 12:44	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/08/16 12:44	1

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

Lab Sample ID: MB 160-255479/9
Matrix: Water
Analysis Batch: 255479

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/08/16 12:44	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/08/16 12:44	1
Toluene	2.01	J	5.0	1.0	ug/L			06/08/16 12:44	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/08/16 12:44	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/08/16 12:44	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/08/16 12:44	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/08/16 12:44	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/08/16 12:44	1
Trichloroethene	ND		5.0	0.29	ug/L			06/08/16 12:44	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/08/16 12:44	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/08/16 12:44	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/08/16 12:44	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/08/16 12:44	1
Xylenes, Total	ND		10	0.85	ug/L			06/08/16 12:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*71 - 139*		*06/08/16 12:44*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 121*		*06/08/16 12:44*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*76 - 121*		*06/08/16 12:44*	*1*
Toluene-d8 (Surr)	*106*		*80 - 129*		*06/08/16 12:44*	*1*

Lab Sample ID: LCS 160-255479/6
Matrix: Water
Analysis Batch: 255479

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	50.0	47.9		ug/L		96	63 - 131
Acrylonitrile	500	495		ug/L		99	81 - 117
Benzene	50.0	51.6		ug/L		103	80 - 120
Bromochloromethane	50.0	49.2		ug/L		98	80 - 120
Bromodichloromethane	50.0	50.4		ug/L		101	80 - 120
Bromoform	50.0	47.5		ug/L		95	80 - 120
Carbon disulfide	50.0	51.0		ug/L		102	79 - 126
Carbon tetrachloride	50.0	51.6		ug/L		103	73 - 123
Chlorobenzene	50.0	48.4		ug/L		97	80 - 120
Chloroethane	50.0	45.4		ug/L		91	52 - 140
Chloroform	50.0	50.9		ug/L		102	80 - 120
Chloroprene	50.0	55.4		ug/L		111	80 - 120
cis-1,2-Dichloroethene	50.0	53.1		ug/L		106	80 - 120
cis-1,3-Dichloropropene	50.0	52.4		ug/L		105	80 - 122
Dibromochloromethane	50.0	48.9		ug/L		98	80 - 120
1,2-Dibromo-3-Chloropropane	50.0	47.2		ug/L		94	77 - 125
1,2-Dibromoethane (EDB)	50.0	50.0		ug/L		100	80 - 120
1,3-Dichlorobenzene	50.0	49.0		ug/L		98	80 - 120
1,4-Dichlorobenzene	50.0	48.8		ug/L		98	80 - 120
Dichlorodifluoromethane	50.0	63.0		ug/L		126	62 - 140
1,1-Dichloroethane	50.0	51.0		ug/L		102	80 - 120
1,2-Dichloroethane	50.0	50.8		ug/L		102	69 - 124

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

Lab Sample ID: LCS 160-255479/6
Matrix: Water
Analysis Batch: 255479

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	50.0	50.3		ug/L		101	77 - 126
1,2-Dichloropropane	50.0	51.3		ug/L		103	80 - 120
Ethylbenzene	50.0	50.4		ug/L		101	80 - 120
2-Hexanone	50.0	47.5		ug/L		95	64 - 136
Methyl bromide	50.0	48.6		ug/L		97	57 - 139
Methyl chloride	50.0	53.8		ug/L		108	70 - 127
Methylene bromide	50.0	49.7		ug/L		99	78 - 120
Methylene Chloride	50.0	50.1		ug/L		100	80 - 120
Methyl Ethyl Ketone	50.0	46.0		ug/L		92	70 - 130
Methyl iodide	50.0	43.0		ug/L		86	73 - 125
4-Methyl-2-pentanone (MIBK)	50.0	49.5		ug/L		99	76 - 129
Styrene	50.0	51.4		ug/L		103	80 - 120
1,1,1,2-Tetrachloroethane	50.0	48.4		ug/L		97	80 - 120
1,1,2,2-Tetrachloroethane	50.0	45.9		ug/L		92	80 - 120
Tetrachloroethene	50.0	49.3		ug/L		99	80 - 120
Toluene	50.0	46.4		ug/L		93	80 - 120
trans-1,4-Dichloro-2-butene	50.0	50.2		ug/L		100	75 - 127
trans-1,2-Dichloroethene	50.0	51.6		ug/L		103	80 - 120
trans-1,3-Dichloropropene	50.0	52.2		ug/L		104	80 - 130
1,1,1-Trichloroethane	50.0	53.1		ug/L		106	76 - 120
1,1,2-Trichloroethane	50.0	49.8		ug/L		100	80 - 120
Trichloroethene	50.0	52.4		ug/L		105	73 - 120
Trichlorofluoromethane	50.0	54.3		ug/L		109	74 - 130
1,2,3-Trichloropropane	50.0	48.3		ug/L		97	80 - 120
Vinyl acetate	50.0	43.1		ug/L		86	37 - 140
Vinyl chloride	50.0	55.3		ug/L		111	51 - 140
Xylenes, Total	100	102		ug/L		102	80 - 121

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*71 - 139*
Dibromofluoromethane (Surr)	*97*		*80 - 121*
1,2-Dichloroethane-d4 (Surr)	*99*		*76 - 121*
Toluene-d8 (Surr)	*102*		*80 - 129*

Lab Sample ID: LCSD 160-255479/7
Matrix: Water
Analysis Batch: 255479

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
Acetone	50.0	50.4		ug/L		101	63 - 131	5	20
Acrylonitrile	500	494		ug/L		99	81 - 117	0	20
Benzene	50.0	50.6		ug/L		101	80 - 120	2	20
Bromochloromethane	50.0	48.9		ug/L		98	80 - 120	1	20
Bromodichloromethane	50.0	49.0		ug/L		98	80 - 120	3	20
Bromoform	50.0	47.5		ug/L		95	80 - 120	0	20
Carbon disulfide	50.0	49.7		ug/L		99	79 - 126	3	20
Carbon tetrachloride	50.0	51.1		ug/L		102	73 - 123	1	20
Chlorobenzene	50.0	47.5		ug/L		95	80 - 120	2	20

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

Lab Sample ID: LCSD 160-255479/7
Matrix: Water
Analysis Batch: 255479

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
Chloroethane			50.0	53.5		ug/L		107	52 - 140	16	20
Chloroform			50.0	49.8		ug/L		100	80 - 120	2	20
Chloroprene			50.0	54.8		ug/L		110	80 - 120	1	20
cis-1,2-Dichloroethene			50.0	52.8		ug/L		106	80 - 120	1	20
cis-1,3-Dichloropropene			50.0	52.3		ug/L		105	80 - 122	0	20
Dibromochloromethane			50.0	49.2		ug/L		98	80 - 120	1	20
1,2-Dibromo-3-Chloropropane			50.0	47.1		ug/L		94	77 - 125	0	20
1,2-Dibromoethane (EDB)			50.0	50.2		ug/L		100	80 - 120	1	20
1,3-Dichlorobenzene			50.0	47.9		ug/L		96	80 - 120	2	20
1,4-Dichlorobenzene			50.0	47.7		ug/L		95	80 - 120	2	20
Dichlorodifluoromethane			50.0	61.2		ug/L		122	62 - 140	3	20
1,1-Dichloroethane			50.0	50.2		ug/L		100	80 - 120	1	20
1,2-Dichloroethane			50.0	50.2		ug/L		100	69 - 124	1	20
1,1-Dichloroethene			50.0	48.3		ug/L		97	77 - 126	4	20
1,2-Dichloropropane			50.0	50.4		ug/L		101	80 - 120	2	20
Ethylbenzene			50.0	49.4		ug/L		99	80 - 120	2	20
2-Hexanone			50.0	49.4		ug/L		99	64 - 136	4	20
Methyl bromide			50.0	46.1		ug/L		92	57 - 139	5	20
Methyl chloride			50.0	52.3		ug/L		105	70 - 127	3	20
Methylene bromide			50.0	49.2		ug/L		98	78 - 120	1	20
Methylene Chloride			50.0	49.3		ug/L		99	80 - 120	2	20
Methyl Ethyl Ketone			50.0	48.9		ug/L		98	70 - 130	6	20
Methyl iodide			50.0	41.9		ug/L		84	73 - 125	3	20
4-Methyl-2-pentanone (MIBK)			50.0	49.9		ug/L		100	76 - 129	1	20
Styrene			50.0	50.6		ug/L		101	80 - 120	2	20
1,1,1,2-Tetrachloroethane			50.0	48.3		ug/L		97	80 - 120	0	20
1,1,2,2-Tetrachloroethane			50.0	44.1		ug/L		88	80 - 120	4	20
Tetrachloroethene			50.0	49.7		ug/L		99	80 - 120	1	20
Toluene			50.0	45.6		ug/L		91	80 - 120	2	20
trans-1,4-Dichloro-2-butene			50.0	51.0		ug/L		102	75 - 127	2	20
trans-1,2-Dichloroethene			50.0	51.9		ug/L		104	80 - 120	1	20
trans-1,3-Dichloropropene			50.0	51.3		ug/L		103	80 - 130	2	20
1,1,1-Trichloroethane			50.0	51.9		ug/L		104	76 - 120	2	20
1,1,2-Trichloroethane			50.0	47.9		ug/L		96	80 - 120	4	20
Trichloroethene			50.0	51.5		ug/L		103	73 - 120	2	20
Trichlorofluoromethane			50.0	51.8		ug/L		104	74 - 130	5	20
1,2,3-Trichloropropane			50.0	47.5		ug/L		95	80 - 120	2	20
Vinyl acetate			50.0	37.6		ug/L		75	37 - 140	14	20
Vinyl chloride			50.0	53.8		ug/L		108	51 - 140	3	20
Xylenes, Total			100	101		ug/L		101	80 - 121	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*71 - 139*
Dibromofluoromethane (Surr)	*97*		*80 - 121*
1,2-Dichloroethane-d4 (Surr)	*98*		*76 - 121*
Toluene-d8 (Surr)	*100*		*80 - 129*

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

Lab Sample ID: 160-17662-1 MS
Matrix: Water
Analysis Batch: 255479

Client Sample ID: PZ-104-SD
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND		50.0	51.8		ug/L		104	52 - 138
Acrylonitrile	ND		500	479		ug/L		96	58 - 142
Bromochloromethane	ND		50.0	47.6		ug/L		95	72 - 125
Bromodichloromethane	ND		50.0	49.8		ug/L		100	71 - 128
Bromoform	ND		50.0	45.7		ug/L		91	65 - 133
Carbon disulfide	ND		50.0	49.1		ug/L		98	69 - 139
Carbon tetrachloride	ND		50.0	50.3		ug/L		101	70 - 126
Chlorobenzene	3.3	J	50.0	50.7		ug/L		95	80 - 120
Chloroethane	ND		50.0	43.8		ug/L		88	59 - 144
Chloroform	ND		50.0	49.9		ug/L		100	80 - 120
Chloroprene	ND		50.0	54.0		ug/L		108	77 - 121
cis-1,2-Dichloroethene	ND		50.0	51.4		ug/L		103	80 - 124
cis-1,3-Dichloropropene	ND		50.0	51.2		ug/L		102	67 - 130
Dibromochloromethane	ND		50.0	47.8		ug/L		96	68 - 133
1,2-Dibromo-3-Chloropropane	ND		50.0	47.3		ug/L		95	58 - 148
1,2-Dibromoethane (EDB)	ND		50.0	48.4		ug/L		97	65 - 138
1,3-Dichlorobenzene	ND		50.0	48.4		ug/L		97	80 - 120
1,4-Dichlorobenzene	4.0	J	50.0	51.7		ug/L		95	80 - 120
Dichlorodifluoromethane	ND		50.0	58.6		ug/L		117	65 - 140
1,1-Dichloroethane	ND		50.0	50.0		ug/L		100	80 - 120
1,2-Dichloroethane	ND		50.0	50.2		ug/L		100	56 - 136
1,1-Dichloroethene	ND		50.0	45.7		ug/L		91	66 - 137
1,2-Dichloropropane	ND		50.0	51.3		ug/L		103	80 - 123
Ethylbenzene	3.6	J	50.0	54.3		ug/L		101	80 - 121
2-Hexanone	ND		50.0	48.8		ug/L		98	47 - 150
Methyl bromide	ND		50.0	48.4		ug/L		97	53 - 146
Methyl chloride	ND		50.0	52.2		ug/L		104	61 - 137
Methylene bromide	ND		50.0	51.1		ug/L		102	61 - 136
Methylene Chloride	ND		50.0	47.4		ug/L		95	80 - 120
Methyl Ethyl Ketone	ND		50.0	46.0		ug/L		92	58 - 143
Methyl iodide	ND	F1 F2	50.0	33.9	F1	ug/L		68	69 - 124
4-Methyl-2-pentanone (MIBK)	ND		50.0	53.7		ug/L		107	53 - 150
Styrene	ND		50.0	50.9		ug/L		102	44 - 150
1,1,1,2-Tetrachloroethane	ND		50.0	47.2		ug/L		94	80 - 120
1,1,2,2-Tetrachloroethane	ND		50.0	47.7		ug/L		95	60 - 150
Tetrachloroethene	ND		50.0	49.1		ug/L		98	66 - 132
Toluene	7.9	B	50.0	51.3		ug/L		87	75 - 134
trans-1,4-Dichloro-2-butene	ND		50.0	48.7		ug/L		97	55 - 146
trans-1,2-Dichloroethene	ND		50.0	49.8		ug/L		100	79 - 121
trans-1,3-Dichloropropene	ND		50.0	50.8		ug/L		102	68 - 143
1,1,1-Trichloroethane	ND		50.0	51.2		ug/L		102	74 - 123
1,1,2-Trichloroethane	ND	F1	50.0	82.7	F1	ug/L		165	70 - 134
Trichloroethene	ND		50.0	49.7		ug/L		99	63 - 120
Trichlorofluoromethane	ND		50.0	51.4		ug/L		103	53 - 150
1,2,3-Trichloropropane	ND		50.0	45.1		ug/L		90	62 - 137
Vinyl acetate	ND		50.0	59.9		ug/L		120	63 - 150
Vinyl chloride	ND		50.0	52.9		ug/L		106	54 - 140
Xylenes, Total	23		100	125		ug/L		102	80 - 124

QC Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17662-1

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		71 - 139
Dibromofluoromethane (Surr)	95		80 - 121
1,2-Dichloroethane-d4 (Surr)	94		76 - 121
Toluene-d8 (Surr)	97		80 - 129

Lab Sample ID: 160-17662-1 MSD
Matrix: Water
Analysis Batch: 255479

Client Sample ID: PZ-104-SD
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	ND		50.0	56.9		ug/L		114	52 - 138	9	20
Acrylonitrile	ND		500	485		ug/L		97	58 - 142	1	20
Bromochloromethane	ND		50.0	49.9		ug/L		100	72 - 125	5	20
Bromodichloromethane	ND		50.0	50.1		ug/L		100	71 - 128	1	20
Bromoform	ND		50.0	49.1		ug/L		98	65 - 133	7	20
Carbon disulfide	ND		50.0	50.3		ug/L		101	69 - 139	2	20
Carbon tetrachloride	ND		50.0	51.8		ug/L		104	70 - 126	3	20
Chlorobenzene	3.3	J	50.0	50.9		ug/L		95	80 - 120	0	20
Chloroethane	ND		50.0	52.6		ug/L		105	59 - 144	18	20
Chloroform	ND		50.0	50.5		ug/L		101	80 - 120	1	20
Chloroprene	ND		50.0	54.9		ug/L		110	77 - 121	2	20
cis-1,2-Dichloroethene	ND		50.0	53.2		ug/L		106	80 - 124	3	20
cis-1,3-Dichloropropene	ND		50.0	52.0		ug/L		104	67 - 130	1	20
Dibromochloromethane	ND		50.0	48.7		ug/L		97	68 - 133	2	20
1,2-Dibromo-3-Chloropropane	ND		50.0	47.9		ug/L		96	58 - 148	1	20
1,2-Dibromoethane (EDB)	ND		50.0	48.0		ug/L		96	65 - 138	1	20
1,3-Dichlorobenzene	ND		50.0	51.1		ug/L		102	80 - 120	5	20
1,4-Dichlorobenzene	4.0	J	50.0	53.4		ug/L		99	80 - 120	3	20
Dichlorodifluoromethane	ND		50.0	61.6		ug/L		123	65 - 140	5	20
1,1-Dichloroethane	ND		50.0	50.2		ug/L		100	80 - 120	0	20
1,2-Dichloroethane	ND		50.0	51.0		ug/L		102	56 - 136	2	20
1,1-Dichloroethene	ND		50.0	48.4		ug/L		97	66 - 137	6	20
1,2-Dichloropropane	ND		50.0	51.4		ug/L		103	80 - 123	0	20
Ethylbenzene	3.6	J	50.0	53.2		ug/L		99	80 - 121	2	20
2-Hexanone	ND		50.0	50.3		ug/L		101	47 - 150	3	20
Methyl bromide	ND		50.0	42.8		ug/L		86	53 - 146	12	20
Methyl chloride	ND		50.0	52.5		ug/L		105	61 - 137	1	20
Methylene bromide	ND		50.0	50.3		ug/L		101	61 - 136	2	20
Methylene Chloride	ND		50.0	50.2		ug/L		100	80 - 120	6	20
Methyl Ethyl Ketone	ND		50.0	48.1		ug/L		96	58 - 143	4	20
Methyl iodide	ND	F1 F2	50.0	46.6	F2	ug/L		93	69 - 124	32	20
4-Methyl-2-pentanone (MIBK)	ND		50.0	54.9		ug/L		110	53 - 150	2	20
Styrene	ND		50.0	51.7		ug/L		103	44 - 150	2	20
1,1,1,2-Tetrachloroethane	ND		50.0	47.2		ug/L		94	80 - 120	0	20
1,1,2,2-Tetrachloroethane	ND		50.0	48.6		ug/L		97	60 - 150	2	20
Tetrachloroethene	ND		50.0	50.6		ug/L		101	66 - 132	3	20
Toluene	7.9	B	50.0	51.0		ug/L		86	75 - 134	1	20
trans-1,4-Dichloro-2-butene	ND		50.0	51.5		ug/L		103	55 - 146	6	20
trans-1,2-Dichloroethene	ND		50.0	52.0		ug/L		104	79 - 121	4	20
trans-1,3-Dichloropropene	ND		50.0	51.4		ug/L		103	68 - 143	1	20
1,1,1-Trichloroethane	ND		50.0	52.4		ug/L		105	74 - 123	2	20
1,1,2-Trichloroethane	ND	F1	50.0	84.0	F1	ug/L		168	70 - 134	2	20
Trichloroethene	ND		50.0	50.0		ug/L		100	63 - 120	0	20
Trichlorofluoromethane	ND		50.0	51.2		ug/L		102	53 - 150	0	20

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

Lab Sample ID: 160-17662-1 MSD
Matrix: Water
Analysis Batch: 255479

Client Sample ID: PZ-104-SD
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3-Trichloropropane	ND		50.0	47.8		ug/L		96	62 - 137	6	20
Vinyl acetate	ND		50.0	62.3		ug/L		125	63 - 150	4	20
Vinyl chloride	ND		50.0	54.2		ug/L		108	54 - 140	2	20
Xylenes, Total	23		100	126		ug/L		103	80 - 124	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*71 - 139*
Dibromofluoromethane (Surr)	*99*		*80 - 121*
1,2-Dichloroethane-d4 (Surr)	*96*		*76 - 121*
Toluene-d8 (Surr)	*98*		*80 - 129*

Lab Sample ID: MB 160-255734/9
Matrix: Water
Analysis Batch: 255734

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/09/16 11:47	1
Acrylonitrile	ND		50	1.7	ug/L			06/09/16 11:47	1
Benzene	ND		5.0	0.25	ug/L			06/09/16 11:47	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/09/16 11:47	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/09/16 11:47	1
Bromoform	ND		5.0	0.37	ug/L			06/09/16 11:47	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/09/16 11:47	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/09/16 11:47	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/09/16 11:47	1
Chloroethane	ND		10	0.38	ug/L			06/09/16 11:47	1
Chloroform	ND		5.0	0.15	ug/L			06/09/16 11:47	1
Chloroprene	ND		5.0	0.39	ug/L			06/09/16 11:47	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/09/16 11:47	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/09/16 11:47	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/09/16 11:47	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/09/16 11:47	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/09/16 11:47	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/09/16 11:47	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/09/16 11:47	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/09/16 11:47	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/09/16 11:47	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/09/16 11:47	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/09/16 11:47	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/09/16 11:47	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/09/16 11:47	1
2-Hexanone	ND		20	0.59	ug/L			06/09/16 11:47	1
Methyl bromide	ND		10	0.40	ug/L			06/09/16 11:47	1
Methyl chloride	ND		10	0.55	ug/L			06/09/16 11:47	1
Methylene bromide	ND		5.0	0.41	ug/L			06/09/16 11:47	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/09/16 11:47	1
Methyl Ethyl Ketone	ND		20	0.39	ug/L			06/09/16 11:47	1
Methyl iodide	ND		5.0	1.5	ug/L			06/09/16 11:47	1

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

Lab Sample ID: MB 160-255734/9
Matrix: Water
Analysis Batch: 255734

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/09/16 11:47	1
Styrene	ND		5.0	0.35	ug/L			06/09/16 11:47	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/09/16 11:47	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/09/16 11:47	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/09/16 11:47	1
Toluene	1.91	J	5.0	1.0	ug/L			06/09/16 11:47	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/09/16 11:47	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/09/16 11:47	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/09/16 11:47	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/09/16 11:47	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/09/16 11:47	1
Trichloroethene	ND		5.0	0.29	ug/L			06/09/16 11:47	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/09/16 11:47	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/09/16 11:47	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/09/16 11:47	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/09/16 11:47	1
Xylenes, Total	ND		10	0.85	ug/L			06/09/16 11:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*118*		*71 - 139*		*06/09/16 11:47*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 121*		*06/09/16 11:47*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*76 - 121*		*06/09/16 11:47*	*1*
Toluene-d8 (Surr)	*109*		*80 - 129*		*06/09/16 11:47*	*1*

Lab Sample ID: LCS 160-255734/6
Matrix: Water
Analysis Batch: 255734

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	50.0	46.9		ug/L		94	63 - 131
Acrylonitrile	500	479		ug/L		96	81 - 117
Benzene	50.0	51.8		ug/L		104	80 - 120
Bromochloromethane	50.0	47.5		ug/L		95	80 - 120
Bromodichloromethane	50.0	50.2		ug/L		100	80 - 120
Bromoform	50.0	43.0		ug/L		86	80 - 120
Carbon disulfide	50.0	54.3		ug/L		109	79 - 126
Carbon tetrachloride	50.0	51.0		ug/L		102	73 - 123
Chlorobenzene	50.0	47.9		ug/L		96	80 - 120
Chloroethane	50.0	58.9		ug/L		118	52 - 140
Chloroform	50.0	50.5		ug/L		101	80 - 120
Chloroprene	50.0	55.1		ug/L		110	80 - 120
cis-1,2-Dichloroethene	50.0	51.2		ug/L		102	80 - 120
cis-1,3-Dichloropropene	50.0	51.2		ug/L		102	80 - 122
Dibromochloromethane	50.0	45.6		ug/L		91	80 - 120
1,2-Dibromo-3-Chloropropane	50.0	43.1		ug/L		86	77 - 125
1,2-Dibromoethane (EDB)	50.0	46.5		ug/L		93	80 - 120
1,3-Dichlorobenzene	50.0	47.9		ug/L		96	80 - 120
1,4-Dichlorobenzene	50.0	48.2		ug/L		96	80 - 120

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

Lab Sample ID: LCS 160-255734/6
Matrix: Water
Analysis Batch: 255734

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	50.0	66.7		ug/L		133	62 - 140
1,1-Dichloroethane	50.0	51.7		ug/L		103	80 - 120
1,2-Dichloroethane	50.0	50.9		ug/L		102	69 - 124
1,1-Dichloroethene	50.0	57.0		ug/L		114	77 - 126
1,2-Dichloropropane	50.0	52.1		ug/L		104	80 - 120
Ethylbenzene	50.0	51.8		ug/L		104	80 - 120
2-Hexanone	50.0	43.9		ug/L		88	64 - 136
Methyl bromide	50.0	42.9		ug/L		86	57 - 139
Methyl chloride	50.0	55.2		ug/L		110	70 - 127
Methylene bromide	50.0	48.7		ug/L		97	78 - 120
Methylene Chloride	50.0	49.7		ug/L		99	80 - 120
Methyl Ethyl Ketone	50.0	44.7		ug/L		89	70 - 130
Methyl iodide	50.0	38.7		ug/L		77	73 - 125
4-Methyl-2-pentanone (MIBK)	50.0	45.8		ug/L		92	76 - 129
Styrene	50.0	51.2		ug/L		102	80 - 120
1,1,1,2-Tetrachloroethane	50.0	45.9		ug/L		92	80 - 120
1,1,2,2-Tetrachloroethane	50.0	43.1		ug/L		86	80 - 120
Tetrachloroethene	50.0	48.2		ug/L		96	80 - 120
Toluene	50.0	45.9		ug/L		92	80 - 120
trans-1,4-Dichloro-2-butene	50.0	47.5		ug/L		95	75 - 127
trans-1,2-Dichloroethene	50.0	50.5		ug/L		101	80 - 120
trans-1,3-Dichloropropene	50.0	51.8		ug/L		104	80 - 130
1,1,1-Trichloroethane	50.0	52.3		ug/L		105	76 - 120
1,1,2-Trichloroethane	50.0	46.3		ug/L		93	80 - 120
Trichloroethene	50.0	54.0		ug/L		108	73 - 120
Trichlorofluoromethane	50.0	56.9		ug/L		114	74 - 130
1,2,3-Trichloropropane	50.0	43.5		ug/L		87	80 - 120
Vinyl acetate	50.0	40.9		ug/L		82	37 - 140
Vinyl chloride	50.0	57.1		ug/L		114	51 - 140
Xylenes, Total	100	100		ug/L		100	80 - 121

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*71 - 139*
Dibromofluoromethane (Surr)	*96*		*80 - 121*
1,2-Dichloroethane-d4 (Surr)	*102*		*76 - 121*
Toluene-d8 (Surr)	*101*		*80 - 129*

Lab Sample ID: LCSD 160-255734/7
Matrix: Water
Analysis Batch: 255734

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
Acetone	50.0	59.4	*	ug/L		119	63 - 131	24	20
Acrylonitrile	500	562		ug/L		112	81 - 117	16	20
Benzene	50.0	50.8		ug/L		102	80 - 120	2	20
Bromochloromethane	50.0	48.7		ug/L		97	80 - 120	3	20
Bromodichloromethane	50.0	52.2		ug/L		104	80 - 120	4	20
Bromoform	50.0	49.9		ug/L		100	80 - 120	15	20

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

Lab Sample ID: LCSD 160-255734/7
Matrix: Water
Analysis Batch: 255734

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 disulfide	50.0	56.5		ug/L		113	79 - 126	4	20
Carbon tetrachloride	50.0	51.0		ug/L		102	73 - 123	0	20
Chlorobenzene	50.0	47.9		ug/L		96	80 - 120	0	20
Chloroethane	50.0	46.5	*	ug/L		93	52 - 140	24	20
Chloroform	50.0	50.2		ug/L		100	80 - 120	1	20
Chloroprene	50.0	55.0		ug/L		110	80 - 120	0	20
cis-1,2-Dichloroethene	50.0	52.0		ug/L		104	80 - 120	2	20
cis-1,3-Dichloropropene	50.0	54.2		ug/L		108	80 - 122	6	20
Dibromochloromethane	50.0	49.8		ug/L		100	80 - 120	9	20
1,2-Dibromo-3-Chloropropane	50.0	52.3		ug/L		105	77 - 125	19	20
1,2-Dibromoethane (EDB)	50.0	52.4		ug/L		105	80 - 120	12	20
1,3-Dichlorobenzene	50.0	48.5		ug/L		97	80 - 120	1	20
1,4-Dichlorobenzene	50.0	48.2		ug/L		96	80 - 120	0	20
Dichlorodifluoromethane	50.0	63.0		ug/L		126	62 - 140	6	20
1,1-Dichloroethane	50.0	50.3		ug/L		101	80 - 120	3	20
1,2-Dichloroethane	50.0	54.1		ug/L		108	69 - 124	6	20
1,1-Dichloroethene	50.0	55.7		ug/L		111	77 - 126	2	20
1,2-Dichloropropane	50.0	52.0		ug/L		104	80 - 120	0	20
Ethylbenzene	50.0	50.5		ug/L		101	80 - 120	2	20
2-Hexanone	50.0	57.0	*	ug/L		114	64 - 136	26	20
Methyl bromide	50.0	43.3		ug/L		87	57 - 139	1	20
Methyl chloride	50.0	53.4		ug/L		107	70 - 127	3	20
Methylene bromide	50.0	53.5		ug/L		107	78 - 120	9	20
Methylene Chloride	50.0	50.7		ug/L		101	80 - 120	2	20
Methyl Ethyl Ketone	50.0	55.9	*	ug/L		112	70 - 130	22	20
Methyl iodide	50.0	37.6		ug/L		75	73 - 125	3	20
4-Methyl-2-pentanone (MIBK)	50.0	58.7	*	ug/L		117	76 - 129	25	20
Styrene	50.0	51.4		ug/L		103	80 - 120	0	20
1,1,1,2-Tetrachloroethane	50.0	46.2		ug/L		92	80 - 120	1	20
1,1,2,2-Tetrachloroethane	50.0	49.0		ug/L		98	80 - 120	13	20
Tetrachloroethene	50.0	47.6		ug/L		95	80 - 120	1	20
Toluene	50.0	45.6		ug/L		91	80 - 120	1	20
trans-1,4-Dichloro-2-butene	50.0	56.3		ug/L		113	75 - 127	17	20
trans-1,2-Dichloroethene	50.0	50.7		ug/L		101	80 - 120	0	20
trans-1,3-Dichloropropene	50.0	55.2		ug/L		110	80 - 130	6	20
1,1,1-Trichloroethane	50.0	52.0		ug/L		104	76 - 120	1	20
1,1,2-Trichloroethane	50.0	50.8		ug/L		102	80 - 120	9	20
Trichloroethene	50.0	53.5		ug/L		107	73 - 120	1	20
Trichlorofluoromethane	50.0	54.8		ug/L		110	74 - 130	4	20
1,2,3-Trichloropropane	50.0	51.7		ug/L		103	80 - 120	17	20
Vinyl acetate	50.0	44.3		ug/L		89	37 - 140	8	20
Vinyl chloride	50.0	55.1		ug/L		110	51 - 140	4	20
Xylenes, Total	100	99.8		ug/L		100	80 - 121	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*71 - 139*
Dibromofluoromethane (Surr)	*97*		*80 - 121*
1,2-Dichloroethane-d4 (Surr)	*105*		*76 - 121*

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

Lab Sample ID: LCSD 160-255734/7
Matrix: Water
Analysis Batch: 255734

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

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*80 - 129*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 160-255873/11
Matrix: Water
Analysis Batch: 255873

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.10	0.010	mg/L			06/09/16 17:24	1
Sulfate	ND		0.50	0.050	mg/L			06/09/16 17:24	1
Chloride	ND		0.20	0.020	mg/L			06/09/16 17:24	1

Lab Sample ID: LCS 160-255873/12
Matrix: Water
Analysis Batch: 255873

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.00	1.01		mg/L		101	90 - 110
Sulfate	8.00	7.56		mg/L		94	90 - 110
Chloride	2.00	1.97		mg/L		99	90 - 110

Lab Sample ID: 160-17630-D-1 MS
Matrix: Water
Analysis Batch: 255873

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.5		2.00	3.61	E	mg/L		104	90 - 110

Lab Sample ID: 160-17630-D-1 DU
Matrix: Water
Analysis Batch: 255873

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Fluoride	1.5		1.52		mg/L		0.05	20

Method: 300.0 - Anions, Ion Chromatography - DL

Lab Sample ID: 160-17630-D-1 MS
Matrix: Water
Analysis Batch: 255873

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate - DL	58		80.0	132		mg/L		93	90 - 110
Chloride - DL	49		40.0	87.4		mg/L		95	90 - 110

Method: 300.0 - Anions, Ion Chromatography - DL (Continued)

Lab Sample ID: 160-17630-D-1 DU
Matrix: Water
Analysis Batch: 255873

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate - DL	58		57.6		mg/L		0	20
Chloride - DL	49		49.0		mg/L		0.4	20

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 160-255214/1-A
Matrix: Water
Analysis Batch: 258532

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 255214

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		10	3.0	ug/L		06/07/16 11:58	06/28/16 17:22	1
Arsenic	ND		10	4.0	ug/L		06/07/16 11:58	06/28/16 17:22	1
Barium	ND		50	15	ug/L		06/07/16 11:58	06/28/16 17:22	1
Beryllium	ND		5.0	1.5	ug/L		06/07/16 11:58	06/28/16 17:22	1
Boron	ND		100	25	ug/L		06/07/16 11:58	06/28/16 17:22	1
Cadmium	ND		5.0	1.5	ug/L		06/07/16 11:58	06/28/16 17:22	1
CaHard	ND		2500	750	ug/L		06/07/16 11:58	06/28/16 17:22	1
Calcium	ND		1000	300	ug/L		06/07/16 11:58	06/28/16 17:22	1
Chromium	ND		10	3.0	ug/L		06/07/16 11:58	06/28/16 17:22	1
Cobalt	ND		50	15	ug/L		06/07/16 11:58	06/28/16 17:22	1
Copper	ND		25	5.0	ug/L		06/07/16 11:58	06/28/16 17:22	1
Iron	ND		100	30	ug/L		06/07/16 11:58	06/28/16 17:22	1
Lead	ND		10	3.0	ug/L		06/07/16 11:58	06/28/16 17:22	1
Magnesium	ND		1.0	0.30	mg/L		06/07/16 11:58	06/28/16 17:22	1
Manganese	ND		15	2.5	ug/L		06/07/16 11:58	06/28/16 17:22	1
MgHard	ND		4100	1200	ug/L		06/07/16 11:58	06/28/16 17:22	1
Nickel	ND		0.040	0.010	mg/L		06/07/16 11:58	06/28/16 17:22	1
Phosphorus	ND	^	250	75	ug/L		06/07/16 11:58	06/28/16 17:22	1
Selenium	ND		15	5.0	ug/L		06/07/16 11:58	06/28/16 17:22	1
Silver	ND		10	3.0	ug/L		06/07/16 11:58	06/28/16 17:22	1
Sodium	ND		1000	300	ug/L		06/07/16 11:58	06/28/16 17:22	1
Thallium	ND		20	5.0	ug/L		06/07/16 11:58	06/28/16 17:22	1
Total Hardness	ND		6600	2000	ug/L		06/07/16 11:58	06/28/16 17:22	1
Vanadium	ND		50	15	ug/L		06/07/16 11:58	06/28/16 17:22	1
Zinc	ND		20	6.0	ug/L		06/07/16 11:58	06/28/16 17:22	1

Lab Sample ID: LCS 160-255214/2-A
Matrix: Water
Analysis Batch: 258532

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 255214

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	500	487		ug/L		97	80 - 120
Arsenic	1000	981		ug/L		98	80 - 120
Barium	1000	955		ug/L		95	80 - 120
Beryllium	1000	978		ug/L		98	80 - 120
Boron	2000	1910		ug/L		95	80 - 120
Cadmium	1000	1000		ug/L		100	80 - 120
Calcium	10000	10400		ug/L		104	80 - 120

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

Lab Sample ID: LCS 160-255214/2-A
Matrix: Water
Analysis Batch: 258532

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 255214

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	1000	1020		ug/L		102	80 - 120
Cobalt	1000	1010		ug/L		101	80 - 120
Copper	1000	931		ug/L		93	80 - 120
Iron	10000	9580		ug/L		96	80 - 120
Lead	1000	985		ug/L		99	80 - 120
Magnesium	10.0	9.62		mg/L		96	80 - 120
Manganese	1000	951		ug/L		95	80 - 120
Nickel	1.00	1.03		mg/L		103	80 - 120
Phosphorus	1000	1190	^	ug/L		119	80 - 120
Selenium	500	491		ug/L		98	80 - 120
Silver	200	198		ug/L		99	80 - 120
Sodium	10000	10000		ug/L		100	80 - 120
Thallium	200	194		ug/L		97	80 - 120
Vanadium	1000	959		ug/L		96	80 - 120
Zinc	1000	1030		ug/L		103	80 - 120

Lab Sample ID: 160-17662-1 MS
Matrix: Water
Analysis Batch: 258532

Client Sample ID: PZ-104-SD
Prep Type: Total/NA
Prep Batch: 255214

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND		500	510		ug/L		102	75 - 125
Arsenic	25	J	1000	1050		ug/L		102	75 - 125
Barium	790		1000	1710		ug/L		92	75 - 125
Beryllium	ND		1000	965		ug/L		97	75 - 125
Boron	1200		2000	3100		ug/L		95	75 - 125
Cadmium	ND		1000	1030		ug/L		103	75 - 125
Calcium	120000		10000	131000	4	ug/L		122	75 - 125
Chromium	50		1000	1060		ug/L		101	75 - 125
Cobalt	ND		1000	1030		ug/L		103	75 - 125
Copper	ND		1000	954		ug/L		95	75 - 125
Iron	14000		10000	23400		ug/L		90	75 - 125
Lead	ND		1000	1000		ug/L		100	75 - 125
Magnesium	72		10.0	80.3	4	mg/L		86	75 - 125
Manganese	150		1000	1070		ug/L		92	75 - 125
Nickel	0.11	J	1.00	1.14		mg/L		103	75 - 125
Phosphorus	ND	F1 ^	1000	1420	F1 ^	ug/L		142	75 - 125
Selenium	ND		500	503		ug/L		101	75 - 125
Silver	ND		200	193		ug/L		97	75 - 125
Sodium	210000		10000	218000	4	ug/L		84	75 - 125
Thallium	ND		200	197		ug/L		98	75 - 125
Vanadium	ND		1000	977		ug/L		98	75 - 125
Zinc	38	J	1000	1100		ug/L		106	75 - 125

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

Lab Sample ID: 160-17662-1 MSD — **Client Sample ID: PZ-104-SD**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258532 — **Prep Batch: 255214**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	ND		500	506		ug/L		101	75 - 125	1	20
Arsenic	25	J	1000	1040		ug/L		102	75 - 125	0	20
Barium	790		1000	1730		ug/L		95	75 - 125	1	20
Beryllium	ND		1000	973		ug/L		97	75 - 125	1	20
Boron	1200		2000	3160		ug/L		98	75 - 125	2	20
Cadmium	ND		1000	1030		ug/L		103	75 - 125	1	20
Calcium	120000		10000	133000	4	ug/L		140	75 - 125	1	20
Chromium	50		1000	1060		ug/L		101	75 - 125	1	20
Cobalt	ND		1000	1030		ug/L		103	75 - 125	0	20
Copper	ND		1000	946		ug/L		95	75 - 125	1	20
Iron	14000		10000	24100		ug/L		98	75 - 125	3	20
Lead	ND		1000	995		ug/L		99	75 - 125	1	20
Magnesium	72		10.0	83.3	4	mg/L		116	75 - 125	4	20
Manganese	150		1000	1080		ug/L		93	75 - 125	1	20
Nickel	0.11	J	1.00	1.14		mg/L		103	75 - 125	0	20
Phosphorus	ND	F1 ^	1000	1410	F1 ^	ug/L		141	75 - 125	1	20
Selenium	ND		500	499		ug/L		100	75 - 125	1	20
Silver	ND		200	193		ug/L		96	75 - 125	0	20
Sodium	210000		10000	224000	4	ug/L		142	75 - 125	3	20
Thallium	ND		200	199		ug/L		99	75 - 125	1	20
Vanadium	ND		1000	966		ug/L		97	75 - 125	1	20
Zinc	38	J	1000	1090		ug/L		106	75 - 125	1	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 160-256101/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256345 — **Prep Batch: 256101**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		06/13/16 08:39	06/13/16 17:46	1

Lab Sample ID: LCS 160-256101/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256345 — **Prep Batch: 256101**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	5.00	5.10		ug/L		102	80 - 120

Lab Sample ID: 160-17635-A-3-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256345 — **Prep Batch: 256101**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		5.00	4.98		ug/L		100	80 - 120

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: 160-17635-A-3-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256345 — **Prep Batch: 256101**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		5.00	5.25		ug/L		105	80 - 120	5	20

Method: 160.1 - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 160-255905/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 255905

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		5.0	3.5	mg/L			06/10/16 09:10	1

Lab Sample ID: LCS 160-255905/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 255905

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids (TDS)	500	516		mg/L		103	90 - 110

Method: 160.1 - Solids, Total Dissolved (TDS) - DL

Lab Sample ID: 160-17695-D-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 255905

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids (TDS) - DL	4800		5030		mg/L		5	20

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 160-256321/11 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256321

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.050	0.022	mg/L			06/13/16 19:01	1

Lab Sample ID: LCS 160-256321/12 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256321

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	0.500	0.503		mg/L		101	90 - 110

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: 160-17592-E-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256321

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia	0.43	F1	0.500	1.01	F1	mg/L		116	90 - 110		

Lab Sample ID: 160-17592-E-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256321

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Ammonia	0.43	F1		0.440		mg/L				2	20

Lab Sample ID: MB 160-256509/11 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256509

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.050	0.022	mg/L			06/14/16 21:55	1

Lab Sample ID: LCS 160-256509/12 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256509

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia			0.500	0.497		mg/L		99	90 - 110		

Method: 350.1 - Nitrogen, Ammonia - DL

Lab Sample ID: 160-17630-C-1 MS ^10 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256509

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia - DL	3.5	F1	0.500	4.18	4	mg/L		129	90 - 110		

Lab Sample ID: 160-17630-C-1 DU ^10 — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256509

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Ammonia - DL	3.5	F1		3.42		mg/L				3	20

Method: 353.1 Preserved - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 160-258378/14 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258378

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate/Nitrite	ND		0.050	0.011	mg/L			06/27/16 18:30	1

Method: 353.1 Preserved - Nitrogen, Nitrate-Nitrite (Continued)

Lab Sample ID: LCS 160-258378/15 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258378

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrate/Nitrite			0.500	0.472		mg/L		94	90 - 110		

Lab Sample ID: 160-17592-E-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258378

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrate/Nitrite	ND	F1	0.500	ND	F1	mg/L		0	90 - 110		

Lab Sample ID: 160-17592-E-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258378

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Nitrate/Nitrite	ND	F1		ND		mg/L				NC	20

Method: 410.4 - COD

Lab Sample ID: MB 160-256131/3-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256170 — **Prep Batch: 256131**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		5.0	1.1	mg/L		06/13/16 11:06	06/13/16 15:02	1

Lab Sample ID: LCS 160-256131/4-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256170 — **Prep Batch: 256131**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chemical Oxygen Demand			50.0	51.0		mg/L		102	90 - 110		

Lab Sample ID: 160-17635-C-2-F MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256170 — **Prep Batch: 256131**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chemical Oxygen Demand	16		50.0	71.0		mg/L		110	90 - 110		

Lab Sample ID: 160-17635-C-2-E DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256170 — **Prep Batch: 256131**

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Chemical Oxygen Demand	16			14.0		mg/L				13	20

Method: 415.1 - TOC

Lab Sample ID: MB 160-256121/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256121

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		1.0	0.72	mg/L			06/10/16 14:31	1

Lab Sample ID: LCS 160-256121/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256121

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	10.0	10.1		mg/L		101	90 - 110

Lab Sample ID: 160-17630-B-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256121

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	9.0		5.00	14.2		mg/L		104	76 - 120

Lab Sample ID: 160-17630-B-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256121

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Organic Carbon	9.0		8.90		mg/L		0.6	20

Lab Sample ID: MB 160-256304/5 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256304

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		1.0	0.72	mg/L			06/13/16 19:27	1

Lab Sample ID: LCS 160-256304/6 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256304

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	10.0	9.97		mg/L		100	90 - 110

Method: 415.1 - TOC - DL

Lab Sample ID: 160-17630-B-2 MS ^2 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256304

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - DL	27		10.0	38.3		mg/L		113	76 - 120

Method: 415.1 - TOC - DL (Continued)

Lab Sample ID: 160-17630-B-2 DU ^2 — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256304

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Organic Carbon - DL	27			27.8		mg/L				3	20

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-255236/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258547 — **Prep Batch: 255236**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.02005	U	0.0355	0.0356	1.00	0.0623	pCi/L	06/07/16 13:14	06/29/16 06:47	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.9*		*40 - 110*	*06/07/16 13:14*	*06/29/16 06:47*	*1*

Lab Sample ID: LCS 160-255236/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258547 — **Prep Batch: 255236**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.2	13.84		1.32	1.00	0.0590	pCi/L	124	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*93.4*		*40 - 110*

Lab Sample ID: LCSD 160-255236/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258547 — **Prep Batch: 255236**

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.2	13.63		1.30	1.00	0.0617	pCi/L	122	68 - 137	0.08	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*97.7*		*40 - 110*

Lab Sample ID: MB 160-255240/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258542 — **Prep Batch: 255240**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.01942	U	0.0413	0.0414	1.00	0.0740	pCi/L	06/07/16 13:34	06/29/16 07:14	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.7*		*40 - 110*	*06/07/16 13:34*	*06/29/16 07:14*	*1*

QC Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17662-1

Lab Sample ID: LCS 160-255240/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258542 — **Prep Batch: 255240**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.2	14.16		1.37	1.00	0.0656	pCi/L	127	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*97.7*		*40 - 110*

Lab Sample ID: LCSD 160-255240/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258542 — **Prep Batch: 255240**

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.2	13.60		1.32	1.00	0.0702	pCi/L	122	68 - 137	0.21	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*97.7*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-255239/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256310 — **Prep Batch: 255239**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.2716	U	0.252	0.253	1.00	0.406	pCi/L	06/07/16 13:33	06/14/16 17:57	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.9*		*40 - 110*	*06/07/16 13:33*	*06/14/16 17:57*	*1*
Y Carrier	*87.5*		*40 - 110*	*06/07/16 13:33*	*06/14/16 17:57*	*1*

Lab Sample ID: LCS 160-255239/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256310 — **Prep Batch: 255239**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			15.0	18.54		1.95	1.00	0.410	pCi/L	123	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*93.4*		*40 - 110*
Y Carrier	*83.4*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCSD 160-255239/3-A
Matrix: Water
Analysis Batch: 256310

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 255239

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			15.0	18.90		1.97	1.00	0.388	pCi/L	126	56 - 140	0.09	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*97.7*		*40 - 110*
Y Carrier	*83.0*		*40 - 110*

Lab Sample ID: MB 160-255242/1-A
Matrix: Water
Analysis Batch: 257505

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 255242

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.4233		0.240	0.243	1.00	0.363	pCi/L	06/07/16 13:43	06/22/16 13:17	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.7*		*40 - 110*	*06/07/16 13:43*	*06/22/16 13:17*	*1*
Y Carrier	*93.8*		*40 - 110*	*06/07/16 13:43*	*06/22/16 13:17*	*1*

Lab Sample ID: LCS 160-255242/2-A
Matrix: Water
Analysis Batch: 257505

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 255242

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			15.0	16.52		1.73	1.00	0.373	pCi/L	110	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*97.7*		*40 - 110*
Y Carrier	*91.6*		*40 - 110*

Lab Sample ID: LCSD 160-255242/3-A
Matrix: Water
Analysis Batch: 257505

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 255242

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			15.0	15.55		1.64	1.00	0.368	pCi/L	104	56 - 140	0.29	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*97.7*		*40 - 110*
Y Carrier	*92.0*		*40 - 110*

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-257723/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257889 — **Prep Batch: 257723**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	26.58	U	144	145	500	255	pCi/L	06/23/16 13:42	06/23/16 21:29	1

Lab Sample ID: LCS 160-257723/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257889 — **Prep Batch: 257723**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Tritium	3060	2722		407	500	261	pCi/L	89	74 - 114

Lab Sample ID: 160-17869-A-2-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257889 — **Prep Batch: 257723**

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Tritium	112	U	3060	2938		430	500	266	pCi/L	96	67 - 130

Lab Sample ID: 160-17869-A-1-B DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257889 — **Prep Batch: 257723**

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Tritium	59.5	U	114.9	U	160	500	270	pCi/L	0.18	1

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

Lab Sample ID: MB 160-256563/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257515 — **Prep Batch: 256563**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Thorium-230	0.3100		0.113	0.116	1.00	0.0310	pCi/L	06/15/16 15:38	06/22/16 12:57	1

Tracer	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Thorium-229	*89.1*		*30 - 110*	*06/15/16 15:38*	*06/22/16 12:57*	*1*

Lab Sample ID: LCS 160-256563/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257516 — **Prep Batch: 256563**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Thorium-230	8.03	10.06		1.07	1.00	0.0318	pCi/L	125	81 - 125

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry) (Continued)

Lab Sample ID: LCS 160-256563/2-A
Matrix: Water
Analysis Batch: 257516

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 256563

Tracer	LCS %Yield	LCS Qualifier	Limits
Thorium-229	80.1		30 - 110

Lab Sample ID: 160-17611-K-1-C DU
Matrix: Water
Analysis Batch: 257784

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 256563

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Thorium-230	0.240			0.3055		0.127	1.00	0.0687	pCi/L			0.28	1

Tracer	DU %Yield	DU Qualifier	Limits
Thorium-229	68.0		30 - 110

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-256581/1-A
Matrix: Water
Analysis Batch: 257395

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 256581

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Uranium-233/234	0.06665		0.0596	0.0599	1.00	0.0400	pCi/L	06/15/16 15:38	06/21/16 13:34	1
Uranium-235/236	0.03317	U	0.0469	0.0470	1.00	0.0498	pCi/L	06/15/16 15:38	06/21/16 13:34	1
Uranium-238	0.007760	U	0.0288	0.0288	1.00	0.0735	pCi/L	06/15/16 15:38	06/21/16 13:34	1

Tracer	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Uranium-232	69.0		30 - 110	06/15/16 15:38	06/21/16 13:34	1

Lab Sample ID: LCS 160-256581/2-A
Matrix: Water
Analysis Batch: 257396

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 256581

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Uranium-233/234			12.7	12.14		1.26	1.00	0.0617	pCi/L	95	84 - 120		
Uranium-238			13.0	13.17		1.35	1.00	0.0334	pCi/L	101	83 - 121		

Tracer	LCS %Yield	LCS Qualifier	Limits
Uranium-232	76.0		30 - 110

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) (Continued)

Lab Sample ID: 160-17611-K-1-E DU
Matrix: Water
Analysis Batch: 257540

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 256581

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Uranium-233/234	2.22			2.021		0.398	1.00	0.117	pCi/L			0.25	1
Uranium-235/236	0.0446	U		0.1181		0.0970	1.00	0.0591	pCi/L			0.46	1
Uranium-238	0.872			0.9473		0.257	1.00	0.0474	pCi/L			0.15	1

Tracer	*DU %Yield*	*DU Qualifier*	*Limits*
Uranium-232	*55.2*		*30 - 110*

QC Association Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17662-1

GC/MS VOA

Analysis Batch: 254807

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17630-F-1 MS	Matrix Spike	Total/NA	Water	8260C	
160-17630-F-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260C	
160-17662-3	PZ-105-SS	Total/NA	Water	8260C	
160-17662-4	PZ-111-SD	Total/NA	Water	8260C	
LCS 160-254807/6	Lab Control Sample	Total/NA	Water	8260C	
LCSD 160-254807/7	Lab Control Sample Dup	Total/NA	Water	8260C	
MB 160-254807/9	Method Blank	Total/NA	Water	8260C	

Analysis Batch: 255479

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17662-1	PZ-104-SD	Total/NA	Water	8260C	
160-17662-1 MS	PZ-104-SD	Total/NA	Water	8260C	
160-17662-1 MSD	PZ-104-SD	Total/NA	Water	8260C	
160-17662-2	PZ-104-SS	Total/NA	Water	8260C	
LCS 160-255479/6	Lab Control Sample	Total/NA	Water	8260C	
LCSD 160-255479/7	Lab Control Sample Dup	Total/NA	Water	8260C	
MB 160-255479/9	Method Blank	Total/NA	Water	8260C	

Analysis Batch: 255734

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17662-1	PZ-104-SD	Total/NA	Water	8260C	
LCS 160-255734/6	Lab Control Sample	Total/NA	Water	8260C	
LCSD 160-255734/7	Lab Control Sample Dup	Total/NA	Water	8260C	
MB 160-255734/9	Method Blank	Total/NA	Water	8260C	

HPLC/IC

Analysis Batch: 255873

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17630-D-1 DU	Duplicate	Total/NA	Water	300.0	
160-17630-D-1 DU - DL	Duplicate	Total/NA	Water	300.0	
160-17630-D-1 MS	Matrix Spike	Total/NA	Water	300.0	
160-17630-D-1 MS - DL	Matrix Spike	Total/NA	Water	300.0	
160-17662-1 - DL	PZ-104-SD	Total/NA	Water	300.0	
160-17662-1 - DL2	PZ-104-SD	Total/NA	Water	300.0	
160-17662-2	PZ-104-SS	Total/NA	Water	300.0	
160-17662-3	PZ-105-SS	Total/NA	Water	300.0	
160-17662-3 - DL	PZ-105-SS	Total/NA	Water	300.0	
160-17662-4	PZ-111-SD	Total/NA	Water	300.0	
160-17662-4 - DL	PZ-111-SD	Total/NA	Water	300.0	
LCS 160-255873/12	Lab Control Sample	Total/NA	Water	300.0	
MB 160-255873/11	Method Blank	Total/NA	Water	300.0	

Metals

Prep Batch: 255214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17662-1	PZ-104-SD	Total/NA	Water	3010A	
160-17662-1 MS	PZ-104-SD	Total/NA	Water	3010A	
160-17662-1 MSD	PZ-104-SD	Total/NA	Water	3010A	

Metals (Continued)

Prep Batch: 255214 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17662-2	PZ-104-SS	Total/NA	Water	3010A	
160-17662-3	PZ-105-SS	Total/NA	Water	3010A	
160-17662-4	PZ-111-SD	Total/NA	Water	3010A	
LCS 160-255214/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 160-255214/1-A	Method Blank	Total/NA	Water	3010A	

Prep Batch: 256101

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17635-A-3-C MS	Matrix Spike	Total/NA	Water	7470A	
160-17635-A-3-D MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	
160-17662-1	PZ-104-SD	Total/NA	Water	7470A	
160-17662-2	PZ-104-SS	Total/NA	Water	7470A	
160-17662-3	PZ-105-SS	Total/NA	Water	7470A	
160-17662-4	PZ-111-SD	Total/NA	Water	7470A	
LCS 160-256101/2-A	Lab Control Sample	Total/NA	Water	7470A	
MB 160-256101/1-A	Method Blank	Total/NA	Water	7470A	

Analysis Batch: 256345

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17635-A-3-C MS	Matrix Spike	Total/NA	Water	7470A	256101
160-17635-A-3-D MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	256101
160-17662-1	PZ-104-SD	Total/NA	Water	7470A	256101
160-17662-2	PZ-104-SS	Total/NA	Water	7470A	256101
160-17662-3	PZ-105-SS	Total/NA	Water	7470A	256101
160-17662-4	PZ-111-SD	Total/NA	Water	7470A	256101
LCS 160-256101/2-A	Lab Control Sample	Total/NA	Water	7470A	256101
MB 160-256101/1-A	Method Blank	Total/NA	Water	7470A	256101

Analysis Batch: 258532

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17662-1	PZ-104-SD	Total/NA	Water	6010C	255214
160-17662-1 MS	PZ-104-SD	Total/NA	Water	6010C	255214
160-17662-1 MSD	PZ-104-SD	Total/NA	Water	6010C	255214
160-17662-2	PZ-104-SS	Total/NA	Water	6010C	255214
160-17662-3	PZ-105-SS	Total/NA	Water	6010C	255214
160-17662-4	PZ-111-SD	Total/NA	Water	6010C	255214
LCS 160-255214/2-A	Lab Control Sample	Total/NA	Water	6010C	255214
MB 160-255214/1-A	Method Blank	Total/NA	Water	6010C	255214

General Chemistry

Analysis Batch: 255905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17662-1 - DL	PZ-104-SD	Total/NA	Water	160.1	
160-17662-2	PZ-104-SS	Total/NA	Water	160.1	
160-17662-3	PZ-105-SS	Total/NA	Water	160.1	
160-17662-4	PZ-111-SD	Total/NA	Water	160.1	
160-17695-D-1 DU - DL	Duplicate	Total/NA	Water	160.1	
LCS 160-255905/2	Lab Control Sample	Total/NA	Water	160.1	
MB 160-255905/1	Method Blank	Total/NA	Water	160.1	

General Chemistry (Continued)

Analysis Batch: 256121

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17630-B-1 DU	Duplicate	Total/NA	Water	415.1	
160-17630-B-1 MS	Matrix Spike	Total/NA	Water	415.1	
160-17662-2	PZ-104-SS	Total/NA	Water	415.1	
160-17662-3	PZ-105-SS	Total/NA	Water	415.1	
160-17662-4	PZ-111-SD	Total/NA	Water	415.1	
LCS 160-256121/5	Lab Control Sample	Total/NA	Water	415.1	
MB 160-256121/4	Method Blank	Total/NA	Water	415.1	

Prep Batch: 256131

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17635-C-2-E DU	Duplicate	Total/NA	Water	410.4	
160-17635-C-2-F MS	Matrix Spike	Total/NA	Water	410.4	
160-17662-1 - DL	PZ-104-SD	Total/NA	Water	410.4	
160-17662-2	PZ-104-SS	Total/NA	Water	410.4	
160-17662-3	PZ-105-SS	Total/NA	Water	410.4	
160-17662-4	PZ-111-SD	Total/NA	Water	410.4	
LCS 160-256131/4-A	Lab Control Sample	Total/NA	Water	410.4	
MB 160-256131/3-A	Method Blank	Total/NA	Water	410.4	

Analysis Batch: 256170

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17635-C-2-E DU	Duplicate	Total/NA	Water	410.4	256131
160-17635-C-2-F MS	Matrix Spike	Total/NA	Water	410.4	256131
160-17662-1 - DL	PZ-104-SD	Total/NA	Water	410.4	256131
160-17662-2	PZ-104-SS	Total/NA	Water	410.4	256131
160-17662-3	PZ-105-SS	Total/NA	Water	410.4	256131
160-17662-4	PZ-111-SD	Total/NA	Water	410.4	256131
LCS 160-256131/4-A	Lab Control Sample	Total/NA	Water	410.4	256131
MB 160-256131/3-A	Method Blank	Total/NA	Water	410.4	256131

Analysis Batch: 256304

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17630-B-2 DU ^2 - DL	Duplicate	Total/NA	Water	415.1	
160-17630-B-2 MS ^2 - DL	Matrix Spike	Total/NA	Water	415.1	
160-17662-1 - DL	PZ-104-SD	Total/NA	Water	415.1	
LCS 160-256304/6	Lab Control Sample	Total/NA	Water	415.1	
MB 160-256304/5	Method Blank	Total/NA	Water	415.1	

Analysis Batch: 256321

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17592-E-1 DU	Duplicate	Total/NA	Water	350.1	
160-17592-E-1 MS	Matrix Spike	Total/NA	Water	350.1	
160-17662-2	PZ-104-SS	Total/NA	Water	350.1	
160-17662-3	PZ-105-SS	Total/NA	Water	350.1	
160-17662-4	PZ-111-SD	Total/NA	Water	350.1	
LCS 160-256321/12	Lab Control Sample	Total/NA	Water	350.1	
MB 160-256321/11	Method Blank	Total/NA	Water	350.1	

Analysis Batch: 256509

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17630-C-1 DU ^10 - DL	Duplicate	Total/NA	Water	350.1	

General Chemistry (Continued)

Analysis Batch: 256509 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17630-C-1 MS ^10 - DL	Matrix Spike	Total/NA	Water	350.1	
160-17662-1 - DL	PZ-104-SD	Total/NA	Water	350.1	
LCS 160-256509/12	Lab Control Sample	Total/NA	Water	350.1	
MB 160-256509/11	Method Blank	Total/NA	Water	350.1	

Analysis Batch: 258378

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17592-E-1 DU	Duplicate	Total/NA	Water	353.1 Preserved	
160-17592-E-1 MS	Matrix Spike	Total/NA	Water	353.1 Preserved	
160-17662-1	PZ-104-SD	Total/NA	Water	353.1 Preserved	
160-17662-2	PZ-104-SS	Total/NA	Water	353.1 Preserved	
160-17662-3	PZ-105-SS	Total/NA	Water	353.1 Preserved	
160-17662-4	PZ-111-SD	Total/NA	Water	353.1 Preserved	
LCS 160-258378/15	Lab Control Sample	Total/NA	Water	353.1 Preserved	
MB 160-258378/14	Method Blank	Total/NA	Water	353.1 Preserved	

Rad

Filtration Batch: 254848

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17662-1	PZ-104-SD	Dissolved	Water	Filtration	
160-17662-2	PZ-104-SS	Dissolved	Water	Filtration	

Prep Batch: 255236

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17662-1	PZ-104-SD	Dissolved	Water	PrecSep-21	254848
160-17662-2	PZ-104-SS	Dissolved	Water	PrecSep-21	254848
LCS 160-255236/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-255236/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	
MB 160-255236/1-A	Method Blank	Total/NA	Water	PrecSep-21	

Prep Batch: 255239

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17662-1	PZ-104-SD	Dissolved	Water	PrecSep_0	254848
160-17662-2	PZ-104-SS	Dissolved	Water	PrecSep_0	254848
LCS 160-255239/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-255239/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	
MB 160-255239/1-A	Method Blank	Total/NA	Water	PrecSep_0	

Prep Batch: 255240

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17662-1	PZ-104-SD	Total/NA	Water	PrecSep-21	
160-17662-2	PZ-104-SS	Total/NA	Water	PrecSep-21	
LCS 160-255240/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-255240/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	
MB 160-255240/1-A	Method Blank	Total/NA	Water	PrecSep-21	

Prep Batch: 255242

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17662-1	PZ-104-SD	Total/NA	Water	PrecSep_0	

Rad (Continued)

Prep Batch: 255242 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17662-2	PZ-104-SS	Total/NA	Water	PrecSep_0	
LCS 160-255242/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-255242/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	
MB 160-255242/1-A	Method Blank	Total/NA	Water	PrecSep_0	

Prep Batch: 256563

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17611-K-1-C DU	Duplicate	Total/NA	Water	ExtChrom	
160-17662-1	PZ-104-SD	Total/NA	Water	ExtChrom	
160-17662-2	PZ-104-SS	Total/NA	Water	ExtChrom	
LCS 160-256563/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
MB 160-256563/1-A	Method Blank	Total/NA	Water	ExtChrom	

Prep Batch: 256581

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17611-K-1-E DU	Duplicate	Total/NA	Water	ExtChrom	
160-17662-1	PZ-104-SD	Total/NA	Water	ExtChrom	
160-17662-2	PZ-104-SS	Total/NA	Water	ExtChrom	
LCS 160-256581/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
MB 160-256581/1-A	Method Blank	Total/NA	Water	ExtChrom	

Prep Batch: 257723

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17662-1	PZ-104-SD	Total/NA	Water	LSC_Dist_Susp	
160-17662-2	PZ-104-SS	Total/NA	Water	LSC_Dist_Susp	
160-17662-3	PZ-105-SS	Total/NA	Water	LSC_Dist_Susp	
160-17662-4	PZ-111-SD	Total/NA	Water	LSC_Dist_Susp	
160-17869-A-1-B DU	Duplicate	Total/NA	Water	LSC_Dist_Susp	
160-17869-A-2-B MS	Matrix Spike	Total/NA	Water	LSC_Dist_Susp	
LCS 160-257723/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	
MB 160-257723/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	

Surrogate Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17662-1

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

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

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	12DCE	TOL
Lab Sample ID	Client Sample ID	(71-139)	(80-121)	(76-121)	(80-129)
160-17630-F-1 MS	Matrix Spike	103	100	93	101
160-17630-F-1 MSD	Matrix Spike Duplicate	103	100	96	102
160-17662-1	PZ-104-SD	115	95	98	105
160-17662-1	PZ-104-SD	117	96	100	109
160-17662-1 MS	PZ-104-SD	102	95	94	97
160-17662-1 MSD	PZ-104-SD	107	99	96	98
160-17662-2	PZ-104-SS	111	96	96	106
160-17662-3	PZ-105-SS	119	98	99	112
160-17662-4	PZ-111-SD	112	99	100	108
LCS 160-254807/6	Lab Control Sample	101	94	92	101
LCS 160-255479/6	Lab Control Sample	106	97	99	102
LCS 160-255734/6	Lab Control Sample	103	96	102	101
LCSD 160-254807/7	Lab Control Sample Dup	103	97	95	100
LCSD 160-255479/7	Lab Control Sample Dup	105	97	98	100
LCSD 160-255734/7	Lab Control Sample Dup	104	97	105	99
MB 160-254807/9	Method Blank	110	98	95	107
MB 160-255479/9	Method Blank	114	97	102	106
MB 160-255734/9	Method Blank	118	98	105	109

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Tracer/Carrier Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17662-1

Method: 903.0 - Radium-226 (GFPC)

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

Lab Sample ID	Client Sample ID	Ba (40-110)
160-17662-1	PZ-104-SD	89.5
160-17662-2	PZ-104-SS	89.7
LCS 160-255236/2-A	Lab Control Sample	93.4
LCS 160-255240/2-A	Lab Control Sample	97.7
LCSD 160-255236/3-A	Lab Control Sample Dup	97.7
LCSD 160-255240/3-A	Lab Control Sample Dup	97.7
MB 160-255236/1-A	Method Blank	92.9
MB 160-255240/1-A	Method Blank	93.7

Percent Yield (Acceptance Limits)

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Dissolved**

Lab Sample ID	Client Sample ID	Ba (40-110)
160-17662-1	PZ-104-SD	68.7
160-17662-2	PZ-104-SS	85.5

Percent Yield (Acceptance Limits)

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

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

Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
160-17662-1	PZ-104-SD	89.5	88.6
160-17662-2	PZ-104-SS	89.7	86.4
LCS 160-255239/2-A	Lab Control Sample	93.4	83.4
LCS 160-255242/2-A	Lab Control Sample	97.7	91.6
LCSD 160-255239/3-A	Lab Control Sample Dup	97.7	83.0
LCSD 160-255242/3-A	Lab Control Sample Dup	97.7	92.0
MB 160-255239/1-A	Method Blank	92.9	87.5
MB 160-255242/1-A	Method Blank	93.7	93.8

Percent Yield (Acceptance Limits)

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Dissolved**

Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
160-17662-1	PZ-104-SD	68.7	86.4

Percent Yield (Acceptance Limits)

Tracer/Carrier Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17662-1

Method: 904.0 - Radium-228 (GFPC) (Continued)

Matrix: Water **Prep Type: Dissolved**

		Percent Yield (Acceptance Limits)							
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)						
160-17662-2	PZ-104-SS	85.5	83.7						

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

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

		Percent Yield (Acceptance Limits)							
Lab Sample ID	Client Sample ID	Th-229 (30-110)							
160-17611-K-1-C DU	Duplicate	68.0							
160-17662-1	PZ-104-SD	83.1							
160-17662-2	PZ-104-SS	40.1							
LCS 160-256563/2-A	Lab Control Sample	80.1							
MB 160-256563/1-A	Method Blank	89.1							

Tracer/Carrier Legend

Th-229 = Thorium-229

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

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

		Percent Yield (Acceptance Limits)							
Lab Sample ID	Client Sample ID	U-232 (30-110)							
160-17611-K-1-E DU	Duplicate	55.2							
160-17662-1	PZ-104-SD	63.8							
160-17662-2	PZ-104-SS	63.4							
LCS 160-256581/2-A	Lab Control Sample	76.0							
MB 160-256581/1-A	Method Blank	69.0							

Tracer/Carrier Legend

U-232 = Uranium-232

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Tel: (314)298-8566

TestAmerica Job ID: 160-17695-1
Client Project/Site: Groundwater - 2nd Quarter 2016

For:
Missouri Attorney General's Office
PO BOX 899
Jefferson City, Missouri 65102

Attn: Brenna McDonald

Rhonda Ridenhower

Authorized for release by:
7/11/2016 4:45:57 PM
Rhonda Ridenhower, Manager of Project Management
rhonda.ridenhower@testamericainc.com

Designee for

Chenise Lambert-Sykes, Project Manager I
(314)298-8566
chenise.lambert-sykes@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

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.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Chain of Custody 8
Receipt Checklists 9
Definitions/Glossary 10
Method Summary 11
Sample Summary 12
Client Sample Results 13
QC Sample Results 31
QC Association Summary 47
Surrogate Summary 52
Tracer Carrier Summary 53

Job ID: 160-17695-1

Laboratory: TestAmerica St. Louis

Narrative

CASE NARRATIVE

Client: Missouri Attorney General's Office

Project: Groundwater - 2nd Quarter 2016

Report Number: 160-17695-1

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.

TestAmerica St. Louis attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

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.

All solid sample results for Chemistry analyses are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header. All soil/sediment sample results for radiochemistry analyses are based upon sample as dried and disaggregated with the exception of tritium, carbon-14, and iodine-129 by gamma spectroscopy unless requested as wet weight by the client."

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT
The samples were received on 06/07/2016; the samples arrived in good condition, properly preserved and and, where required, on ice. The temperatures of the 4 coolers at receipt time were 6.4º C, 10.7º C, 18.0º C and 18.0º C.

Receipt Exceptions: All chemistry analysis was received in the coolers that were 10.7 and 6.4 degrees C. Some ice was present in coolers.PZ-202-SS (160-17695-1), TRIP BLANK (160-17695-2), PZ-109-SS (160-17695-3), PZ-110-SS (160-17695-4), PZ-201A-SS (160-17695-5) and LCS-5A (160-17695-6)

The following sample was received with insufficient preservation: LCS-5A (160-17695-6). The pH of all 4 bottles marked as preserved for RAD analysis were received with a pH of ~ 7. One bottle designated for Metals analysis was received with a pH of ~ 7. Additional nitric acid preservative was added by the laboratory, and the RAD sample(s) pH remained ~ 7. Nitric acid was added to the bottle designated for Metals analysis and pH was corrected to < 2.

CoC does not have Tritium analysis checked for this sample, but client sent sample volume for analysis: PZ-202-SS (160-17695-1), PZ-109-SS (160-17695-3), PZ-110-SS (160-17695-4), PZ-201A-SS (160-17695-5) and LCS-5A (160-17695-6). The lab will analyze for

Job ID: 160-17695-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

tritium per client.

VOLATILE ORGANIC COMPOUNDS (GC MS)
Samples PZ-202-SS (160-17695-1), TRIP BLANK (160-17695-2), PZ-109-SS (160-17695-3), PZ-110-SS (160-17695-4), PZ-201A-SS (160-17695-5) and LCS-5A (160-17695-6) were analyzed for volatile organic compounds (GC MS) in accordance with EPA SW-846 Method 8260C. The samples were analyzed on 06/08/2016.

Batch 255479
The continuing calibration verification (CCV) associated with batch 160-255479 recovered outside acceptance criteria, low biased, for Iodomethane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported. (CCVIS 160-255479/5)

The following compounds did not meet the minimum relative response factor limits in the continuing calibration verification (CCV) associated with batch 160-255479: 2-Butanone, 2-Hexanone, and Acetone. A low level CCV was analyzed at the base reporting limit of 1ug/L and the affected analytes were detected. Affected target analytes recovering above the reporting limit in the associated samples will be qualified and reported. (CCVIS 160-255479/5)

The following analyte(s) recovered outside control limits for the MS associated with 160-255479 for Iodomethane. Qualified results have been reported. Additionally, the LCSD, LCSD, and MSD all had acceptable recoveries for these analytes, thus fulfilling method QC requirements. All sample was non-detect for this analyte. (160-17662-F-1 MS)

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

TOTAL METALS (ICP)
Samples PZ-202-SS (160-17695-1), PZ-109-SS (160-17695-3), PZ-110-SS (160-17695-4), PZ-201A-SS (160-17695-5) and LCS-5A (160-17695-6) were analyzed for total metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 06/22/2016 and analyzed on 06/28/2016 and 06/30/2016.

Batch 258532
Due to the high concentration of Magnesium and Sodium, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 160-257622 and analytical batch 160-258532 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria. (160-17695-G-1-B MS ^) and (160-17695-G-1-C MSD)

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 160-257622 and analytical batch 160-258532 were outside control limits for Phosphorus. Sample matrix interference are suspected. (160-17695-G-1-B MS ^) and (160-17695-G-1-C MSD)

The continuing calibration verification (CCV) associated with batch 160-258532 recovered above the upper control limit for Phosphorus. The samples associated with this CCV were below the reporting limit for the affected analytes; therefore, the data have been reported. (CCV 160-258532/103), (CCV 160-258532/116) and (CCV 160-258532/129)
The following sample(s) was diluted due to the nature of the sample matrix. Samples had high concentrations of salts which could cause internal standard and instrument QC failure.: PZ-202-SS (160-17695-1), PZ-109-SS (160-17695-3), PZ-110-SS (160-17695-4), PZ-201A-SS (160-17695-5), LCS-5A (160-17695-6), (160-17695-G-1-B MS ^), (160-17695-G-1-C MSD) and (160-17695-G-1-A SD ^). Elevated reporting limits (RLs) are provided.

Batch 258571
Due to the high concentration of Calcium, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 160-257622 and analytical batch 160-258751 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria. (160-17695-G-1-B MS ^) and (160-17695-G-1-C MSD)

The following samples was diluted to bring the concentration of target analytes within the calibration range: PZ-202-SS (160-17695-1), LCS-5A (160-17695-6), (160-17695-G-1-B MS ^), (160-17695-G-1-C MSD) and (160-17695-G-1-A SD). Elevated reporting limits (RLs) are provided.

The sequence was such that the samples were run immediately following the LRC. Our standard analysis sequence is set up to run a CCVL/CCV/CCB before running the samples. This however is an internal requirement and not one governed by the analytical method.

Job ID: 160-17695-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

Original results will be reported. PZ-202-SS (160-17695-1), LCS-5A (160-17695-6), (LCS 160-257622/2-A), (160-17695-G-1-B MS ^), (160-17695-G-1-C MSD) and (160-17695-G-1-A SD)

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

TOTAL MERCURY
Samples PZ-202-SS (160-17695-1), PZ-109-SS (160-17695-3), PZ-110-SS (160-17695-4), PZ-201A-SS (160-17695-5) and LCS-5A (160-17695-6) were analyzed for total mercury in accordance with EPA SW-846 Methods 7470A. The samples were prepared and analyzed on 06/30/2016.

Samples were prepped at a dilution due to the matrix. Sample was turbid with a strong odor. LCS-5A (160-17695-6)

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

TOTAL DISSOLVED SOLIDS
Samples PZ-202-SS (160-17695-1), PZ-109-SS (160-17695-3), PZ-110-SS (160-17695-4), PZ-201A-SS (160-17695-5) and LCS-5A (160-17695-6) were analyzed for total dissolved solids in accordance with EPA Method 160.1. The samples were analyzed on 06/10/2016.

The following samples in TDS batch 160-255905 were diluted to bring the concentration of target analytes within the calibration range: PZ-202-SS (160-17695-1), PZ-109-SS (160-17695-3), PZ-110-SS (160-17695-4), LCS-5A (160-17695-6) and (160-17695-D-1 DU). Elevated reporting limits (RLs) are provided.

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

ANIONS, ION CHROMATOGRAPHY
Samples PZ-202-SS (160-17695-1), PZ-109-SS (160-17695-3), PZ-110-SS (160-17695-4), PZ-201A-SS (160-17695-5) and LCS-5A (160-17695-6) were analyzed for Anions, Ion Chromatography in accordance with EPA Method 300.0. The samples were analyzed on 06/22/2016.

The following samples in Anion batch 160-257330 were diluted to bring the concentrations of target analytes within the calibration range: PZ-202-SS (160-17695-1), PZ-109-SS (160-17695-3), PZ-110-SS (160-17695-4), PZ-201A-SS (160-17695-5) and LCS-5A (160-17695-6). Elevated reporting limits (RLs) are provided

The following samples in Anion batch 160-257330 were analyzed at dilution to start (2x) due to high sample conductivities that made undiluted analysis inadvisable: PZ-202-SS (160-17695-1) and LCS-5A (160-17695-6). As a result, these samples have Fluoride and Sulfate results that are non-detect (ND) at the initial dilution with elevated reporting limits (RLs).

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

AMMONIA
Samples PZ-202-SS (160-17695-1), PZ-109-SS (160-17695-3), PZ-110-SS (160-17695-4), PZ-201A-SS (160-17695-5) and LCS-5A (160-17695-6) were analyzed for ammonia in accordance with EPA Method 350.1. The samples were analyzed on 07/01/2016 and 07/05/2016.

Reanalysis of the following sample in NH3 analytical batch 160-259230 was performed outside of the analytical holding time due to dilutions being needed: LCS-5A (160-17695-6). The initial analysis was performed within the holding time, and reanalysis was performed within two times the holding time.

The following samples in NH3 analytical batch 160-259230 were diluted to bring the concentration of the target analyte within the calibration range: LCS-5A (160-17695-6). Elevated reporting limits (RLs) are provided.

The following matrix spike (MS) recovery for NH3 analytical batch 160-259230 was outside control limits: (160-17746-F-3 MS). Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

Job ID: 160-17695-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

NITROGEN, NITRATE-NITRITE
Samples PZ-202-SS (160-17695-1), PZ-109-SS (160-17695-3), PZ-110-SS (160-17695-4), PZ-201A-SS (160-17695-5) and LCS-5A (160-17695-6) were analyzed for Nitrogen, Nitrate-Nitrite in accordance with Method 353.1 Preserved. The samples were analyzed on 07/01/2016.

The following matrix spike (MS) recovery for NO3-NO2 analytical batch 160-258930 was outside control limits: (160-17695-E-3 MS). Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits

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

CHEMICAL OXYGEN DEMAND
Samples PZ-202-SS (160-17695-1), PZ-109-SS (160-17695-3), PZ-110-SS (160-17695-4), PZ-201A-SS (160-17695-5) and LCS-5A (160-17695-6) were analyzed for chemical oxygen demand in accordance with EPA Method 410.4. The samples were prepared and analyzed on 06/21/2016.

The following samples in COD batch 160-257335 were diluted to bring the concentration of target analytes within the calibration range: PZ-202-SS (160-17695-1) and LCS-5A (160-17695-6). Elevated reporting limits (RLs) are provided.

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

TOTAL ORGANIC CARBON
Samples PZ-202-SS (160-17695-1), PZ-109-SS (160-17695-3), PZ-110-SS (160-17695-4), PZ-201A-SS (160-17695-5) and LCS-5A (160-17695-6) were analyzed for total organic carbon in accordance with EPA Method 415.1. The samples were analyzed on 06/13/2016 and 06/25/2016.

The following samples in TOC batch 160-258023 were diluted to bring the concentrations of the target analyte within the calibration range: PZ-202-SS (160-17695-1), PZ-110-SS (160-17695-4) and LCS-5A (160-17695-6). Elevated reporting limits (RLs) are provided.

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

RADIUM-226 (GFPC)-Dissolved
Samples PZ-202-SS (160-17695-1), PZ-109-SS (160-17695-3), PZ-110-SS (160-17695-4) and LCS-5A (160-17695-6) were analyzed for Radium-226 (GFPC) in accordance with EPA Method 903.0. The samples were prepared on 06/12/2016 and analyzed on 07/04/2016.

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

RADIUM-226 (GFPC)
Samples PZ-202-SS (160-17695-1), PZ-109-SS (160-17695-3), PZ-110-SS (160-17695-4) and LCS-5A (160-17695-6) were analyzed for Radium-226 (GFPC) in accordance with EPA Method 903.0. The samples were prepared on 06/08/2016 and analyzed on 06/30/2016.

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

RADIUM-228 (GFPC)-Dissolved
Samples PZ-202-SS (160-17695-1), PZ-109-SS (160-17695-3), PZ-110-SS (160-17695-4) and LCS-5A (160-17695-6) were analyzed for Radium-228 (GFPC)-Dissolved in accordance with EPA 904. The samples were prepared on 06/12/2016 and analyzed on 06/24/2016.

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

RADIUM-228 (GFPC)
Samples PZ-202-SS (160-17695-1), PZ-109-SS (160-17695-3), PZ-110-SS (160-17695-4) and LCS-5A (160-17695-6) were analyzed for Radium-228 (GFPC) in accordance with EPA 904. The samples were prepared on 06/08/2016 and analyzed on 06/24/2016.

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

Job ID: 160-17695-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

TRITIUM, TOTAL (LSC)
Samples PZ-202-SS (160-17695-1), PZ-109-SS (160-17695-3), PZ-110-SS (160-17695-4), PZ-201A-SS (160-17695-5) and LCS-5A (160-17695-6) were analyzed for Tritium, Total (LSC) in accordance with USEPA 906.0. The samples were prepared on 06/23/2016 and analyzed on 06/24/2016.

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

ISOTOPIC THORIUM (ALPHA SPECTROMETRY)
Samples PZ-202-SS (160-17695-1), PZ-109-SS (160-17695-3), PZ-110-SS (160-17695-4) and LCS-5A (160-17695-6) were analyzed for Isotopic Thorium (Alpha Spectrometry) in accordance with DOE. The samples were prepared on 06/15/2016 and analyzed on 06/22/2016 and 06/23/2016.

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

ISOTOPIC URANIUM (ALPHA SPECTROMETRY)
Samples PZ-202-SS (160-17695-1), PZ-109-SS (160-17695-3), PZ-110-SS (160-17695-4) and LCS-5A (160-17695-6) were analyzed for Isotopic Uranium (Alpha Spectrometry) in accordance with DOE. The samples were prepared on 06/15/2016 and analyzed on 06/21/2016 and 06/22/2016.

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

TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Phone (314) 298-8566 Fax (314) 298-8757

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: LINN MILBERG	Lab PM: Lambert-Sykes, Chenise Y	Carrier Tracking No(s):	COC No: 160-4182-2039.1
Client Contact: Brenna McDonald	Phone: 573-453-4329	E-Mail: chenise.lambert-sykes@testamericainc.com		Page: Page 1 of 1
Company: Missouri Attorney General's Office				Job #:
Address: PO BOX 899	Due Date Requested: Standard			
City: Jefferson City	TAT Requested (days): Standard			
State, Zip: MO, 65102				
Phone: 573-368-2163(Tel)	PO #: Purchase Order Requested			
Email: brenna.mcdonald@dnr.mo.gov	WO #:			
Project Name: Groundwater - 2nd Quarter 2016	Project #: 16005341			
Site: Bridgeton Landfill	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	906.0 - Tritium	350.1, 353.1_Pres, 410.4	903.0, 904.0, A01R_Th, A01R_U	903.0, 904.0	160.1_Calcd, 300_ORGFM_28D	6010C, 7470A	415.1 - Total Organic Carbon	8260C - (MOD) OLM 4.2	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	S	D	D	N	D	S	A		
PZ-202-SS	6/6/16	0907	G	Water	N	N	✓	✓	✓	✓	✓	✓	✓	✓	14	
TRIPBLANK	6/6/16	0800	G	Water	N	N								✓	3	
PZ-109-SS	6/6/16	1133	G	Water	N	N	✓	✓	✓	✓	✓	✓	✓	✓	4	
PZ-110-SS	6/6/16	1413	G	Water	N	N	✓	✓	✓	✓	✓	✓	✓	✓	14	
PZ-201A-SS	6/6/16	1546	G	Water	N	N		✓			✓	✓	✓	✓	8	
LCS-5A	6/6/16	1630	G	W	N	N	✓	✓	✓	✓	✓	✓	✓	✓	4	LEACHATE

Possible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* ☐ *Poison B* ☐ *Unknown* ☐ *Radiological*

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 6/7/16 0800	Company: MoDNR	Received by:	Date/Time: 6-7-16 0800	Company: TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks:

160-17695 Chain of Custody

Login Sample Receipt Checklist

Client: Missouri Attorney General's Office

Job Number: 160-17695-1

Login Number: 17695
List Number: 1
Creator: Clarke, Jill C

List Source: TestAmerica St. Louis

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
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.	False	Received extra sample container not listed on COC for 906.0-Tritium analysis.
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").	False	Sample 160-17695-6 was received with headspace in the vial.
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

HPLC/IC

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
E	Result exceeded calibration range.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
*	LCS or LCSD is outside acceptance limits.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.
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.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.
H	Sample was prepped or analyzed beyond the specified holding time

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

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

Method Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17695-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL SL
300.0	Anions, Ion Chromatography	MCAWW	TAL SL
6010C	Metals (ICP)	SW846	TAL SL
7470A	Mercury (CVAA)	SW846	TAL SL
160.1	Solids, Total Dissolved (TDS)	MCAWW	TAL SL
350.1	Nitrogen, Ammonia	MCAWW	TAL SL
353.1 Preserved	Nitrogen, Nitrate-Nitrite	MCAWW	TAL SL
410.4	COD	MCAWW	TAL SL
415.1	TOC	MCAWW	TAL SL
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
906.0	Tritium, Total (LSC)	EPA	TAL SL
A-01-R	Isotopic Thorium (Alpha Spectrometry)	DOE	TAL SL
A-01-R	Isotopic Uranium (Alpha Spectrometry)	DOE	TAL SL

Protocol References:

DOE = U.S. Department of Energy
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17695-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
160-17695-1	PZ-202-SS	Water	06/06/16 09:07	06/07/16 08:00
160-17695-2	TRIP BLANK	Water	06/06/16 08:00	06/07/16 08:00
160-17695-3	PZ-109-SS	Water	06/06/16 11:33	06/07/16 08:00
160-17695-4	PZ-110-SS	Water	06/06/16 14:13	06/07/16 08:00
160-17695-5	PZ-201A-SS	Water	06/06/16 15:46	06/07/16 08:00
160-17695-6	LCS-5A	Water	06/06/16 16:30	06/07/16 08:00

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17695-1

Client Sample ID: PZ-202-SS

Date Collected: 06/06/16 09:07
Date Received: 06/07/16 08:00

Lab Sample ID: 160-17695-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**38**		20	6.7	ug/L			06/08/16 16:35	1
Acrylonitrile	ND		50	1.7	ug/L			06/08/16 16:35	1
Benzene	**170**		5.0	0.25	ug/L			06/08/16 16:35	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/08/16 16:35	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/08/16 16:35	1
Bromoform	ND		5.0	0.37	ug/L			06/08/16 16:35	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/08/16 16:35	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/08/16 16:35	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/08/16 16:35	1
Chloroethane	ND		10	0.38	ug/L			06/08/16 16:35	1
Chloroform	ND		5.0	0.15	ug/L			06/08/16 16:35	1
Chloroprene	ND		5.0	0.39	ug/L			06/08/16 16:35	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/08/16 16:35	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/08/16 16:35	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/08/16 16:35	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/08/16 16:35	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/08/16 16:35	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/08/16 16:35	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/08/16 16:35	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/08/16 16:35	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/08/16 16:35	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/08/16 16:35	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/08/16 16:35	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/08/16 16:35	1
Ethylbenzene	**0.37**	**J**	5.0	0.30	ug/L			06/08/16 16:35	1
2-Hexanone	ND		20	0.59	ug/L			06/08/16 16:35	1
Methyl bromide	**1.7**	**J**	10	0.40	ug/L			06/08/16 16:35	1
Methyl chloride	ND		10	0.55	ug/L			06/08/16 16:35	1
Methylene bromide	ND		5.0	0.41	ug/L			06/08/16 16:35	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/08/16 16:35	1
Methyl Ethyl Ketone	ND		20	0.39	ug/L			06/08/16 16:35	1
Methyl iodide	ND		5.0	1.5	ug/L			06/08/16 16:35	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/08/16 16:35	1
Styrene	ND		5.0	0.35	ug/L			06/08/16 16:35	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/08/16 16:35	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/08/16 16:35	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/08/16 16:35	1
Toluene	**5.7**	**B**	5.0	1.0	ug/L			06/08/16 16:35	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/08/16 16:35	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/08/16 16:35	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/08/16 16:35	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/08/16 16:35	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/08/16 16:35	1
Trichloroethene	ND		5.0	0.29	ug/L			06/08/16 16:35	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/08/16 16:35	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/08/16 16:35	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/08/16 16:35	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/08/16 16:35	1
Xylenes, Total	**1.4**	**J**	10	0.85	ug/L			06/08/16 16:35	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17695-1

Client Sample ID: PZ-202-SS

Date Collected: 06/06/16 09:07
Date Received: 06/07/16 08:00

Lab Sample ID: 160-17695-1

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*71 - 139*		*06/08/16 16:35*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 121*		*06/08/16 16:35*	*1*
1,2-Dichloroethane-d4 (Surr)	*94*		*76 - 121*		*06/08/16 16:35*	*1*
Toluene-d8 (Surr)	*106*		*80 - 129*		*06/08/16 16:35*	*1*

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.042**	**J**	0.20	0.020	mg/L			06/22/16 01:42	2
Sulfate	**0.91**	**J**	1.0	0.10	mg/L			06/22/16 01:42	2

Method: 300.0 - Anions, Ion Chromatography - DL2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1700**		200	20	mg/L			06/22/16 13:27	1000

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		50	15	ug/L		06/22/16 14:33	06/28/16 18:24	5
Arsenic	**81**		50	20	ug/L		06/22/16 14:33	06/28/16 18:24	5
Barium	**2300**		250	75	ug/L		06/22/16 14:33	06/28/16 18:24	5
Beryllium	ND		25	7.5	ug/L		06/22/16 14:33	06/28/16 18:24	5
Boron	ND		500	130	ug/L		06/22/16 14:33	06/28/16 18:24	5
Cadmium	ND		25	7.5	ug/L		06/22/16 14:33	06/28/16 18:24	5
CaHard	**1500000**		25000	7500	ug/L		06/22/16 14:33	06/30/16 12:24	10
Calcium	**620000**		10000	3000	ug/L		06/22/16 14:33	06/30/16 12:24	10
Chromium	ND		50	15	ug/L		06/22/16 14:33	06/28/16 18:24	5
Cobalt	ND		250	75	ug/L		06/22/16 14:33	06/28/16 18:24	5
Copper	ND		130	25	ug/L		06/22/16 14:33	06/28/16 18:24	5
Iron	**78000**		500	150	ug/L		06/22/16 14:33	06/28/16 18:24	5
Lead	ND		50	15	ug/L		06/22/16 14:33	06/28/16 18:24	5
Magnesium	**260**		5.0	1.5	mg/L		06/22/16 14:33	06/28/16 18:24	5
Manganese	**2200**		75	13	ug/L		06/22/16 14:33	06/28/16 18:24	5
MgHard	**1100000**		21000	6200	ug/L		06/22/16 14:33	06/28/16 18:24	5
Nickel	**0.078**	**J**	0.20	0.050	mg/L		06/22/16 14:33	06/28/16 18:24	5
Phosphorus	ND	F1 ^ *	1300	380	ug/L		06/22/16 14:33	06/28/16 18:24	5
Selenium	ND		75	25	ug/L		06/22/16 14:33	06/28/16 18:24	5
Silver	ND		50	15	ug/L		06/22/16 14:33	06/28/16 18:24	5
Sodium	**150000**		5000	1500	ug/L		06/22/16 14:33	06/28/16 18:24	5
Thallium	ND		100	25	ug/L		06/22/16 14:33	06/28/16 18:24	5
Total Hardness	**2600000**		33000	9900	ug/L		06/22/16 14:33	06/28/16 18:24	5
Vanadium	ND		250	75	ug/L		06/22/16 14:33	06/28/16 18:24	5
Zinc	**39**	**J**	100	30	ug/L		06/22/16 14:33	06/28/16 18:24	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.11**	**J**	0.20	0.060	ug/L		06/30/16 11:53	06/30/16 20:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	**0.66**		0.050	0.022	mg/L			07/01/16 16:56	1
Nitrate/Nitrite	**0.48**		0.050	0.011	mg/L			07/01/16 14:29	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17695-1

Client Sample ID: PZ-202-SS

Date Collected: 06/06/16 09:07
Date Received: 06/07/16 08:00

Lab Sample ID: 160-17695-1

Matrix: Water

General Chemistry - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	4800		25	17	mg/L			06/10/16 09:10	5
Chemical Oxygen Demand	730		25	5.6	mg/L		06/21/16 09:31	06/21/16 14:30	5
Total Organic Carbon	210		50	36	mg/L			06/25/16 05:44	50

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	3.72		0.272	0.432	1.00	0.0862	pCi/L	06/08/16 14:17	06/30/16 06:54	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.0*		*40 - 110*	*06/08/16 14:17*	*06/30/16 06:54*	*1*

Method: 903.0 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	2.99		0.219	0.347	1.00	0.0769	pCi/L	06/12/16 14:40	07/04/16 16:23	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.0*		*40 - 110*	*06/12/16 14:40*	*07/04/16 16:23*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.61		0.381	0.450	1.00	0.343	pCi/L	06/08/16 14:41	06/24/16 13:47	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.0*		*40 - 110*	*06/08/16 14:41*	*06/24/16 13:47*	*1*
Y Carrier	*89.0*		*40 - 110*	*06/08/16 14:41*	*06/24/16 13:47*	*1*

Method: 904.0 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.01		0.356	0.401	1.00	0.359	pCi/L	06/12/16 15:00	06/24/16 13:40	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.0*		*40 - 110*	*06/12/16 15:00*	*06/24/16 13:40*	*1*
Y Carrier	*92.7*		*40 - 110*	*06/12/16 15:00*	*06/24/16 13:40*	*1*

Method: 906.0 - Tritium, Total (LSC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	26800		960	2540	500	271	pCi/L	06/23/16 13:42	06/24/16 03:42	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17695-1

Client Sample ID: PZ-202-SS

Lab Sample ID: 160-17695-1
Date Collected: 06/06/16 09:07
Matrix: Water
Date Received: 06/07/16 08:00

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Thorium-230	0.932		0.495	0.501	1.00	0.436	pCi/L	06/15/16 15:38	06/22/16 12:57	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Thorium-229	*79.0*		*30 - 110*	*06/15/16 15:38*	*06/22/16 12:57*	*1*

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Uranium-233/234	0.0981	U	0.402	0.402	1.00	0.831	pCi/L	06/15/16 15:38	06/21/16 13:34	1
Uranium-235/236	-0.122	U	0.141	0.141	1.00	0.721	pCi/L	06/15/16 15:38	06/21/16 13:34	1
Uranium-238	0.646	U	0.577	0.580	1.00	0.829	pCi/L	06/15/16 15:38	06/21/16 13:34	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*54.8*		*30 - 110*	*06/15/16 15:38*	*06/21/16 13:34*	*1*

Client Sample ID: TRIP BLANK

Lab Sample ID: 160-17695-2
Date Collected: 06/06/16 08:00
Matrix: Water
Date Received: 06/07/16 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/08/16 17:00	1
Acrylonitrile	ND		50	1.7	ug/L			06/08/16 17:00	1
Benzene	ND		5.0	0.25	ug/L			06/08/16 17:00	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/08/16 17:00	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/08/16 17:00	1
Bromoform	ND		5.0	0.37	ug/L			06/08/16 17:00	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/08/16 17:00	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/08/16 17:00	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/08/16 17:00	1
Chloroethane	ND		10	0.38	ug/L			06/08/16 17:00	1
Chloroform	ND		5.0	0.15	ug/L			06/08/16 17:00	1
Chloroprene	ND		5.0	0.39	ug/L			06/08/16 17:00	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/08/16 17:00	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/08/16 17:00	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/08/16 17:00	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/08/16 17:00	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/08/16 17:00	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/08/16 17:00	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/08/16 17:00	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/08/16 17:00	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/08/16 17:00	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/08/16 17:00	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/08/16 17:00	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/08/16 17:00	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/08/16 17:00	1
2-Hexanone	ND		20	0.59	ug/L			06/08/16 17:00	1

Client Sample ID: TRIP BLANK

Lab Sample ID: 160-17695-2
Date Collected: 06/06/16 08:00
Matrix: Water
Date Received: 06/07/16 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl bromide	**0.79**	**J**	10	0.40	ug/L			06/08/16 17:00	1
Methyl chloride	ND		10	0.55	ug/L			06/08/16 17:00	1
Methylene bromide	ND		5.0	0.41	ug/L			06/08/16 17:00	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/08/16 17:00	1
Methyl Ethyl Ketone	**4.3**	**J**	20	0.39	ug/L			06/08/16 17:00	1
Methyl iodide	ND		5.0	1.5	ug/L			06/08/16 17:00	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/08/16 17:00	1
Styrene	ND		5.0	0.35	ug/L			06/08/16 17:00	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/08/16 17:00	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/08/16 17:00	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/08/16 17:00	1
Toluene	**1.9**	**J B**	5.0	1.0	ug/L			06/08/16 17:00	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/08/16 17:00	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/08/16 17:00	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/08/16 17:00	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/08/16 17:00	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/08/16 17:00	1
Trichloroethene	ND		5.0	0.29	ug/L			06/08/16 17:00	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/08/16 17:00	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/08/16 17:00	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/08/16 17:00	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/08/16 17:00	1
Xylenes, Total	ND		10	0.85	ug/L			06/08/16 17:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*71 - 139*		*06/08/16 17:00*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 121*		*06/08/16 17:00*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*76 - 121*		*06/08/16 17:00*	*1*
Toluene-d8 (Surr)	*107*		*80 - 129*		*06/08/16 17:00*	*1*

Client Sample ID: PZ-109-SS

Lab Sample ID: 160-17695-3
Date Collected: 06/06/16 11:33
Matrix: Water
Date Received: 06/07/16 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/08/16 17:25	1
Acrylonitrile	ND		50	1.7	ug/L			06/08/16 17:25	1
Benzene	ND		5.0	0.25	ug/L			06/08/16 17:25	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/08/16 17:25	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/08/16 17:25	1
Bromoform	ND		5.0	0.37	ug/L			06/08/16 17:25	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/08/16 17:25	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/08/16 17:25	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/08/16 17:25	1
Chloroethane	ND		10	0.38	ug/L			06/08/16 17:25	1
Chloroform	ND		5.0	0.15	ug/L			06/08/16 17:25	1
Chloroprene	ND		5.0	0.39	ug/L			06/08/16 17:25	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/08/16 17:25	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/08/16 17:25	1

Client Sample ID: PZ-109-SS

Date Collected: 06/06/16 11:33
Date Received: 06/07/16 08:00

Lab Sample ID: 160-17695-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromochloromethane	ND		5.0	0.33	ug/L			06/08/16 17:25	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/08/16 17:25	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/08/16 17:25	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/08/16 17:25	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/08/16 17:25	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/08/16 17:25	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/08/16 17:25	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/08/16 17:25	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/08/16 17:25	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/08/16 17:25	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/08/16 17:25	1
2-Hexanone	ND		20	0.59	ug/L			06/08/16 17:25	1
Methyl bromide	**0.60**	**J**	10	0.40	ug/L			06/08/16 17:25	1
Methyl chloride	ND		10	0.55	ug/L			06/08/16 17:25	1
Methylene bromide	ND		5.0	0.41	ug/L			06/08/16 17:25	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/08/16 17:25	1
Methyl Ethyl Ketone	**3.3**	**J**	20	0.39	ug/L			06/08/16 17:25	1
Methyl iodide	ND		5.0	1.5	ug/L			06/08/16 17:25	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/08/16 17:25	1
Styrene	ND		5.0	0.35	ug/L			06/08/16 17:25	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/08/16 17:25	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/08/16 17:25	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/08/16 17:25	1
Toluene	**1.9**	**J B**	5.0	1.0	ug/L			06/08/16 17:25	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/08/16 17:25	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/08/16 17:25	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/08/16 17:25	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/08/16 17:25	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/08/16 17:25	1
Trichloroethene	ND		5.0	0.29	ug/L			06/08/16 17:25	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/08/16 17:25	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/08/16 17:25	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/08/16 17:25	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/08/16 17:25	1
Xylenes, Total	ND		10	0.85	ug/L			06/08/16 17:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*71 - 139*		*06/08/16 17:25*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 121*		*06/08/16 17:25*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*76 - 121*		*06/08/16 17:25*	*1*
Toluene-d8 (Surr)	*107*		*80 - 129*		*06/08/16 17:25*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**2.0**		0.10	0.010	mg/L			06/22/16 02:24	1
Chloride	**3.4**		0.20	0.020	mg/L			06/22/16 02:24	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**23**		5.0	0.50	mg/L			06/22/16 02:38	10

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17695-1

Client Sample ID: PZ-109-SS

Date Collected: 06/06/16 11:33
Date Received: 06/07/16 08:00

Lab Sample ID: 160-17695-3

Matrix: Water

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		50	15	ug/L		06/22/16 14:33	06/28/16 18:42	5
Arsenic	ND		50	20	ug/L		06/22/16 14:33	06/28/16 18:42	5
Barium	ND		250	75	ug/L		06/22/16 14:33	06/28/16 18:42	5
Beryllium	ND		25	7.5	ug/L		06/22/16 14:33	06/28/16 18:42	5
Boron	**150**	**J**	500	130	ug/L		06/22/16 14:33	06/28/16 18:42	5
Cadmium	ND		25	7.5	ug/L		06/22/16 14:33	06/28/16 18:42	5
CaHard	**240000**		12000	3700	ug/L		06/22/16 14:33	06/28/16 18:42	5
Calcium	**94000**		5000	1500	ug/L		06/22/16 14:33	06/28/16 18:42	5
Chromium	ND		50	15	ug/L		06/22/16 14:33	06/28/16 18:42	5
Cobalt	ND		250	75	ug/L		06/22/16 14:33	06/28/16 18:42	5
Copper	ND		130	25	ug/L		06/22/16 14:33	06/28/16 18:42	5
Iron	ND		500	150	ug/L		06/22/16 14:33	06/28/16 18:42	5
Lead	ND		50	15	ug/L		06/22/16 14:33	06/28/16 18:42	5
Magnesium	**49**		5.0	1.5	mg/L		06/22/16 14:33	06/28/16 18:42	5
Manganese	ND		75	13	ug/L		06/22/16 14:33	06/28/16 18:42	5
MgHard	**200000**		21000	6200	ug/L		06/22/16 14:33	06/28/16 18:42	5
Nickel	ND		0.20	0.050	mg/L		06/22/16 14:33	06/28/16 18:42	5
Phosphorus	ND	^ *	1300	380	ug/L		06/22/16 14:33	06/28/16 18:42	5
Selenium	ND		75	25	ug/L		06/22/16 14:33	06/28/16 18:42	5
Silver	ND		50	15	ug/L		06/22/16 14:33	06/28/16 18:42	5
Sodium	**11000**		5000	1500	ug/L		06/22/16 14:33	06/28/16 18:42	5
Thallium	ND		100	25	ug/L		06/22/16 14:33	06/28/16 18:42	5
Total Hardness	**440000**		33000	9900	ug/L		06/22/16 14:33	06/28/16 18:42	5
Vanadium	ND		250	75	ug/L		06/22/16 14:33	06/28/16 18:42	5
Zinc	**34**	**J**	100	30	ug/L		06/22/16 14:33	06/28/16 18:42	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.11**	**J**	0.20	0.060	ug/L		06/30/16 11:53	06/30/16 20:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	**0.070**		0.050	0.022	mg/L			07/01/16 16:58	1
Nitrate/Nitrite	ND	F1	0.050	0.011	mg/L			07/01/16 14:30	1
Chemical Oxygen Demand	ND		5.0	1.1	mg/L		06/21/16 09:31	06/21/16 14:30	1
Total Organic Carbon	**0.92**	**J**	1.0	0.72	mg/L			06/13/16 22:47	1

General Chemistry - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	**930**		10	7.0	mg/L			06/10/16 09:10	2

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**1.16**		0.159	0.191	1.00	0.0862	pCi/L	06/08/16 14:17	06/30/16 06:54	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.6*		*40 - 110*	*06/08/16 14:17*	*06/30/16 06:54*	*1*

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17695-1

Client Sample ID: PZ-109-SS

Date Collected: 06/06/16 11:33
Date Received: 06/07/16 08:00

Lab Sample ID: 160-17695-3

Matrix: Water

Method: 903.0 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**1.09**		0.145	0.175	1.00	0.0914	pCi/L	06/12/16 14:40	07/04/16 16:23	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.3*		*40 - 110*	*06/12/16 14:40*	*07/04/16 16:23*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.525**		0.312	0.315	1.00	0.478	pCi/L	06/08/16 14:41	06/24/16 13:47	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.6*		*40 - 110*	*06/08/16 14:41*	*06/24/16 13:47*	*1*
Y Carrier	*88.6*		*40 - 110*	*06/08/16 14:41*	*06/24/16 13:47*	*1*

Method: 904.0 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.290	U	0.307	0.308	1.00	0.501	pCi/L	06/12/16 15:00	06/24/16 13:40	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.3*		*40 - 110*	*06/12/16 15:00*	*06/24/16 13:40*	*1*
Y Carrier	*93.1*		*40 - 110*	*06/12/16 15:00*	*06/24/16 13:40*	*1*

Method: 906.0 - Tritium, Total (LSC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	41.0	U	152	152	500	269	pCi/L	06/23/16 13:42	06/24/16 04:04	1

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Thorium-230	**0.109**		0.0686	0.0692	1.00	0.0326	pCi/L	06/15/16 15:38	06/23/16 12:05	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Thorium-229	*78.2*		*30 - 110*	*06/15/16 15:38*	*06/23/16 12:05*	*1*

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Uranium-233/234	**0.345**		0.158	0.160	1.00	0.123	pCi/L	06/15/16 15:38	06/21/16 13:34	1
Uranium-235/236	-0.00517	U	0.0510	0.0510	1.00	0.152	pCi/L	06/15/16 15:38	06/21/16 13:34	1
Uranium-238	**0.225**		0.125	0.126	1.00	0.0916	pCi/L	06/15/16 15:38	06/21/16 13:34	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*56.3*		*30 - 110*	*06/15/16 15:38*	*06/21/16 13:34*	*1*

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17695-1

Client Sample ID: PZ-110-SS

Date Collected: 06/06/16 14:13
Date Received: 06/07/16 08:00

Lab Sample ID: 160-17695-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/08/16 17:50	1
Acrylonitrile	ND		50	1.7	ug/L			06/08/16 17:50	1
Benzene	**10**		5.0	0.25	ug/L			06/08/16 17:50	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/08/16 17:50	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/08/16 17:50	1
Bromoform	ND		5.0	0.37	ug/L			06/08/16 17:50	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/08/16 17:50	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/08/16 17:50	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/08/16 17:50	1
Chloroethane	ND		10	0.38	ug/L			06/08/16 17:50	1
Chloroform	ND		5.0	0.15	ug/L			06/08/16 17:50	1
Chloroprene	ND		5.0	0.39	ug/L			06/08/16 17:50	1
cis-1,2-Dichloroethene	**2.1**	**J**	5.0	0.16	ug/L			06/08/16 17:50	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/08/16 17:50	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/08/16 17:50	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/08/16 17:50	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/08/16 17:50	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/08/16 17:50	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/08/16 17:50	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/08/16 17:50	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/08/16 17:50	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/08/16 17:50	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/08/16 17:50	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/08/16 17:50	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/08/16 17:50	1
2-Hexanone	ND		20	0.59	ug/L			06/08/16 17:50	1
Methyl bromide	**0.77**	**J**	10	0.40	ug/L			06/08/16 17:50	1
Methyl chloride	ND		10	0.55	ug/L			06/08/16 17:50	1
Methylene bromide	ND		5.0	0.41	ug/L			06/08/16 17:50	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/08/16 17:50	1
Methyl Ethyl Ketone	**5.1**	**J**	20	0.39	ug/L			06/08/16 17:50	1
Methyl iodide	ND		5.0	1.5	ug/L			06/08/16 17:50	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/08/16 17:50	1
Styrene	ND		5.0	0.35	ug/L			06/08/16 17:50	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/08/16 17:50	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/08/16 17:50	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/08/16 17:50	1
Toluene	**2.2**	**J B**	5.0	1.0	ug/L			06/08/16 17:50	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/08/16 17:50	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/08/16 17:50	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/08/16 17:50	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/08/16 17:50	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/08/16 17:50	1
Trichloroethene	ND		5.0	0.29	ug/L			06/08/16 17:50	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/08/16 17:50	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/08/16 17:50	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/08/16 17:50	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/08/16 17:50	1
Xylenes, Total	ND		10	0.85	ug/L			06/08/16 17:50	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17695-1

Client Sample ID: PZ-110-SS

Date Collected: 06/06/16 14:13
Date Received: 06/07/16 08:00

Lab Sample ID: 160-17695-4

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*71 - 139*		*06/08/16 17:50*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 121*		*06/08/16 17:50*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*76 - 121*		*06/08/16 17:50*	*1*
Toluene-d8 (Surr)	*105*		*80 - 129*		*06/08/16 17:50*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.19**		0.10	0.010	mg/L			06/22/16 04:57	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**44**		10	1.0	mg/L			06/22/16 05:11	20

Method: 300.0 - Anions, Ion Chromatography - DL2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**260**		40	4.0	mg/L			06/22/16 05:25	200

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**16**	**J**	50	15	ug/L		06/22/16 14:33	06/28/16 18:59	5
Arsenic	ND		50	20	ug/L		06/22/16 14:33	06/28/16 18:59	5
Barium	**300**		250	75	ug/L		06/22/16 14:33	06/28/16 18:59	5
Beryllium	ND		25	7.5	ug/L		06/22/16 14:33	06/28/16 18:59	5
Boron	**190**	**J**	500	130	ug/L		06/22/16 14:33	06/28/16 18:59	5
Cadmium	ND		25	7.5	ug/L		06/22/16 14:33	06/28/16 18:59	5
CaHard	**610000**		12000	3700	ug/L		06/22/16 14:33	06/28/16 18:59	5
Calcium	**240000**		5000	1500	ug/L		06/22/16 14:33	06/28/16 18:59	5
Chromium	ND		50	15	ug/L		06/22/16 14:33	06/28/16 18:59	5
Cobalt	ND		250	75	ug/L		06/22/16 14:33	06/28/16 18:59	5
Copper	ND		130	25	ug/L		06/22/16 14:33	06/28/16 18:59	5
Iron	**7100**		500	150	ug/L		06/22/16 14:33	06/28/16 18:59	5
Lead	ND		50	15	ug/L		06/22/16 14:33	06/28/16 18:59	5
Magnesium	**91**		5.0	1.5	mg/L		06/22/16 14:33	06/28/16 18:59	5
Manganese	**150**		75	13	ug/L		06/22/16 14:33	06/28/16 18:59	5
MgHard	**370000**		21000	6200	ug/L		06/22/16 14:33	06/28/16 18:59	5
Nickel	ND		0.20	0.050	mg/L		06/22/16 14:33	06/28/16 18:59	5
Phosphorus	ND	^ *	1300	380	ug/L		06/22/16 14:33	06/28/16 18:59	5
Selenium	ND		75	25	ug/L		06/22/16 14:33	06/28/16 18:59	5
Silver	ND		50	15	ug/L		06/22/16 14:33	06/28/16 18:59	5
Sodium	**82000**		5000	1500	ug/L		06/22/16 14:33	06/28/16 18:59	5
Thallium	ND		100	25	ug/L		06/22/16 14:33	06/28/16 18:59	5
Total Hardness	**980000**		33000	9900	ug/L		06/22/16 14:33	06/28/16 18:59	5
Vanadium	ND		250	75	ug/L		06/22/16 14:33	06/28/16 18:59	5
Zinc	**33**	**J**	100	30	ug/L		06/22/16 14:33	06/28/16 18:59	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.14**	**J**	0.20	0.060	ug/L		06/30/16 11:53	06/30/16 20:48	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17695-1

Client Sample ID: PZ-110-SS

Date Collected: 06/06/16 14:13
Date Received: 06/07/16 08:00

Lab Sample ID: 160-17695-4

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.54		0.050	0.022	mg/L			07/01/16 17:06	1
Nitrate/Nitrite	0.036	J	0.050	0.011	mg/L			07/01/16 14:39	1
Chemical Oxygen Demand	87		5.0	1.1	mg/L		06/21/16 09:31	06/21/16 14:30	1

General Chemistry - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	1200		10	7.0	mg/L			06/10/16 09:10	2
Total Organic Carbon	22		10	7.2	mg/L			06/25/16 06:34	10

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	4.20		0.298	0.481	1.00	0.103	pCi/L	06/08/16 14:17	06/30/16 06:54	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.6*		*40 - 110*	*06/08/16 14:17*	*06/30/16 06:54*	*1*

Method: 903.0 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	3.05		0.236	0.362	1.00	0.0696	pCi/L	06/12/16 14:40	07/04/16 16:23	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*77.8*		*40 - 110*	*06/12/16 14:40*	*07/04/16 16:23*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.757		0.299	0.307	1.00	0.419	pCi/L	06/08/16 14:41	06/24/16 13:47	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.6*		*40 - 110*	*06/08/16 14:41*	*06/24/16 13:47*	*1*
Y Carrier	*90.1*		*40 - 110*	*06/08/16 14:41*	*06/24/16 13:47*	*1*

Method: 904.0 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.01		0.328	0.341	1.00	0.429	pCi/L	06/12/16 15:00	06/24/16 13:40	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*77.8*		*40 - 110*	*06/12/16 15:00*	*06/24/16 13:40*	*1*
Y Carrier	*91.6*		*40 - 110*	*06/12/16 15:00*	*06/24/16 13:40*	*1*

Method: 906.0 - Tritium, Total (LSC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	1080		240	258	500	269	pCi/L	06/23/16 13:42	06/24/16 04:27	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17695-1

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Thorium-230	**0.167**		0.0892	0.0903	1.00	0.0633	pCi/L	06/15/16 15:38	06/22/16 12:57	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Thorium-229	*78.0*		*30 - 110*	*06/15/16 15:38*	*06/22/16 12:57*	*1*

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Uranium-233/234	0.0423	U	0.0786	0.0787	1.00	0.146	pCi/L	06/15/16 15:38	06/22/16 12:58	1
Uranium-235/236	0.000	U	0.0188	0.0188	1.00	0.0677	pCi/L	06/15/16 15:38	06/22/16 12:58	1
Uranium-238	0.0136	U	0.0575	0.0575	1.00	0.134	pCi/L	06/15/16 15:38	06/22/16 12:58	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*51.0*		*30 - 110*	*06/15/16 15:38*	*06/22/16 12:58*	*1*

Client Sample ID: PZ-201A-SS

Lab Sample ID: 160-17695-5

Date Collected: 06/06/16 15:46

Matrix: Water

Date Received: 06/07/16 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/08/16 18:14	1
Acrylonitrile	ND		50	1.7	ug/L			06/08/16 18:14	1
Benzene	ND		5.0	0.25	ug/L			06/08/16 18:14	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/08/16 18:14	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/08/16 18:14	1
Bromoform	ND		5.0	0.37	ug/L			06/08/16 18:14	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/08/16 18:14	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/08/16 18:14	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/08/16 18:14	1
Chloroethane	ND		10	0.38	ug/L			06/08/16 18:14	1
Chloroform	ND		5.0	0.15	ug/L			06/08/16 18:14	1
Chloroprene	ND		5.0	0.39	ug/L			06/08/16 18:14	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/08/16 18:14	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/08/16 18:14	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/08/16 18:14	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/08/16 18:14	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/08/16 18:14	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/08/16 18:14	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/08/16 18:14	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/08/16 18:14	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/08/16 18:14	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/08/16 18:14	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/08/16 18:14	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/08/16 18:14	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/08/16 18:14	1
2-Hexanone	ND		20	0.59	ug/L			06/08/16 18:14	1
Methyl bromide	**0.57**	**J**	10	0.40	ug/L			06/08/16 18:14	1
Methyl chloride	ND		10	0.55	ug/L			06/08/16 18:14	1
Methylene bromide	ND		5.0	0.41	ug/L			06/08/16 18:14	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/08/16 18:14	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17695-1

Client Sample ID: PZ-201A-SS

Date Collected: 06/06/16 15:46
Date Received: 06/07/16 08:00

Lab Sample ID: 160-17695-5

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl Ethyl Ketone	**3.3**	**J**	20	0.39	ug/L			06/08/16 18:14	1
Methyl iodide	ND		5.0	1.5	ug/L			06/08/16 18:14	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/08/16 18:14	1
Styrene	ND		5.0	0.35	ug/L			06/08/16 18:14	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/08/16 18:14	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/08/16 18:14	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/08/16 18:14	1
Toluene	**2.2**	**J B**	5.0	1.0	ug/L			06/08/16 18:14	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/08/16 18:14	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/08/16 18:14	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/08/16 18:14	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/08/16 18:14	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/08/16 18:14	1
Trichloroethene	ND		5.0	0.29	ug/L			06/08/16 18:14	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/08/16 18:14	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/08/16 18:14	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/08/16 18:14	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/08/16 18:14	1
Xylenes, Total	ND		10	0.85	ug/L			06/08/16 18:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*119*		*71 - 139*		*06/08/16 18:14*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 121*		*06/08/16 18:14*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*76 - 121*		*06/08/16 18:14*	*1*
Toluene-d8 (Surr)	*109*		*80 - 129*		*06/08/16 18:14*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.26**		0.10	0.010	mg/L			06/22/16 06:06	1
Chloride	**3.4**		0.20	0.020	mg/L			06/22/16 06:06	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**62**		5.0	0.50	mg/L			06/22/16 06:20	10

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		50	15	ug/L		06/22/16 14:33	06/28/16 19:04	5
Arsenic	ND		50	20	ug/L		06/22/16 14:33	06/28/16 19:04	5
Barium	**130**	**J**	250	75	ug/L		06/22/16 14:33	06/28/16 19:04	5
Beryllium	ND		25	7.5	ug/L		06/22/16 14:33	06/28/16 19:04	5
Boron	ND		500	130	ug/L		06/22/16 14:33	06/28/16 19:04	5
Cadmium	ND		25	7.5	ug/L		06/22/16 14:33	06/28/16 19:04	5
CaHard	**260000**		12000	3700	ug/L		06/22/16 14:33	06/28/16 19:04	5
Calcium	**110000**		5000	1500	ug/L		06/22/16 14:33	06/28/16 19:04	5
Chromium	ND		50	15	ug/L		06/22/16 14:33	06/28/16 19:04	5
Cobalt	ND		250	75	ug/L		06/22/16 14:33	06/28/16 19:04	5
Copper	ND		130	25	ug/L		06/22/16 14:33	06/28/16 19:04	5
Iron	**200**	**J**	500	150	ug/L		06/22/16 14:33	06/28/16 19:04	5
Lead	ND		50	15	ug/L		06/22/16 14:33	06/28/16 19:04	5

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17695-1

Client Sample ID: PZ-201A-SS

Lab Sample ID: 160-17695-5
Date Collected: 06/06/16 15:46
Matrix: Water
Date Received: 06/07/16 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	46		5.0	1.5	mg/L		06/22/16 14:33	06/28/16 19:04	5
Manganese	34	J	75	13	ug/L		06/22/16 14:33	06/28/16 19:04	5
MgHard	190000		21000	6200	ug/L		06/22/16 14:33	06/28/16 19:04	5
Nickel	ND		0.20	0.050	mg/L		06/22/16 14:33	06/28/16 19:04	5
Phosphorus	ND	^ *	1300	380	ug/L		06/22/16 14:33	06/28/16 19:04	5
Selenium	ND		75	25	ug/L		06/22/16 14:33	06/28/16 19:04	5
Silver	ND		50	15	ug/L		06/22/16 14:33	06/28/16 19:04	5
Sodium	11000		5000	1500	ug/L		06/22/16 14:33	06/28/16 19:04	5
Thallium	ND		100	25	ug/L		06/22/16 14:33	06/28/16 19:04	5
Total Hardness	450000		33000	9900	ug/L		06/22/16 14:33	06/28/16 19:04	5
Vanadium	ND		250	75	ug/L		06/22/16 14:33	06/28/16 19:04	5
Zinc	54	J	100	30	ug/L		06/22/16 14:33	06/28/16 19:04	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		06/30/16 11:53	06/30/16 20:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	500		5.0	3.5	mg/L			06/10/16 09:10	1
Ammonia	0.11		0.050	0.022	mg/L			07/01/16 17:08	1
Nitrate/Nitrite	ND		0.050	0.011	mg/L			07/01/16 14:39	1
Chemical Oxygen Demand	ND		5.0	1.1	mg/L		06/21/16 09:31	06/21/16 14:30	1
Total Organic Carbon	0.75	J	1.0	0.72	mg/L			06/13/16 23:10	1

Method: 906.0 - Tritium, Total (LSC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-29.3	U	142	142	500	264	pCi/L	06/23/16 13:42	06/24/16 04:49	1

Client Sample ID: LCS-5A

Lab Sample ID: 160-17695-6
Date Collected: 06/06/16 16:30
Matrix: Water
Date Received: 06/07/16 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	12	J	20	6.7	ug/L			06/08/16 18:39	1
Acrylonitrile	ND		50	1.7	ug/L			06/08/16 18:39	1
Benzene	60		5.0	0.25	ug/L			06/08/16 18:39	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/08/16 18:39	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/08/16 18:39	1
Bromoform	ND		5.0	0.37	ug/L			06/08/16 18:39	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/08/16 18:39	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/08/16 18:39	1
Chlorobenzene	92		5.0	0.38	ug/L			06/08/16 18:39	1
Chloroethane	ND		10	0.38	ug/L			06/08/16 18:39	1
Chloroform	ND		5.0	0.15	ug/L			06/08/16 18:39	1
Chloroprene	ND		5.0	0.39	ug/L			06/08/16 18:39	1
cis-1,2-Dichloroethene	1.3	J	5.0	0.16	ug/L			06/08/16 18:39	1

Client Sample ID: LCS-5A

Date Collected: 06/06/16 16:30
Date Received: 06/07/16 08:00

Lab Sample ID: 160-17695-6

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/08/16 18:39	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/08/16 18:39	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/08/16 18:39	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/08/16 18:39	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/08/16 18:39	1
1,4-Dichlorobenzene	**7.5**		5.0	0.35	ug/L			06/08/16 18:39	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/08/16 18:39	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/08/16 18:39	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/08/16 18:39	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/08/16 18:39	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/08/16 18:39	1
Ethylbenzene	**13**		5.0	0.30	ug/L			06/08/16 18:39	1
2-Hexanone	ND		20	0.59	ug/L			06/08/16 18:39	1
Methyl bromide	ND		10	0.40	ug/L			06/08/16 18:39	1
Methyl chloride	ND		10	0.55	ug/L			06/08/16 18:39	1
Methylene bromide	ND		5.0	0.41	ug/L			06/08/16 18:39	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/08/16 18:39	1
Methyl Ethyl Ketone	**4.5**	**J**	20	0.39	ug/L			06/08/16 18:39	1
Methyl iodide	ND		5.0	1.5	ug/L			06/08/16 18:39	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/08/16 18:39	1
Styrene	ND		5.0	0.35	ug/L			06/08/16 18:39	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/08/16 18:39	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/08/16 18:39	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/08/16 18:39	1
Toluene	**7.5**	**B**	5.0	1.0	ug/L			06/08/16 18:39	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/08/16 18:39	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/08/16 18:39	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/08/16 18:39	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/08/16 18:39	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/08/16 18:39	1
Trichloroethene	ND		5.0	0.29	ug/L			06/08/16 18:39	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/08/16 18:39	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/08/16 18:39	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/08/16 18:39	1
Vinyl chloride	**1.1**	**J**	5.0	0.43	ug/L			06/08/16 18:39	1
Xylenes, Total	**36**		10	0.85	ug/L			06/08/16 18:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*71 - 139*		*06/08/16 18:39*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 121*		*06/08/16 18:39*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*76 - 121*		*06/08/16 18:39*	*1*
Toluene-d8 (Surr)	*106*		*80 - 129*		*06/08/16 18:39*	*1*

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.13**	**J**	0.20	0.020	mg/L			06/22/16 06:48	2
Sulfate	**0.33**	**J**	1.0	0.10	mg/L			06/22/16 06:48	2

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17695-1

Client Sample ID: LCS-5A

Date Collected: 06/06/16 16:30
Date Received: 06/07/16 08:00

Lab Sample ID: 160-17695-6

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography - DL2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1200		200	20	mg/L			06/22/16 13:42	1000

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		50	15	ug/L		06/22/16 14:33	06/28/16 19:09	5
Arsenic	35	J	50	20	ug/L		06/22/16 14:33	06/28/16 19:09	5
Barium	1400		250	75	ug/L		06/22/16 14:33	06/28/16 19:09	5
Beryllium	ND		25	7.5	ug/L		06/22/16 14:33	06/28/16 19:09	5
Boron	4000		500	130	ug/L		06/22/16 14:33	06/28/16 19:09	5
Cadmium	ND		25	7.5	ug/L		06/22/16 14:33	06/28/16 19:09	5
CaHard	380000		12000	3700	ug/L		06/22/16 14:33	06/28/16 19:09	5
Calcium	150000		5000	1500	ug/L		06/22/16 14:33	06/28/16 19:09	5
Chromium	25	J	50	15	ug/L		06/22/16 14:33	06/28/16 19:09	5
Cobalt	ND		250	75	ug/L		06/22/16 14:33	06/28/16 19:09	5
Copper	ND		130	25	ug/L		06/22/16 14:33	06/28/16 19:09	5
Iron	6400		500	150	ug/L		06/22/16 14:33	06/28/16 19:09	5
Lead	ND		50	15	ug/L		06/22/16 14:33	06/28/16 19:09	5
Magnesium	82		5.0	1.5	mg/L		06/22/16 14:33	06/28/16 19:09	5
Manganese	210		75	13	ug/L		06/22/16 14:33	06/28/16 19:09	5
MgHard	340000		21000	6200	ug/L		06/22/16 14:33	06/28/16 19:09	5
Nickel	0.056	J	0.20	0.050	mg/L		06/22/16 14:33	06/28/16 19:09	5
Phosphorus	ND		5000	1500	ug/L		06/22/16 14:33	06/30/16 12:42	20
Selenium	ND		75	25	ug/L		06/22/16 14:33	06/28/16 19:09	5
Silver	ND		50	15	ug/L		06/22/16 14:33	06/28/16 19:09	5
Sodium	820000		20000	6000	ug/L		06/22/16 14:33	06/30/16 12:42	20
Thallium	ND		100	25	ug/L		06/22/16 14:33	06/28/16 19:09	5
Total Hardness	710000		33000	9900	ug/L		06/22/16 14:33	06/28/16 19:09	5
Vanadium	ND		250	75	ug/L		06/22/16 14:33	06/28/16 19:09	5
Zinc	36	J	100	30	ug/L		06/22/16 14:33	06/28/16 19:09	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.37	J	1.0	0.30	ug/L		06/30/16 11:53	06/30/16 20:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate/Nitrite	0.16		0.050	0.011	mg/L			07/01/16 14:43	1

General Chemistry - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	3600		50	35	mg/L			06/10/16 09:10	10
Chemical Oxygen Demand	690		25	5.6	mg/L		06/21/16 09:31	06/21/16 14:30	5
Total Organic Carbon	180		50	36	mg/L			06/25/16 06:46	50

General Chemistry - RADL2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	330	H	25	11	mg/L			07/05/16 15:25	500

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17695-1

Client Sample ID: LCS-5A

Date Collected: 06/06/16 16:30
Date Received: 06/07/16 08:00

Lab Sample ID: 160-17695-6

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	7.58		0.560	0.883	1.00	0.201	pCi/L	06/08/16 14:17	06/30/16 06:54	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.3*		*40 - 110*	*06/08/16 14:17*	*06/30/16 06:54*	*1*

Method: 903.0 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	6.27		0.456	0.726	1.00	0.149	pCi/L	06/12/16 14:40	07/04/16 16:23	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.6*		*40 - 110*	*06/12/16 14:40*	*07/04/16 16:23*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.20		0.531	0.543	1.00	0.756	pCi/L	06/08/16 14:41	06/24/16 13:47	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.3*		*40 - 110*	*06/08/16 14:41*	*06/24/16 13:47*	*1*
Y Carrier	*91.6*		*40 - 110*	*06/08/16 14:41*	*06/24/16 13:47*	*1*

Method: 904.0 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.87		0.569	0.595	1.00	0.712	pCi/L	06/12/16 15:00	06/24/16 13:40	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.6*		*40 - 110*	*06/12/16 15:00*	*06/24/16 13:40*	*1*
Y Carrier	*89.0*		*40 - 110*	*06/12/16 15:00*	*06/24/16 13:40*	*1*

Method: 906.0 - Tritium, Total (LSC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	10500		603	1100	500	263	pCi/L	06/23/16 13:42	06/24/16 05:12	1

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Thorium-230	0.846		0.452	0.457	1.00	0.321	pCi/L	06/15/16 15:38	06/22/16 12:57	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Thorium-229	*78.6*		*30 - 110*	*06/15/16 15:38*	*06/22/16 12:57*	*1*

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17695-1

Client Sample ID: LCS-5A

Date Collected: 06/06/16 16:30
Date Received: 06/07/16 08:00

Lab Sample ID: 160-17695-6

Matrix: Water

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Uranium-233/234	0.185	U	0.255	0.256	1.00	0.396	pCi/L	06/15/16 15:38	06/21/16 13:34	1
Uranium-235/236	0.000	U	0.0743	0.0743	1.00	0.267	pCi/L	06/15/16 15:38	06/21/16 13:34	1
Uranium-238	0.000	U	0.0596	0.0596	1.00	0.214	pCi/L	06/15/16 15:38	06/21/16 13:34	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*62.2*		*30 - 110*	*06/15/16 15:38*	*06/21/16 13:34*	*1*

QC Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17695-1

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

Lab Sample ID: MB 160-255479/9
Matrix: Water
Analysis Batch: 255479

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/08/16 12:44	1
Acrylonitrile	ND		50	1.7	ug/L			06/08/16 12:44	1
Benzene	ND		5.0	0.25	ug/L			06/08/16 12:44	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/08/16 12:44	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/08/16 12:44	1
Bromoform	ND		5.0	0.37	ug/L			06/08/16 12:44	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/08/16 12:44	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/08/16 12:44	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/08/16 12:44	1
Chloroethane	ND		10	0.38	ug/L			06/08/16 12:44	1
Chloroform	ND		5.0	0.15	ug/L			06/08/16 12:44	1
Chloroprene	ND		5.0	0.39	ug/L			06/08/16 12:44	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/08/16 12:44	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/08/16 12:44	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/08/16 12:44	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/08/16 12:44	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/08/16 12:44	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/08/16 12:44	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/08/16 12:44	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/08/16 12:44	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/08/16 12:44	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/08/16 12:44	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/08/16 12:44	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/08/16 12:44	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/08/16 12:44	1
2-Hexanone	ND		20	0.59	ug/L			06/08/16 12:44	1
Methyl bromide	ND		10	0.40	ug/L			06/08/16 12:44	1
Methyl chloride	ND		10	0.55	ug/L			06/08/16 12:44	1
Methylene bromide	ND		5.0	0.41	ug/L			06/08/16 12:44	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/08/16 12:44	1
Methyl Ethyl Ketone	ND		20	0.39	ug/L			06/08/16 12:44	1
Methyl iodide	ND		5.0	1.5	ug/L			06/08/16 12:44	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/08/16 12:44	1
Styrene	ND		5.0	0.35	ug/L			06/08/16 12:44	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/08/16 12:44	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/08/16 12:44	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/08/16 12:44	1
Toluene	2.01	J	5.0	1.0	ug/L			06/08/16 12:44	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/08/16 12:44	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/08/16 12:44	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/08/16 12:44	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/08/16 12:44	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/08/16 12:44	1
Trichloroethene	ND		5.0	0.29	ug/L			06/08/16 12:44	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/08/16 12:44	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/08/16 12:44	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/08/16 12:44	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/08/16 12:44	1

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

Lab Sample ID: MB 160-255479/9
Matrix: Water
Analysis Batch: 255479

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		10	0.85	ug/L			06/08/16 12:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*71 - 139*		*06/08/16 12:44*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 121*		*06/08/16 12:44*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*76 - 121*		*06/08/16 12:44*	*1*
Toluene-d8 (Surr)	*106*		*80 - 129*		*06/08/16 12:44*	*1*

Lab Sample ID: LCS 160-255479/6
Matrix: Water
Analysis Batch: 255479

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	50.0	47.9		ug/L		96	63 - 131
Acrylonitrile	500	495		ug/L		99	81 - 117
Benzene	50.0	51.6		ug/L		103	80 - 120
Bromochloromethane	50.0	49.2		ug/L		98	80 - 120
Bromodichloromethane	50.0	50.4		ug/L		101	80 - 120
Bromoform	50.0	47.5		ug/L		95	80 - 120
Carbon disulfide	50.0	51.0		ug/L		102	79 - 126
Carbon tetrachloride	50.0	51.6		ug/L		103	73 - 123
Chlorobenzene	50.0	48.4		ug/L		97	80 - 120
Chloroethane	50.0	45.4		ug/L		91	52 - 140
Chloroform	50.0	50.9		ug/L		102	80 - 120
Chloroprene	50.0	55.4		ug/L		111	80 - 120
cis-1,2-Dichloroethene	50.0	53.1		ug/L		106	80 - 120
cis-1,3-Dichloropropene	50.0	52.4		ug/L		105	80 - 122
Dibromochloromethane	50.0	48.9		ug/L		98	80 - 120
1,2-Dibromo-3-Chloropropane	50.0	47.2		ug/L		94	77 - 125
1,2-Dibromoethane (EDB)	50.0	50.0		ug/L		100	80 - 120
1,3-Dichlorobenzene	50.0	49.0		ug/L		98	80 - 120
1,4-Dichlorobenzene	50.0	48.8		ug/L		98	80 - 120
Dichlorodifluoromethane	50.0	63.0		ug/L		126	62 - 140
1,1-Dichloroethane	50.0	51.0		ug/L		102	80 - 120
1,2-Dichloroethane	50.0	50.8		ug/L		102	69 - 124
1,1-Dichloroethene	50.0	50.3		ug/L		101	77 - 126
1,2-Dichloropropane	50.0	51.3		ug/L		103	80 - 120
Ethylbenzene	50.0	50.4		ug/L		101	80 - 120
2-Hexanone	50.0	47.5		ug/L		95	64 - 136
Methyl bromide	50.0	48.6		ug/L		97	57 - 139
Methyl chloride	50.0	53.8		ug/L		108	70 - 127
Methylene bromide	50.0	49.7		ug/L		99	78 - 120
Methylene Chloride	50.0	50.1		ug/L		100	80 - 120
Methyl Ethyl Ketone	50.0	46.0		ug/L		92	70 - 130
Methyl iodide	50.0	43.0		ug/L		86	73 - 125
4-Methyl-2-pentanone (MIBK)	50.0	49.5		ug/L		99	76 - 129
Styrene	50.0	51.4		ug/L		103	80 - 120
1,1,1,2-Tetrachloroethane	50.0	48.4		ug/L		97	80 - 120

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

Lab Sample ID: LCS 160-255479/6
Matrix: Water
Analysis Batch: 255479

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2,2-Tetrachloroethane	50.0	45.9		ug/L		92	80 - 120
Tetrachloroethene	50.0	49.3		ug/L		99	80 - 120
Toluene	50.0	46.4		ug/L		93	80 - 120
trans-1,4-Dichloro-2-butene	50.0	50.2		ug/L		100	75 - 127
trans-1,2-Dichloroethene	50.0	51.6		ug/L		103	80 - 120
trans-1,3-Dichloropropene	50.0	52.2		ug/L		104	80 - 130
1,1,1-Trichloroethane	50.0	53.1		ug/L		106	76 - 120
1,1,2-Trichloroethane	50.0	49.8		ug/L		100	80 - 120
Trichloroethene	50.0	52.4		ug/L		105	73 - 120
Trichlorofluoromethane	50.0	54.3		ug/L		109	74 - 130
1,2,3-Trichloropropane	50.0	48.3		ug/L		97	80 - 120
Vinyl acetate	50.0	43.1		ug/L		86	37 - 140
Vinyl chloride	50.0	55.3		ug/L		111	51 - 140
Xylenes, Total	100	102		ug/L		102	80 - 121

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*71 - 139*
Dibromofluoromethane (Surr)	*97*		*80 - 121*
1,2-Dichloroethane-d4 (Surr)	*99*		*76 - 121*
Toluene-d8 (Surr)	*102*		*80 - 129*

Lab Sample ID: LCSD 160-255479/7
Matrix: Water
Analysis Batch: 255479

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
Acetone	50.0	50.4		ug/L		101	63 - 131	5	20
Acrylonitrile	500	494		ug/L		99	81 - 117	0	20
Benzene	50.0	50.6		ug/L		101	80 - 120	2	20
Bromochloromethane	50.0	48.9		ug/L		98	80 - 120	1	20
Bromodichloromethane	50.0	49.0		ug/L		98	80 - 120	3	20
Bromoform	50.0	47.5		ug/L		95	80 - 120	0	20
Carbon disulfide	50.0	49.7		ug/L		99	79 - 126	3	20
Carbon tetrachloride	50.0	51.1		ug/L		102	73 - 123	1	20
Chlorobenzene	50.0	47.5		ug/L		95	80 - 120	2	20
Chloroethane	50.0	53.5		ug/L		107	52 - 140	16	20
Chloroform	50.0	49.8		ug/L		100	80 - 120	2	20
Chloroprene	50.0	54.8		ug/L		110	80 - 120	1	20
cis-1,2-Dichloroethene	50.0	52.8		ug/L		106	80 - 120	1	20
cis-1,3-Dichloropropene	50.0	52.3		ug/L		105	80 - 122	0	20
Dibromochloromethane	50.0	49.2		ug/L		98	80 - 120	1	20
1,2-Dibromo-3-Chloropropane	50.0	47.1		ug/L		94	77 - 125	0	20
1,2-Dibromoethane (EDB)	50.0	50.2		ug/L		100	80 - 120	1	20
1,3-Dichlorobenzene	50.0	47.9		ug/L		96	80 - 120	2	20
1,4-Dichlorobenzene	50.0	47.7		ug/L		95	80 - 120	2	20
Dichlorodifluoromethane	50.0	61.2		ug/L		122	62 - 140	3	20
1,1-Dichloroethane	50.0	50.2		ug/L		100	80 - 120	1	20
1,2-Dichloroethane	50.0	50.2		ug/L		100	69 - 124	1	20

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

Lab Sample ID: LCSD 160-255479/7
Matrix: Water
Analysis Batch: 255479

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
1,1-Dichloroethene	50.0	48.3		ug/L		97	77 - 126	4	20
1,2-Dichloropropane	50.0	50.4		ug/L		101	80 - 120	2	20
Ethylbenzene	50.0	49.4		ug/L		99	80 - 120	2	20
2-Hexanone	50.0	49.4		ug/L		99	64 - 136	4	20
Methyl bromide	50.0	46.1		ug/L		92	57 - 139	5	20
Methyl chloride	50.0	52.3		ug/L		105	70 - 127	3	20
Methylene bromide	50.0	49.2		ug/L		98	78 - 120	1	20
Methylene Chloride	50.0	49.3		ug/L		99	80 - 120	2	20
Methyl Ethyl Ketone	50.0	48.9		ug/L		98	70 - 130	6	20
Methyl iodide	50.0	41.9		ug/L		84	73 - 125	3	20
4-Methyl-2-pentanone (MIBK)	50.0	49.9		ug/L		100	76 - 129	1	20
Styrene	50.0	50.6		ug/L		101	80 - 120	2	20
1,1,1,2-Tetrachloroethane	50.0	48.3		ug/L		97	80 - 120	0	20
1,1,2,2-Tetrachloroethane	50.0	44.1		ug/L		88	80 - 120	4	20
Tetrachloroethene	50.0	49.7		ug/L		99	80 - 120	1	20
Toluene	50.0	45.6		ug/L		91	80 - 120	2	20
trans-1,4-Dichloro-2-butene	50.0	51.0		ug/L		102	75 - 127	2	20
trans-1,2-Dichloroethene	50.0	51.9		ug/L		104	80 - 120	1	20
trans-1,3-Dichloropropene	50.0	51.3		ug/L		103	80 - 130	2	20
1,1,1-Trichloroethane	50.0	51.9		ug/L		104	76 - 120	2	20
1,1,2-Trichloroethane	50.0	47.9		ug/L		96	80 - 120	4	20
Trichloroethene	50.0	51.5		ug/L		103	73 - 120	2	20
Trichlorofluoromethane	50.0	51.8		ug/L		104	74 - 130	5	20
1,2,3-Trichloropropane	50.0	47.5		ug/L		95	80 - 120	2	20
Vinyl acetate	50.0	37.6		ug/L		75	37 - 140	14	20
Vinyl chloride	50.0	53.8		ug/L		108	51 - 140	3	20
Xylenes, Total	100	101		ug/L		101	80 - 121	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*71 - 139*
Dibromofluoromethane (Surr)	*97*		*80 - 121*
1,2-Dichloroethane-d4 (Surr)	*98*		*76 - 121*
Toluene-d8 (Surr)	*100*		*80 - 129*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 160-257330/44
Matrix: Water
Analysis Batch: 257330

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.10	0.010	mg/L			06/22/16 01:14	1
Sulfate	ND		0.50	0.050	mg/L			06/22/16 01:14	1
Chloride	ND		0.20	0.020	mg/L			06/22/16 01:14	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 160-257330/45 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257330

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.00	0.997		mg/L		100	90 - 110
Sulfate	8.00	7.75		mg/L		97	90 - 110
Chloride	2.00	1.94		mg/L		97	90 - 110

Lab Sample ID: 160-17695-3 MS — **Client Sample ID: PZ-109-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257330

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	2.0		2.00	4.15	E	mg/L		106	90 - 110
Chloride	3.4		2.00	5.60	E	mg/L		109	90 - 110

Lab Sample ID: 160-17695-3 DU — **Client Sample ID: PZ-109-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257330

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Fluoride	2.0		2.06		mg/L		2	20
Chloride	3.4		3.54		mg/L		4	20

Method: 300.0 - Anions, Ion Chromatography - DL

Lab Sample ID: 160-17695-3 MS — **Client Sample ID: PZ-109-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257330

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate - DL	23		40.0	60.1		mg/L		93	90 - 110

Lab Sample ID: 160-17695-3 DU — **Client Sample ID: PZ-109-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257330

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate - DL	23		22.3		mg/L		3	20

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 160-257622/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258532 — **Prep Batch: 257622**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		10	3.0	ug/L		06/22/16 14:33	06/28/16 18:15	1
Arsenic	ND		10	4.0	ug/L		06/22/16 14:33	06/28/16 18:15	1
Barium	ND		50	15	ug/L		06/22/16 14:33	06/28/16 18:15	1
Beryllium	ND		5.0	1.5	ug/L		06/22/16 14:33	06/28/16 18:15	1
Boron	ND		100	25	ug/L		06/22/16 14:33	06/28/16 18:15	1
Cadmium	ND		5.0	1.5	ug/L		06/22/16 14:33	06/28/16 18:15	1

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

Lab Sample ID: MB 160-257622/1-A
Matrix: Water
Analysis Batch: 258532

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 257622

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
CaHard	ND		2500	750	ug/L		06/22/16 14:33	06/28/16 18:15	1
Calcium	ND		1000	300	ug/L		06/22/16 14:33	06/28/16 18:15	1
Chromium	ND		10	3.0	ug/L		06/22/16 14:33	06/28/16 18:15	1
Cobalt	ND		50	15	ug/L		06/22/16 14:33	06/28/16 18:15	1
Copper	ND		25	5.0	ug/L		06/22/16 14:33	06/28/16 18:15	1
Iron	ND		100	30	ug/L		06/22/16 14:33	06/28/16 18:15	1
Lead	ND		10	3.0	ug/L		06/22/16 14:33	06/28/16 18:15	1
Magnesium	ND		1.0	0.30	mg/L		06/22/16 14:33	06/28/16 18:15	1
Manganese	ND		15	2.5	ug/L		06/22/16 14:33	06/28/16 18:15	1
MgHard	ND		4100	1200	ug/L		06/22/16 14:33	06/28/16 18:15	1
Nickel	ND		0.040	0.010	mg/L		06/22/16 14:33	06/28/16 18:15	1
Phosphorus	ND	^	250	75	ug/L		06/22/16 14:33	06/28/16 18:15	1
Selenium	ND		15	5.0	ug/L		06/22/16 14:33	06/28/16 18:15	1
Silver	ND		10	3.0	ug/L		06/22/16 14:33	06/28/16 18:15	1
Sodium	ND		1000	300	ug/L		06/22/16 14:33	06/28/16 18:15	1
Thallium	ND		20	5.0	ug/L		06/22/16 14:33	06/28/16 18:15	1
Total Hardness	ND		6600	2000	ug/L		06/22/16 14:33	06/28/16 18:15	1
Vanadium	ND		50	15	ug/L		06/22/16 14:33	06/28/16 18:15	1
Zinc	ND		20	6.0	ug/L		06/22/16 14:33	06/28/16 18:15	1

Lab Sample ID: LCS 160-257622/2-A
Matrix: Water
Analysis Batch: 258532

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 257622

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	500	507		ug/L		101	80 - 120
Arsenic	1000	1010		ug/L		101	80 - 120
Barium	1000	951		ug/L		95	80 - 120
Beryllium	1000	975		ug/L		98	80 - 120
Boron	2000	1910		ug/L		95	80 - 120
Cadmium	1000	1040		ug/L		104	80 - 120
Calcium	10000	10600		ug/L		106	80 - 120
Chromium	1000	1050		ug/L		105	80 - 120
Cobalt	1000	1050		ug/L		105	80 - 120
Copper	1000	955		ug/L		95	80 - 120
Iron	10000	9560		ug/L		96	80 - 120
Lead	1000	1010		ug/L		101	80 - 120
Magnesium	10.0	9.65		mg/L		96	80 - 120
Manganese	1000	950		ug/L		95	80 - 120
Nickel	1.00	1.06		mg/L		106	80 - 120
Selenium	500	503		ug/L		101	80 - 120
Silver	200	199		ug/L		99	80 - 120
Sodium	10000	10100		ug/L		101	80 - 120
Thallium	200	198		ug/L		99	80 - 120
Vanadium	1000	954		ug/L		95	80 - 120
Zinc	1000	1060		ug/L		106	80 - 120

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

Lab Sample ID: LCS 160-257622/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258751 — **Prep Batch: 257622**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	1000	1150		ug/L		115	80 - 120

Lab Sample ID: 160-17695-1 MS — **Client Sample ID: PZ-202-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258532 — **Prep Batch: 257622**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND		500	528		ug/L		106	75 - 125
Arsenic	81		1000	1120		ug/L		104	75 - 125
Barium	2300		1000	3210		ug/L		89	75 - 125
Beryllium	ND		1000	954		ug/L		95	75 - 125
Boron	ND		2000	1850		ug/L		92	75 - 125
Cadmium	ND		1000	1060		ug/L		106	75 - 125
Chromium	ND		1000	1070		ug/L		107	75 - 125
Cobalt	ND		1000	1070		ug/L		107	75 - 125
Copper	ND		1000	968		ug/L		97	75 - 125
Iron	78000		10000	86200	4	ug/L		80	75 - 125
Lead	ND		1000	1030		ug/L		103	75 - 125
Magnesium	260		10.0	267	4	mg/L		33	75 - 125
Manganese	2200		1000	3110		ug/L		87	75 - 125
Nickel	0.078	J	1.00	1.14		mg/L		107	75 - 125
Phosphorus	ND	F1 ^ *	1000	1490	F1 ^	ug/L		149	75 - 125
Selenium	ND		500	528		ug/L		106	75 - 125
Silver	ND		200	197		ug/L		99	75 - 125
Sodium	150000		10000	159000	4	ug/L		66	75 - 125
Thallium	ND		200	205		ug/L		102	75 - 125
Vanadium	ND		1000	930		ug/L		93	75 - 125
Zinc	39	J	1000	1130		ug/L		109	75 - 125

Lab Sample ID: 160-17695-1 MS — **Client Sample ID: PZ-202-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258751 — **Prep Batch: 257622**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	620000		10000	624000	4	ug/L		64	75 - 125

Lab Sample ID: 160-17695-1 MSD — **Client Sample ID: PZ-202-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258532 — **Prep Batch: 257622**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	ND		500	497		ug/L		99	75 - 125	6	20
Arsenic	81		1000	1070		ug/L		99	75 - 125	5	20
Barium	2300		1000	3280		ug/L		96	75 - 125	2	20
Beryllium	ND		1000	961		ug/L		96	75 - 125	1	20
Boron	ND		2000	1860		ug/L		93	75 - 125	1	20
Cadmium	ND		1000	1010		ug/L		101	75 - 125	5	20
Chromium	ND		1000	1010		ug/L		101	75 - 125	5	20
Cobalt	ND		1000	1020		ug/L		102	75 - 125	5	20

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

Lab Sample ID: 160-17695-1 MSD — **Client Sample ID: PZ-202-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258532 — **Prep Batch: 257622**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Copper	ND		1000	934		ug/L		93	75 - 125	4	20
Iron	78000		10000	87100	4	ug/L		89	75 - 125	1	20
Lead	ND		1000	979		ug/L		98	75 - 125	5	20
Magnesium	260		10.0	270	4	mg/L		59	75 - 125	1	20
Manganese	2200		1000	3150		ug/L		91	75 - 125	1	20
Nickel	0.078	J	1.00	1.08		mg/L		101	75 - 125	5	20
Phosphorus	ND	F1 ^ *	1000	1420	F1 ^	ug/L		142	75 - 125	4	20
Selenium	ND		500	513		ug/L		103	75 - 125	3	20
Silver	ND		200	201		ug/L		101	75 - 125	2	20
Sodium	150000		10000	162000	4	ug/L		90	75 - 125	1	20
Thallium	ND		200	203		ug/L		101	75 - 125	1	20
Vanadium	ND		1000	943		ug/L		94	75 - 125	1	20
Zinc	39	J	1000	1070		ug/L		103	75 - 125	5	20

Lab Sample ID: 160-17695-1 MSD — **Client Sample ID: PZ-202-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258751 — **Prep Batch: 257622**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	620000		10000	630000	4	ug/L		125	75 - 125	1	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 160-258736/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258913 — **Prep Batch: 258736**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		06/30/16 11:53	06/30/16 20:35	1

Lab Sample ID: LCS 160-258736/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258913 — **Prep Batch: 258736**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	5.00	5.37		ug/L		107	80 - 120

Lab Sample ID: 160-17695-4 MS — **Client Sample ID: PZ-110-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258913 — **Prep Batch: 258736**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.14	J	5.00	4.56		ug/L		88	80 - 120

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: 160-17695-4 MSD — **Client Sample ID: PZ-110-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258913 — **Prep Batch: 258736**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.14	J	5.00	4.55		ug/L		88	80 - 120	0	20

Method: 160.1 - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 160-255905/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 255905

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		5.0	3.5	mg/L			06/10/16 09:10	1

Lab Sample ID: LCS 160-255905/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 255905

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids (TDS)	500	516		mg/L		103	90 - 110

Method: 160.1 - Solids, Total Dissolved (TDS) - DL

Lab Sample ID: 160-17695-1 DU — **Client Sample ID: PZ-202-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 255905

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids (TDS) - DL	4800		5030		mg/L		5	20

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 160-259180/11 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259180

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.050	0.022	mg/L			07/01/16 16:51	1

Lab Sample ID: LCS 160-259180/12 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259180

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	0.500	0.498		mg/L		100	90 - 110

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: 160-17695-3 MS — **Client Sample ID: PZ-109-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259180

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia	0.070		0.500	0.588		mg/L		103	90 - 110		

Lab Sample ID: 160-17695-3 DU — **Client Sample ID: PZ-109-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259180

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Ammonia	0.070			0.0630		mg/L				11	20

Lab Sample ID: MB 160-259230/11 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259230

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.050	0.022	mg/L			07/05/16 14:06	1

Lab Sample ID: LCS 160-259230/12 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259230

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia			0.500	0.509		mg/L		102	90 - 110		

Method: 353.1 Preserved - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 160-258930/13 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258930

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate/Nitrite	ND		0.050	0.011	mg/L			07/01/16 14:25	1

Lab Sample ID: LCS 160-258930/14 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258930

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrate/Nitrite			0.500	0.541		mg/L		108	90 - 110		

Lab Sample ID: 160-17695-3 MS — **Client Sample ID: PZ-109-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258930

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrate/Nitrite	ND	F1	0.500	ND	F1	mg/L		0	90 - 110		

Method: 353.1 Preserved - Nitrogen, Nitrate-Nitrite (Continued)

Lab Sample ID: 160-17695-3 DU — **Client Sample ID: PZ-109-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258930

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Nitrate/Nitrite	ND	F1		ND		mg/L				NC	20

Method: 410.4 - COD

Lab Sample ID: MB 160-257264/3-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257335 — **Prep Batch: 257264**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		5.0	1.1	mg/L		06/21/16 09:31	06/21/16 14:30	1

Lab Sample ID: LCS 160-257264/4-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257335 — **Prep Batch: 257264**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chemical Oxygen Demand			50.0	51.0		mg/L		102	90 - 110		

Lab Sample ID: 160-17695-3 MS — **Client Sample ID: PZ-109-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257335 — **Prep Batch: 257264**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chemical Oxygen Demand	ND		50.0	51.0		mg/L		102	90 - 110		

Lab Sample ID: 160-17695-3 DU — **Client Sample ID: PZ-109-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257335 — **Prep Batch: 257264**

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Chemical Oxygen Demand	ND			ND		mg/L				NC	20

Method: 415.1 - TOC

Lab Sample ID: MB 160-256304/5 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256304

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		1.0	0.72	mg/L			06/13/16 19:27	1

Lab Sample ID: LCS 160-256304/6 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256304

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon			10.0	9.97		mg/L		100	90 - 110		

Method: 415.1 - TOC (Continued)

Lab Sample ID: MB 160-258023/32 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258023

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		1.0	0.72	mg/L			06/25/16 03:18	1

Lab Sample ID: LCS 160-258023/33 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258023

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	10.0	9.48		mg/L		95	90 - 110

Method: 415.1 - TOC - DL

Lab Sample ID: 160-17695-1 MS — **Client Sample ID: PZ-202-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258023

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - DL	210		250	439		mg/L		94	76 - 120

Lab Sample ID: 160-17695-1 DU — **Client Sample ID: PZ-202-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258023

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Organic Carbon - DL	210		191		mg/L		7	20

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-255489/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258671 — **Prep Batch: 255489**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.002888	U	0.0396	0.0396	1.00	0.0807	pCi/L	06/08/16 14:17	06/30/16 06:53	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.6*		*40 - 110*	*06/08/16 14:17*	*06/30/16 06:53*	*1*

Lab Sample ID: LCS 160-255489/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258671 — **Prep Batch: 255489**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	11.2	13.92		1.35	1.00	0.0764	pCi/L	125	68 - 137

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*93.4*		*40 - 110*

Lab Sample ID: LCSD 160-255489/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258671 — **Prep Batch: 255489**

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.2	14.61		1.42	1.00	0.0841	pCi/L	131	68 - 137	0.25	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*90.3*		*40 - 110*

Lab Sample ID: MB 160-256056/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258971 — **Prep Batch: 256056**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.06498	U	0.0536	0.0539	1.00	0.0822	pCi/L	06/12/16 14:40	07/04/16 16:23	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.5*		*40 - 110*	*06/12/16 14:40*	*07/04/16 16:23*	*1*

Lab Sample ID: LCS 160-256056/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258971 — **Prep Batch: 256056**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.2	13.37		1.29	1.00	0.0781	pCi/L	120	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*87.7*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-255491/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257878 — **Prep Batch: 255491**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.02463	U	0.242	0.242	1.00	0.435	pCi/L	06/08/16 14:41	06/24/16 13:46	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.6*		*40 - 110*	*06/08/16 14:41*	*06/24/16 13:46*	*1*
Y Carrier	*88.2*		*40 - 110*	*06/08/16 14:41*	*06/24/16 13:46*	*1*

Lab Sample ID: LCS 160-255491/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257878 — **Prep Batch: 255491**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			15.0	18.36		1.92	1.00	0.422	pCi/L	123	56 - 140		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	93.4		40 - 110
Y Carrier	89.3		40 - 110

Lab Sample ID: LCSD 160-255491/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257878 — **Prep Batch: 255491**

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			15.0	17.73		1.87	1.00	0.445	pCi/L	118	56 - 140	0.16	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	90.3		40 - 110
Y Carrier	89.7		40 - 110

Lab Sample ID: MB 160-256057/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257879 — **Prep Batch: 256057**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.3315	U	0.279	0.281	1.00	0.445	pCi/L	06/12/16 15:00	06/24/16 13:39	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	81.5		40 - 110	06/12/16 15:00	06/24/16 13:39	1
Y Carrier	91.6		40 - 110	06/12/16 15:00	06/24/16 13:39	1

Lab Sample ID: LCS 160-256057/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257879 — **Prep Batch: 256057**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			15.0	19.83		2.07	1.00	0.383	pCi/L	133	56 - 140		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	87.7		40 - 110
Y Carrier	93.1		40 - 110

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-257723/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257889 — **Prep Batch: 257723**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	26.58	U	144	145	500	255	pCi/L	06/23/16 13:42	06/23/16 21:29	1

Method: 906.0 - Tritium, Total (LSC) (Continued)

Lab Sample ID: LCS 160-257723/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257889 — **Prep Batch: 257723**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Tritium	3060	2722		407	500	261	pCi/L	89	74 - 114

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

Lab Sample ID: MB 160-256563/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257515 — **Prep Batch: 256563**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Thorium-230	0.3100		0.113	0.116	1.00	0.0310	pCi/L	06/15/16 15:38	06/22/16 12:57	1

Tracer	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Thorium-229	*89.1*		*30 - 110*	*06/15/16 15:38*	*06/22/16 12:57*	*1*

Lab Sample ID: LCS 160-256563/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257516 — **Prep Batch: 256563**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Thorium-230	8.03	10.06		1.07	1.00	0.0318	pCi/L	125	81 - 125

Tracer	*LCS %Yield*	*LCS Qualifier*	*Limits*
Thorium-229	*80.1*		*30 - 110*

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-256581/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257395 — **Prep Batch: 256581**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Uranium-233/234	0.06665		0.0596	0.0599	1.00	0.0400	pCi/L	06/15/16 15:38	06/21/16 13:34	1
Uranium-235/236	0.03317	U	0.0469	0.0470	1.00	0.0498	pCi/L	06/15/16 15:38	06/21/16 13:34	1
Uranium-238	0.007760	U	0.0288	0.0288	1.00	0.0735	pCi/L	06/15/16 15:38	06/21/16 13:34	1

Tracer	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*69.0*		*30 - 110*	*06/15/16 15:38*	*06/21/16 13:34*	*1*

QC Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17695-1

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) (Continued)

Lab Sample ID: LCS 160-256581/2-A
Matrix: Water
Analysis Batch: 257396

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 256581

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Uranium-233/234			12.7	12.14		1.26	1.00	0.0617	pCi/L	95	84 - 120		
Uranium-238			13.0	13.17		1.35	1.00	0.0334	pCi/L	101	83 - 121		

Tracer	*LCS %Yield*	*LCS Qualifier*	*Limits*
Uranium-232	*76.0*		*30 - 110*

QC Association Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17695-1

GC/MS VOA

Analysis Batch: 255479

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17695-1	PZ-202-SS	Total/NA	Water	8260C	
160-17695-2	TRIP BLANK	Total/NA	Water	8260C	
160-17695-3	PZ-109-SS	Total/NA	Water	8260C	
160-17695-4	PZ-110-SS	Total/NA	Water	8260C	
160-17695-5	PZ-201A-SS	Total/NA	Water	8260C	
160-17695-6	LCS-5A	Total/NA	Water	8260C	
LCS 160-255479/6	Lab Control Sample	Total/NA	Water	8260C	
LCSD 160-255479/7	Lab Control Sample Dup	Total/NA	Water	8260C	
MB 160-255479/9	Method Blank	Total/NA	Water	8260C	

HPLC/IC

Analysis Batch: 257330

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17695-1 - DL	PZ-202-SS	Total/NA	Water	300.0	
160-17695-1 - DL2	PZ-202-SS	Total/NA	Water	300.0	
160-17695-3	PZ-109-SS	Total/NA	Water	300.0	
160-17695-3 - DL	PZ-109-SS	Total/NA	Water	300.0	
160-17695-3 DU	PZ-109-SS	Total/NA	Water	300.0	
160-17695-3 DU - DL	PZ-109-SS	Total/NA	Water	300.0	
160-17695-3 MS	PZ-109-SS	Total/NA	Water	300.0	
160-17695-3 MS - DL	PZ-109-SS	Total/NA	Water	300.0	
160-17695-4	PZ-110-SS	Total/NA	Water	300.0	
160-17695-4 - DL	PZ-110-SS	Total/NA	Water	300.0	
160-17695-4 - DL2	PZ-110-SS	Total/NA	Water	300.0	
160-17695-5	PZ-201A-SS	Total/NA	Water	300.0	
160-17695-5 - DL	PZ-201A-SS	Total/NA	Water	300.0	
160-17695-6 - DL	LCS-5A	Total/NA	Water	300.0	
160-17695-6 - DL2	LCS-5A	Total/NA	Water	300.0	
LCS 160-257330/45	Lab Control Sample	Total/NA	Water	300.0	
MB 160-257330/44	Method Blank	Total/NA	Water	300.0	

Metals

Prep Batch: 257622

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17695-1	PZ-202-SS	Total/NA	Water	3010A	
160-17695-1 MS	PZ-202-SS	Total/NA	Water	3010A	
160-17695-1 MSD	PZ-202-SS	Total/NA	Water	3010A	
160-17695-3	PZ-109-SS	Total/NA	Water	3010A	
160-17695-4	PZ-110-SS	Total/NA	Water	3010A	
160-17695-5	PZ-201A-SS	Total/NA	Water	3010A	
160-17695-6	LCS-5A	Total/NA	Water	3010A	
LCS 160-257622/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 160-257622/1-A	Method Blank	Total/NA	Water	3010A	

Analysis Batch: 258532

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17695-1	PZ-202-SS	Total/NA	Water	6010C	257622
160-17695-1 MS	PZ-202-SS	Total/NA	Water	6010C	257622

Metals (Continued)

Analysis Batch: 258532 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17695-1 MSD	PZ-202-SS	Total/NA	Water	6010C	257622
160-17695-3	PZ-109-SS	Total/NA	Water	6010C	257622
160-17695-4	PZ-110-SS	Total/NA	Water	6010C	257622
160-17695-5	PZ-201A-SS	Total/NA	Water	6010C	257622
160-17695-6	LCS-5A	Total/NA	Water	6010C	257622
LCS 160-257622/2-A	Lab Control Sample	Total/NA	Water	6010C	257622
MB 160-257622/1-A	Method Blank	Total/NA	Water	6010C	257622

Prep Batch: 258736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17695-1	PZ-202-SS	Total/NA	Water	7470A	
160-17695-3	PZ-109-SS	Total/NA	Water	7470A	
160-17695-4	PZ-110-SS	Total/NA	Water	7470A	
160-17695-4 MS	PZ-110-SS	Total/NA	Water	7470A	
160-17695-4 MSD	PZ-110-SS	Total/NA	Water	7470A	
160-17695-5	PZ-201A-SS	Total/NA	Water	7470A	
160-17695-6	LCS-5A	Total/NA	Water	7470A	
LCS 160-258736/2-A	Lab Control Sample	Total/NA	Water	7470A	
MB 160-258736/1-A	Method Blank	Total/NA	Water	7470A	

Analysis Batch: 258751

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17695-1	PZ-202-SS	Total/NA	Water	6010C	257622
160-17695-1 MS	PZ-202-SS	Total/NA	Water	6010C	257622
160-17695-1 MSD	PZ-202-SS	Total/NA	Water	6010C	257622
160-17695-6	LCS-5A	Total/NA	Water	6010C	257622
LCS 160-257622/2-A	Lab Control Sample	Total/NA	Water	6010C	257622

Analysis Batch: 258913

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17695-1	PZ-202-SS	Total/NA	Water	7470A	258736
160-17695-3	PZ-109-SS	Total/NA	Water	7470A	258736
160-17695-4	PZ-110-SS	Total/NA	Water	7470A	258736
160-17695-4 MS	PZ-110-SS	Total/NA	Water	7470A	258736
160-17695-4 MSD	PZ-110-SS	Total/NA	Water	7470A	258736
160-17695-5	PZ-201A-SS	Total/NA	Water	7470A	258736
160-17695-6	LCS-5A	Total/NA	Water	7470A	258736
LCS 160-258736/2-A	Lab Control Sample	Total/NA	Water	7470A	258736
MB 160-258736/1-A	Method Blank	Total/NA	Water	7470A	258736

General Chemistry

Analysis Batch: 255905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17695-1 - DL	PZ-202-SS	Total/NA	Water	160.1	
160-17695-1 DU - DL	PZ-202-SS	Total/NA	Water	160.1	
160-17695-3 - DL	PZ-109-SS	Total/NA	Water	160.1	
160-17695-4 - DL	PZ-110-SS	Total/NA	Water	160.1	
160-17695-5	PZ-201A-SS	Total/NA	Water	160.1	
160-17695-6 - DL	LCS-5A	Total/NA	Water	160.1	

General Chemistry (Continued)

Analysis Batch: 255905 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 160-255905/2	Lab Control Sample	Total/NA	Water	160.1	
MB 160-255905/1	Method Blank	Total/NA	Water	160.1	

Analysis Batch: 256304

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17695-3	PZ-109-SS	Total/NA	Water	415.1	
160-17695-5	PZ-201A-SS	Total/NA	Water	415.1	
LCS 160-256304/6	Lab Control Sample	Total/NA	Water	415.1	
MB 160-256304/5	Method Blank	Total/NA	Water	415.1	

Prep Batch: 257264

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17695-1 - DL	PZ-202-SS	Total/NA	Water	410.4	
160-17695-3	PZ-109-SS	Total/NA	Water	410.4	
160-17695-3 DU	PZ-109-SS	Total/NA	Water	410.4	
160-17695-3 MS	PZ-109-SS	Total/NA	Water	410.4	
160-17695-4	PZ-110-SS	Total/NA	Water	410.4	
160-17695-5	PZ-201A-SS	Total/NA	Water	410.4	
160-17695-6 - DL	LCS-5A	Total/NA	Water	410.4	
LCS 160-257264/4-A	Lab Control Sample	Total/NA	Water	410.4	
MB 160-257264/3-A	Method Blank	Total/NA	Water	410.4	

Analysis Batch: 257335

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17695-1 - DL	PZ-202-SS	Total/NA	Water	410.4	257264
160-17695-3	PZ-109-SS	Total/NA	Water	410.4	257264
160-17695-3 DU	PZ-109-SS	Total/NA	Water	410.4	257264
160-17695-3 MS	PZ-109-SS	Total/NA	Water	410.4	257264
160-17695-4	PZ-110-SS	Total/NA	Water	410.4	257264
160-17695-5	PZ-201A-SS	Total/NA	Water	410.4	257264
160-17695-6 - DL	LCS-5A	Total/NA	Water	410.4	257264
LCS 160-257264/4-A	Lab Control Sample	Total/NA	Water	410.4	257264
MB 160-257264/3-A	Method Blank	Total/NA	Water	410.4	257264

Analysis Batch: 258023

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17695-1 - DL	PZ-202-SS	Total/NA	Water	415.1	
160-17695-1 DU - DL	PZ-202-SS	Total/NA	Water	415.1	
160-17695-1 MS - DL	PZ-202-SS	Total/NA	Water	415.1	
160-17695-4 - DL	PZ-110-SS	Total/NA	Water	415.1	
160-17695-6 - DL	LCS-5A	Total/NA	Water	415.1	
LCS 160-258023/33	Lab Control Sample	Total/NA	Water	415.1	
MB 160-258023/32	Method Blank	Total/NA	Water	415.1	

Analysis Batch: 258930

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17695-1	PZ-202-SS	Total/NA	Water	353.1 Preserved	
160-17695-3	PZ-109-SS	Total/NA	Water	353.1 Preserved	
160-17695-3 DU	PZ-109-SS	Total/NA	Water	353.1 Preserved	
160-17695-3 MS	PZ-109-SS	Total/NA	Water	353.1 Preserved	
160-17695-4	PZ-110-SS	Total/NA	Water	353.1 Preserved	

General Chemistry (Continued)

Analysis Batch: 258930 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17695-5	PZ-201A-SS	Total/NA	Water	353.1 Preserved	
160-17695-6	LCS-5A	Total/NA	Water	353.1 Preserved	
LCS 160-258930/14	Lab Control Sample	Total/NA	Water	353.1 Preserved	
MB 160-258930/13	Method Blank	Total/NA	Water	353.1 Preserved	

Analysis Batch: 259180

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17695-1	PZ-202-SS	Total/NA	Water	350.1	
160-17695-3	PZ-109-SS	Total/NA	Water	350.1	
160-17695-3 DU	PZ-109-SS	Total/NA	Water	350.1	
160-17695-3 MS	PZ-109-SS	Total/NA	Water	350.1	
160-17695-4	PZ-110-SS	Total/NA	Water	350.1	
160-17695-5	PZ-201A-SS	Total/NA	Water	350.1	
LCS 160-259180/12	Lab Control Sample	Total/NA	Water	350.1	
MB 160-259180/11	Method Blank	Total/NA	Water	350.1	

Analysis Batch: 259230

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17695-6 - RADL2	LCS-5A	Total/NA	Water	350.1	
LCS 160-259230/12	Lab Control Sample	Total/NA	Water	350.1	
MB 160-259230/11	Method Blank	Total/NA	Water	350.1	

Rad

Prep Batch: 255489

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17695-1	PZ-202-SS	Total/NA	Water	PrecSep-21	
160-17695-3	PZ-109-SS	Total/NA	Water	PrecSep-21	
160-17695-4	PZ-110-SS	Total/NA	Water	PrecSep-21	
160-17695-6	LCS-5A	Total/NA	Water	PrecSep-21	
LCS 160-255489/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-255489/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	
MB 160-255489/1-A	Method Blank	Total/NA	Water	PrecSep-21	

Prep Batch: 255491

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17695-1	PZ-202-SS	Total/NA	Water	PrecSep_0	
160-17695-3	PZ-109-SS	Total/NA	Water	PrecSep_0	
160-17695-4	PZ-110-SS	Total/NA	Water	PrecSep_0	
160-17695-6	LCS-5A	Total/NA	Water	PrecSep_0	
LCS 160-255491/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-255491/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	
MB 160-255491/1-A	Method Blank	Total/NA	Water	PrecSep_0	

Filtration Batch: 255563

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17695-1	PZ-202-SS	Dissolved	Water	Filtration	
160-17695-3	PZ-109-SS	Dissolved	Water	Filtration	
160-17695-4	PZ-110-SS	Dissolved	Water	Filtration	
160-17695-6	LCS-5A	Dissolved	Water	Filtration	

Rad (Continued)

Prep Batch: 256056

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17695-1	PZ-202-SS	Dissolved	Water	PrecSep-21	255563
160-17695-3	PZ-109-SS	Dissolved	Water	PrecSep-21	255563
160-17695-4	PZ-110-SS	Dissolved	Water	PrecSep-21	255563
160-17695-6	LCS-5A	Dissolved	Water	PrecSep-21	255563
LCS 160-256056/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
MB 160-256056/1-A	Method Blank	Total/NA	Water	PrecSep-21	

Prep Batch: 256057

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17695-1	PZ-202-SS	Dissolved	Water	PrecSep_0	255563
160-17695-3	PZ-109-SS	Dissolved	Water	PrecSep_0	255563
160-17695-4	PZ-110-SS	Dissolved	Water	PrecSep_0	255563
160-17695-6	LCS-5A	Dissolved	Water	PrecSep_0	255563
LCS 160-256057/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
MB 160-256057/1-A	Method Blank	Total/NA	Water	PrecSep_0	

Prep Batch: 256563

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17695-1	PZ-202-SS	Total/NA	Water	ExtChrom	
160-17695-3	PZ-109-SS	Total/NA	Water	ExtChrom	
160-17695-4	PZ-110-SS	Total/NA	Water	ExtChrom	
160-17695-6	LCS-5A	Total/NA	Water	ExtChrom	
LCS 160-256563/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
MB 160-256563/1-A	Method Blank	Total/NA	Water	ExtChrom	

Prep Batch: 256581

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17695-1	PZ-202-SS	Total/NA	Water	ExtChrom	
160-17695-3	PZ-109-SS	Total/NA	Water	ExtChrom	
160-17695-4	PZ-110-SS	Total/NA	Water	ExtChrom	
160-17695-6	LCS-5A	Total/NA	Water	ExtChrom	
LCS 160-256581/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
MB 160-256581/1-A	Method Blank	Total/NA	Water	ExtChrom	

Prep Batch: 257723

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17695-1	PZ-202-SS	Total/NA	Water	LSC_Dist_Susp	
160-17695-3	PZ-109-SS	Total/NA	Water	LSC_Dist_Susp	
160-17695-4	PZ-110-SS	Total/NA	Water	LSC_Dist_Susp	
160-17695-5	PZ-201A-SS	Total/NA	Water	LSC_Dist_Susp	
160-17695-6	LCS-5A	Total/NA	Water	LSC_Dist_Susp	
LCS 160-257723/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	
MB 160-257723/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	

Surrogate Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17695-1

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

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

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	12DCE	TOL
Lab Sample ID	Client Sample ID	(71-139)	(80-121)	(76-121)	(80-129)
160-17695-1	PZ-202-SS	114	101	94	106
160-17695-2	TRIP BLANK	112	101	101	107
160-17695-3	PZ-109-SS	114	100	99	107
160-17695-4	PZ-110-SS	115	97	99	105
160-17695-5	PZ-201A-SS	119	101	104	109
160-17695-6	LCS-5A	116	102	102	106
LCS 160-255479/6	Lab Control Sample	106	97	99	102
LCSD 160-255479/7	Lab Control Sample Dup	105	97	98	100
MB 160-255479/9	Method Blank	114	97	102	106

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Tracer/Carrier Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17695-1

Method: 903.0 - Radium-226 (GFPC)

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

		Percent Yield (Acceptance Limits)						
Lab Sample ID	Client Sample ID	Ba (40-110)						
160-17695-1	PZ-202-SS	98.0						
160-17695-3	PZ-109-SS	88.6						
160-17695-4	PZ-110-SS	90.6						
160-17695-6	LCS-5A	90.3						
LCS 160-255489/2-A	Lab Control Sample	93.4						
LCS 160-256056/2-A	Lab Control Sample	87.7						
LCSD 160-255489/3-A	Lab Control Sample Dup	90.3						
MB 160-255489/1-A	Method Blank	92.6						
MB 160-256056/1-A	Method Blank	81.5						

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Dissolved**

		Percent Yield (Acceptance Limits)						
Lab Sample ID	Client Sample ID	Ba (40-110)						
160-17695-1	PZ-202-SS	90.0						
160-17695-3	PZ-109-SS	80.3						
160-17695-4	PZ-110-SS	77.8						
160-17695-6	LCS-5A	90.6						

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

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

		Percent Yield (Acceptance Limits)						
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)					
160-17695-1	PZ-202-SS	98.0	89.0					
160-17695-3	PZ-109-SS	88.6	88.6					
160-17695-4	PZ-110-SS	90.6	90.1					
160-17695-6	LCS-5A	90.3	91.6					
LCS 160-255491/2-A	Lab Control Sample	93.4	89.3					
LCS 160-256057/2-A	Lab Control Sample	87.7	93.1					
LCSD 160-255491/3-A	Lab Control Sample Dup	90.3	89.7					
MB 160-255491/1-A	Method Blank	92.6	88.2					
MB 160-256057/1-A	Method Blank	81.5	91.6					

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Tracer/Carrier Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17695-1

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Dissolved**

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
160-17695-1	PZ-202-SS	90.0	92.7
160-17695-3	PZ-109-SS	80.3	93.1
160-17695-4	PZ-110-SS	77.8	91.6
160-17695-6	LCS-5A	90.6	89.0

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

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

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Th-229 (30-110)
160-17695-1	PZ-202-SS	79.0
160-17695-3	PZ-109-SS	78.2
160-17695-4	PZ-110-SS	78.0
160-17695-6	LCS-5A	78.6
LCS 160-256563/2-A	Lab Control Sample	80.1
MB 160-256563/1-A	Method Blank	89.1

Tracer/Carrier Legend

Th-229 = Thorium-229

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

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

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	U-232 (30-110)
160-17695-1	PZ-202-SS	54.8
160-17695-3	PZ-109-SS	56.3
160-17695-4	PZ-110-SS	51.0
160-17695-6	LCS-5A	62.2
LCS 160-256581/2-A	Lab Control Sample	76.0
MB 160-256581/1-A	Method Blank	69.0

Tracer/Carrier Legend

U-232 = Uranium-232

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Tel: (314)298-8566

TestAmerica Job ID: 160-17704-1
Client Project/Site: Groundwater - 2nd Quarter 2016

For:
Missouri Attorney General's Office
PO BOX 899
Jefferson City, Missouri 65102

Attn: Brenna McDonald

Authorized for release by:
7/7/2016 6:49:34 PM

Chenise Lambert-Sykes, Project Manager I
(314)298-8566
chenise.lambert-sykes@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

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.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Chain of Custody 8
Receipt Checklists 9
Definitions/Glossary 10
Method Summary 12
Sample Summary 13
Client Sample Results 14
QC Sample Results 26
QC Association Summary 49
Surrogate Summary 54
Tracer Carrier Summary 55

Job ID: 160-17704-1

Laboratory: TestAmerica St. Louis

Narrative

CASE NARRATIVE

Client: Missouri Attorney General's Office

Project: Groundwater - 2nd Quarter 2016

Report Number: 160-17704-1

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.

TestAmerica St. Louis attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

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.

All solid sample results for Chemistry analyses are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header. All soil/sediment sample results for radiochemistry analyses are based upon sample as dried and disaggregated with the exception of tritium, carbon-14, and iodine-129 by gamma spectroscopy unless requested as wet weight by the client."

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT

The samples were received on 06/08/2016; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 11.1º C, 11.3º C and 18.0º C.

Receipt Exceptions

The following sample was received with insufficient preservation in 1 of 4 bottles for Total RAD analysis: PZ-107-SS (160-17704-3). Nitric Acid preservative was added by the laboratory, and the sample(s) pH was adjusted to < 2 SU.

The following samples were received at the laboratory outside the required temperature criteria. Evidence of melted ice was present in coolers: LCS-6B (160-17704-1), TRIP BLANK (160-17704-2), PZ-107-SS (160-17704-3), PZ-101-SS (160-17704-4) and PZ-102R-SS (160-17704-5).

VOLATILE ORGANIC COMPOUNDS (GC MS)

Samples LCS-6B (160-17704-1), TRIP BLANK (160-17704-2), PZ-107-SS (160-17704-3), PZ-101-SS (160-17704-4) and PZ-102R-SS (160-17704-5) were analyzed for volatile organic compounds (GC MS) in accordance with EPA SW-846 Method 8260C. The samples were analyzed on 06/08/2016 and 06/09/2016.

Job ID: 160-17704-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

Analytical Batch: 255479
The continuing calibration verification (CCV) associated with batch 160-255479 recovered outside acceptance criteria, low biased, for Iodomethane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported. (CCVIS 160-255479/5)

The following compounds did not meet the minimum relative response factor limits in the continuing calibration verification (CCV) associated with batch 160-255479: 2-Butanone, 2-Hexanone, and Acetone. A low level CCV was analyzed at the base reporting limit of 1ug/L and the affected analytes were detected. Affected target analytes recovering above the reporting limit in the associated samples will be qualified and reported. (CCVIS 160-255479/5)

Toluene was detected in method blank MB 160-255479/9 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

The following analyte recovered outside control limits for the MS associated with 160-255479 for Iodomethane. Qualified results have been reported. Additionally, the LCSD, LCSD, and MSD all had acceptable recoveries for this analyte, thus fulfilling method QC requirements. All sample results were non-detect for this analyte. (160-17662-F-1 MS)

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 160-255479 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for analytical batch 160-255479 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits. (LCS 160-255479/6) and (LCSD 160-255479/7)

Analytical Batch: 255734
The continuing calibration verification (CCV) associated with batch 160-255734 recovered outside acceptance criteria, low biased, for Iodomethane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported. (CCVIS 160-255734/5)

The following compounds did not meet the minimum relative response factor limits in the continuing calibration verification (CCV) associated with batch 160-255734: 2-Butanone, 2-Hexanone, and Acetone. A low level CCV was analyzed at the base reporting limit of 1ug/L and the affected analytes were detected. Affected target analytes recovering above the reporting limit in the associated samples will be qualified and reported. (CCVIS 160-255734/5)

Toluene was detected in method blank MB 160-255734/9 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with analytical batch 160-255734. Laboratory control sample (LCS) and duplicate (LCSD) were analyzed in order to demonstrate accuracy and replicate-precision. (LCS 160-255734/6) and (LCSD 160-255734/7)

The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 160-255734 recovered outside control limits for the following analytes: 2-Hexane, Acetone, Chloroethane, 4-Methyl-2-pentanone, and 2-Butanone. (LCS 160-255734/6) and (LCSD 160-255734/7)

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

TOTAL METALS (ICP)
Samples PZ-107-SS (160-17704-3), PZ-101-SS (160-17704-4) and PZ-102R-SS (160-17704-5) were analyzed for total metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 06/22/2016 and analyzed on 06/28/2016.

Analytical Batch: 258532

Job ID: 160-17704-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

The following samples were diluted due to the nature of the sample matrix. Samples had high concentrations of salts which could cause internal standard and instrument QC failure: PZ-107-SS (160-17704-3), PZ-101-SS (160-17704-4), PZ-102R-SS (160-17704-5), (160-17695-G-1-A ^5), (160-17695-G-1-B MS ^), (160-17695-G-1-C MSD) and (160-17695-G-1-A SD ^). Elevated reporting limits (RLs) are provided.

Due to the high concentration of Magnesium and Sodium, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 160-257622 and analytical batch 160-258532 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria. The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount. Refer to the QC report for details. (160-17695-G-1-B MS ^) and (160-17695-G-1-C MSD)

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 160-257622 and analytical batch 160-258532 were outside control limits for Phosphorus. Sample matrix interference are suspected. (160-17695-G-1-B MS ^) and (160-17695-G-1-C MSD)

The continuing calibration verification (CCV) associated with batch 160-258532 recovered above the upper control limit for Phosphorus. The samples associated with this CCV were below the reporting limit for the affected analytes; therefore, the data have been reported. (CCV 160-258532/103), (CCV 160-258532/116) and (CCV 160-258532/129)

Analytical Batch: 258751
The following samples were diluted to bring the concentration of target analytes within the calibration range: (160-17695-G-1-A ^10), (160-17695-G-1-B MS ^), (160-17695-G-1-C MSD) and (160-17695-G-1-A SD). Elevated reporting limits (RLs) are provided.

Due to the high concentration of Calcium, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 160-257622 and analytical batch 160-258751 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria. The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount. Refer to the QC report for details.(160-17695-G-1-B MS ^) and (160-17695-G-1-C MSD)

The sequence was such that the samples were run immediately following the LRC. Our standard analysis sequence is set up to run a CCVL/CCV/CCB before running the samples. This however is an internal requirement and not one governed by the analytical method. Original results will be reported. (LCS 160-257622/2-A)

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

TOTAL MERCURY
Samples PZ-107-SS (160-17704-3), PZ-101-SS (160-17704-4) and PZ-102R-SS (160-17704-5) were analyzed for total mercury in accordance with EPA SW-846 Methods 7470A. The samples were prepared and analyzed on 06/30/2016.

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

TOTAL DISSOLVED SOLIDS
Samples PZ-107-SS (160-17704-3), PZ-101-SS (160-17704-4) and PZ-102R-SS (160-17704-5) were analyzed for total dissolved solids in accordance with EPA Method 160.1. The samples were analyzed on 06/10/2016.

Analytical Batch: 255914
The following samples in TDS batch 160-255914 were diluted to bring the concentrations of the target analyte within the calibration range: PZ-107-SS (160-17704-3) and PZ-101-SS (160-17704-4). Elevated reporting limits (RLs) are provided.

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

ANIONS, ION CHROMATOGRAPHY
Samples PZ-107-SS (160-17704-3), PZ-101-SS (160-17704-4) and PZ-102R-SS (160-17704-5) were analyzed for Anions, Ion Chromatography in accordance with EPA Method 300.0. The samples were analyzed on 06/22/2016.

Analytical Batch: 257330
The following samples in Anion batch 160-257330 were diluted to bring the concentrations of target analytes within the calibration range: PZ-107-SS (160-17704-3), PZ-101-SS (160-17704-4) and PZ-102R-SS (160-17704-5). Elevated reporting limits (RLs) are provided.

Job ID: 160-17704-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

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

AMMONIA
Samples PZ-107-SS (160-17704-3), PZ-101-SS (160-17704-4) and PZ-102R-SS (160-17704-5) were analyzed for ammonia in accordance with EPA Method 350.1. The samples were analyzed on 07/05/2016.

Analytical Batch: 259230
The following samples in NH3 analytical batch 160-259230 were diluted to bring the concentration of the target analyte within the calibration range: PZ-107-SS (160-17704-3) and PZ-101-SS (160-17704-4). Elevated reporting limits (RLs) are provided.

The following matrix spike (MS) recovery for NH3 analytical batch 160-259230 was outside control limits: (160-17746-F-3 MS). Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

NITROGEN, NITRATE-NITRITE
Samples PZ-107-SS (160-17704-3), PZ-101-SS (160-17704-4) and PZ-102R-SS (160-17704-5) were analyzed for Nitrogen, Nitrate-Nitrite in accordance with Method 353.1 Preserved. The samples were analyzed on 07/01/2016.

Analytical Batch: 258930
The following matrix spike (MS) recovery for NO3-NO2 analytical batch 160-258930 was outside control limits: (160-17695-E-3 MS). Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

The continuing calibration verifications (CCV) associated with the following samples in NO3-NO2 160-258930 recovered above the upper control limit: PZ-107-SS (160-17704-3), PZ-101-SS (160-17704-4) and PZ-102R-SS (160-17704-5). These samples were all non-detect (ND) for the affected analyte; 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.

CHEMICAL OXYGEN DEMAND
Samples PZ-107-SS (160-17704-3), PZ-101-SS (160-17704-4) and PZ-102R-SS (160-17704-5) were analyzed for chemical oxygen demand in accordance with EPA Method 410.4. The samples were prepared and analyzed on 06/21/2016.

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

TOTAL ORGANIC CARBON
Samples PZ-107-SS (160-17704-3), PZ-101-SS (160-17704-4) and PZ-102R-SS (160-17704-5) were analyzed for total organic carbon in accordance with EPA Method 415.1. The samples were analyzed on 06/13/2016.

Analytical Batch: 256304
The following samples in TOC batch 160-256304 were diluted to bring the concentrations of the target analyte within the calibration range: PZ-107-SS (160-17704-3) and PZ-101-SS (160-17704-4). Elevated reporting limits (RLs) are provided.

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

RADIUM-226 (GFPC)-DISSOLVED
Samples PZ-107-SS (160-17704-3) and PZ-101-SS (160-17704-4) were analyzed for Radium-226 (GFPC) in accordance with EPA Method 903.0. The samples were prepared on 06/13/2016 and analyzed on 07/05/2016.

Prep Batch: 256206
Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: PZ-107-SS (160-17704-3) and PZ-101-SS (160-17704-4). A laboratory control sample/ laboratory sample duplicate (LCS/LCSD) were prepared instead.

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

Job ID: 160-17704-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

RADIUM-226 (GFPC)-TOTAL
Samples PZ-107-SS (160-17704-3) and PZ-101-SS (160-17704-4) were analyzed for Radium-226 (GFPC) in accordance with EPA Method 903.0. The samples were prepared on 06/13/2016 and analyzed on 07/05/2016.

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

RADIUM-228 (GFPC)-DISSOLVED
Samples PZ-107-SS (160-17704-3) and PZ-101-SS (160-17704-4) were analyzed for Radium-228 (GFPC)-Dissolved in accordance with EPA 904. The samples were prepared on 06/13/2016 and analyzed on 06/28/2016.

Prep Batch: 256209
Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: PZ-107-SS (160-17704-3) and PZ-101-SS (160-17704-4). A laboratory control sample/ laboratory sample duplicate (LCS/LCSD) were prepared instead.

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

RADIUM-228 (GFPC)-TOTAL
Samples PZ-107-SS (160-17704-3) and PZ-101-SS (160-17704-4) were analyzed for Radium-228 (GFPC) in accordance with EPA 904. The samples were prepared on 06/13/2016 and analyzed on 06/27/2016.

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

TRITIUM, TOTAL (LSC)
Samples LCS-6B (160-17704-1), PZ-107-SS (160-17704-3) and PZ-101-SS (160-17704-4) were analyzed for Tritium, Total (LSC) in accordance with USEPA 906.0. The samples were prepared on 06/23/2016 and analyzed on 06/23/2016 and 06/24/2016.

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

ISOTOPIC THORIUM (ALPHA SPECTROMETRY)
Samples PZ-107-SS (160-17704-3) and PZ-101-SS (160-17704-4) were analyzed for Isotopic Thorium (Alpha Spectrometry) in accordance with DOE. The samples were prepared on 06/15/2016 and analyzed on 06/22/2016.

Prep Batch: 256563
Samples are yellow/brown and appear to be soapy. A reduced aliquot was used to prevent matrix interference. PZ-107-SS (160-17704-3) and PZ-101-SS (160-17704-4)

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

ISOTOPIC URANIUM (ALPHA SPECTROMETRY)
Samples PZ-107-SS (160-17704-3) and PZ-101-SS (160-17704-4) were analyzed for Isotopic Uranium (Alpha Spectrometry) in accordance with DOE. The samples were prepared on 06/15/2016 and analyzed on 06/21/2016.

Prep Batch: 256581
Samples are yellow/brown and appear to be soapy. A reduced aliquot was used to prevent matrix interference. PZ-107-SS (160-17704-3) and PZ-101-SS (160-17704-4)

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

TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Phone (314) 298-8566 Fax (314) 298-8757

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: LYNN MILBERG	Lab PM: Lambert-Sykes, Chenise Y	Carrier Tracking No(s):	COC No: 160-4182-2039.1
Client Contact: Brenna McDonald	Phone: 573-453-4329	E-Mail: chenise.lambert-sykes@testamericainc.com		Page: Page 1 of 1
Company: Missouri Attorney General's Office				Job #:
Address: PO BOX 899	Due Date Requested: Standard			
City: Jefferson City	TAT Requested (days): standard			
State, Zip: MO, 65102				
Phone: 573-368-2163(Tel)	PO #: Purchase Order Requested			
Email: brenna.mcdonald@dnr.mo.gov	WO #:			
Project Name: Groundwater - 2nd Quarter 2016	Project #: 16005341			
Site: BRIDGETON LANDFILL	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	906.0 - Tritium	350.1, 353.1_Pres, 410.4	903.0, 904.0, A01R_Th, A01R_U	903.0, 904.0	160.1_Calcd, 300_ORGFM_28D	6010C, 7470A	415.1 - Total Organic Carbon	8260C - (MOD) OLM 4.2	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	S	D	D	N	D	S	A		
LCS-6B	6/7/16	0848	G	Water			✓							✓	4	Leachate
TRIPBLANK	6/7/16	0800	G	Water										✓	2	
PZ-107-SS	6/7/16	1101	G	Water			✓	✓	✓	✓	✓	✓	✓	✓	14	
PZ-101-SS	6/7/16	1445	G	Water			✓	✓	✓	✓	✓	✓	✓	✓	14	
PZ-102R-SS	6/7/16	1649	G	Water				✓			✓	✓	✓	✓	8	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Month

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:	
Relinquished by: [signature]	Date/Time: 6/8/2016 0822	Company: MoDNR	Received by: [signature]	Date/Time: 6-8-16 0822 Company: TA STL
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time: Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time: Company:

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks:

160-17704 Chain of Custody

Login Sample Receipt Checklist

Client: Missouri Attorney General's Office

Job Number: 160-17704-1

Login Number: 17704
List Number: 1
Creator: Clarke, Jill C

List Source: TestAmerica St. Louis

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
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.	False	Water present in cooler; indicates evidence of melted ice.
Cooler Temperature is acceptable.	False	Cooler temperature outside 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	Sample -3 was received unpreserved. The pH was adjusted to <2 SU with nitric.
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	

Qualifiers

GC/MS VOA

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

HPLC/IC

Qualifier	Qualifier Description
E	Result exceeded calibration range.

Metals

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.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
*	LCS or LCSD is outside acceptance limits.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

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

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEQ	Toxicity Equivalent Quotient (Dioxin)

Method Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17704-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL SL
300.0	Anions, Ion Chromatography	MCAWW	TAL SL
6010C	Metals (ICP)	SW846	TAL SL
7470A	Mercury (CVAA)	SW846	TAL SL
160.1	Solids, Total Dissolved (TDS)	MCAWW	TAL SL
350.1	Nitrogen, Ammonia	MCAWW	TAL SL
353.1 Preserved	Nitrogen, Nitrate-Nitrite	MCAWW	TAL SL
410.4	COD	MCAWW	TAL SL
415.1	TOC	MCAWW	TAL SL
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
906.0	Tritium, Total (LSC)	EPA	TAL SL
A-01-R	Isotopic Thorium (Alpha Spectrometry)	DOE	TAL SL
A-01-R	Isotopic Uranium (Alpha Spectrometry)	DOE	TAL SL

Protocol References:

DOE = U.S. Department of Energy
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17704-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
160-17704-1	LCS-6B	Water	06/07/16 08:45	06/08/16 08:22
160-17704-2	TRIP BLANK	Water	06/07/16 08:00	06/08/16 08:22
160-17704-3	PZ-107-SS	Water	06/07/16 11:01	06/08/16 08:22
160-17704-4	PZ-101-SS	Water	06/07/16 14:45	06/08/16 08:22
160-17704-5	PZ-102R-SS	Water	06/07/16 16:49	06/08/16 08:22

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17704-1

Client Sample ID: LCS-6B

Date Collected: 06/07/16 08:45
Date Received: 06/08/16 08:22

Lab Sample ID: 160-17704-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**180**	*	20	6.7	ug/L			06/09/16 12:37	1
Acrylonitrile	ND		50	1.7	ug/L			06/09/16 12:37	1
Benzene	**26**		5.0	0.25	ug/L			06/09/16 12:37	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/09/16 12:37	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/09/16 12:37	1
Bromoform	ND		5.0	0.37	ug/L			06/09/16 12:37	1
Carbon disulfide	**82**		5.0	0.37	ug/L			06/09/16 12:37	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/09/16 12:37	1
Chlorobenzene	**11**		5.0	0.38	ug/L			06/09/16 12:37	1
Chloroethane	ND	*	10	0.38	ug/L			06/09/16 12:37	1
Chloroform	ND		5.0	0.15	ug/L			06/09/16 12:37	1
Chloroprene	ND		5.0	0.39	ug/L			06/09/16 12:37	1
cis-1,2-Dichloroethene	**1.8**	**J**	5.0	0.16	ug/L			06/09/16 12:37	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/09/16 12:37	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/09/16 12:37	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/09/16 12:37	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/09/16 12:37	1
1,3-Dichlorobenzene	**0.84**	**J**	5.0	0.23	ug/L			06/09/16 12:37	1
1,4-Dichlorobenzene	**28**		5.0	0.35	ug/L			06/09/16 12:37	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/09/16 12:37	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/09/16 12:37	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/09/16 12:37	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/09/16 12:37	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/09/16 12:37	1
Ethylbenzene	**63**		5.0	0.30	ug/L			06/09/16 12:37	1
2-Hexanone	**3.3**	**J ***	20	0.59	ug/L			06/09/16 12:37	1
Methyl bromide	**0.55**	**J**	10	0.40	ug/L			06/09/16 12:37	1
Methyl chloride	ND		10	0.55	ug/L			06/09/16 12:37	1
Methylene bromide	ND		5.0	0.41	ug/L			06/09/16 12:37	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/09/16 12:37	1
Methyl Ethyl Ketone	**140**	*	20	0.39	ug/L			06/09/16 12:37	1
Methyl iodide	ND		5.0	1.5	ug/L			06/09/16 12:37	1
4-Methyl-2-pentanone (MIBK)	**67**	*	20	0.33	ug/L			06/09/16 12:37	1
Styrene	**4.7**	**J**	5.0	0.35	ug/L			06/09/16 12:37	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/09/16 12:37	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/09/16 12:37	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/09/16 12:37	1
Toluene	**85**	**B**	5.0	1.0	ug/L			06/09/16 12:37	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/09/16 12:37	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/09/16 12:37	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/09/16 12:37	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/09/16 12:37	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/09/16 12:37	1
Trichloroethene	**0.56**	**J**	5.0	0.29	ug/L			06/09/16 12:37	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/09/16 12:37	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/09/16 12:37	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/09/16 12:37	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/09/16 12:37	1
Xylenes, Total	**170**		10	0.85	ug/L			06/09/16 12:37	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17704-1

Client Sample ID: LCS-6B

Lab Sample ID: 160-17704-1
Date Collected: 06/07/16 08:45
Matrix: Water
Date Received: 06/08/16 08:22

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*71 - 139*		*06/09/16 12:37*	*1*
Dibromofluoromethane (Surr)	*93*		*80 - 121*		*06/09/16 12:37*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*76 - 121*		*06/09/16 12:37*	*1*
Toluene-d8 (Surr)	*100*		*80 - 129*		*06/09/16 12:37*	*1*

Method: 906.0 - Tritium, Total (LSC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	396000		5940	35300	500	405	pCi/L	06/23/16 13:42	06/23/16 23:45	1

Client Sample ID: TRIP BLANK

Lab Sample ID: 160-17704-2
Date Collected: 06/07/16 08:00
Matrix: Water
Date Received: 06/08/16 08:22

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/08/16 19:04	1
Acrylonitrile	ND		50	1.7	ug/L			06/08/16 19:04	1
Benzene	ND		5.0	0.25	ug/L			06/08/16 19:04	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/08/16 19:04	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/08/16 19:04	1
Bromoform	ND		5.0	0.37	ug/L			06/08/16 19:04	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/08/16 19:04	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/08/16 19:04	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/08/16 19:04	1
Chloroethane	ND		10	0.38	ug/L			06/08/16 19:04	1
Chloroform	ND		5.0	0.15	ug/L			06/08/16 19:04	1
Chloroprene	ND		5.0	0.39	ug/L			06/08/16 19:04	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/08/16 19:04	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/08/16 19:04	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/08/16 19:04	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/08/16 19:04	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/08/16 19:04	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/08/16 19:04	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/08/16 19:04	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/08/16 19:04	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/08/16 19:04	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/08/16 19:04	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/08/16 19:04	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/08/16 19:04	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/08/16 19:04	1
2-Hexanone	ND		20	0.59	ug/L			06/08/16 19:04	1
Methyl bromide	ND		10	0.40	ug/L			06/08/16 19:04	1
Methyl chloride	ND		10	0.55	ug/L			06/08/16 19:04	1
Methylene bromide	ND		5.0	0.41	ug/L			06/08/16 19:04	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/08/16 19:04	1
Methyl Ethyl Ketone	ND		20	0.39	ug/L			06/08/16 19:04	1
Methyl iodide	ND		5.0	1.5	ug/L			06/08/16 19:04	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/08/16 19:04	1

Client Sample ID: TRIP BLANK

Lab Sample ID: 160-17704-2
Date Collected: 06/07/16 08:00
Matrix: Water
Date Received: 06/08/16 08:22

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND		5.0	0.35	ug/L			06/08/16 19:04	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/08/16 19:04	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/08/16 19:04	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/08/16 19:04	1
Toluene	**2.0**	**J B**	5.0	1.0	ug/L			06/08/16 19:04	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/08/16 19:04	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/08/16 19:04	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/08/16 19:04	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/08/16 19:04	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/08/16 19:04	1
Trichloroethene	ND		5.0	0.29	ug/L			06/08/16 19:04	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/08/16 19:04	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/08/16 19:04	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/08/16 19:04	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/08/16 19:04	1
Xylenes, Total	ND		10	0.85	ug/L			06/08/16 19:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*123*		*71 - 139*		*06/08/16 19:04*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 121*		*06/08/16 19:04*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*76 - 121*		*06/08/16 19:04*	*1*
Toluene-d8 (Surr)	*112*		*80 - 129*		*06/08/16 19:04*	*1*

Client Sample ID: PZ-107-SS

Lab Sample ID: 160-17704-3
Date Collected: 06/07/16 11:01
Matrix: Water
Date Received: 06/08/16 08:22

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/08/16 19:29	1
Acrylonitrile	ND		50	1.7	ug/L			06/08/16 19:29	1
Benzene	**0.80**	**J**	5.0	0.25	ug/L			06/08/16 19:29	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/08/16 19:29	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/08/16 19:29	1
Bromoform	ND		5.0	0.37	ug/L			06/08/16 19:29	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/08/16 19:29	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/08/16 19:29	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/08/16 19:29	1
Chloroethane	ND		10	0.38	ug/L			06/08/16 19:29	1
Chloroform	ND		5.0	0.15	ug/L			06/08/16 19:29	1
Chloroprene	ND		5.0	0.39	ug/L			06/08/16 19:29	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/08/16 19:29	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/08/16 19:29	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/08/16 19:29	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/08/16 19:29	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/08/16 19:29	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/08/16 19:29	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/08/16 19:29	1
Dichlorodifluoromethane	**17**		10	0.45	ug/L			06/08/16 19:29	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/08/16 19:29	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17704-1

Client Sample ID: PZ-107-SS

Date Collected: 06/07/16 11:01
Date Received: 06/08/16 08:22

Lab Sample ID: 160-17704-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/08/16 19:29	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/08/16 19:29	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/08/16 19:29	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/08/16 19:29	1
2-Hexanone	ND		20	0.59	ug/L			06/08/16 19:29	1
Methyl bromide	**0.55**	**J**	10	0.40	ug/L			06/08/16 19:29	1
Methyl chloride	ND		10	0.55	ug/L			06/08/16 19:29	1
Methylene bromide	ND		5.0	0.41	ug/L			06/08/16 19:29	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/08/16 19:29	1
Methyl Ethyl Ketone	**4.1**	**J**	20	0.39	ug/L			06/08/16 19:29	1
Methyl iodide	ND		5.0	1.5	ug/L			06/08/16 19:29	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/08/16 19:29	1
Styrene	ND		5.0	0.35	ug/L			06/08/16 19:29	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/08/16 19:29	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/08/16 19:29	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/08/16 19:29	1
Toluene	**1.9**	**J B**	5.0	1.0	ug/L			06/08/16 19:29	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/08/16 19:29	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/08/16 19:29	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/08/16 19:29	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/08/16 19:29	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/08/16 19:29	1
Trichloroethene	ND		5.0	0.29	ug/L			06/08/16 19:29	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/08/16 19:29	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/08/16 19:29	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/08/16 19:29	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/08/16 19:29	1
Xylenes, Total	ND		10	0.85	ug/L			06/08/16 19:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*120*		*71 - 139*		*06/08/16 19:29*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 121*		*06/08/16 19:29*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*76 - 121*		*06/08/16 19:29*	*1*
Toluene-d8 (Surr)	*110*		*80 - 129*		*06/08/16 19:29*	*1*

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.27**		0.20	0.020	mg/L			06/22/16 07:30	2

Method: 300.0 - Anions, Ion Chromatography - DL2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**44**		10	1.0	mg/L			06/22/16 07:44	20

Method: 300.0 - Anions, Ion Chromatography - DL3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**420**		40	4.0	mg/L			06/22/16 07:58	200

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		50	15	ug/L		06/22/16 14:33	06/28/16 19:13	5
Arsenic	ND		50	20	ug/L		06/22/16 14:33	06/28/16 19:13	5

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17704-1

Client Sample ID: PZ-107-SS

Date Collected: 06/07/16 11:01
Date Received: 06/08/16 08:22

Lab Sample ID: 160-17704-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	770		250	75	ug/L		06/22/16 14:33	06/28/16 19:13	5
Beryllium	ND		25	7.5	ug/L		06/22/16 14:33	06/28/16 19:13	5
Boron	610		500	130	ug/L		06/22/16 14:33	06/28/16 19:13	5
Cadmium	ND		25	7.5	ug/L		06/22/16 14:33	06/28/16 19:13	5
CaHard	620000		12000	3700	ug/L		06/22/16 14:33	06/28/16 19:13	5
Calcium	250000		5000	1500	ug/L		06/22/16 14:33	06/28/16 19:13	5
Chromium	ND		50	15	ug/L		06/22/16 14:33	06/28/16 19:13	5
Cobalt	ND		250	75	ug/L		06/22/16 14:33	06/28/16 19:13	5
Copper	ND		130	25	ug/L		06/22/16 14:33	06/28/16 19:13	5
Iron	7700		500	150	ug/L		06/22/16 14:33	06/28/16 19:13	5
Lead	ND		50	15	ug/L		06/22/16 14:33	06/28/16 19:13	5
Magnesium	120		5.0	1.5	mg/L		06/22/16 14:33	06/28/16 19:13	5
Manganese	110		75	13	ug/L		06/22/16 14:33	06/28/16 19:13	5
MgHard	500000		21000	6200	ug/L		06/22/16 14:33	06/28/16 19:13	5
Nickel	0.052	J	0.20	0.050	mg/L		06/22/16 14:33	06/28/16 19:13	5
Phosphorus	ND	^ *	1300	380	ug/L		06/22/16 14:33	06/28/16 19:13	5
Selenium	ND		75	25	ug/L		06/22/16 14:33	06/28/16 19:13	5
Silver	ND		50	15	ug/L		06/22/16 14:33	06/28/16 19:13	5
Sodium	140000		5000	1500	ug/L		06/22/16 14:33	06/28/16 19:13	5
Thallium	ND		100	25	ug/L		06/22/16 14:33	06/28/16 19:13	5
Total Hardness	1100000		33000	9900	ug/L		06/22/16 14:33	06/28/16 19:13	5
Vanadium	ND		250	75	ug/L		06/22/16 14:33	06/28/16 19:13	5
Zinc	52	J	100	30	ug/L		06/22/16 14:33	06/28/16 19:13	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.14	J	0.20	0.060	ug/L		06/30/16 11:53	06/30/16 21:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate/Nitrite	0.034	J ^	0.050	0.011	mg/L			07/01/16 14:49	1
Chemical Oxygen Demand	130		5.0	1.1	mg/L		06/21/16 09:31	06/21/16 14:30	1

General Chemistry - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	1600		10	7.0	mg/L			06/10/16 09:36	2
Total Organic Carbon	42		5.0	3.6	mg/L			06/13/16 23:33	5

General Chemistry - RADL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	17		1.0	0.45	mg/L			07/05/16 14:13	20

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	6.31		0.460	0.731	1.00	0.138	pCi/L	06/13/16 17:57	07/05/16 07:42	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*40.7*		*40 - 110*	*06/13/16 17:57*	*07/05/16 07:42*	*1*

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17704-1

Client Sample ID: PZ-107-SS

Date Collected: 06/07/16 11:01
Date Received: 06/08/16 08:22

Lab Sample ID: 160-17704-3

Matrix: Water

Method: 903.0 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**7.00**		0.360	0.726	1.00	0.0723	pCi/L	06/13/16 18:55	07/05/16 07:33	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.0*		*40 - 110*	*06/13/16 18:55*	*07/05/16 07:33*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**2.79**		0.703	0.748	1.00	0.863	pCi/L	06/13/16 18:53	06/27/16 12:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*40.7*		*40 - 110*	*06/13/16 18:53*	*06/27/16 12:53*	*1*
Y Carrier	*87.1*		*40 - 110*	*06/13/16 18:53*	*06/27/16 12:53*	*1*

Method: 904.0 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**2.00**		0.377	0.420	1.00	0.431	pCi/L	06/13/16 19:35	06/28/16 13:29	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.0*		*40 - 110*	*06/13/16 19:35*	*06/28/16 13:29*	*1*
Y Carrier	*92.7*		*40 - 110*	*06/13/16 19:35*	*06/28/16 13:29*	*1*

Method: 906.0 - Tritium, Total (LSC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	**1620**		270	305	500	259	pCi/L	06/23/16 13:42	06/23/16 23:55	1

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Thorium-230	**0.496**		0.241	0.244	1.00	0.156	pCi/L	06/15/16 15:38	06/22/16 12:57	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Thorium-229	*80.8*		*30 - 110*	*06/15/16 15:38*	*06/22/16 12:57*	*1*

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Uranium-233/234	0.0993	U	0.137	0.137	1.00	0.212	pCi/L	06/15/16 15:38	06/21/16 13:34	1
Uranium-235/236	-0.0199	U	0.0398	0.0399	1.00	0.264	pCi/L	06/15/16 15:38	06/21/16 13:34	1
Uranium-238	**0.444**		0.268	0.270	1.00	0.212	pCi/L	06/15/16 15:38	06/21/16 13:34	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*59.2*		*30 - 110*	*06/15/16 15:38*	*06/21/16 13:34*	*1*

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17704-1

Client Sample ID: PZ-101-SS

Date Collected: 06/07/16 14:45
Date Received: 06/08/16 08:22

Lab Sample ID: 160-17704-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**7.8**	**J**	20	6.7	ug/L			06/08/16 19:54	1
Acrylonitrile	ND		50	1.7	ug/L			06/08/16 19:54	1
Benzene	**0.94**	**J**	5.0	0.25	ug/L			06/08/16 19:54	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/08/16 19:54	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/08/16 19:54	1
Bromoform	ND		5.0	0.37	ug/L			06/08/16 19:54	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/08/16 19:54	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/08/16 19:54	1
Chlorobenzene	**6.7**		5.0	0.38	ug/L			06/08/16 19:54	1
Chloroethane	ND		10	0.38	ug/L			06/08/16 19:54	1
Chloroform	ND		5.0	0.15	ug/L			06/08/16 19:54	1
Chloroprene	ND		5.0	0.39	ug/L			06/08/16 19:54	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/08/16 19:54	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/08/16 19:54	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/08/16 19:54	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/08/16 19:54	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/08/16 19:54	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/08/16 19:54	1
1,4-Dichlorobenzene	**0.68**	**J**	5.0	0.35	ug/L			06/08/16 19:54	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/08/16 19:54	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/08/16 19:54	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/08/16 19:54	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/08/16 19:54	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/08/16 19:54	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/08/16 19:54	1
2-Hexanone	ND		20	0.59	ug/L			06/08/16 19:54	1
Methyl bromide	**0.44**	**J**	10	0.40	ug/L			06/08/16 19:54	1
Methyl chloride	ND		10	0.55	ug/L			06/08/16 19:54	1
Methylene bromide	ND		5.0	0.41	ug/L			06/08/16 19:54	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/08/16 19:54	1
Methyl Ethyl Ketone	ND		20	0.39	ug/L			06/08/16 19:54	1
Methyl iodide	ND		5.0	1.5	ug/L			06/08/16 19:54	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/08/16 19:54	1
Styrene	ND		5.0	0.35	ug/L			06/08/16 19:54	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/08/16 19:54	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/08/16 19:54	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/08/16 19:54	1
Toluene	**2.1**	**J B**	5.0	1.0	ug/L			06/08/16 19:54	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/08/16 19:54	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/08/16 19:54	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/08/16 19:54	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/08/16 19:54	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/08/16 19:54	1
Trichloroethene	ND		5.0	0.29	ug/L			06/08/16 19:54	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/08/16 19:54	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/08/16 19:54	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/08/16 19:54	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/08/16 19:54	1
Xylenes, Total	ND		10	0.85	ug/L			06/08/16 19:54	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17704-1

Client Sample ID: PZ-101-SS

Date Collected: 06/07/16 14:45
Date Received: 06/08/16 08:22

Lab Sample ID: 160-17704-4

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*119*		*71 - 139*		*06/08/16 19:54*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 121*		*06/08/16 19:54*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*76 - 121*		*06/08/16 19:54*	*1*
Toluene-d8 (Surr)	*109*		*80 - 129*		*06/08/16 19:54*	*1*

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**1.0**		0.20	0.020	mg/L			06/22/16 08:40	2
Sulfate	**2.3**		1.0	0.10	mg/L			06/22/16 08:40	2

Method: 300.0 - Anions, Ion Chromatography - DL2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**260**		40	4.0	mg/L			06/22/16 09:07	200

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		50	15	ug/L		06/22/16 14:33	06/28/16 19:18	5
Arsenic	**70**		50	20	ug/L		06/22/16 14:33	06/28/16 19:18	5
Barium	**540**		250	75	ug/L		06/22/16 14:33	06/28/16 19:18	5
Beryllium	ND		25	7.5	ug/L		06/22/16 14:33	06/28/16 19:18	5
Boron	**710**		500	130	ug/L		06/22/16 14:33	06/28/16 19:18	5
Cadmium	ND		25	7.5	ug/L		06/22/16 14:33	06/28/16 19:18	5
CaHard	**460000**		12000	3700	ug/L		06/22/16 14:33	06/28/16 19:18	5
Calcium	**180000**		5000	1500	ug/L		06/22/16 14:33	06/28/16 19:18	5
Chromium	ND		50	15	ug/L		06/22/16 14:33	06/28/16 19:18	5
Cobalt	ND		250	75	ug/L		06/22/16 14:33	06/28/16 19:18	5
Copper	ND		130	25	ug/L		06/22/16 14:33	06/28/16 19:18	5
Iron	**3700**		500	150	ug/L		06/22/16 14:33	06/28/16 19:18	5
Lead	ND		50	15	ug/L		06/22/16 14:33	06/28/16 19:18	5
Magnesium	**95**		5.0	1.5	mg/L		06/22/16 14:33	06/28/16 19:18	5
Manganese	**110**		75	13	ug/L		06/22/16 14:33	06/28/16 19:18	5
MgHard	**390000**		21000	6200	ug/L		06/22/16 14:33	06/28/16 19:18	5
Nickel	ND		0.20	0.050	mg/L		06/22/16 14:33	06/28/16 19:18	5
Phosphorus	ND	^ *	1300	380	ug/L		06/22/16 14:33	06/28/16 19:18	5
Selenium	ND		75	25	ug/L		06/22/16 14:33	06/28/16 19:18	5
Silver	ND		50	15	ug/L		06/22/16 14:33	06/28/16 19:18	5
Sodium	**95000**		5000	1500	ug/L		06/22/16 14:33	06/28/16 19:18	5
Thallium	ND		100	25	ug/L		06/22/16 14:33	06/28/16 19:18	5
Total Hardness	**850000**		33000	9900	ug/L		06/22/16 14:33	06/28/16 19:18	5
Vanadium	ND		250	75	ug/L		06/22/16 14:33	06/28/16 19:18	5
Zinc	ND		100	30	ug/L		06/22/16 14:33	06/28/16 19:18	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.12**	**J**	0.20	0.060	ug/L		06/30/16 11:53	06/30/16 21:03	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate/Nitrite	ND	^	0.050	0.011	mg/L			07/01/16 14:53	1
Chemical Oxygen Demand	**110**		5.0	1.1	mg/L		06/21/16 09:31	06/21/16 14:30	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17704-1

Client Sample ID: PZ-101-SS

Date Collected: 06/07/16 14:45
Date Received: 06/08/16 08:22

Lab Sample ID: 160-17704-4

Matrix: Water

General Chemistry - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	1200		10	7.0	mg/L			06/10/16 09:36	2
Total Organic Carbon	33		5.0	3.6	mg/L			06/13/16 23:45	5

General Chemistry - RADL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	14		1.0	0.45	mg/L			07/05/16 14:16	20

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	20.6		0.596	1.94	1.00	0.0619	pCi/L	06/13/16 17:57	07/05/16 07:42	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.0*		*40 - 110*	*06/13/16 17:57*	*07/05/16 07:42*	*1*

Method: 903.0 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	17.1		0.559	1.64	1.00	0.102	pCi/L	06/13/16 18:55	07/05/16 07:33	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.6*		*40 - 110*	*06/13/16 18:55*	*07/05/16 07:33*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.12		0.349	0.400	1.00	0.328	pCi/L	06/13/16 18:53	06/27/16 12:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.0*		*40 - 110*	*06/13/16 18:53*	*06/27/16 12:53*	*1*
Y Carrier	*88.6*		*40 - 110*	*06/13/16 18:53*	*06/27/16 12:53*	*1*

Method: 904.0 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.49		0.328	0.355	1.00	0.371	pCi/L	06/13/16 19:35	06/28/16 13:29	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.6*		*40 - 110*	*06/13/16 19:35*	*06/28/16 13:29*	*1*
Y Carrier	*85.2*		*40 - 110*	*06/13/16 19:35*	*06/28/16 13:29*	*1*

Method: 906.0 - Tritium, Total (LSC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	6620		497	765	500	274	pCi/L	06/23/16 13:42	06/24/16 00:17	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17704-1

Client Sample ID: PZ-101-SS

Lab Sample ID: 160-17704-4
Matrix: Water
Date Collected: 06/07/16 14:45
Date Received: 06/08/16 08:22

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Thorium-230	0.410		0.227	0.230	1.00	0.167	pCi/L	06/15/16 15:38	06/22/16 12:57	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Thorium-229	*73.6*		*30 - 110*	*06/15/16 15:38*	*06/22/16 12:57*	*1*

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Uranium-233/234	0.135	U	0.193	0.193	1.00	0.325	pCi/L	06/15/16 15:38	06/21/16 13:34	1
Uranium-235/236	-0.0209	U	0.0419	0.0419	1.00	0.278	pCi/L	06/15/16 15:38	06/21/16 13:34	1
Uranium-238	0.144	U	0.165	0.165	1.00	0.223	pCi/L	06/15/16 15:38	06/21/16 13:34	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*52.9*		*30 - 110*	*06/15/16 15:38*	*06/21/16 13:34*	*1*

Client Sample ID: PZ-102R-SS

Lab Sample ID: 160-17704-5
Matrix: Water
Date Collected: 06/07/16 16:49
Date Received: 06/08/16 08:22

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/08/16 20:18	1
Acrylonitrile	ND		50	1.7	ug/L			06/08/16 20:18	1
Benzene	ND		5.0	0.25	ug/L			06/08/16 20:18	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/08/16 20:18	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/08/16 20:18	1
Bromoform	ND		5.0	0.37	ug/L			06/08/16 20:18	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/08/16 20:18	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/08/16 20:18	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/08/16 20:18	1
Chloroethane	ND		10	0.38	ug/L			06/08/16 20:18	1
Chloroform	ND		5.0	0.15	ug/L			06/08/16 20:18	1
Chloroprene	ND		5.0	0.39	ug/L			06/08/16 20:18	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/08/16 20:18	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/08/16 20:18	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/08/16 20:18	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/08/16 20:18	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/08/16 20:18	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/08/16 20:18	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/08/16 20:18	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/08/16 20:18	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/08/16 20:18	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/08/16 20:18	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/08/16 20:18	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/08/16 20:18	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/08/16 20:18	1
2-Hexanone	ND		20	0.59	ug/L			06/08/16 20:18	1

Client Sample ID: PZ-102R-SS

Date Collected: 06/07/16 16:49
Date Received: 06/08/16 08:22

Lab Sample ID: 160-17704-5
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl bromide	ND		10	0.40	ug/L			06/08/16 20:18	1
Methyl chloride	ND		10	0.55	ug/L			06/08/16 20:18	1
Methylene bromide	ND		5.0	0.41	ug/L			06/08/16 20:18	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/08/16 20:18	1
Methyl Ethyl Ketone	ND		20	0.39	ug/L			06/08/16 20:18	1
Methyl iodide	ND		5.0	1.5	ug/L			06/08/16 20:18	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/08/16 20:18	1
Styrene	ND		5.0	0.35	ug/L			06/08/16 20:18	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/08/16 20:18	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/08/16 20:18	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/08/16 20:18	1
Toluene	**1.9**	**J B**	5.0	1.0	ug/L			06/08/16 20:18	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/08/16 20:18	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/08/16 20:18	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/08/16 20:18	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/08/16 20:18	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/08/16 20:18	1
Trichloroethene	ND		5.0	0.29	ug/L			06/08/16 20:18	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/08/16 20:18	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/08/16 20:18	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/08/16 20:18	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/08/16 20:18	1
Xylenes, Total	ND		10	0.85	ug/L			06/08/16 20:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*118*		*71 - 139*		*06/08/16 20:18*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 121*		*06/08/16 20:18*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*76 - 121*		*06/08/16 20:18*	*1*
Toluene-d8 (Surr)	*110*		*80 - 129*		*06/08/16 20:18*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.45**		0.10	0.010	mg/L			06/22/16 09:21	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**62**		5.0	0.50	mg/L			06/22/16 09:35	10
Chloride	**7.2**		2.0	0.20	mg/L			06/22/16 09:35	10

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		50	15	ug/L		06/22/16 14:33	06/28/16 19:22	5
Arsenic	ND		50	20	ug/L		06/22/16 14:33	06/28/16 19:22	5
Barium	ND		250	75	ug/L		06/22/16 14:33	06/28/16 19:22	5
Beryllium	ND		25	7.5	ug/L		06/22/16 14:33	06/28/16 19:22	5
Boron	ND		500	130	ug/L		06/22/16 14:33	06/28/16 19:22	5
Cadmium	ND		25	7.5	ug/L		06/22/16 14:33	06/28/16 19:22	5
CaHard	**290000**		12000	3700	ug/L		06/22/16 14:33	06/28/16 19:22	5
Calcium	**120000**		5000	1500	ug/L		06/22/16 14:33	06/28/16 19:22	5
Chromium	ND		50	15	ug/L		06/22/16 14:33	06/28/16 19:22	5

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17704-1

Client Sample ID: PZ-102R-SS

Date Collected: 06/07/16 16:49
Date Received: 06/08/16 08:22

Lab Sample ID: 160-17704-5

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND		250	75	ug/L		06/22/16 14:33	06/28/16 19:22	5
Copper	ND		130	25	ug/L		06/22/16 14:33	06/28/16 19:22	5
Iron	**2900**		500	150	ug/L		06/22/16 14:33	06/28/16 19:22	5
Lead	ND		50	15	ug/L		06/22/16 14:33	06/28/16 19:22	5
Magnesium	**41**		5.0	1.5	mg/L		06/22/16 14:33	06/28/16 19:22	5
Manganese	**98**		75	13	ug/L		06/22/16 14:33	06/28/16 19:22	5
MgHard	**170000**		21000	6200	ug/L		06/22/16 14:33	06/28/16 19:22	5
Nickel	ND		0.20	0.050	mg/L		06/22/16 14:33	06/28/16 19:22	5
Phosphorus	ND	^ *	1300	380	ug/L		06/22/16 14:33	06/28/16 19:22	5
Selenium	ND		75	25	ug/L		06/22/16 14:33	06/28/16 19:22	5
Silver	ND		50	15	ug/L		06/22/16 14:33	06/28/16 19:22	5
Sodium	**20000**		5000	1500	ug/L		06/22/16 14:33	06/28/16 19:22	5
Thallium	ND		100	25	ug/L		06/22/16 14:33	06/28/16 19:22	5
Total Hardness	**460000**		33000	9900	ug/L		06/22/16 14:33	06/28/16 19:22	5
Vanadium	ND		250	75	ug/L		06/22/16 14:33	06/28/16 19:22	5
Zinc	**43**	**J**	100	30	ug/L		06/22/16 14:33	06/28/16 19:22	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		06/30/16 11:53	06/30/16 21:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	**530**		5.0	3.5	mg/L			06/10/16 09:36	1
Ammonia	**0.15**		0.050	0.022	mg/L			07/05/16 14:18	1
Nitrate/Nitrite	ND	^	0.050	0.011	mg/L			07/01/16 14:53	1
Chemical Oxygen Demand	ND		5.0	1.1	mg/L		06/21/16 09:31	06/21/16 14:30	1
Total Organic Carbon	ND		1.0	0.72	mg/L			06/13/16 23:56	1

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

Lab Sample ID: MB 160-255479/9
Matrix: Water
Analysis Batch: 255479

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/08/16 12:44	1
Acrylonitrile	ND		50	1.7	ug/L			06/08/16 12:44	1
Benzene	ND		5.0	0.25	ug/L			06/08/16 12:44	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/08/16 12:44	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/08/16 12:44	1
Bromoform	ND		5.0	0.37	ug/L			06/08/16 12:44	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/08/16 12:44	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/08/16 12:44	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/08/16 12:44	1
Chloroethane	ND		10	0.38	ug/L			06/08/16 12:44	1
Chloroform	ND		5.0	0.15	ug/L			06/08/16 12:44	1
Chloroprene	ND		5.0	0.39	ug/L			06/08/16 12:44	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/08/16 12:44	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/08/16 12:44	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/08/16 12:44	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/08/16 12:44	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/08/16 12:44	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/08/16 12:44	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/08/16 12:44	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/08/16 12:44	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/08/16 12:44	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/08/16 12:44	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/08/16 12:44	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/08/16 12:44	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/08/16 12:44	1
2-Hexanone	ND		20	0.59	ug/L			06/08/16 12:44	1
Methyl bromide	ND		10	0.40	ug/L			06/08/16 12:44	1
Methyl chloride	ND		10	0.55	ug/L			06/08/16 12:44	1
Methylene bromide	ND		5.0	0.41	ug/L			06/08/16 12:44	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/08/16 12:44	1
Methyl Ethyl Ketone	ND		20	0.39	ug/L			06/08/16 12:44	1
Methyl iodide	ND		5.0	1.5	ug/L			06/08/16 12:44	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/08/16 12:44	1
Styrene	ND		5.0	0.35	ug/L			06/08/16 12:44	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/08/16 12:44	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/08/16 12:44	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/08/16 12:44	1
Toluene	2.01	J	5.0	1.0	ug/L			06/08/16 12:44	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/08/16 12:44	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/08/16 12:44	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/08/16 12:44	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/08/16 12:44	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/08/16 12:44	1
Trichloroethene	ND		5.0	0.29	ug/L			06/08/16 12:44	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/08/16 12:44	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/08/16 12:44	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/08/16 12:44	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/08/16 12:44	1

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

Lab Sample ID: MB 160-255479/9
Matrix: Water
Analysis Batch: 255479

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		10	0.85	ug/L			06/08/16 12:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*71 - 139*		*06/08/16 12:44*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 121*		*06/08/16 12:44*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*76 - 121*		*06/08/16 12:44*	*1*
Toluene-d8 (Surr)	*106*		*80 - 129*		*06/08/16 12:44*	*1*

Lab Sample ID: LCS 160-255479/6
Matrix: Water
Analysis Batch: 255479

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	50.0	47.9		ug/L		96	63 - 131
Acrylonitrile	500	495		ug/L		99	81 - 117
Benzene	50.0	51.6		ug/L		103	80 - 120
Bromochloromethane	50.0	49.2		ug/L		98	80 - 120
Bromodichloromethane	50.0	50.4		ug/L		101	80 - 120
Bromoform	50.0	47.5		ug/L		95	80 - 120
Carbon disulfide	50.0	51.0		ug/L		102	79 - 126
Carbon tetrachloride	50.0	51.6		ug/L		103	73 - 123
Chlorobenzene	50.0	48.4		ug/L		97	80 - 120
Chloroethane	50.0	45.4		ug/L		91	52 - 140
Chloroform	50.0	50.9		ug/L		102	80 - 120
Chloroprene	50.0	55.4		ug/L		111	80 - 120
cis-1,2-Dichloroethene	50.0	53.1		ug/L		106	80 - 120
cis-1,3-Dichloropropene	50.0	52.4		ug/L		105	80 - 122
Dibromochloromethane	50.0	48.9		ug/L		98	80 - 120
1,2-Dibromo-3-Chloropropane	50.0	47.2		ug/L		94	77 - 125
1,2-Dibromoethane (EDB)	50.0	50.0		ug/L		100	80 - 120
1,3-Dichlorobenzene	50.0	49.0		ug/L		98	80 - 120
1,4-Dichlorobenzene	50.0	48.8		ug/L		98	80 - 120
Dichlorodifluoromethane	50.0	63.0		ug/L		126	62 - 140
1,1-Dichloroethane	50.0	51.0		ug/L		102	80 - 120
1,2-Dichloroethane	50.0	50.8		ug/L		102	69 - 124
1,1-Dichloroethene	50.0	50.3		ug/L		101	77 - 126
1,2-Dichloropropane	50.0	51.3		ug/L		103	80 - 120
Ethylbenzene	50.0	50.4		ug/L		101	80 - 120
2-Hexanone	50.0	47.5		ug/L		95	64 - 136
Methyl bromide	50.0	48.6		ug/L		97	57 - 139
Methyl chloride	50.0	53.8		ug/L		108	70 - 127
Methylene bromide	50.0	49.7		ug/L		99	78 - 120
Methylene Chloride	50.0	50.1		ug/L		100	80 - 120
Methyl Ethyl Ketone	50.0	46.0		ug/L		92	70 - 130
Methyl iodide	50.0	43.0		ug/L		86	73 - 125
4-Methyl-2-pentanone (MIBK)	50.0	49.5		ug/L		99	76 - 129
Styrene	50.0	51.4		ug/L		103	80 - 120
1,1,1,2-Tetrachloroethane	50.0	48.4		ug/L		97	80 - 120

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

Lab Sample ID: LCS 160-255479/6
Matrix: Water
Analysis Batch: 255479

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2,2-Tetrachloroethane	50.0	45.9		ug/L		92	80 - 120
Tetrachloroethene	50.0	49.3		ug/L		99	80 - 120
Toluene	50.0	46.4		ug/L		93	80 - 120
trans-1,4-Dichloro-2-butene	50.0	50.2		ug/L		100	75 - 127
trans-1,2-Dichloroethene	50.0	51.6		ug/L		103	80 - 120
trans-1,3-Dichloropropene	50.0	52.2		ug/L		104	80 - 130
1,1,1-Trichloroethane	50.0	53.1		ug/L		106	76 - 120
1,1,2-Trichloroethane	50.0	49.8		ug/L		100	80 - 120
Trichloroethene	50.0	52.4		ug/L		105	73 - 120
Trichlorofluoromethane	50.0	54.3		ug/L		109	74 - 130
1,2,3-Trichloropropane	50.0	48.3		ug/L		97	80 - 120
Vinyl acetate	50.0	43.1		ug/L		86	37 - 140
Vinyl chloride	50.0	55.3		ug/L		111	51 - 140
Xylenes, Total	100	102		ug/L		102	80 - 121

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*71 - 139*
Dibromofluoromethane (Surr)	*97*		*80 - 121*
1,2-Dichloroethane-d4 (Surr)	*99*		*76 - 121*
Toluene-d8 (Surr)	*102*		*80 - 129*

Lab Sample ID: LCSD 160-255479/7
Matrix: Water
Analysis Batch: 255479

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
Acetone	50.0	50.4		ug/L		101	63 - 131	5	20
Acrylonitrile	500	494		ug/L		99	81 - 117	0	20
Benzene	50.0	50.6		ug/L		101	80 - 120	2	20
Bromochloromethane	50.0	48.9		ug/L		98	80 - 120	1	20
Bromodichloromethane	50.0	49.0		ug/L		98	80 - 120	3	20
Bromoform	50.0	47.5		ug/L		95	80 - 120	0	20
Carbon disulfide	50.0	49.7		ug/L		99	79 - 126	3	20
Carbon tetrachloride	50.0	51.1		ug/L		102	73 - 123	1	20
Chlorobenzene	50.0	47.5		ug/L		95	80 - 120	2	20
Chloroethane	50.0	53.5		ug/L		107	52 - 140	16	20
Chloroform	50.0	49.8		ug/L		100	80 - 120	2	20
Chloroprene	50.0	54.8		ug/L		110	80 - 120	1	20
cis-1,2-Dichloroethene	50.0	52.8		ug/L		106	80 - 120	1	20
cis-1,3-Dichloropropene	50.0	52.3		ug/L		105	80 - 122	0	20
Dibromochloromethane	50.0	49.2		ug/L		98	80 - 120	1	20
1,2-Dibromo-3-Chloropropane	50.0	47.1		ug/L		94	77 - 125	0	20
1,2-Dibromoethane (EDB)	50.0	50.2		ug/L		100	80 - 120	1	20
1,3-Dichlorobenzene	50.0	47.9		ug/L		96	80 - 120	2	20
1,4-Dichlorobenzene	50.0	47.7		ug/L		95	80 - 120	2	20
Dichlorodifluoromethane	50.0	61.2		ug/L		122	62 - 140	3	20
1,1-Dichloroethane	50.0	50.2		ug/L		100	80 - 120	1	20
1,2-Dichloroethane	50.0	50.2		ug/L		100	69 - 124	1	20

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

Lab Sample ID: LCSD 160-255479/7
Matrix: Water
Analysis Batch: 255479

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
1,1-Dichloroethene	50.0	48.3		ug/L		97	77 - 126	4	20
1,2-Dichloropropane	50.0	50.4		ug/L		101	80 - 120	2	20
Ethylbenzene	50.0	49.4		ug/L		99	80 - 120	2	20
2-Hexanone	50.0	49.4		ug/L		99	64 - 136	4	20
Methyl bromide	50.0	46.1		ug/L		92	57 - 139	5	20
Methyl chloride	50.0	52.3		ug/L		105	70 - 127	3	20
Methylene bromide	50.0	49.2		ug/L		98	78 - 120	1	20
Methylene Chloride	50.0	49.3		ug/L		99	80 - 120	2	20
Methyl Ethyl Ketone	50.0	48.9		ug/L		98	70 - 130	6	20
Methyl iodide	50.0	41.9		ug/L		84	73 - 125	3	20
4-Methyl-2-pentanone (MIBK)	50.0	49.9		ug/L		100	76 - 129	1	20
Styrene	50.0	50.6		ug/L		101	80 - 120	2	20
1,1,1,2-Tetrachloroethane	50.0	48.3		ug/L		97	80 - 120	0	20
1,1,2,2-Tetrachloroethane	50.0	44.1		ug/L		88	80 - 120	4	20
Tetrachloroethene	50.0	49.7		ug/L		99	80 - 120	1	20
Toluene	50.0	45.6		ug/L		91	80 - 120	2	20
trans-1,4-Dichloro-2-butene	50.0	51.0		ug/L		102	75 - 127	2	20
trans-1,2-Dichloroethene	50.0	51.9		ug/L		104	80 - 120	1	20
trans-1,3-Dichloropropene	50.0	51.3		ug/L		103	80 - 130	2	20
1,1,1-Trichloroethane	50.0	51.9		ug/L		104	76 - 120	2	20
1,1,2-Trichloroethane	50.0	47.9		ug/L		96	80 - 120	4	20
Trichloroethene	50.0	51.5		ug/L		103	73 - 120	2	20
Trichlorofluoromethane	50.0	51.8		ug/L		104	74 - 130	5	20
1,2,3-Trichloropropane	50.0	47.5		ug/L		95	80 - 120	2	20
Vinyl acetate	50.0	37.6		ug/L		75	37 - 140	14	20
Vinyl chloride	50.0	53.8		ug/L		108	51 - 140	3	20
Xylenes, Total	100	101		ug/L		101	80 - 121	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*71 - 139*
Dibromofluoromethane (Surr)	*97*		*80 - 121*
1,2-Dichloroethane-d4 (Surr)	*98*		*76 - 121*
Toluene-d8 (Surr)	*100*		*80 - 129*

Lab Sample ID: 160-17662-F-1 MS
Matrix: Water
Analysis Batch: 255479

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND		50.0	51.8		ug/L		104	52 - 138
Acrylonitrile	ND		500	479		ug/L		96	58 - 142
Bromochloromethane	ND		50.0	47.6		ug/L		95	72 - 125
Bromodichloromethane	ND		50.0	49.8		ug/L		100	71 - 128
Bromoform	ND		50.0	45.7		ug/L		91	65 - 133
Carbon disulfide	ND		50.0	49.1		ug/L		98	69 - 139
Carbon tetrachloride	ND		50.0	50.3		ug/L		101	70 - 126
Chlorobenzene	3.3	J	50.0	50.7		ug/L		95	80 - 120
Chloroethane	ND		50.0	43.8		ug/L		88	59 - 144

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

Lab Sample ID: 160-17662-F-1 MS
Matrix: Water
Analysis Batch: 255479

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloroform	ND		50.0	49.9		ug/L		100	80 - 120
Chloroprene	ND		50.0	54.0		ug/L		108	77 - 121
cis-1,2-Dichloroethene	ND		50.0	51.4		ug/L		103	80 - 124
cis-1,3-Dichloropropene	ND		50.0	51.2		ug/L		102	67 - 130
Dibromochloromethane	ND		50.0	47.8		ug/L		96	68 - 133
1,2-Dibromo-3-Chloropropane	ND		50.0	47.3		ug/L		95	58 - 148
1,2-Dibromoethane (EDB)	ND		50.0	48.4		ug/L		97	65 - 138
1,3-Dichlorobenzene	ND		50.0	48.4		ug/L		97	80 - 120
1,4-Dichlorobenzene	4.0	J	50.0	51.7		ug/L		95	80 - 120
Dichlorodifluoromethane	ND		50.0	58.6		ug/L		117	65 - 140
1,1-Dichloroethane	ND		50.0	50.0		ug/L		100	80 - 120
1,2-Dichloroethane	ND		50.0	50.2		ug/L		100	56 - 136
1,1-Dichloroethene	ND		50.0	45.7		ug/L		91	66 - 137
1,2-Dichloropropane	ND		50.0	51.3		ug/L		103	80 - 123
Ethylbenzene	3.6	J	50.0	54.3		ug/L		101	80 - 121
2-Hexanone	ND		50.0	48.8		ug/L		98	47 - 150
Methyl bromide	ND		50.0	48.4		ug/L		97	53 - 146
Methyl chloride	ND		50.0	52.2		ug/L		104	61 - 137
Methylene bromide	ND		50.0	51.1		ug/L		102	61 - 136
Methylene Chloride	ND		50.0	47.4		ug/L		95	80 - 120
Methyl Ethyl Ketone	ND		50.0	46.0		ug/L		92	58 - 143
Methyl iodide	ND	F1 F2	50.0	33.9	F1	ug/L		68	69 - 124
4-Methyl-2-pentanone (MIBK)	ND		50.0	53.7		ug/L		107	53 - 150
Styrene	ND		50.0	50.9		ug/L		102	44 - 150
1,1,1,2-Tetrachloroethane	ND		50.0	47.2		ug/L		94	80 - 120
1,1,2,2-Tetrachloroethane	ND		50.0	47.7		ug/L		95	60 - 150
Tetrachloroethene	ND		50.0	49.1		ug/L		98	66 - 132
Toluene	7.9	B	50.0	51.3		ug/L		87	75 - 134
trans-1,4-Dichloro-2-butene	ND		50.0	48.7		ug/L		97	55 - 146
trans-1,2-Dichloroethene	ND		50.0	49.8		ug/L		100	79 - 121
trans-1,3-Dichloropropene	ND		50.0	50.8		ug/L		102	68 - 143
1,1,1-Trichloroethane	ND		50.0	51.2		ug/L		102	74 - 123
1,1,2-Trichloroethane	ND	F1	50.0	82.7	F1	ug/L		165	70 - 134
Trichloroethene	ND		50.0	49.7		ug/L		99	63 - 120
Trichlorofluoromethane	ND		50.0	51.4		ug/L		103	53 - 150
1,2,3-Trichloropropane	ND		50.0	45.1		ug/L		90	62 - 137
Vinyl acetate	ND		50.0	59.9		ug/L		120	63 - 150
Vinyl chloride	ND		50.0	52.9		ug/L		106	54 - 140
Xylenes, Total	23		100	125		ug/L		102	80 - 124

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*71 - 139*
Dibromofluoromethane (Surr)	*95*		*80 - 121*
1,2-Dichloroethane-d4 (Surr)	*94*		*76 - 121*
Toluene-d8 (Surr)	*97*		*80 - 129*

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

Lab Sample ID: 160-17662-F-1 MSD
Matrix: Water
Analysis Batch: 255479

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	ND		50.0	56.9		ug/L		114	52 - 138	9	20
Acrylonitrile	ND		500	485		ug/L		97	58 - 142	1	20
Bromochloromethane	ND		50.0	49.9		ug/L		100	72 - 125	5	20
Bromodichloromethane	ND		50.0	50.1		ug/L		100	71 - 128	1	20
Bromoform	ND		50.0	49.1		ug/L		98	65 - 133	7	20
Carbon disulfide	ND		50.0	50.3		ug/L		101	69 - 139	2	20
Carbon tetrachloride	ND		50.0	51.8		ug/L		104	70 - 126	3	20
Chlorobenzene	3.3	J	50.0	50.9		ug/L		95	80 - 120	0	20
Chloroethane	ND		50.0	52.6		ug/L		105	59 - 144	18	20
Chloroform	ND		50.0	50.5		ug/L		101	80 - 120	1	20
Chloroprene	ND		50.0	54.9		ug/L		110	77 - 121	2	20
cis-1,2-Dichloroethene	ND		50.0	53.2		ug/L		106	80 - 124	3	20
cis-1,3-Dichloropropene	ND		50.0	52.0		ug/L		104	67 - 130	1	20
Dibromochloromethane	ND		50.0	48.7		ug/L		97	68 - 133	2	20
1,2-Dibromo-3-Chloropropane	ND		50.0	47.9		ug/L		96	58 - 148	1	20
1,2-Dibromoethane (EDB)	ND		50.0	48.0		ug/L		96	65 - 138	1	20
1,3-Dichlorobenzene	ND		50.0	51.1		ug/L		102	80 - 120	5	20
1,4-Dichlorobenzene	4.0	J	50.0	53.4		ug/L		99	80 - 120	3	20
Dichlorodifluoromethane	ND		50.0	61.6		ug/L		123	65 - 140	5	20
1,1-Dichloroethane	ND		50.0	50.2		ug/L		100	80 - 120	0	20
1,2-Dichloroethane	ND		50.0	51.0		ug/L		102	56 - 136	2	20
1,1-Dichloroethene	ND		50.0	48.4		ug/L		97	66 - 137	6	20
1,2-Dichloropropane	ND		50.0	51.4		ug/L		103	80 - 123	0	20
Ethylbenzene	3.6	J	50.0	53.2		ug/L		99	80 - 121	2	20
2-Hexanone	ND		50.0	50.3		ug/L		101	47 - 150	3	20
Methyl bromide	ND		50.0	42.8		ug/L		86	53 - 146	12	20
Methyl chloride	ND		50.0	52.5		ug/L		105	61 - 137	1	20
Methylene bromide	ND		50.0	50.3		ug/L		101	61 - 136	2	20
Methylene Chloride	ND		50.0	50.2		ug/L		100	80 - 120	6	20
Methyl Ethyl Ketone	ND		50.0	48.1		ug/L		96	58 - 143	4	20
Methyl iodide	ND	F1 F2	50.0	46.6	F2	ug/L		93	69 - 124	32	20
4-Methyl-2-pentanone (MIBK)	ND		50.0	54.9		ug/L		110	53 - 150	2	20
Styrene	ND		50.0	51.7		ug/L		103	44 - 150	2	20
1,1,1,2-Tetrachloroethane	ND		50.0	47.2		ug/L		94	80 - 120	0	20
1,1,2,2-Tetrachloroethane	ND		50.0	48.6		ug/L		97	60 - 150	2	20
Tetrachloroethene	ND		50.0	50.6		ug/L		101	66 - 132	3	20
Toluene	7.9	B	50.0	51.0		ug/L		86	75 - 134	1	20
trans-1,4-Dichloro-2-butene	ND		50.0	51.5		ug/L		103	55 - 146	6	20
trans-1,2-Dichloroethene	ND		50.0	52.0		ug/L		104	79 - 121	4	20
trans-1,3-Dichloropropene	ND		50.0	51.4		ug/L		103	68 - 143	1	20
1,1,1-Trichloroethane	ND		50.0	52.4		ug/L		105	74 - 123	2	20
1,1,2-Trichloroethane	ND	F1	50.0	84.0	F1	ug/L		168	70 - 134	2	20
Trichloroethene	ND		50.0	50.0		ug/L		100	63 - 120	0	20
Trichlorofluoromethane	ND		50.0	51.2		ug/L		102	53 - 150	0	20
1,2,3-Trichloropropane	ND		50.0	47.8		ug/L		96	62 - 137	6	20
Vinyl acetate	ND		50.0	62.3		ug/L		125	63 - 150	4	20
Vinyl chloride	ND		50.0	54.2		ug/L		108	54 - 140	2	20
Xylenes, Total	23		100	126		ug/L		103	80 - 124	1	20

QC Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17704-1

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*107*		*71 - 139*
Dibromofluoromethane (Surr)	*99*		*80 - 121*
1,2-Dichloroethane-d4 (Surr)	*96*		*76 - 121*
Toluene-d8 (Surr)	*98*		*80 - 129*

Lab Sample ID: MB 160-255734/9
Matrix: Water
Analysis Batch: 255734

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/09/16 11:47	1
Acrylonitrile	ND		50	1.7	ug/L			06/09/16 11:47	1
Benzene	ND		5.0	0.25	ug/L			06/09/16 11:47	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/09/16 11:47	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/09/16 11:47	1
Bromoform	ND		5.0	0.37	ug/L			06/09/16 11:47	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/09/16 11:47	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/09/16 11:47	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/09/16 11:47	1
Chloroethane	ND		10	0.38	ug/L			06/09/16 11:47	1
Chloroform	ND		5.0	0.15	ug/L			06/09/16 11:47	1
Chloroprene	ND		5.0	0.39	ug/L			06/09/16 11:47	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/09/16 11:47	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/09/16 11:47	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/09/16 11:47	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/09/16 11:47	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/09/16 11:47	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/09/16 11:47	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/09/16 11:47	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/09/16 11:47	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/09/16 11:47	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/09/16 11:47	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/09/16 11:47	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/09/16 11:47	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/09/16 11:47	1
2-Hexanone	ND		20	0.59	ug/L			06/09/16 11:47	1
Methyl bromide	ND		10	0.40	ug/L			06/09/16 11:47	1
Methyl chloride	ND		10	0.55	ug/L			06/09/16 11:47	1
Methylene bromide	ND		5.0	0.41	ug/L			06/09/16 11:47	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/09/16 11:47	1
Methyl Ethyl Ketone	ND		20	0.39	ug/L			06/09/16 11:47	1
Methyl iodide	ND		5.0	1.5	ug/L			06/09/16 11:47	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/09/16 11:47	1
Styrene	ND		5.0	0.35	ug/L			06/09/16 11:47	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/09/16 11:47	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/09/16 11:47	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/09/16 11:47	1
Toluene	1.91	J	5.0	1.0	ug/L			06/09/16 11:47	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/09/16 11:47	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/09/16 11:47	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/09/16 11:47	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/09/16 11:47	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/09/16 11:47	1
Trichloroethene	ND		5.0	0.29	ug/L			06/09/16 11:47	1

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

Lab Sample ID: MB 160-255734/9
Matrix: Water
Analysis Batch: 255734

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/09/16 11:47	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/09/16 11:47	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/09/16 11:47	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/09/16 11:47	1
Xylenes, Total	ND		10	0.85	ug/L			06/09/16 11:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*118*		*71 - 139*		*06/09/16 11:47*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 121*		*06/09/16 11:47*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*76 - 121*		*06/09/16 11:47*	*1*
Toluene-d8 (Surr)	*109*		*80 - 129*		*06/09/16 11:47*	*1*

Lab Sample ID: LCS 160-255734/6
Matrix: Water
Analysis Batch: 255734

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	50.0	46.9		ug/L		94	63 - 131
Acrylonitrile	500	479		ug/L		96	81 - 117
Benzene	50.0	51.8		ug/L		104	80 - 120
Bromochloromethane	50.0	47.5		ug/L		95	80 - 120
Bromodichloromethane	50.0	50.2		ug/L		100	80 - 120
Bromoform	50.0	43.0		ug/L		86	80 - 120
Carbon disulfide	50.0	54.3		ug/L		109	79 - 126
Carbon tetrachloride	50.0	51.0		ug/L		102	73 - 123
Chlorobenzene	50.0	47.9		ug/L		96	80 - 120
Chloroethane	50.0	58.9		ug/L		118	52 - 140
Chloroform	50.0	50.5		ug/L		101	80 - 120
Chloroprene	50.0	55.1		ug/L		110	80 - 120
cis-1,2-Dichloroethene	50.0	51.2		ug/L		102	80 - 120
cis-1,3-Dichloropropene	50.0	51.2		ug/L		102	80 - 122
Dibromochloromethane	50.0	45.6		ug/L		91	80 - 120
1,2-Dibromo-3-Chloropropane	50.0	43.1		ug/L		86	77 - 125
1,2-Dibromoethane (EDB)	50.0	46.5		ug/L		93	80 - 120
1,3-Dichlorobenzene	50.0	47.9		ug/L		96	80 - 120
1,4-Dichlorobenzene	50.0	48.2		ug/L		96	80 - 120
Dichlorodifluoromethane	50.0	66.7		ug/L		133	62 - 140
1,1-Dichloroethane	50.0	51.7		ug/L		103	80 - 120
1,2-Dichloroethane	50.0	50.9		ug/L		102	69 - 124
1,1-Dichloroethene	50.0	57.0		ug/L		114	77 - 126
1,2-Dichloropropane	50.0	52.1		ug/L		104	80 - 120
Ethylbenzene	50.0	51.8		ug/L		104	80 - 120
2-Hexanone	50.0	43.9		ug/L		88	64 - 136
Methyl bromide	50.0	42.9		ug/L		86	57 - 139
Methyl chloride	50.0	55.2		ug/L		110	70 - 127
Methylene bromide	50.0	48.7		ug/L		97	78 - 120
Methylene Chloride	50.0	49.7		ug/L		99	80 - 120
Methyl Ethyl Ketone	50.0	44.7		ug/L		89	70 - 130

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

Lab Sample ID: LCS 160-255734/6
Matrix: Water
Analysis Batch: 255734

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methyl iodide	50.0	38.7		ug/L		77	73 - 125
4-Methyl-2-pentanone (MIBK)	50.0	45.8		ug/L		92	76 - 129
Styrene	50.0	51.2		ug/L		102	80 - 120
1,1,1,2-Tetrachloroethane	50.0	45.9		ug/L		92	80 - 120
1,1,2,2-Tetrachloroethane	50.0	43.1		ug/L		86	80 - 120
Tetrachloroethene	50.0	48.2		ug/L		96	80 - 120
Toluene	50.0	45.9		ug/L		92	80 - 120
trans-1,4-Dichloro-2-butene	50.0	47.5		ug/L		95	75 - 127
trans-1,2-Dichloroethene	50.0	50.5		ug/L		101	80 - 120
trans-1,3-Dichloropropene	50.0	51.8		ug/L		104	80 - 130
1,1,1-Trichloroethane	50.0	52.3		ug/L		105	76 - 120
1,1,2-Trichloroethane	50.0	46.3		ug/L		93	80 - 120
Trichloroethene	50.0	54.0		ug/L		108	73 - 120
Trichlorofluoromethane	50.0	56.9		ug/L		114	74 - 130
1,2,3-Trichloropropane	50.0	43.5		ug/L		87	80 - 120
Vinyl acetate	50.0	40.9		ug/L		82	37 - 140
Vinyl chloride	50.0	57.1		ug/L		114	51 - 140
Xylenes, Total	100	100		ug/L		100	80 - 121

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*71 - 139*
Dibromofluoromethane (Surr)	*96*		*80 - 121*
1,2-Dichloroethane-d4 (Surr)	*102*		*76 - 121*
Toluene-d8 (Surr)	*101*		*80 - 129*

Lab Sample ID: LCSD 160-255734/7
Matrix: Water
Analysis Batch: 255734

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
Acetone	50.0	59.4	*	ug/L		119	63 - 131	24	20
Acrylonitrile	500	562		ug/L		112	81 - 117	16	20
Benzene	50.0	50.8		ug/L		102	80 - 120	2	20
Bromochloromethane	50.0	48.7		ug/L		97	80 - 120	3	20
Bromodichloromethane	50.0	52.2		ug/L		104	80 - 120	4	20
Bromoform	50.0	49.9		ug/L		100	80 - 120	15	20
Carbon disulfide	50.0	56.5		ug/L		113	79 - 126	4	20
Carbon tetrachloride	50.0	51.0		ug/L		102	73 - 123	0	20
Chlorobenzene	50.0	47.9		ug/L		96	80 - 120	0	20
Chloroethane	50.0	46.5	*	ug/L		93	52 - 140	24	20
Chloroform	50.0	50.2		ug/L		100	80 - 120	1	20
Chloroprene	50.0	55.0		ug/L		110	80 - 120	0	20
cis-1,2-Dichloroethene	50.0	52.0		ug/L		104	80 - 120	2	20
cis-1,3-Dichloropropene	50.0	54.2		ug/L		108	80 - 122	6	20
Dibromochloromethane	50.0	49.8		ug/L		100	80 - 120	9	20
1,2-Dibromo-3-Chloropropane	50.0	52.3		ug/L		105	77 - 125	19	20
1,2-Dibromoethane (EDB)	50.0	52.4		ug/L		105	80 - 120	12	20
1,3-Dichlorobenzene	50.0	48.5		ug/L		97	80 - 120	1	20

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

Lab Sample ID: LCSD 160-255734/7
Matrix: Water
Analysis Batch: 255734

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
1,4-Dichlorobenzene	50.0	48.2		ug/L		96	80 - 120	0	20
Dichlorodifluoromethane	50.0	63.0		ug/L		126	62 - 140	6	20
1,1-Dichloroethane	50.0	50.3		ug/L		101	80 - 120	3	20
1,2-Dichloroethane	50.0	54.1		ug/L		108	69 - 124	6	20
1,1-Dichloroethene	50.0	55.7		ug/L		111	77 - 126	2	20
1,2-Dichloropropane	50.0	52.0		ug/L		104	80 - 120	0	20
Ethylbenzene	50.0	50.5		ug/L		101	80 - 120	2	20
2-Hexanone	50.0	57.0	*	ug/L		114	64 - 136	26	20
Methyl bromide	50.0	43.3		ug/L		87	57 - 139	1	20
Methyl chloride	50.0	53.4		ug/L		107	70 - 127	3	20
Methylene bromide	50.0	53.5		ug/L		107	78 - 120	9	20
Methylene Chloride	50.0	50.7		ug/L		101	80 - 120	2	20
Methyl Ethyl Ketone	50.0	55.9	*	ug/L		112	70 - 130	22	20
Methyl iodide	50.0	37.6		ug/L		75	73 - 125	3	20
4-Methyl-2-pentanone (MIBK)	50.0	58.7	*	ug/L		117	76 - 129	25	20
Styrene	50.0	51.4		ug/L		103	80 - 120	0	20
1,1,1,2-Tetrachloroethane	50.0	46.2		ug/L		92	80 - 120	1	20
1,1,2,2-Tetrachloroethane	50.0	49.0		ug/L		98	80 - 120	13	20
Tetrachloroethene	50.0	47.6		ug/L		95	80 - 120	1	20
Toluene	50.0	45.6		ug/L		91	80 - 120	1	20
trans-1,4-Dichloro-2-butene	50.0	56.3		ug/L		113	75 - 127	17	20
trans-1,2-Dichloroethene	50.0	50.7		ug/L		101	80 - 120	0	20
trans-1,3-Dichloropropene	50.0	55.2		ug/L		110	80 - 130	6	20
1,1,1-Trichloroethane	50.0	52.0		ug/L		104	76 - 120	1	20
1,1,2-Trichloroethane	50.0	50.8		ug/L		102	80 - 120	9	20
Trichloroethene	50.0	53.5		ug/L		107	73 - 120	1	20
Trichlorofluoromethane	50.0	54.8		ug/L		110	74 - 130	4	20
1,2,3-Trichloropropane	50.0	51.7		ug/L		103	80 - 120	17	20
Vinyl acetate	50.0	44.3		ug/L		89	37 - 140	8	20
Vinyl chloride	50.0	55.1		ug/L		110	51 - 140	4	20
Xylenes, Total	100	99.8		ug/L		100	80 - 121	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*71 - 139*
Dibromofluoromethane (Surr)	*97*		*80 - 121*
1,2-Dichloroethane-d4 (Surr)	*105*		*76 - 121*
Toluene-d8 (Surr)	*99*		*80 - 129*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 160-257330/44
Matrix: Water
Analysis Batch: 257330

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.10	0.010	mg/L			06/22/16 01:14	1
Sulfate	ND		0.50	0.050	mg/L			06/22/16 01:14	1
Chloride	ND		0.20	0.020	mg/L			06/22/16 01:14	1

QC Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17704-1

Lab Sample ID: LCS 160-257330/45 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257330

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			1.00	0.997		mg/L		100	90 - 110		
Sulfate			8.00	7.75		mg/L		97	90 - 110		
Chloride			2.00	1.94		mg/L		97	90 - 110		

Lab Sample ID: 160-17695-D-3 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257330

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride	2.0		2.00	4.15	E	mg/L		106	90 - 110		
Chloride	3.4		2.00	5.60	E	mg/L		109	90 - 110		

Lab Sample ID: 160-17695-D-3 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257330

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Fluoride	2.0			2.06		mg/L				2	20
Chloride	3.4			3.54		mg/L				4	20

Method: 300.0 - Anions, Ion Chromatography - DL

Lab Sample ID: 160-17695-D-3 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257330

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate - DL	23		40.0	60.1		mg/L		93	90 - 110		

Lab Sample ID: 160-17695-D-3 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257330

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Sulfate - DL	23			22.3		mg/L				3	20

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 160-257622/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258532 — **Prep Batch: 257622**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		10	3.0	ug/L		06/22/16 14:33	06/28/16 18:15	1
Arsenic	ND		10	4.0	ug/L		06/22/16 14:33	06/28/16 18:15	1
Barium	ND		50	15	ug/L		06/22/16 14:33	06/28/16 18:15	1
Beryllium	ND		5.0	1.5	ug/L		06/22/16 14:33	06/28/16 18:15	1
Boron	ND		100	25	ug/L		06/22/16 14:33	06/28/16 18:15	1
Cadmium	ND		5.0	1.5	ug/L		06/22/16 14:33	06/28/16 18:15	1
CaHard	ND		2500	750	ug/L		06/22/16 14:33	06/28/16 18:15	1
Calcium	ND		1000	300	ug/L		06/22/16 14:33	06/28/16 18:15	1

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

Lab Sample ID: MB 160-257622/1-A
Matrix: Water
Analysis Batch: 258532

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 257622

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND		10	3.0	ug/L		06/22/16 14:33	06/28/16 18:15	1
Cobalt	ND		50	15	ug/L		06/22/16 14:33	06/28/16 18:15	1
Copper	ND		25	5.0	ug/L		06/22/16 14:33	06/28/16 18:15	1
Iron	ND		100	30	ug/L		06/22/16 14:33	06/28/16 18:15	1
Lead	ND		10	3.0	ug/L		06/22/16 14:33	06/28/16 18:15	1
Magnesium	ND		1.0	0.30	mg/L		06/22/16 14:33	06/28/16 18:15	1
Manganese	ND		15	2.5	ug/L		06/22/16 14:33	06/28/16 18:15	1
MgHard	ND		4100	1200	ug/L		06/22/16 14:33	06/28/16 18:15	1
Nickel	ND		0.040	0.010	mg/L		06/22/16 14:33	06/28/16 18:15	1
Phosphorus	ND	^	250	75	ug/L		06/22/16 14:33	06/28/16 18:15	1
Selenium	ND		15	5.0	ug/L		06/22/16 14:33	06/28/16 18:15	1
Silver	ND		10	3.0	ug/L		06/22/16 14:33	06/28/16 18:15	1
Sodium	ND		1000	300	ug/L		06/22/16 14:33	06/28/16 18:15	1
Thallium	ND		20	5.0	ug/L		06/22/16 14:33	06/28/16 18:15	1
Total Hardness	ND		6600	2000	ug/L		06/22/16 14:33	06/28/16 18:15	1
Vanadium	ND		50	15	ug/L		06/22/16 14:33	06/28/16 18:15	1
Zinc	ND		20	6.0	ug/L		06/22/16 14:33	06/28/16 18:15	1

Lab Sample ID: LCS 160-257622/2-A
Matrix: Water
Analysis Batch: 258532

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 257622

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	500	507		ug/L		101	80 - 120
Arsenic	1000	1010		ug/L		101	80 - 120
Barium	1000	951		ug/L		95	80 - 120
Beryllium	1000	975		ug/L		98	80 - 120
Boron	2000	1910		ug/L		95	80 - 120
Cadmium	1000	1040		ug/L		104	80 - 120
Calcium	10000	10600		ug/L		106	80 - 120
Chromium	1000	1050		ug/L		105	80 - 120
Cobalt	1000	1050		ug/L		105	80 - 120
Copper	1000	955		ug/L		95	80 - 120
Iron	10000	9560		ug/L		96	80 - 120
Lead	1000	1010		ug/L		101	80 - 120
Magnesium	10.0	9.65		mg/L		96	80 - 120
Manganese	1000	950		ug/L		95	80 - 120
Nickel	1.00	1.06		mg/L		106	80 - 120
Selenium	500	503		ug/L		101	80 - 120
Silver	200	199		ug/L		99	80 - 120
Sodium	10000	10100		ug/L		101	80 - 120
Thallium	200	198		ug/L		99	80 - 120
Vanadium	1000	954		ug/L		95	80 - 120
Zinc	1000	1060		ug/L		106	80 - 120

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

Lab Sample ID: LCS 160-257622/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258751 — **Prep Batch: 257622**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	1000	1150		ug/L		115	80 - 120

Lab Sample ID: 160-17695-G-1-B MS ^1 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258751 — **Prep Batch: 257622**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	620000		10000	624000	4	ug/L		64	75 - 125

Lab Sample ID: 160-17695-G-1-B MS ^5 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258532 — **Prep Batch: 257622**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND		500	528		ug/L		106	75 - 125
Arsenic	81		1000	1120		ug/L		104	75 - 125
Barium	2300		1000	3210		ug/L		89	75 - 125
Beryllium	ND		1000	954		ug/L		95	75 - 125
Boron	ND		2000	1850		ug/L		92	75 - 125
Cadmium	ND		1000	1060		ug/L		106	75 - 125
Chromium	ND		1000	1070		ug/L		107	75 - 125
Cobalt	ND		1000	1070		ug/L		107	75 - 125
Copper	ND		1000	968		ug/L		97	75 - 125
Iron	78000		10000	86200	4	ug/L		80	75 - 125
Lead	ND		1000	1030		ug/L		103	75 - 125
Magnesium	260		10.0	267	4	mg/L		33	75 - 125
Manganese	2200		1000	3110		ug/L		87	75 - 125
Nickel	0.078	J	1.00	1.14		mg/L		107	75 - 125
Phosphorus	ND	F1 ^ *	1000	1490	F1 ^	ug/L		149	75 - 125
Selenium	ND		500	528		ug/L		106	75 - 125
Silver	ND		200	197		ug/L		99	75 - 125
Sodium	150000		10000	159000	4	ug/L		66	75 - 125
Thallium	ND		200	205		ug/L		102	75 - 125
Vanadium	ND		1000	930		ug/L		93	75 - 125
Zinc	39	J	1000	1130		ug/L		109	75 - 125

Lab Sample ID: 160-17695-G-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258751 — **Prep Batch: 257622**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	620000		10000	630000	4	ug/L		125	75 - 125	1	20

Lab Sample ID: 160-17695-G-1-C MSD ^5 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258532 — **Prep Batch: 257622**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	ND		500	497		ug/L		99	75 - 125	6	20

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

Lab Sample ID: 160-17695-G-1-C MSD ^5 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258532 — **Prep Batch: 257622**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	81		1000	1070		ug/L		99	75 - 125	5	20
Barium	2300		1000	3280		ug/L		96	75 - 125	2	20
Beryllium	ND		1000	961		ug/L		96	75 - 125	1	20
Boron	ND		2000	1860		ug/L		93	75 - 125	1	20
Cadmium	ND		1000	1010		ug/L		101	75 - 125	5	20
Chromium	ND		1000	1010		ug/L		101	75 - 125	5	20
Cobalt	ND		1000	1020		ug/L		102	75 - 125	5	20
Copper	ND		1000	934		ug/L		93	75 - 125	4	20
Iron	78000		10000	87100	4	ug/L		89	75 - 125	1	20
Lead	ND		1000	979		ug/L		98	75 - 125	5	20
Magnesium	260		10.0	270	4	mg/L		59	75 - 125	1	20
Manganese	2200		1000	3150		ug/L		91	75 - 125	1	20
Nickel	0.078	J	1.00	1.08		mg/L		101	75 - 125	5	20
Phosphorus	ND	F1 ^ *	1000	1420	F1 ^	ug/L		142	75 - 125	4	20
Selenium	ND		500	513		ug/L		103	75 - 125	3	20
Silver	ND		200	201		ug/L		101	75 - 125	2	20
Sodium	150000		10000	162000	4	ug/L		90	75 - 125	1	20
Thallium	ND		200	203		ug/L		101	75 - 125	1	20
Vanadium	ND		1000	943		ug/L		94	75 - 125	1	20
Zinc	39	J	1000	1070		ug/L		103	75 - 125	5	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 160-258736/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258913 — **Prep Batch: 258736**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		06/30/16 11:53	06/30/16 20:35	1

Lab Sample ID: LCS 160-258736/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258913 — **Prep Batch: 258736**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	5.00	5.37		ug/L		107	80 - 120

Lab Sample ID: 160-17695-G-4-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258913 — **Prep Batch: 258736**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.14	J	5.00	4.56		ug/L		88	80 - 120

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: 160-17695-G-4-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258913 — **Prep Batch: 258736**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.14	J	5.00	4.55		ug/L		88	80 - 120	0	20

Method: 160.1 - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 160-255914/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 255914

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		5.0	3.5	mg/L			06/10/16 09:36	1

Lab Sample ID: LCS 160-255914/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 255914

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids (TDS)	500	518		mg/L		104	90 - 110

Lab Sample ID: 160-17704-5 DU — **Client Sample ID: PZ-102R-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 255914

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids (TDS)	530		545		mg/L		NC	20

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 160-259230/11 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259230

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.050	0.022	mg/L			07/05/16 14:06	1

Lab Sample ID: LCS 160-259230/12 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259230

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	0.500	0.509		mg/L		102	90 - 110

Lab Sample ID: 160-17746-F-3 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259230

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	0.42	F1	0.500	1.04	F1	mg/L		124	90 - 110

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: 160-17746-F-3 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259230

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Ammonia	0.42	F1		0.413		mg/L				2	20

Method: 353.1 Preserved - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 160-258930/13 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258930

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate/Nitrite	ND		0.050	0.011	mg/L			07/01/16 14:25	1

Lab Sample ID: LCS 160-258930/14 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258930

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrate/Nitrite			0.500	0.541		mg/L		108	90 - 110		

Lab Sample ID: 160-17695-E-3 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258930

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrate/Nitrite	ND	F1	0.500	ND	F1	mg/L		0	90 - 110		

Lab Sample ID: 160-17695-E-3 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258930

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Nitrate/Nitrite	ND	F1		ND		mg/L				NC	20

Method: 410.4 - COD

Lab Sample ID: MB 160-257264/3-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257335 — **Prep Batch: 257264**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		5.0	1.1	mg/L		06/21/16 09:31	06/21/16 14:30	1

Lab Sample ID: LCS 160-257264/4-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257335 — **Prep Batch: 257264**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chemical Oxygen Demand			50.0	51.0		mg/L		102	90 - 110		

Method: 410.4 - COD (Continued)

Lab Sample ID: 160-17695-E-3-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257335 — **Prep Batch: 257264**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chemical Oxygen Demand	ND		50.0	51.0		mg/L		102	90 - 110		

Lab Sample ID: 160-17695-E-3-B DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257335 — **Prep Batch: 257264**

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Chemical Oxygen Demand	ND			ND		mg/L				NC	20

Method: 415.1 - TOC

Lab Sample ID: MB 160-256304/5 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256304

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		1.0	0.72	mg/L			06/13/16 19:27	1

Lab Sample ID: LCS 160-256304/6 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256304

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon			10.0	9.97		mg/L		100	90 - 110		

Method: 415.1 - TOC - DL

Lab Sample ID: 160-17630-B-2 MS ^2 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256304

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon - DL	27		10.0	38.3		mg/L		113	76 - 120		

Lab Sample ID: 160-17630-B-2 DU ^2 — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256304

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Organic Carbon - DL	27			27.8		mg/L				3	20

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-256198/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259194 — **Prep Batch: 256198**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.001762	U	0.0387	0.0387	1.00	0.0775	pCi/L	06/13/16 17:57	07/05/16 07:42	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.2*		*40 - 110*	*06/13/16 17:57*	*07/05/16 07:42*	*1*

Lab Sample ID: LCS 160-256198/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259194 — **Prep Batch: 256198**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.2	14.28		1.38	1.00	0.0787	pCi/L	128	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*93.2*		*40 - 110*

Lab Sample ID: 400-122626-C-1-B DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259192 — **Prep Batch: 256198**

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-226	0.313			0.3076		0.0875	1.00	0.0708	pCi/L			0.03	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*86.6*		*40 - 110*

Lab Sample ID: MB 160-256206/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259193 — **Prep Batch: 256206**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.04701	U	0.0439	0.0441	1.00	0.0679	pCi/L	06/13/16 18:55	07/05/16 07:32	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.0*		*40 - 110*	*06/13/16 18:55*	*07/05/16 07:32*	*1*

Lab Sample ID: LCS 160-256206/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259193 — **Prep Batch: 256206**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.2	14.81		1.43	1.00	0.0685	pCi/L	133	68 - 137		

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCS 160-256206/2-A
Matrix: Water
Analysis Batch: 259193

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 256206

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	98.0		40 - 110

Lab Sample ID: LCSD 160-256206/3-A
Matrix: Water
Analysis Batch: 259193

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 256206

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.2	14.62		1.41	1.00	0.0724	pCi/L	131	68 - 137	0.07	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	91.7		40 - 110

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-256205/1-A
Matrix: Water
Analysis Batch: 258190

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 256205

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.1317	U	0.186	0.187	1.00	0.364	pCi/L	06/13/16 18:53	06/27/16 12:53	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	87.2		40 - 110	06/13/16 18:53	06/27/16 12:53	1
Y Carrier	86.0		40 - 110	06/13/16 18:53	06/27/16 12:53	1

Lab Sample ID: LCS 160-256205/2-A
Matrix: Water
Analysis Batch: 258190

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 256205

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			15.0	16.22		1.71	1.00	0.360	pCi/L	108	56 - 140		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	93.2		40 - 110
Y Carrier	88.2		40 - 110

Lab Sample ID: 400-122626-C-1-D DU
Matrix: Water
Analysis Batch: 258026

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 256205

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-228	0.490			0.2708	U	0.263	1.00	0.423	pCi/L			0.40	1

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: 400-122626-C-1-D DU
Matrix: Water
Analysis Batch: 258026

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 256205

Carrier	DU %Yield	DU Qualifier	Limits
Ba Carrier	86.6		40 - 110
Y Carrier	85.2		40 - 110

Lab Sample ID: MB 160-256209/1-A
Matrix: Water
Analysis Batch: 258247

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 256209

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.06947	U	0.225	0.225	1.00	0.390	pCi/L	06/13/16 19:35	06/28/16 13:28	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	96.0		40 - 110	06/13/16 19:35	06/28/16 13:28	1
Y Carrier	86.7		40 - 110	06/13/16 19:35	06/28/16 13:28	1

Lab Sample ID: LCS 160-256209/2-A
Matrix: Water
Analysis Batch: 258247

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 256209

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			14.9	17.17		1.80	1.00	0.351	pCi/L	115	56 - 140		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	98.0		40 - 110
Y Carrier	89.0		40 - 110

Lab Sample ID: LCSD 160-256209/3-A
Matrix: Water
Analysis Batch: 258247

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 256209

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			14.9	19.64		2.04	1.00	0.365	pCi/L	131	56 - 140	0.64	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	91.7		40 - 110
Y Carrier	87.5		40 - 110

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-257723/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257889 — **Prep Batch: 257723**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	26.58	U	144	145	500	255	pCi/L	06/23/16 13:42	06/23/16 21:29	1

Lab Sample ID: LCS 160-257723/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257889 — **Prep Batch: 257723**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Tritium	3060	2722		407	500	261	pCi/L	89	74 - 114

Lab Sample ID: 160-17869-A-2-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257889 — **Prep Batch: 257723**

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Tritium	112	U	3060	2938		430	500	266	pCi/L	96	67 - 130

Lab Sample ID: 160-17869-A-1-B DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257889 — **Prep Batch: 257723**

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Tritium	59.5	U	114.9	U	160	500	270	pCi/L	0.18	1

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

Lab Sample ID: MB 160-256563/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257515 — **Prep Batch: 256563**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Thorium-230	0.3100		0.113	0.116	1.00	0.0310	pCi/L	06/15/16 15:38	06/22/16 12:57	1

Tracer	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Thorium-229	*89.1*		*30 - 110*	*06/15/16 15:38*	*06/22/16 12:57*	*1*

Lab Sample ID: LCS 160-256563/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257516 — **Prep Batch: 256563**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Thorium-230	8.03	10.06		1.07	1.00	0.0318	pCi/L	125	81 - 125

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry) (Continued)

Lab Sample ID: LCS 160-256563/2-A
Matrix: Water
Analysis Batch: 257516

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 256563

Tracer	LCS %Yield	LCS Qualifier	Limits
Thorium-229	80.1		30 - 110

Lab Sample ID: 160-17611-K-1-C DU
Matrix: Water
Analysis Batch: 257784

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 256563

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Thorium-230	0.240			0.3055		0.127	1.00	0.0687	pCi/L			0.28	1

Tracer	DU %Yield	DU Qualifier	Limits
Thorium-229	68.0		30 - 110

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-256581/1-A
Matrix: Water
Analysis Batch: 257395

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 256581

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Uranium-233/234	0.06665		0.0596	0.0599	1.00	0.0400	pCi/L	06/15/16 15:38	06/21/16 13:34	1
Uranium-235/236	0.03317	U	0.0469	0.0470	1.00	0.0498	pCi/L	06/15/16 15:38	06/21/16 13:34	1
Uranium-238	0.007760	U	0.0288	0.0288	1.00	0.0735	pCi/L	06/15/16 15:38	06/21/16 13:34	1

Tracer	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Uranium-232	69.0		30 - 110	06/15/16 15:38	06/21/16 13:34	1

Lab Sample ID: LCS 160-256581/2-A
Matrix: Water
Analysis Batch: 257396

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 256581

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Uranium-233/234			12.7	12.14		1.26	1.00	0.0617	pCi/L	95	84 - 120		
Uranium-238			13.0	13.17		1.35	1.00	0.0334	pCi/L	101	83 - 121		

Tracer	LCS %Yield	LCS Qualifier	Limits
Uranium-232	76.0		30 - 110

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) (Continued)

Lab Sample ID: 160-17611-K-1-E DU
Matrix: Water
Analysis Batch: 257540

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 256581

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Uranium-233/234	2.22			2.021		0.398	1.00	0.117	pCi/L			0.25	1
Uranium-235/236	0.0446	U		0.1181		0.0970	1.00	0.0591	pCi/L			0.46	1
Uranium-238	0.872			0.9473		0.257	1.00	0.0474	pCi/L			0.15	1

Tracer	*DU %Yield*	*DU Qualifier*	*Limits*
Uranium-232	*55.2*		*30 - 110*

QC Association Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17704-1

GC/MS VOA

Analysis Batch: 255479

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17662-F-1 MS	Matrix Spike	Total/NA	Water	8260C	
160-17662-F-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260C	
160-17704-2	TRIP BLANK	Total/NA	Water	8260C	
160-17704-3	PZ-107-SS	Total/NA	Water	8260C	
160-17704-4	PZ-101-SS	Total/NA	Water	8260C	
160-17704-5	PZ-102R-SS	Total/NA	Water	8260C	
LCS 160-255479/6	Lab Control Sample	Total/NA	Water	8260C	
LCSD 160-255479/7	Lab Control Sample Dup	Total/NA	Water	8260C	
MB 160-255479/9	Method Blank	Total/NA	Water	8260C	

Analysis Batch: 255734

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17704-1	LCS-6B	Total/NA	Water	8260C	
LCS 160-255734/6	Lab Control Sample	Total/NA	Water	8260C	
LCSD 160-255734/7	Lab Control Sample Dup	Total/NA	Water	8260C	
MB 160-255734/9	Method Blank	Total/NA	Water	8260C	

HPLC/IC

Analysis Batch: 257330

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17695-D-3 DU	Duplicate	Total/NA	Water	300.0	
160-17695-D-3 DU - DL	Duplicate	Total/NA	Water	300.0	
160-17695-D-3 MS	Matrix Spike	Total/NA	Water	300.0	
160-17695-D-3 MS - DL	Matrix Spike	Total/NA	Water	300.0	
160-17704-3 - DL	PZ-107-SS	Total/NA	Water	300.0	
160-17704-3 - DL2	PZ-107-SS	Total/NA	Water	300.0	
160-17704-3 - DL3	PZ-107-SS	Total/NA	Water	300.0	
160-17704-4 - DL	PZ-101-SS	Total/NA	Water	300.0	
160-17704-4 - DL2	PZ-101-SS	Total/NA	Water	300.0	
160-17704-5	PZ-102R-SS	Total/NA	Water	300.0	
160-17704-5 - DL	PZ-102R-SS	Total/NA	Water	300.0	
LCS 160-257330/45	Lab Control Sample	Total/NA	Water	300.0	
MB 160-257330/44	Method Blank	Total/NA	Water	300.0	

Metals

Prep Batch: 257622

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17695-G-1-B MS ^1	Matrix Spike	Total/NA	Water	3010A	
160-17695-G-1-B MS ^5	Matrix Spike	Total/NA	Water	3010A	
160-17695-G-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	3010A	
160-17695-G-1-C MSD ^5	Matrix Spike Duplicate	Total/NA	Water	3010A	
160-17704-3	PZ-107-SS	Total/NA	Water	3010A	
160-17704-4	PZ-101-SS	Total/NA	Water	3010A	
160-17704-5	PZ-102R-SS	Total/NA	Water	3010A	
LCS 160-257622/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 160-257622/1-A	Method Blank	Total/NA	Water	3010A	

Metals (Continued)

Analysis Batch: 258532

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17695-G-1-B MS ^5	Matrix Spike	Total/NA	Water	6010C	257622
160-17695-G-1-C MSD ^5	Matrix Spike Duplicate	Total/NA	Water	6010C	257622
160-17704-3	PZ-107-SS	Total/NA	Water	6010C	257622
160-17704-4	PZ-101-SS	Total/NA	Water	6010C	257622
160-17704-5	PZ-102R-SS	Total/NA	Water	6010C	257622
LCS 160-257622/2-A	Lab Control Sample	Total/NA	Water	6010C	257622
MB 160-257622/1-A	Method Blank	Total/NA	Water	6010C	257622

Prep Batch: 258736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17695-G-4-C MS	Matrix Spike	Total/NA	Water	7470A	
160-17695-G-4-D MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	
160-17704-3	PZ-107-SS	Total/NA	Water	7470A	
160-17704-4	PZ-101-SS	Total/NA	Water	7470A	
160-17704-5	PZ-102R-SS	Total/NA	Water	7470A	
LCS 160-258736/2-A	Lab Control Sample	Total/NA	Water	7470A	
MB 160-258736/1-A	Method Blank	Total/NA	Water	7470A	

Analysis Batch: 258751

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17695-G-1-B MS ^1	Matrix Spike	Total/NA	Water	6010C	257622
160-17695-G-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	6010C	257622
LCS 160-257622/2-A	Lab Control Sample	Total/NA	Water	6010C	257622

Analysis Batch: 258913

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17695-G-4-C MS	Matrix Spike	Total/NA	Water	7470A	258736
160-17695-G-4-D MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	258736
160-17704-3	PZ-107-SS	Total/NA	Water	7470A	258736
160-17704-4	PZ-101-SS	Total/NA	Water	7470A	258736
160-17704-5	PZ-102R-SS	Total/NA	Water	7470A	258736
LCS 160-258736/2-A	Lab Control Sample	Total/NA	Water	7470A	258736
MB 160-258736/1-A	Method Blank	Total/NA	Water	7470A	258736

General Chemistry

Analysis Batch: 255914

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17704-3 - DL	PZ-107-SS	Total/NA	Water	160.1	
160-17704-4 - DL	PZ-101-SS	Total/NA	Water	160.1	
160-17704-5	PZ-102R-SS	Total/NA	Water	160.1	
160-17704-5 DU	PZ-102R-SS	Total/NA	Water	160.1	
LCS 160-255914/2	Lab Control Sample	Total/NA	Water	160.1	
MB 160-255914/1	Method Blank	Total/NA	Water	160.1	

Analysis Batch: 256304

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17630-B-2 DU ^2 - DL	Duplicate	Total/NA	Water	415.1	
160-17630-B-2 MS ^2 - DL	Matrix Spike	Total/NA	Water	415.1	
160-17704-3 - DL	PZ-107-SS	Total/NA	Water	415.1	

General Chemistry (Continued)

Analysis Batch: 256304 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17704-4 - DL	PZ-101-SS	Total/NA	Water	415.1	
160-17704-5	PZ-102R-SS	Total/NA	Water	415.1	
LCS 160-256304/6	Lab Control Sample	Total/NA	Water	415.1	
MB 160-256304/5	Method Blank	Total/NA	Water	415.1	

Prep Batch: 257264

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17695-E-3-B DU	Duplicate	Total/NA	Water	410.4	
160-17695-E-3-C MS	Matrix Spike	Total/NA	Water	410.4	
160-17704-3	PZ-107-SS	Total/NA	Water	410.4	
160-17704-4	PZ-101-SS	Total/NA	Water	410.4	
160-17704-5	PZ-102R-SS	Total/NA	Water	410.4	
LCS 160-257264/4-A	Lab Control Sample	Total/NA	Water	410.4	
MB 160-257264/3-A	Method Blank	Total/NA	Water	410.4	

Analysis Batch: 257335

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17695-E-3-B DU	Duplicate	Total/NA	Water	410.4	257264
160-17695-E-3-C MS	Matrix Spike	Total/NA	Water	410.4	257264
160-17704-3	PZ-107-SS	Total/NA	Water	410.4	257264
160-17704-4	PZ-101-SS	Total/NA	Water	410.4	257264
160-17704-5	PZ-102R-SS	Total/NA	Water	410.4	257264
LCS 160-257264/4-A	Lab Control Sample	Total/NA	Water	410.4	257264
MB 160-257264/3-A	Method Blank	Total/NA	Water	410.4	257264

Analysis Batch: 258930

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17695-E-3 DU	Duplicate	Total/NA	Water	353.1 Preserved	
160-17695-E-3 MS	Matrix Spike	Total/NA	Water	353.1 Preserved	
160-17704-3	PZ-107-SS	Total/NA	Water	353.1 Preserved	
160-17704-4	PZ-101-SS	Total/NA	Water	353.1 Preserved	
160-17704-5	PZ-102R-SS	Total/NA	Water	353.1 Preserved	
LCS 160-258930/14	Lab Control Sample	Total/NA	Water	353.1 Preserved	
MB 160-258930/13	Method Blank	Total/NA	Water	353.1 Preserved	

Analysis Batch: 259230

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17704-3 - RADL	PZ-107-SS	Total/NA	Water	350.1	
160-17704-4 - RADL	PZ-101-SS	Total/NA	Water	350.1	
160-17704-5	PZ-102R-SS	Total/NA	Water	350.1	
160-17746-F-3 DU	Duplicate	Total/NA	Water	350.1	
160-17746-F-3 MS	Matrix Spike	Total/NA	Water	350.1	
LCS 160-259230/12	Lab Control Sample	Total/NA	Water	350.1	
MB 160-259230/11	Method Blank	Total/NA	Water	350.1	

Rad

Filtration Batch: 255892

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17704-3	PZ-107-SS	Dissolved	Water	Filtration	

Rad (Continued)

Filtration Batch: 255892 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17704-4	PZ-101-SS	Dissolved	Water	Filtration	

Prep Batch: 256198

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17704-3	PZ-107-SS	Total/NA	Water	PrecSep-21	
160-17704-4	PZ-101-SS	Total/NA	Water	PrecSep-21	
400-122626-C-1-B DU	Duplicate	Total/NA	Water	PrecSep-21	
LCS 160-256198/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
MB 160-256198/1-A	Method Blank	Total/NA	Water	PrecSep-21	

Prep Batch: 256205

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17704-3	PZ-107-SS	Total/NA	Water	PrecSep_0	
160-17704-4	PZ-101-SS	Total/NA	Water	PrecSep_0	
400-122626-C-1-D DU	Duplicate	Total/NA	Water	PrecSep_0	
LCS 160-256205/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
MB 160-256205/1-A	Method Blank	Total/NA	Water	PrecSep_0	

Prep Batch: 256206

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17704-3	PZ-107-SS	Dissolved	Water	PrecSep-21	255892
160-17704-4	PZ-101-SS	Dissolved	Water	PrecSep-21	255892
LCS 160-256206/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-256206/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	
MB 160-256206/1-A	Method Blank	Total/NA	Water	PrecSep-21	

Prep Batch: 256209

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17704-3	PZ-107-SS	Dissolved	Water	PrecSep_0	255892
160-17704-4	PZ-101-SS	Dissolved	Water	PrecSep_0	255892
LCS 160-256209/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-256209/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	
MB 160-256209/1-A	Method Blank	Total/NA	Water	PrecSep_0	

Prep Batch: 256563

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17611-K-1-C DU	Duplicate	Total/NA	Water	ExtChrom	
160-17704-3	PZ-107-SS	Total/NA	Water	ExtChrom	
160-17704-4	PZ-101-SS	Total/NA	Water	ExtChrom	
LCS 160-256563/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
MB 160-256563/1-A	Method Blank	Total/NA	Water	ExtChrom	

Prep Batch: 256581

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17611-K-1-E DU	Duplicate	Total/NA	Water	ExtChrom	
160-17704-3	PZ-107-SS	Total/NA	Water	ExtChrom	
160-17704-4	PZ-101-SS	Total/NA	Water	ExtChrom	
LCS 160-256581/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
MB 160-256581/1-A	Method Blank	Total/NA	Water	ExtChrom	

Rad (Continued)

Prep Batch: 257723

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17704-1	LCS-6B	Total/NA	Water	LSC_Dist_Susp	
160-17704-3	PZ-107-SS	Total/NA	Water	LSC_Dist_Susp	
160-17704-4	PZ-101-SS	Total/NA	Water	LSC_Dist_Susp	
160-17869-A-1-B DU	Duplicate	Total/NA	Water	LSC_Dist_Susp	
160-17869-A-2-B MS	Matrix Spike	Total/NA	Water	LSC_Dist_Susp	
LCS 160-257723/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	
MB 160-257723/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	

Surrogate Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17704-1

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

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

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	12DCE	TOL
Lab Sample ID	Client Sample ID	(71-139)	(80-121)	(76-121)	(80-129)
160-17662-F-1 MS	Matrix Spike	102	95	94	97
160-17662-F-1 MSD	Matrix Spike Duplicate	107	99	96	98
160-17704-1	LCS-6B	111	93	100	100
160-17704-2	TRIP BLANK	123	100	104	112
160-17704-3	PZ-107-SS	120	100	103	110
160-17704-4	PZ-101-SS	119	100	100	109
160-17704-5	PZ-102R-SS	118	100	103	110
LCS 160-255479/6	Lab Control Sample	106	97	99	102
LCS 160-255734/6	Lab Control Sample	103	96	102	101
LCSD 160-255479/7	Lab Control Sample Dup	105	97	98	100
LCSD 160-255734/7	Lab Control Sample Dup	104	97	105	99
MB 160-255479/9	Method Blank	114	97	102	106
MB 160-255734/9	Method Blank	118	98	105	109

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Tracer/Carrier Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17704-1

Method: 903.0 - Radium-226 (GFPC)

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

Lab Sample ID	Client Sample ID	Ba (40-110)
160-17704-3	PZ-107-SS	40.7
160-17704-4	PZ-101-SS	88.0
400-122626-C-1-B DU	Duplicate	86.6
LCS 160-256198/2-A	Lab Control Sample	93.2
LCS 160-256206/2-A	Lab Control Sample	98.0
LCSD 160-256206/3-A	Lab Control Sample Dup	91.7
MB 160-256198/1-A	Method Blank	87.2
MB 160-256206/1-A	Method Blank	96.0

Percent Yield (Acceptance Limits)

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Dissolved**

Lab Sample ID	Client Sample ID	Ba (40-110)
160-17704-3	PZ-107-SS	92.0
160-17704-4	PZ-101-SS	94.6

Percent Yield (Acceptance Limits)

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

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

Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
160-17704-3	PZ-107-SS	40.7	87.1
160-17704-4	PZ-101-SS	88.0	88.6
400-122626-C-1-D DU	Duplicate	86.6	85.2
LCS 160-256205/2-A	Lab Control Sample	93.2	88.2
LCS 160-256209/2-A	Lab Control Sample	98.0	89.0
LCSD 160-256209/3-A	Lab Control Sample Dup	91.7	87.5
MB 160-256205/1-A	Method Blank	87.2	86.0
MB 160-256209/1-A	Method Blank	96.0	86.7

Percent Yield (Acceptance Limits)

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Dissolved**

Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
160-17704-3	PZ-107-SS	92.0	92.7

Percent Yield (Acceptance Limits)

Tracer/Carrier Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17704-1

Method: 904.0 - Radium-228 (GFPC) (Continued)

Matrix: Water **Prep Type: Dissolved**

Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
160-17704-4	PZ-101-SS	94.6	85.2

Percent Yield (Acceptance Limits)

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

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

Lab Sample ID	Client Sample ID	Th-229 (30-110)
160-17611-K-1-C DU	Duplicate	68.0
160-17704-3	PZ-107-SS	80.8
160-17704-4	PZ-101-SS	73.6
LCS 160-256563/2-A	Lab Control Sample	80.1
MB 160-256563/1-A	Method Blank	89.1

Percent Yield (Acceptance Limits)

Tracer/Carrier Legend

Th-229 = Thorium-229

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

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

Lab Sample ID	Client Sample ID	U-232 (30-110)
160-17611-K-1-E DU	Duplicate	55.2
160-17704-3	PZ-107-SS	59.2
160-17704-4	PZ-101-SS	52.9
LCS 160-256581/2-A	Lab Control Sample	76.0
MB 160-256581/1-A	Method Blank	69.0

Percent Yield (Acceptance Limits)

Tracer/Carrier Legend

U-232 = Uranium-232

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Tel: (314)298-8566

TestAmerica Job ID: 160-17722-1
Client Project/Site: Groundwater - 2nd Quarter 2016

For:
Missouri Attorney General's Office
PO BOX 899
Jefferson City, Missouri 65102

Attn: Brenna McDonald

Elizabeth M. Hoerchler

Authorized for release by:
7/13/2016 5:05:44 PM
Elizabeth Hoerchler, Project Mgmt. Assistant
elizabeth.hoerchler@testamericainc.com

Designee for

Chenise Lambert-Sykes, Project Manager I
(314)298-8566
chenise.lambert-sykes@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

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.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Chain of Custody 9
Receipt Checklists 10
Definitions/Glossary 11
Method Summary 12
Sample Summary 13
Client Sample Results 14
QC Sample Results 29
QC Association Summary 48
Surrogate Summary 53
Tracer Carrier Summary 54

Job ID: 160-17722-1

Laboratory: TestAmerica St. Louis

Narrative

CASE NARRATIVE

Client: Missouri Attorney General's Office

Project: Groundwater - 2nd Quarter 2016

Report Number: 160-17722-1

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.

TestAmerica St. Louis attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

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.

All solid sample results for Chemistry analyses are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header. All soil/sediment sample results for radiochemistry analyses are based upon sample as dried and disaggregated with the exception of tritium, carbon-14, and iodine-129 by gamma spectroscopy unless requested as wet weight by the client.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT

The samples were received on 06/09/2016; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 6.2º C, 18.0º C, 18.0º C and 18.0º C.

Receipt Exceptions:

The following samples were received with insufficient preservation in 4 of 4 L poly bottles labeled for RAD Analysis: LR-100 (160-17722-2), MW-1204 (160-17722-3) and PZ-205-AS (160-17722-4). Nitric Acid preservative was added by the laboratory, and the sample pH was adjusted to < 2 SU.

Ice was present in cooler. PZ-206-SS (160-17722-1), LR-100 (160-17722-2), MW-1204 (160-17722-3) and PZ-205-AS (160-17722-4)

VOLATILE ORGANIC COMPOUNDS (GC MS)

Samples PZ-206-SS (160-17722-1), LR-100 (160-17722-2), MW-1204 (160-17722-3) and PZ-205-AS (160-17722-4) were analyzed for volatile organic compounds (GC MS) in accordance with EPA SW-846 Method 8260C. The samples were analyzed on 06/13/2016 and 06/15/2016.

Job ID: 160-17722-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

The continuing calibration verification (CCV) associated with batch 160-256079 recovered above the upper control limit for 2-Chloro-1,3-butadiene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCVIS 160-256079/5).

The continuing calibration verification (CCV) associated with batch 160-256079 recovered outside acceptance criteria, low biased, for Iodomethane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported. (CCVIS 160-256079/5)

The following compounds did not meet the minimum relative response factor limits in the continuing calibration verification (CCV) associated with batch 160-256079: 2-Butanone and Acetone. A low level CCV was analyzed at the base reporting limit of 1ug/L and the affected analytes were detected. Affected target analytes recovering above the reporting limit in the associated samples will be qualified and reported. (CCVIS 160-256079/5)

The following analyte recovered outside control limits for the LCSD associated with analytical batch 160-256079: 2-Chloro-1,3-butadiene. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported. (LCSD 160-256079/7)

The following analyte recovered outside control limits for the LCS associated with analytical batch 160-256079: Iodomethane. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported. (LCS 160-256079/6)

The following analyte recovered outside control limits for the MSD associated with analytical batch 160-256079: 2-Chloro-1,3-butadiene. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported. (160-17722-A-1 MSD)

Surrogate recovery for the following sample was outside the upper control limit: PZ-205-AS (160-17722-4). This sample was non-detect for target analytes; therefore, re-extraction and/or re-analysis was not performed.

The following compounds did not meet the minimum relative response factor limits in the continuing calibration verification (CCV) associated with batch 160-256488: 2-Butanone and Acetone. A low level CCV was analyzed at the base reporting limit of 1ug/L and the affected analytes were detected. Affected target analytes recovering above the reporting limit in the associated samples will be qualified and reported. (CCVIS 160-256488/5)

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with analytical batch 160-256488. Laboratory control sample (LCS) and duplicate (LCSD) were analyzed in order to demonstrate accuracy and replicate-precision. (LCS 160-256488/6) and (LCSD 160-256488/7)

The following samples was analyzed at reduced volume due to high concentrations of target analytes: MW-1204 (160-17722-3) and PZ-205-AS (160-17722-4). The reporting limits have been elevated by the appropriate factor.

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

TOTAL METALS (ICP)

Samples PZ-206-SS (160-17722-1), LR-100 (160-17722-2), MW-1204 (160-17722-3) and PZ-205-AS (160-17722-4) were analyzed for total metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 06/22/2016 and analyzed on 06/28/2016 and 06/30/2016.

Due to the high concentration of Magnesium and Sodium, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 160-257622 and analytical batch 160-258532 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria. (160-17695-G-1-B MS ^) and (160-17695-G-1-C MSD)

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 160-257622 and analytical batch 160-258532 were outside control limits for Phosphorus. Sample matrix interference are suspected. (160-17695-G-1-B MS ^) and (160-17695-G-1-C MSD)

Job ID: 160-17722-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

The continuing calibration verification (CCV) associated with batch 160-258532 recovered above the upper control limit for Phosphorus. The samples associated with this CCV were below the reporting limit for the affected analytes; therefore, the data have been reported. (CCV 160-258532/103), (CCV 160-258532/116) and (CCV 160-258532/129)

The following samples were diluted due to the nature of the sample matrix. Samples had high concentrations of salts which could cause internal standard and instrument QC failure: PZ-206-SS (160-17722-1), LR-100 (160-17722-2), MW-1204 (160-17722-3), PZ-205-AS (160-17722-4), (160-17695-G-1-A ^5), (160-17695-G-1-B MS ^), (160-17695-G-1-C MSD) and (160-17695-G-1-A SD ^). Elevated reporting limits (RLs) are provided.

Due to the high concentration of Calcium, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 160-257622 and analytical batch 160-258751 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria. (160-17695-G-1-B MS ^) and (160-17695-G-1-C MSD)

The following samples were diluted to bring the concentration of target analytes within the calibration range: PZ-205-AS (160-17722-4), (160-17695-G-1-A ^10), (160-17695-G-1-B MS ^), (160-17695-G-1-C MSD) and (160-17695-G-1-A SD). Elevated reporting limits (RLs) are provided.

The sequence was such that the samples were run immediately following the LRC. Our standard analysis sequence is set up to run a CCVL/CCV/CCB before running the samples. This however is an internal requirement and not one governed by the analytical method. Original results will be reported. PZ-205-AS (160-17722-4), (LCS 160-257622/2-A), (160-17695-G-1-A ^10), (160-17695-G-1-B MS ^), (160-17695-G-1-C MSD) and (160-17695-G-1-A SD)

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

TOTAL MERCURY

Samples PZ-206-SS (160-17722-1), LR-100 (160-17722-2), MW-1204 (160-17722-3) and PZ-205-AS (160-17722-4) were analyzed for total mercury in accordance with EPA SW-846 Methods 7470A. The samples were prepared and analyzed on 06/30/2016.

Samples were prepped at a dilution due to the matrix. Samples were turbid with a strong odor. MW-1204 (160-17722-3) and PZ-205-AS (160-17722-4)

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

TOTAL DISSOLVED SOLIDS

Samples PZ-206-SS (160-17722-1), LR-100 (160-17722-2), MW-1204 (160-17722-3) and PZ-205-AS (160-17722-4) were analyzed for total dissolved solids in accordance with EPA Method 160.1. The samples were analyzed on 06/10/2016.

The following samples in TDS batch 160-255914 were diluted to bring the concentrations of the target analyte within the calibration range: LR-100 (160-17722-2), MW-1204 (160-17722-3) and PZ-205-AS (160-17722-4). Elevated reporting limits (RLs) are provided.

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

ANIONS, ION CHROMATOGRAPHY

Samples PZ-206-SS (160-17722-1), LR-100 (160-17722-2), MW-1204 (160-17722-3) and PZ-205-AS (160-17722-4) were analyzed for Anions, Ion Chromatography in accordance with EPA Method 300.0. The samples were analyzed on 06/29/2016.

The following samples in Anion batch 160-258375 were diluted to bring the concentrations of target analytes within the calibration range: PZ-206-SS (160-17722-1), LR-100 (160-17722-2), MW-1204 (160-17722-3) and PZ-205-AS (160-17722-4). Elevated reporting limits (RLs) are provided.

The following samples in Anion batch 160-258375 were analyzed at diluted to start (2x and 5x dilutions) due to high sample conductivities that made undiluted analysis inadvisable: LR-100 (160-17722-2) and PZ-205-AS (160-17722-4). As a result, these samples have Fluoride results that are non-detect (ND) at the initial dilutions. Elevated reporting limits (RLs) are provided.

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

Job ID: 160-17722-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

AMMONIA
Samples PZ-206-SS (160-17722-1), LR-100 (160-17722-2), MW-1204 (160-17722-3) and PZ-205-AS (160-17722-4) were analyzed for ammonia in accordance with EPA Method 350.1. The samples were analyzed on 07/01/2016 and 07/05/2016.

The following samples in NH3 analytical batch 160-259230 were diluted to bring the concentration of the target analyte within the calibration range: LR-100 (160-17722-2), MW-1204 (160-17722-3) and PZ-205-AS (160-17722-4). Elevated reporting limits (RLs) are provided.

The following matrix spike (MS) recovery for NH3 analytical batch 160-259230 was outside control limits: (160-17746-F-3 MS). Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

NITROGEN, NITRATE-NITRITE
Samples PZ-206-SS (160-17722-1), LR-100 (160-17722-2), MW-1204 (160-17722-3) and PZ-205-AS (160-17722-4) were analyzed for Nitrogen, Nitrate-Nitrite in accordance with Method 353.1 Preserved. The samples were analyzed on 07/01/2016.

The following matrix spike (MS) recoveries for NO3-NO2 analytical batch 160-258930 was outside control limits: (160-17695-E-3 MS). Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

The continuing calibration verifications (CCV) associated with the following samples in NO3-NO2 160-258930 recovered above the upper control limit: PZ-206-SS (160-17722-1). These samples were all non-detect (ND) for the affected analyte; therefore, the data have been reported.

The following samples in NH3 analytical batch 160-258930 have a bracketing CCV that was higher than acceptance criteria: LR-100 (160-17722-2), MW-1204 (160-17722-3) and PZ-205-AS (160-17722-4). Re-analysis was unable to be performed within the holding time, however re-analysis yielded comparable results with acceptable QC and thus, the original, in hold results are reportable.

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

CHEMICAL OXYGEN DEMAND
Samples PZ-206-SS (160-17722-1), LR-100 (160-17722-2), MW-1204 (160-17722-3) and PZ-205-AS (160-17722-4) were analyzed for chemical oxygen demand in accordance with EPA Method 410.4. The samples were prepared and analyzed on 06/22/2016.

The following samples in COD batch 160-257594 were diluted to bring the concentration of target analytes within the calibration range: MW-1204 (160-17722-3) and PZ-205-AS (160-17722-4). Elevated reporting limits (RLs) are provided.

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

TOTAL ORGANIC CARBON
Samples PZ-206-SS (160-17722-1), LR-100 (160-17722-2), MW-1204 (160-17722-3) and PZ-205-AS (160-17722-4) were analyzed for total organic carbon in accordance with EPA Method 415.1. The samples were analyzed on 07/05/2016.

The following samples in TOC batch 160-259381 were diluted to bring the concentrations of the target analyte within the calibration range: PZ-206-SS (160-17722-1), LR-100 (160-17722-2), MW-1204 (160-17722-3) and PZ-205-AS (160-17722-4). Elevated reporting limits (RLs) are provided.

The following sample in TOC batch 160-259381 was originally analyzed within 28 day holding time for TOC on 7/1/16, but the data was not reportable from that run due to the fact that no bracketing CCVs were analyzed, due to the vials not being filled. As a result, this sample was re-analyzed on 7/5/16, 1 day out of 28 day holding time, and the re-analysis result confirms the original (non-reported) in-hold result.
PZ-206-SS (160-17722-1)
Note: The raw data for the non-reported in-hold run is included with the raw data attached to the batch.

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

Job ID: 160-17722-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

RADIUM-226 (GFPC)-DISSOLVED
Samples PZ-206-SS (160-17722-1), LR-100 (160-17722-2), MW-1204 (160-17722-3) and PZ-205-AS (160-17722-4) were analyzed for Radium-226 (GFPC) in accordance with EPA Method 903.0. The samples were prepared on 06/13/2016 and analyzed on 07/05/2016.

The following samples in batch 160-256206 were prepared at a reduced aliquot due to sediment and discoloration: MW-1204 (160-17722-3) and PZ-205-AS (160-17722-4).

Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples in batch 160-256206: PZ-206-SS (160-17722-1), LR-100 (160-17722-2), MW-1204 (160-17722-3) and PZ-205-AS (160-17722-4). A laboratory control sample/ laboratory sample duplicate (LCS/LCSD) were prepared instead.

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

RADIUM-226 (GFPC)
Samples PZ-206-SS (160-17722-1), LR-100 (160-17722-2), MW-1204 (160-17722-3) and PZ-205-AS (160-17722-4) were analyzed for Radium-226 (GFPC) in accordance with EPA Method 903.0. The samples were prepared on 06/13/2016 and analyzed on 07/05/2016.

The following samples in batch 160-256198 were prepared at a reduced aliquot due to sediment, discoloration, and a strong hydrocarbon smell: MW-1204 (160-17722-3) and PZ-205-AS (160-17722-4).

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

RADIUM-228 (GFPC)-DISSOLVED
Samples PZ-206-SS (160-17722-1), LR-100 (160-17722-2), MW-1204 (160-17722-3) and PZ-205-AS (160-17722-4) were analyzed for Radium-228 (GFPC)-Dissolved in accordance with EPA 904. The samples were prepared on 06/13/2016 and analyzed on 06/28/2016.

The following samples in batch 160-256209 were prepared at a reduced aliquot due to sediment and discoloration: MW-1204 (160-17722-3) and PZ-205-AS (160-17722-4).

Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples in batch 160-256209: PZ-206-SS (160-17722-1), LR-100 (160-17722-2), MW-1204 (160-17722-3) and PZ-205-AS (160-17722-4). A laboratory control sample/ laboratory sample duplicate (LCS/LCSD) were prepared instead.

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

RADIUM-228 (GFPC)
Samples PZ-206-SS (160-17722-1), LR-100 (160-17722-2), MW-1204 (160-17722-3) and PZ-205-AS (160-17722-4) were analyzed for Radium-228 (GFPC) in accordance with EPA 904. The samples were prepared on 06/13/2016 and analyzed on 06/27/2016.

The following samples in batch 160-256205 did not meet the radium-228 detection goal (1.00 pCi/L) due to the reduced sample volume attributed to matrix interferences. The data have been qualified and reported. MW-1204 (160-17722-3)

The following samples in batch 160-256205 were prepared at a reduced aliquot due to sediment, discoloration, and a strong hydrocarbon smell: MW-1204 (160-17722-3) and PZ-205-AS (160-17722-4).

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

TRITIUM, TOTAL (LSC)
Samples PZ-206-SS (160-17722-1), LR-100 (160-17722-2), MW-1204 (160-17722-3) and PZ-205-AS (160-17722-4) were analyzed for Tritium, Total (LSC) in accordance with USEPA 906.0. The samples were prepared on 06/26/2016 and analyzed on 06/27/2016.

The matrix spike/matrix spike duplicate (MS/MSD) associated with batch 160-257965 has a tritium spike recovery (160-17837-B-1-A MS: -88% and 160-17837-B-1-B MSD: -77 %) below the QC limit (67-130%). The tritium concentration in the original sample is greater than five (5) times the amount spiked, making the percent recovery information statistically invalid and therefore could not be evaluated for

Job ID: 160-17722-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

accuracy and precision. The data have been qualified and reported. PZ-206-SS (160-17722-1), LR-100 (160-17722-2), MW-1204 (160-17722-3), PZ-205-AS (160-17722-4), (LCS 160-257965/2-A), (MB 160-257965/1-A), (160-17837-F-1-A), (160-17837-B-1-A MS), (160-17837-B-1-B MSD), (160-17912-C-1-A), (160-17912-A-1-A MS) and (160-17912-A-1-B MSD)

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

ISOTOPIC THORIUM (ALPHA SPECTROMETRY)
Samples PZ-206-SS (160-17722-1), LR-100 (160-17722-2), MW-1204 (160-17722-3) and PZ-205-AS (160-17722-4) were analyzed for Isotopic Thorium (Alpha Spectrometry) in accordance with DOE. The samples were prepared on 07/06/2016 and analyzed on 07/07/2016.

The following samples in batch 160-258166 were soapy, smelled like sulfur and contained sediment: PZ-206-SS (160-17722-1), LR-100 (160-17722-2), MW-1204 (160-17722-3) and PZ-205-AS (160-17722-4). A reduced aliquot was used to prevent matrix interference.

The following samples in prep batch 160-259427 were weighed at a reduced aliquot to prevent matrix interference: PZ-206-SS (160-17722-1), LR-100 (160-17722-2), MW-1204 (160-17722-3) and PZ-205-AS (160-17722-4). Samples 17722-1, 2, and 17746-4 are all "soapy" and smell like sulfur. Samples 17722-3, and 4 are slightly dirty and contain sediment/milky precipitate.

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

ISOTOPIC URANIUM (ALPHA SPECTROMETRY)
Samples PZ-206-SS (160-17722-1), LR-100 (160-17722-2), MW-1204 (160-17722-3) and PZ-205-AS (160-17722-4) were analyzed for Isotopic Uranium (Alpha Spectrometry) in accordance with DOE. The samples were prepared on 06/27/2016 and analyzed on 07/01/2016.

The detection goal of 1.00pCi/L was not met for the following sample in batch 160-258173 due to a reduced aliquot attributed to the presence of matrix interferences: (See Prep NCM: 160-87651) MW-1204 (160-17722-3). Analytical results are reported with the detection limit achieved.

The following samples in batch 160-258173 were soapy, smelled like sulfur and contained sediment: PZ-206-SS (160-17722-1), LR-100 (160-17722-2), MW-1204 (160-17722-3) and PZ-205-AS (160-17722-4). A reduced aliquot was used to prevent matrix interference.

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

TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Phone (314) 298-8566 Fax (314) 298-8757

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: LYNN MILBERG	Lab PM: Lambert-Sykes, Chenise Y	Carrier Tracking No(s):	COC No: 160-4182-2039.1
Client Contact: Brenna McDonald	Phone: 573-453-4329	E-Mail: chenise.lambert-sykes@testamericainc.com		Page: Page 1 of 1
Company: Missouri Attorney General's Office				Job #:
Address: PO BOX 899	Due Date Requested: Standard			
City: Jefferson City	TAT Requested (days): standard			
State, Zip: MO, 65102				
Phone: 573-368-2163(Tel)	PO #: Purchase Order Requested			
Email: brenna.mcdonald@dnr.mo.gov	WO #:			
Project Name: Groundwater - 2nd Quarter 2016	Project #: 16005341			
Site: Bridgeton Landfill	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	906.0 - Tritium	350.1, 353.1_Pres, 410.4	903.0, 904.0, A01R_Th, A01R_U	903.0, 904.0	160.1_Calcd, 300_ORGFM_28D	6010C, 7470A	415.1 - Total Organic Carbon	8260C - (MOD) OLM 4.2	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	S	D	D	N	D	S	A		
PZ-206-SS	6/8/16	0930	G	Water	N	N	✓	✓	✓	✓	✓	✓	✓	✓	14	
LR-100	6/8/16	1130	G	Water	N	N	✓	✓	✓	✓	✓	✓	✓	✓	14	
MW-1204	6/8/16	1448	G	Water	N	N	✓	✓	✓	✓	✓	✓	✓	✓	14	
PZ-205-AS	6/8/16	1647	G	Water	N	N	✓	✓	✓	✓	✓	✓	✓	✓	14	
				Water												

160-17722 Chain of Custody

Possible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* ☐ *Poison B* ☐ *Unknown* ☐ *Radiological*

Sample Disposal (A fee may be assessed if samples are retained longer ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: [signature]	Date/Time: 6/9/2016 0812	Company: Mo DNR	Received by: [signature]	Date/Time: 6.9.16 0812	Company: TA SR
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

Login Sample Receipt Checklist

Client: Missouri Attorney General's Office

Job Number: 160-17722-1
SDG Number:

Login Number: 17722
List Number: 1
Creator: Clarke, Jill C

List Source: TestAmerica St. Louis

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
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 temperature criteria. Ice was present in cooler.
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	Samples -2, -3, and -4 were received unpreserved. Nitric was added to adjust pH
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	to < 2 SU.
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	

Qualifiers

GC/MS VOA

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

HPLC/IC

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
*	LCS or LCSD is outside acceptance limits.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

General Chemistry

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

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.
G	The Sample MDC is greater than the requested RL.

Glossary

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

Method Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17722-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL SL
300.0	Anions, Ion Chromatography	MCAWW	TAL SL
6010C	Metals (ICP)	SW846	TAL SL
7470A	Mercury (CVAA)	SW846	TAL SL
160.1	Solids, Total Dissolved (TDS)	MCAWW	TAL SL
350.1	Nitrogen, Ammonia	MCAWW	TAL SL
353.1 Preserved	Nitrogen, Nitrate-Nitrite	MCAWW	TAL SL
410.4	COD	MCAWW	TAL SL
415.1	TOC	MCAWW	TAL SL
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
906.0	Tritium, Total (LSC)	EPA	TAL SL
A-01-R	Isotopic Uranium (Alpha Spectrometry)	DOE	TAL SL
A-01-R	Isotopic Thorium (Alpha Spectrometry)	DOE	TAL SL

Protocol References:

DOE = U.S. Department of Energy
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17722-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
160-17722-1	PZ-206-SS	Water	06/08/16 09:30	06/09/16 08:12
160-17722-2	LR-100	Water	06/08/16 11:30	06/09/16 08:12
160-17722-3	MW-1204	Water	06/08/16 14:48	06/09/16 08:12
160-17722-4	PZ-205-AS	Water	06/08/16 16:47	06/09/16 08:12

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17722-1

Client Sample ID: PZ-206-SS

Date Collected: 06/08/16 09:30
Date Received: 06/09/16 08:12

Lab Sample ID: 160-17722-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/13/16 09:58	1
Acrylonitrile	ND		50	1.7	ug/L			06/13/16 09:58	1
Benzene	ND		5.0	0.25	ug/L			06/13/16 09:58	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/13/16 09:58	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/13/16 09:58	1
Bromoform	ND		5.0	0.37	ug/L			06/13/16 09:58	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/13/16 09:58	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/13/16 09:58	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/13/16 09:58	1
Chloroethane	ND		10	0.38	ug/L			06/13/16 09:58	1
Chloroform	ND		5.0	0.15	ug/L			06/13/16 09:58	1
Chloroprene	ND	* F1	5.0	0.39	ug/L			06/13/16 09:58	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/13/16 09:58	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/13/16 09:58	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/13/16 09:58	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/13/16 09:58	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/13/16 09:58	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/13/16 09:58	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/13/16 09:58	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/13/16 09:58	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/13/16 09:58	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/13/16 09:58	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/13/16 09:58	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/13/16 09:58	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/13/16 09:58	1
2-Hexanone	ND		20	0.59	ug/L			06/13/16 09:58	1
Methyl bromide	**1.0**	**J**	10	0.40	ug/L			06/13/16 09:58	1
Methyl chloride	ND		10	0.55	ug/L			06/13/16 09:58	1
Methylene bromide	ND		5.0	0.41	ug/L			06/13/16 09:58	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/13/16 09:58	1
Methyl Ethyl Ketone	**19**	**J**	20	0.39	ug/L			06/13/16 09:58	1
Methyl iodide	ND	*	5.0	1.5	ug/L			06/13/16 09:58	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/13/16 09:58	1
Styrene	ND		5.0	0.35	ug/L			06/13/16 09:58	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/13/16 09:58	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/13/16 09:58	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/13/16 09:58	1
Toluene	**1.5**	**J B**	5.0	1.0	ug/L			06/13/16 09:58	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/13/16 09:58	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/13/16 09:58	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/13/16 09:58	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/13/16 09:58	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/13/16 09:58	1
Trichloroethene	ND		5.0	0.29	ug/L			06/13/16 09:58	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/13/16 09:58	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/13/16 09:58	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/13/16 09:58	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/13/16 09:58	1
Xylenes, Total	ND		10	0.85	ug/L			06/13/16 09:58	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17722-1

Client Sample ID: PZ-206-SS

Date Collected: 06/08/16 09:30
Date Received: 06/09/16 08:12

Lab Sample ID: 160-17722-1

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*121*		*71 - 139*		*06/13/16 09:58*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 121*		*06/13/16 09:58*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*76 - 121*		*06/13/16 09:58*	*1*
Toluene-d8 (Surr)	*111*		*80 - 129*		*06/13/16 09:58*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**1.3**		0.10	0.010	mg/L			06/29/16 00:01	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**51**		10	1.0	mg/L			06/29/16 00:15	20

Method: 300.0 - Anions, Ion Chromatography - DL2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**130**		40	4.0	mg/L			06/29/16 00:28	200

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		50	15	ug/L		06/22/16 14:33	06/28/16 19:27	5
Arsenic	ND		50	20	ug/L		06/22/16 14:33	06/28/16 19:27	5
Barium	**76**	**J**	250	75	ug/L		06/22/16 14:33	06/28/16 19:27	5
Beryllium	ND		25	7.5	ug/L		06/22/16 14:33	06/28/16 19:27	5
Boron	**160**	**J**	500	130	ug/L		06/22/16 14:33	06/28/16 19:27	5
Cadmium	ND		25	7.5	ug/L		06/22/16 14:33	06/28/16 19:27	5
CaHard	**350000**		12000	3700	ug/L		06/22/16 14:33	06/28/16 19:27	5
Calcium	**140000**		5000	1500	ug/L		06/22/16 14:33	06/28/16 19:27	5
Chromium	ND		50	15	ug/L		06/22/16 14:33	06/28/16 19:27	5
Cobalt	ND		250	75	ug/L		06/22/16 14:33	06/28/16 19:27	5
Copper	ND		130	25	ug/L		06/22/16 14:33	06/28/16 19:27	5
Iron	**3600**		500	150	ug/L		06/22/16 14:33	06/28/16 19:27	5
Lead	ND		50	15	ug/L		06/22/16 14:33	06/28/16 19:27	5
Magnesium	**86**		5.0	1.5	mg/L		06/22/16 14:33	06/28/16 19:27	5
Manganese	**71**	**J**	75	13	ug/L		06/22/16 14:33	06/28/16 19:27	5
MgHard	**350000**		21000	6200	ug/L		06/22/16 14:33	06/28/16 19:27	5
Nickel	ND		0.20	0.050	mg/L		06/22/16 14:33	06/28/16 19:27	5
Phosphorus	ND	^ *	1300	380	ug/L		06/22/16 14:33	06/28/16 19:27	5
Selenium	ND		75	25	ug/L		06/22/16 14:33	06/28/16 19:27	5
Silver	ND		50	15	ug/L		06/22/16 14:33	06/28/16 19:27	5
Sodium	**23000**		5000	1500	ug/L		06/22/16 14:33	06/28/16 19:27	5
Thallium	ND		100	25	ug/L		06/22/16 14:33	06/28/16 19:27	5
Total Hardness	**700000**		33000	9900	ug/L		06/22/16 14:33	06/28/16 19:27	5
Vanadium	ND		250	75	ug/L		06/22/16 14:33	06/28/16 19:27	5
Zinc	ND		100	30	ug/L		06/22/16 14:33	06/28/16 19:27	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		06/30/16 11:53	06/30/16 21:11	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17722-1

Client Sample ID: PZ-206-SS

Date Collected: 06/08/16 09:30
Date Received: 06/09/16 08:12

Lab Sample ID: 160-17722-1

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	890		5.0	3.5	mg/L			06/10/16 09:36	1
Ammonia	0.32		0.050	0.022	mg/L			07/01/16 17:25	1
Nitrate/Nitrite	ND	^	0.050	0.011	mg/L			07/01/16 14:57	1
Chemical Oxygen Demand	68		5.0	1.1	mg/L		06/22/16 09:41	06/22/16 12:34	1

General Chemistry - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	19		10	7.2	mg/L			07/05/16 22:53	10

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.73		0.179	0.238	1.00	0.0734	pCi/L	06/13/16 17:57	07/05/16 07:42	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.5*		*40 - 110*	*06/13/16 17:57*	*07/05/16 07:42*	*1*

Method: 903.0 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.56		0.172	0.222	1.00	0.0651	pCi/L	06/13/16 18:55	07/05/16 07:33	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.6*		*40 - 110*	*06/13/16 18:55*	*07/05/16 07:33*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.299	U	0.222	0.224	1.00	0.347	pCi/L	06/13/16 18:53	06/27/16 12:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.5*		*40 - 110*	*06/13/16 18:53*	*06/27/16 12:53*	*1*
Y Carrier	*91.6*		*40 - 110*	*06/13/16 18:53*	*06/27/16 12:53*	*1*

Method: 904.0 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.304	U	0.222	0.224	1.00	0.344	pCi/L	06/13/16 19:35	06/28/16 13:29	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.6*		*40 - 110*	*06/13/16 19:35*	*06/28/16 13:29*	*1*
Y Carrier	*88.2*		*40 - 110*	*06/13/16 19:35*	*06/28/16 13:29*	*1*

Method: 906.0 - Tritium, Total (LSC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	1430		261	290	500	274	pCi/L	06/26/16 12:26	06/27/16 21:48	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17722-1

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Thorium-230	**1.00**		0.357	0.367	1.00	0.0951	pCi/L	07/06/16 16:57	07/07/16 14:54	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Thorium-229	*70.0*		*30 - 110*	*07/06/16 16:57*	*07/07/16 14:54*	*1*

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Uranium-233/234	0.457	U	0.436	0.437	1.00	0.586	pCi/L	06/27/16 13:48	07/01/16 14:49	1
Uranium-235/236	0.000	U	0.0824	0.0824	1.00	0.297	pCi/L	06/27/16 13:48	07/01/16 14:49	1
Uranium-238	-0.0661	U	0.0934	0.0936	1.00	0.521	pCi/L	06/27/16 13:48	07/01/16 14:49	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*56.1*		*30 - 110*	*06/27/16 13:48*	*07/01/16 14:49*	*1*

Client Sample ID: LR-100

Lab Sample ID: 160-17722-2

Date Collected: 06/08/16 11:30

Matrix: Water

Date Received: 06/09/16 08:12

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/13/16 12:02	1
Acrylonitrile	ND		50	1.7	ug/L			06/13/16 12:02	1
Benzene	**7.8**		5.0	0.25	ug/L			06/13/16 12:02	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/13/16 12:02	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/13/16 12:02	1
Bromoform	ND		5.0	0.37	ug/L			06/13/16 12:02	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/13/16 12:02	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/13/16 12:02	1
Chlorobenzene	**41**		5.0	0.38	ug/L			06/13/16 12:02	1
Chloroethane	ND		10	0.38	ug/L			06/13/16 12:02	1
Chloroform	ND		5.0	0.15	ug/L			06/13/16 12:02	1
Chloroprene	ND	*	5.0	0.39	ug/L			06/13/16 12:02	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/13/16 12:02	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/13/16 12:02	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/13/16 12:02	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/13/16 12:02	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/13/16 12:02	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/13/16 12:02	1
1,4-Dichlorobenzene	**5.8**		5.0	0.35	ug/L			06/13/16 12:02	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/13/16 12:02	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/13/16 12:02	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/13/16 12:02	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/13/16 12:02	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/13/16 12:02	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/13/16 12:02	1
2-Hexanone	ND		20	0.59	ug/L			06/13/16 12:02	1
Methyl bromide	**0.56**	**J**	10	0.40	ug/L			06/13/16 12:02	1
Methyl chloride	ND		10	0.55	ug/L			06/13/16 12:02	1
Methylene bromide	ND		5.0	0.41	ug/L			06/13/16 12:02	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/13/16 12:02	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17722-1

Client Sample ID: LR-100

Date Collected: 06/08/16 11:30
Date Received: 06/09/16 08:12

Lab Sample ID: 160-17722-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl Ethyl Ketone	**9.0**	**J**	20	0.39	ug/L			06/13/16 12:02	1
Methyl iodide	ND	*	5.0	1.5	ug/L			06/13/16 12:02	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/13/16 12:02	1
Styrene	ND		5.0	0.35	ug/L			06/13/16 12:02	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/13/16 12:02	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/13/16 12:02	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/13/16 12:02	1
Toluene	**1.7**	**J B**	5.0	1.0	ug/L			06/13/16 12:02	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/13/16 12:02	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/13/16 12:02	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/13/16 12:02	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/13/16 12:02	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/13/16 12:02	1
Trichloroethene	ND		5.0	0.29	ug/L			06/13/16 12:02	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/13/16 12:02	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/13/16 12:02	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/13/16 12:02	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/13/16 12:02	1
Xylenes, Total	**1.5**	**J**	10	0.85	ug/L			06/13/16 12:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*125*		*71 - 139*		*06/13/16 12:02*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 121*		*06/13/16 12:02*	*1*
1,2-Dichloroethane-d4 (Surr)	*112*		*76 - 121*		*06/13/16 12:02*	*1*
Toluene-d8 (Surr)	*108*		*80 - 129*		*06/13/16 12:02*	*1*

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.030**	**J**	0.20	0.020	mg/L			06/29/16 00:42	2
Sulfate	**2.1**		1.0	0.10	mg/L			06/29/16 00:42	2

Method: 300.0 - Anions, Ion Chromatography - DL3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**130**		40	4.0	mg/L			06/29/16 01:10	200

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		50	15	ug/L		06/22/16 14:33	06/28/16 19:31	5
Arsenic	ND		50	20	ug/L		06/22/16 14:33	06/28/16 19:31	5
Barium	**400**		250	75	ug/L		06/22/16 14:33	06/28/16 19:31	5
Beryllium	ND		25	7.5	ug/L		06/22/16 14:33	06/28/16 19:31	5
Boron	**1400**		500	130	ug/L		06/22/16 14:33	06/28/16 19:31	5
Cadmium	ND		25	7.5	ug/L		06/22/16 14:33	06/28/16 19:31	5
CaHard	**320000**		12000	3700	ug/L		06/22/16 14:33	06/28/16 19:31	5
Calcium	**130000**		5000	1500	ug/L		06/22/16 14:33	06/28/16 19:31	5
Chromium	ND		50	15	ug/L		06/22/16 14:33	06/28/16 19:31	5
Cobalt	ND		250	75	ug/L		06/22/16 14:33	06/28/16 19:31	5
Copper	ND		130	25	ug/L		06/22/16 14:33	06/28/16 19:31	5
Iron	**20000**		500	150	ug/L		06/22/16 14:33	06/28/16 19:31	5
Lead	ND		50	15	ug/L		06/22/16 14:33	06/28/16 19:31	5

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17722-1

Client Sample ID: LR-100

Date Collected: 06/08/16 11:30
Date Received: 06/09/16 08:12

Lab Sample ID: 160-17722-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	60		5.0	1.5	mg/L		06/22/16 14:33	06/28/16 19:31	5
Manganese	200		75	13	ug/L		06/22/16 14:33	06/28/16 19:31	5
MgHard	250000		21000	6200	ug/L		06/22/16 14:33	06/28/16 19:31	5
Nickel	ND		0.20	0.050	mg/L		06/22/16 14:33	06/28/16 19:31	5
Phosphorus	420	J ^ *	1300	380	ug/L		06/22/16 14:33	06/28/16 19:31	5
Selenium	ND		75	25	ug/L		06/22/16 14:33	06/28/16 19:31	5
Silver	ND		50	15	ug/L		06/22/16 14:33	06/28/16 19:31	5
Sodium	140000		5000	1500	ug/L		06/22/16 14:33	06/28/16 19:31	5
Thallium	ND		100	25	ug/L		06/22/16 14:33	06/28/16 19:31	5
Total Hardness	570000		33000	9900	ug/L		06/22/16 14:33	06/28/16 19:31	5
Vanadium	ND		250	75	ug/L		06/22/16 14:33	06/28/16 19:31	5
Zinc	110		100	30	ug/L		06/22/16 14:33	06/28/16 19:31	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		06/30/16 11:53	06/30/16 21:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate/Nitrite	0.14	^	0.050	0.011	mg/L			07/01/16 14:58	1
Chemical Oxygen Demand	95		5.0	1.1	mg/L		06/22/16 09:41	06/22/16 12:34	1

General Chemistry - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	1100		10	7.0	mg/L			06/10/16 09:36	2
Total Organic Carbon	25		10	7.2	mg/L			07/05/16 23:34	10

General Chemistry - RADL2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	100		5.0	2.2	mg/L			07/05/16 15:29	100

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.377		0.0995	0.105	1.00	0.103	pCi/L	06/13/16 17:57	07/05/16 07:42	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.1*		*40 - 110*	*06/13/16 17:57*	*07/05/16 07:42*	*1*

Method: 903.0 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.247		0.0881	0.0909	1.00	0.108	pCi/L	06/13/16 18:55	07/05/16 07:33	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.9*		*40 - 110*	*06/13/16 18:55*	*07/05/16 07:33*	*1*

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17722-1

Client Sample ID: LR-100

Lab Sample ID: 160-17722-2
Date Collected: 06/08/16 11:30
Matrix: Water
Date Received: 06/09/16 08:12

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.201	U	0.245	0.246	1.00	0.405	pCi/L	06/13/16 18:53	06/27/16 12:54	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.1*		*40 - 110*	*06/13/16 18:53*	*06/27/16 12:54*	*1*
Y Carrier	*84.9*		*40 - 110*	*06/13/16 18:53*	*06/27/16 12:54*	*1*

Method: 904.0 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.203	U	0.224	0.225	1.00	0.367	pCi/L	06/13/16 19:35	06/28/16 13:29	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.9*		*40 - 110*	*06/13/16 19:35*	*06/28/16 13:29*	*1*
Y Carrier	*86.0*		*40 - 110*	*06/13/16 19:35*	*06/28/16 13:29*	*1*

Method: 906.0 - Tritium, Total (LSC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	121	U	162	162	500	269	pCi/L	06/26/16 12:26	06/27/16 22:10	1

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Thorium-230	**0.490**		0.284	0.287	1.00	0.297	pCi/L	07/06/16 16:57	07/07/16 14:54	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Thorium-229	*64.4*		*30 - 110*	*07/06/16 16:57*	*07/07/16 14:54*	*1*

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Uranium-233/234	0.250	U	0.436	0.436	1.00	0.785	pCi/L	06/27/16 13:48	07/01/16 14:49	1
Uranium-235/236	-0.0420	U	0.0841	0.0841	1.00	0.558	pCi/L	06/27/16 13:48	07/01/16 14:49	1
Uranium-238	0.128	U	0.239	0.239	1.00	0.447	pCi/L	06/27/16 13:48	07/01/16 14:49	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*53.1*		*30 - 110*	*06/27/16 13:48*	*07/01/16 14:49*	*1*

Client Sample ID: MW-1204

Lab Sample ID: 160-17722-3
Date Collected: 06/08/16 14:48
Matrix: Water
Date Received: 06/09/16 08:12

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**4900**		2000	670	ug/L			06/15/16 13:16	100
Acrylonitrile	ND		50	1.7	ug/L			06/13/16 12:27	1

Client Sample ID: MW-1204

Date Collected: 06/08/16 14:48
Date Received: 06/09/16 08:12

Lab Sample ID: 160-17722-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**15**		5.0	0.25	ug/L			06/13/16 12:27	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/13/16 12:27	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/13/16 12:27	1
Bromoform	ND		5.0	0.37	ug/L			06/13/16 12:27	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/13/16 12:27	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/13/16 12:27	1
Chlorobenzene	**2.1**	**J**	5.0	0.38	ug/L			06/13/16 12:27	1
Chloroethane	ND		10	0.38	ug/L			06/13/16 12:27	1
Chloroform	ND		5.0	0.15	ug/L			06/13/16 12:27	1
Chloroprene	ND	*	5.0	0.39	ug/L			06/13/16 12:27	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/13/16 12:27	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/13/16 12:27	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/13/16 12:27	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/13/16 12:27	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/13/16 12:27	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/13/16 12:27	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/13/16 12:27	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/13/16 12:27	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/13/16 12:27	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/13/16 12:27	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/13/16 12:27	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/13/16 12:27	1
Ethylbenzene	**0.85**	**J**	5.0	0.30	ug/L			06/13/16 12:27	1
2-Hexanone	**27**		20	0.59	ug/L			06/13/16 12:27	1
Methyl bromide	ND		10	0.40	ug/L			06/13/16 12:27	1
Methyl chloride	ND		10	0.55	ug/L			06/13/16 12:27	1
Methylene bromide	ND		5.0	0.41	ug/L			06/13/16 12:27	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/13/16 12:27	1
Methyl Ethyl Ketone	**1700**	**J**	2000	39	ug/L			06/15/16 13:16	100
Methyl iodide	ND	*	5.0	1.5	ug/L			06/13/16 12:27	1
4-Methyl-2-pentanone (MIBK)	**43**		20	0.33	ug/L			06/13/16 12:27	1
Styrene	ND		5.0	0.35	ug/L			06/13/16 12:27	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/13/16 12:27	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/13/16 12:27	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/13/16 12:27	1
Toluene	**66**	**B**	5.0	1.0	ug/L			06/13/16 12:27	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/13/16 12:27	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/13/16 12:27	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/13/16 12:27	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/13/16 12:27	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/13/16 12:27	1
Trichloroethene	ND		5.0	0.29	ug/L			06/13/16 12:27	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/13/16 12:27	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/13/16 12:27	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/13/16 12:27	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/13/16 12:27	1
Xylenes, Total	**1.5**	**J**	10	0.85	ug/L			06/13/16 12:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*124*		*71 - 139*		*06/13/16 12:27*	*1*

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17722-1

Client Sample ID: MW-1204

Date Collected: 06/08/16 14:48
Date Received: 06/09/16 08:12

Lab Sample ID: 160-17722-3

Matrix: Water

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*71 - 139*		*06/15/16 13:16*	*100*
Dibromofluoromethane (Surr)	*101*		*80 - 121*		*06/13/16 12:27*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 121*		*06/15/16 13:16*	*100*
1,2-Dichloroethane-d4 (Surr)	*105*		*76 - 121*		*06/13/16 12:27*	*1*
1,2-Dichloroethane-d4 (Surr)	*94*		*76 - 121*		*06/15/16 13:16*	*100*
Toluene-d8 (Surr)	*108*		*80 - 129*		*06/13/16 12:27*	*1*
Toluene-d8 (Surr)	*113*		*80 - 129*		*06/15/16 13:16*	*100*

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.68**		0.50	0.050	mg/L			06/29/16 01:52	5
Sulfate	**7.0**		2.5	0.25	mg/L			06/29/16 01:52	5

Method: 300.0 - Anions, Ion Chromatography - DL3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**810**		100	10	mg/L			06/29/16 02:20	500

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		50	15	ug/L		06/22/16 14:33	06/28/16 19:36	5
Arsenic	**33**	**J**	50	20	ug/L		06/22/16 14:33	06/28/16 19:36	5
Barium	**4500**		250	75	ug/L		06/22/16 14:33	06/28/16 19:36	5
Beryllium	ND		25	7.5	ug/L		06/22/16 14:33	06/28/16 19:36	5
Boron	**2200**		500	130	ug/L		06/22/16 14:33	06/28/16 19:36	5
Cadmium	ND		25	7.5	ug/L		06/22/16 14:33	06/28/16 19:36	5
CaHard	**1200000**		12000	3700	ug/L		06/22/16 14:33	06/28/16 19:36	5
Calcium	**500000**		5000	1500	ug/L		06/22/16 14:33	06/28/16 19:36	5
Chromium	**68**		50	15	ug/L		06/22/16 14:33	06/28/16 19:36	5
Cobalt	ND		250	75	ug/L		06/22/16 14:33	06/28/16 19:36	5
Copper	**230**		130	25	ug/L		06/22/16 14:33	06/28/16 19:36	5
Iron	**40000**		500	150	ug/L		06/22/16 14:33	06/28/16 19:36	5
Lead	**16**	**J**	50	15	ug/L		06/22/16 14:33	06/28/16 19:36	5
Magnesium	**130**		5.0	1.5	mg/L		06/22/16 14:33	06/28/16 19:36	5
Manganese	**1300**		75	13	ug/L		06/22/16 14:33	06/28/16 19:36	5
MgHard	**530000**		21000	6200	ug/L		06/22/16 14:33	06/28/16 19:36	5
Nickel	**0.050**	**J**	0.20	0.050	mg/L		06/22/16 14:33	06/28/16 19:36	5
Phosphorus	**960**	**J ^ ***	1300	380	ug/L		06/22/16 14:33	06/28/16 19:36	5
Selenium	ND		75	25	ug/L		06/22/16 14:33	06/28/16 19:36	5
Silver	ND		50	15	ug/L		06/22/16 14:33	06/28/16 19:36	5
Sodium	**350000**		5000	1500	ug/L		06/22/16 14:33	06/28/16 19:36	5
Thallium	ND		100	25	ug/L		06/22/16 14:33	06/28/16 19:36	5
Total Hardness	**1800000**		33000	9900	ug/L		06/22/16 14:33	06/28/16 19:36	5
Vanadium	ND		250	75	ug/L		06/22/16 14:33	06/28/16 19:36	5
Zinc	**600**		100	30	ug/L		06/22/16 14:33	06/28/16 19:36	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.55**	**J**	1.0	0.30	ug/L		06/30/16 11:53	06/30/16 21:15	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17722-1

Client Sample ID: MW-1204

Date Collected: 06/08/16 14:48
Date Received: 06/09/16 08:12

Lab Sample ID: 160-17722-3

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate/Nitrite	0.38	^	0.050	0.011	mg/L			07/01/16 15:02	1

General Chemistry - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	4000		50	35	mg/L			06/10/16 09:36	10
Chemical Oxygen Demand	2900		100	22	mg/L		06/22/16 09:41	06/22/16 12:34	20
Total Organic Carbon	600		100	72	mg/L			07/05/16 23:46	100

General Chemistry - RADL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	93		2.5	1.1	mg/L			07/05/16 14:23	50

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	24.1		1.03	2.40	1.00	0.174	pCi/L	06/13/16 17:57	07/05/16 07:42	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*65.0*		*40 - 110*	*06/13/16 17:57*	*07/05/16 07:42*	*1*

Method: 903.0 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	24.3		0.934	2.38	1.00	0.169	pCi/L	06/13/16 18:55	07/05/16 07:33	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.3*		*40 - 110*	*06/13/16 18:55*	*07/05/16 07:33*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.94	G	0.853	0.895	1.00	1.11	pCi/L	06/13/16 18:53	06/27/16 12:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*65.0*		*40 - 110*	*06/13/16 18:53*	*06/27/16 12:59*	*1*
Y Carrier	*90.1*		*40 - 110*	*06/13/16 18:53*	*06/27/16 12:59*	*1*

Method: 904.0 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.83		0.688	0.736	1.00	0.827	pCi/L	06/13/16 19:35	06/28/16 13:29	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.3*		*40 - 110*	*06/13/16 19:35*	*06/28/16 13:29*	*1*
Y Carrier	*83.0*		*40 - 110*	*06/13/16 19:35*	*06/28/16 13:29*	*1*

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17722-1

Client Sample ID: MW-1204

Lab Sample ID: 160-17722-3
Matrix: Water
Date Collected: 06/08/16 14:48
Date Received: 06/09/16 08:12

Method: 906.0 - Tritium, Total (LSC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	**8920**		552	959	500	274	pCi/L	06/26/16 12:26	06/27/16 22:33	1

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Thorium-230	**4.74**		1.61	1.66	1.00	0.922	pCi/L	07/06/16 16:57	07/07/16 14:54	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Thorium-229	*55.6*		*30 - 110*	*07/06/16 16:57*	*07/07/16 14:54*	*1*

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Uranium-233/234	-0.344	U G	0.524	0.525	1.00	1.35	pCi/L	06/27/16 13:48	07/01/16 14:49	1
Uranium-235/236	0.000	U	0.102	0.102	1.00	0.366	pCi/L	06/27/16 13:48	07/01/16 14:49	1
Uranium-238	-0.359	U G	0.471	0.472	1.00	1.28	pCi/L	06/27/16 13:48	07/01/16 14:49	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*45.8*		*30 - 110*	*06/27/16 13:48*	*07/01/16 14:49*	*1*

Client Sample ID: PZ-205-AS

Lab Sample ID: 160-17722-4
Matrix: Water
Date Collected: 06/08/16 16:47
Date Received: 06/09/16 08:12

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		500	170	ug/L			06/15/16 13:41	25
Acrylonitrile	ND		50	1.7	ug/L			06/13/16 12:52	1
Benzene	**1200**		130	6.3	ug/L			06/15/16 13:41	25
Bromochloromethane	ND		5.0	0.55	ug/L			06/13/16 12:52	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/13/16 12:52	1
Bromoform	ND		5.0	0.37	ug/L			06/13/16 12:52	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/13/16 12:52	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/13/16 12:52	1
Chlorobenzene	**11**		5.0	0.38	ug/L			06/13/16 12:52	1
Chloroethane	**2.3**	**J**	10	0.38	ug/L			06/13/16 12:52	1
Chloroform	ND		5.0	0.15	ug/L			06/13/16 12:52	1
Chloroprene	ND	*	5.0	0.39	ug/L			06/13/16 12:52	1
cis-1,2-Dichloroethene	**0.21**	**J**	5.0	0.16	ug/L			06/13/16 12:52	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/13/16 12:52	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/13/16 12:52	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/13/16 12:52	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/13/16 12:52	1
1,3-Dichlorobenzene	**0.29**	**J**	5.0	0.23	ug/L			06/13/16 12:52	1
1,4-Dichlorobenzene	**34**		5.0	0.35	ug/L			06/13/16 12:52	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/13/16 12:52	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/13/16 12:52	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17722-1

Client Sample ID: PZ-205-AS

Date Collected: 06/08/16 16:47
Date Received: 06/09/16 08:12

Lab Sample ID: 160-17722-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	**1.0**	**J**	5.0	0.37	ug/L			06/13/16 12:52	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/13/16 12:52	1
1,2-Dichloropropane	**0.42**	**J**	5.0	0.32	ug/L			06/13/16 12:52	1
Ethylbenzene	**39**		5.0	0.30	ug/L			06/13/16 12:52	1
2-Hexanone	**11**	**J**	20	0.59	ug/L			06/13/16 12:52	1
Methyl bromide	ND		10	0.40	ug/L			06/13/16 12:52	1
Methyl chloride	ND		10	0.55	ug/L			06/13/16 12:52	1
Methylene bromide	ND		5.0	0.41	ug/L			06/13/16 12:52	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/13/16 12:52	1
Methyl Ethyl Ketone	**48**	**J**	500	9.8	ug/L			06/15/16 13:41	25
Methyl iodide	ND	*	5.0	1.5	ug/L			06/13/16 12:52	1
4-Methyl-2-pentanone (MIBK)	**69**		20	0.33	ug/L			06/13/16 12:52	1
Styrene	ND		5.0	0.35	ug/L			06/13/16 12:52	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/13/16 12:52	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/13/16 12:52	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/13/16 12:52	1
Toluene	**130**	**B**	5.0	1.0	ug/L			06/13/16 12:52	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/13/16 12:52	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/13/16 12:52	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/13/16 12:52	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/13/16 12:52	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/13/16 12:52	1
Trichloroethene	ND		5.0	0.29	ug/L			06/13/16 12:52	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/13/16 12:52	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/13/16 12:52	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/13/16 12:52	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/13/16 12:52	1
Xylenes, Total	**110**		10	0.85	ug/L			06/13/16 12:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*71 - 139*		*06/13/16 12:52*	*1*
4-Bromofluorobenzene (Surr)	*116*		*71 - 139*		*06/15/16 13:41*	*25*
Dibromofluoromethane (Surr)	*129*	*X*	*80 - 121*		*06/13/16 12:52*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 121*		*06/15/16 13:41*	*25*
1,2-Dichloroethane-d4 (Surr)	*106*		*76 - 121*		*06/13/16 12:52*	*1*
1,2-Dichloroethane-d4 (Surr)	*93*		*76 - 121*		*06/15/16 13:41*	*25*
Toluene-d8 (Surr)	*102*		*80 - 129*		*06/13/16 12:52*	*1*
Toluene-d8 (Surr)	*111*		*80 - 129*		*06/15/16 13:41*	*25*

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.16**	**J**	0.50	0.050	mg/L			06/29/16 02:34	5
Sulfate	**3.0**		2.5	0.25	mg/L			06/29/16 02:34	5

Method: 300.0 - Anions, Ion Chromatography - DL3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1600**		100	10	mg/L			06/29/16 03:02	500

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17722-1

Client Sample ID: PZ-205-AS

Date Collected: 06/08/16 16:47
Date Received: 06/09/16 08:12

Lab Sample ID: 160-17722-4

Matrix: Water

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		50	15	ug/L		06/22/16 14:33	06/28/16 19:40	5
Arsenic	150		50	20	ug/L		06/22/16 14:33	06/28/16 19:40	5
Barium	5100		250	75	ug/L		06/22/16 14:33	06/28/16 19:40	5
Beryllium	ND		25	7.5	ug/L		06/22/16 14:33	06/28/16 19:40	5
Boron	2200		500	130	ug/L		06/22/16 14:33	06/28/16 19:40	5
Cadmium	ND		25	7.5	ug/L		06/22/16 14:33	06/28/16 19:40	5
CaHard	1500000		25000	7500	ug/L		06/22/16 14:33	06/30/16 12:46	10
Calcium	600000		10000	3000	ug/L		06/22/16 14:33	06/30/16 12:46	10
Chromium	110		50	15	ug/L		06/22/16 14:33	06/28/16 19:40	5
Cobalt	ND		250	75	ug/L		06/22/16 14:33	06/28/16 19:40	5
Copper	76	J	130	25	ug/L		06/22/16 14:33	06/28/16 19:40	5
Iron	130000		500	150	ug/L		06/22/16 14:33	06/28/16 19:40	5
Lead	100		50	15	ug/L		06/22/16 14:33	06/28/16 19:40	5
Magnesium	170		5.0	1.5	mg/L		06/22/16 14:33	06/28/16 19:40	5
Manganese	1500		75	13	ug/L		06/22/16 14:33	06/28/16 19:40	5
MgHard	690000		21000	6200	ug/L		06/22/16 14:33	06/28/16 19:40	5
Nickel	0.17	J	0.20	0.050	mg/L		06/22/16 14:33	06/28/16 19:40	5
Phosphorus	3200		2500	750	ug/L		06/22/16 14:33	06/30/16 12:46	10
Selenium	ND		75	25	ug/L		06/22/16 14:33	06/28/16 19:40	5
Silver	ND		50	15	ug/L		06/22/16 14:33	06/28/16 19:40	5
Sodium	470000		5000	1500	ug/L		06/22/16 14:33	06/28/16 19:40	5
Thallium	ND		100	25	ug/L		06/22/16 14:33	06/28/16 19:40	5
Total Hardness	2100000		33000	9900	ug/L		06/22/16 14:33	06/28/16 19:40	5
Vanadium	160	J	250	75	ug/L		06/22/16 14:33	06/28/16 19:40	5
Zinc	340		100	30	ug/L		06/22/16 14:33	06/28/16 19:40	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.82	J	1.0	0.30	ug/L		06/30/16 11:53	06/30/16 21:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate/Nitrite	0.58	^	0.050	0.011	mg/L			07/01/16 15:03	1

General Chemistry - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	4800		50	35	mg/L			06/10/16 09:36	10
Chemical Oxygen Demand	1500		50	11	mg/L		06/22/16 09:41	06/22/16 12:34	10
Total Organic Carbon	210		50	36	mg/L			07/05/16 23:58	50

General Chemistry - RADL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	38		2.5	1.1	mg/L			07/05/16 14:25	50

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	3.49		0.361	0.479	1.00	0.133	pCi/L	06/13/16 17:57	07/05/16 07:42	1

Client Sample ID: PZ-205-AS

Date Collected: 06/08/16 16:47
Date Received: 06/09/16 08:12

Lab Sample ID: 160-17722-4

Matrix: Water

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	89.5		40 - 110	06/13/16 17:57	07/05/16 07:42	1

Method: 903.0 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	2.49		0.311	0.383	1.00	0.186	pCi/L	06/13/16 18:55	07/05/16 07:33	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	98.0		40 - 110	06/13/16 18:55	07/05/16 07:33	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.89		0.658	0.709	1.00	0.793	pCi/L	06/13/16 18:53	06/27/16 12:59	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	89.5		40 - 110	06/13/16 18:53	06/27/16 12:59	1
Y Carrier	90.8		40 - 110	06/13/16 18:53	06/27/16 12:59	1

Method: 904.0 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.02		0.578	0.607	1.00	0.720	pCi/L	06/13/16 19:35	06/28/16 13:29	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	98.0		40 - 110	06/13/16 19:35	06/28/16 13:29	1
Y Carrier	82.6		40 - 110	06/13/16 19:35	06/28/16 13:29	1

Method: 906.0 - Tritium, Total (LSC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	50100		1270	4590	500	277	pCi/L	06/26/16 12:26	06/27/16 22:56	1

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Thorium-230	2.86		1.18	1.20	1.00	0.806	pCi/L	07/06/16 16:57	07/07/16 14:54	1

Tracer	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Thorium-229	64.1		30 - 110	07/06/16 16:57	07/07/16 14:54	1

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Uranium-233/234	0.245	U	0.323	0.324	1.00	0.509	pCi/L	06/27/16 13:48	07/01/16 14:49	1
Uranium-235/236	0.000	U	0.0803	0.0803	1.00	0.289	pCi/L	06/27/16 13:48	07/01/16 14:49	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17722-1

Client Sample ID: PZ-205-AS

Date Collected: 06/08/16 16:47
Date Received: 06/09/16 08:12

Lab Sample ID: 160-17722-4

Matrix: Water

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) (Continued)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Uranium-238	0.0451	U	0.167	0.168	1.00	0.427	pCi/L	06/27/16 13:48	07/01/16 14:49	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*54.8*		*30 - 110*	*06/27/16 13:48*	*07/01/16 14:49*	*1*

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

Lab Sample ID: MB 160-256079/9
Matrix: Water
Analysis Batch: 256079

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/13/16 09:33	1
Acrylonitrile	ND		50	1.7	ug/L			06/13/16 09:33	1
Benzene	ND		5.0	0.25	ug/L			06/13/16 09:33	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/13/16 09:33	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/13/16 09:33	1
Bromoform	ND		5.0	0.37	ug/L			06/13/16 09:33	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/13/16 09:33	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/13/16 09:33	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/13/16 09:33	1
Chloroethane	ND		10	0.38	ug/L			06/13/16 09:33	1
Chloroform	ND		5.0	0.15	ug/L			06/13/16 09:33	1
Chloroprene	ND		5.0	0.39	ug/L			06/13/16 09:33	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/13/16 09:33	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/13/16 09:33	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/13/16 09:33	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/13/16 09:33	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/13/16 09:33	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/13/16 09:33	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/13/16 09:33	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/13/16 09:33	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/13/16 09:33	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/13/16 09:33	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/13/16 09:33	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/13/16 09:33	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/13/16 09:33	1
2-Hexanone	ND		20	0.59	ug/L			06/13/16 09:33	1
Methyl bromide	ND		10	0.40	ug/L			06/13/16 09:33	1
Methyl chloride	ND		10	0.55	ug/L			06/13/16 09:33	1
Methylene bromide	ND		5.0	0.41	ug/L			06/13/16 09:33	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/13/16 09:33	1
Methyl Ethyl Ketone	ND		20	0.39	ug/L			06/13/16 09:33	1
Methyl iodide	ND		5.0	1.5	ug/L			06/13/16 09:33	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/13/16 09:33	1
Styrene	ND		5.0	0.35	ug/L			06/13/16 09:33	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/13/16 09:33	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/13/16 09:33	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/13/16 09:33	1
Toluene	1.50	J	5.0	1.0	ug/L			06/13/16 09:33	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/13/16 09:33	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/13/16 09:33	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/13/16 09:33	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/13/16 09:33	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/13/16 09:33	1
Trichloroethene	ND		5.0	0.29	ug/L			06/13/16 09:33	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/13/16 09:33	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/13/16 09:33	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/13/16 09:33	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/13/16 09:33	1

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

Lab Sample ID: MB 160-256079/9
Matrix: Water
Analysis Batch: 256079

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		10	0.85	ug/L			06/13/16 09:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*123*		*71 - 139*		*06/13/16 09:33*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 121*		*06/13/16 09:33*	*1*
1,2-Dichloroethane-d4 (Surr)	*113*		*76 - 121*		*06/13/16 09:33*	*1*
Toluene-d8 (Surr)	*110*		*80 - 129*		*06/13/16 09:33*	*1*

Lab Sample ID: LCS 160-256079/6
Matrix: Water
Analysis Batch: 256079

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	50.0	54.2		ug/L		108	63 - 131
Acrylonitrile	500	556		ug/L		111	81 - 117
Benzene	50.0	53.6		ug/L		107	80 - 120
Bromochloromethane	50.0	47.1		ug/L		94	80 - 120
Bromodichloromethane	50.0	52.5		ug/L		105	80 - 120
Bromoform	50.0	45.6		ug/L		91	80 - 120
Carbon disulfide	50.0	50.2		ug/L		100	79 - 126
Carbon tetrachloride	50.0	51.3		ug/L		103	73 - 123
Chlorobenzene	50.0	47.2		ug/L		94	80 - 120
Chloroethane	50.0	47.6		ug/L		95	52 - 140
Chloroform	50.0	51.7		ug/L		103	80 - 120
Chloroprene	50.0	60.0		ug/L		120	80 - 120
cis-1,2-Dichloroethene	50.0	49.7		ug/L		99	80 - 120
cis-1,3-Dichloropropene	50.0	54.6		ug/L		109	80 - 122
Dibromochloromethane	50.0	46.6		ug/L		93	80 - 120
1,2-Dibromo-3-Chloropropane	50.0	46.0		ug/L		92	77 - 125
1,2-Dibromoethane (EDB)	50.0	48.9		ug/L		98	80 - 120
1,3-Dichlorobenzene	50.0	46.7		ug/L		93	80 - 120
1,4-Dichlorobenzene	50.0	48.1		ug/L		96	80 - 120
Dichlorodifluoromethane	50.0	65.8		ug/L		132	62 - 140
1,1-Dichloroethane	50.0	53.5		ug/L		107	80 - 120
1,2-Dichloroethane	50.0	56.7		ug/L		113	69 - 124
1,1-Dichloroethene	50.0	44.9		ug/L		90	77 - 126
1,2-Dichloropropane	50.0	54.4		ug/L		109	80 - 120
Ethylbenzene	50.0	52.0		ug/L		104	80 - 120
2-Hexanone	50.0	52.7		ug/L		105	64 - 136
Methyl bromide	50.0	50.9		ug/L		102	57 - 139
Methyl chloride	50.0	55.7		ug/L		111	70 - 127
Methylene bromide	50.0	51.9		ug/L		104	78 - 120
Methylene Chloride	50.0	49.7		ug/L		99	80 - 120
Methyl Ethyl Ketone	50.0	53.6		ug/L		107	70 - 130
Methyl iodide	50.0	34.9	*	ug/L		70	73 - 125
4-Methyl-2-pentanone (MIBK)	50.0	56.5		ug/L		113	76 - 129
Styrene	50.0	50.3		ug/L		101	80 - 120
1,1,1,2-Tetrachloroethane	50.0	46.1		ug/L		92	80 - 120

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

Lab Sample ID: LCS 160-256079/6
Matrix: Water
Analysis Batch: 256079

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2,2-Tetrachloroethane	50.0	49.0		ug/L		98	80 - 120
Tetrachloroethene	50.0	47.5		ug/L		95	80 - 120
Toluene	50.0	45.8		ug/L		92	80 - 120
trans-1,4-Dichloro-2-butene	50.0	55.2		ug/L		110	75 - 127
trans-1,2-Dichloroethene	50.0	50.0		ug/L		100	80 - 120
trans-1,3-Dichloropropene	50.0	56.5		ug/L		113	80 - 130
1,1,1-Trichloroethane	50.0	53.5		ug/L		107	76 - 120
1,1,2-Trichloroethane	50.0	50.0		ug/L		100	80 - 120
Trichloroethene	50.0	53.8		ug/L		108	73 - 120
Trichlorofluoromethane	50.0	56.3		ug/L		113	74 - 130
1,2,3-Trichloropropane	50.0	47.4		ug/L		95	80 - 120
Vinyl acetate	50.0	52.6		ug/L		105	37 - 140
Vinyl chloride	50.0	58.0		ug/L		116	51 - 140
Xylenes, Total	100	99.4		ug/L		99	80 - 121

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*71 - 139*
Dibromofluoromethane (Surr)	*97*		*80 - 121*
1,2-Dichloroethane-d4 (Surr)	*113*		*76 - 121*
Toluene-d8 (Surr)	*100*		*80 - 129*

Lab Sample ID: LCSD 160-256079/7
Matrix: Water
Analysis Batch: 256079

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
Acetone	50.0	55.8		ug/L		112	63 - 131	3	20
Acrylonitrile	500	526		ug/L		105	81 - 117	6	20
Benzene	50.0	53.0		ug/L		106	80 - 120	1	20
Bromochloromethane	50.0	47.6		ug/L		95	80 - 120	1	20
Bromodichloromethane	50.0	53.2		ug/L		106	80 - 120	1	20
Bromoform	50.0	45.6		ug/L		91	80 - 120	0	20
Carbon disulfide	50.0	52.1		ug/L		104	79 - 126	4	20
Carbon tetrachloride	50.0	53.7		ug/L		107	73 - 123	5	20
Chlorobenzene	50.0	48.1		ug/L		96	80 - 120	2	20
Chloroethane	50.0	46.1		ug/L		92	52 - 140	3	20
Chloroform	50.0	53.1		ug/L		106	80 - 120	3	20
Chloroprene	50.0	61.4	*	ug/L		123	80 - 120	2	20
cis-1,2-Dichloroethene	50.0	52.4		ug/L		105	80 - 120	5	20
cis-1,3-Dichloropropene	50.0	54.4		ug/L		109	80 - 122	0	20
Dibromochloromethane	50.0	47.5		ug/L		95	80 - 120	2	20
1,2-Dibromo-3-Chloropropane	50.0	46.1		ug/L		92	77 - 125	0	20
1,2-Dibromoethane (EDB)	50.0	48.3		ug/L		97	80 - 120	1	20
1,3-Dichlorobenzene	50.0	48.6		ug/L		97	80 - 120	4	20
1,4-Dichlorobenzene	50.0	48.9		ug/L		98	80 - 120	2	20
Dichlorodifluoromethane	50.0	68.5		ug/L		137	62 - 140	4	20
1,1-Dichloroethane	50.0	53.6		ug/L		107	80 - 120	0	20
1,2-Dichloroethane	50.0	55.1		ug/L		110	69 - 124	3	20

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

Lab Sample ID: LCSD 160-256079/7
Matrix: Water
Analysis Batch: 256079

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
1,1-Dichloroethene	50.0	47.8		ug/L		96	77 - 126	6	20
1,2-Dichloropropane	50.0	54.1		ug/L		108	80 - 120	0	20
Ethylbenzene	50.0	53.2		ug/L		106	80 - 120	2	20
2-Hexanone	50.0	50.8		ug/L		102	64 - 136	4	20
Methyl bromide	50.0	51.8		ug/L		104	57 - 139	2	20
Methyl chloride	50.0	57.6		ug/L		115	70 - 127	3	20
Methylene bromide	50.0	52.5		ug/L		105	78 - 120	1	20
Methylene Chloride	50.0	50.7		ug/L		101	80 - 120	2	20
Methyl Ethyl Ketone	50.0	50.9		ug/L		102	70 - 130	5	20
Methyl iodide	50.0	38.5		ug/L		77	73 - 125	10	20
4-Methyl-2-pentanone (MIBK)	50.0	52.6		ug/L		105	76 - 129	7	20
Styrene	50.0	50.4		ug/L		101	80 - 120	0	20
1,1,1,2-Tetrachloroethane	50.0	47.2		ug/L		94	80 - 120	2	20
1,1,2,2-Tetrachloroethane	50.0	47.7		ug/L		95	80 - 120	3	20
Tetrachloroethene	50.0	48.5		ug/L		97	80 - 120	2	20
Toluene	50.0	46.1		ug/L		92	80 - 120	1	20
trans-1,4-Dichloro-2-butene	50.0	52.1		ug/L		104	75 - 127	6	20
trans-1,2-Dichloroethene	50.0	52.2		ug/L		104	80 - 120	4	20
trans-1,3-Dichloropropene	50.0	54.4		ug/L		109	80 - 130	4	20
1,1,1-Trichloroethane	50.0	55.1		ug/L		110	76 - 120	3	20
1,1,2-Trichloroethane	50.0	48.8		ug/L		98	80 - 120	2	20
Trichloroethene	50.0	54.9		ug/L		110	73 - 120	2	20
Trichlorofluoromethane	50.0	58.7		ug/L		117	74 - 130	4	20
1,2,3-Trichloropropane	50.0	47.6		ug/L		95	80 - 120	0	20
Vinyl acetate	50.0	45.5		ug/L		91	37 - 140	14	20
Vinyl chloride	50.0	58.8		ug/L		118	51 - 140	1	20
Xylenes, Total	100	100		ug/L		100	80 - 121	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*71 - 139*
Dibromofluoromethane (Surr)	*98*		*80 - 121*
1,2-Dichloroethane-d4 (Surr)	*107*		*76 - 121*
Toluene-d8 (Surr)	*102*		*80 - 129*

Lab Sample ID: 160-17722-1 MS
Matrix: Water
Analysis Batch: 256079

Client Sample ID: PZ-206-SS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND		50.0	55.4		ug/L		111	52 - 138
Acrylonitrile	ND		500	561		ug/L		112	58 - 142
Benzene	ND		50.0	53.8		ug/L		108	80 - 120
Bromochloromethane	ND		50.0	48.6		ug/L		97	72 - 125
Bromodichloromethane	ND		50.0	54.4		ug/L		109	71 - 128
Bromoform	ND		50.0	46.9		ug/L		94	65 - 133
Carbon disulfide	ND		50.0	51.2		ug/L		102	69 - 139
Carbon tetrachloride	ND		50.0	52.7		ug/L		105	70 - 126
Chlorobenzene	ND		50.0	48.3		ug/L		97	80 - 120

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

Lab Sample ID: 160-17722-1 MS
Matrix: Water
Analysis Batch: 256079

Client Sample ID: PZ-206-SS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloroethane	ND		50.0	47.4		ug/L		95	59 - 144
Chloroform	ND		50.0	53.3		ug/L		107	80 - 120
Chloroprene	ND	* F1	50.0	60.0		ug/L		120	77 - 121
cis-1,2-Dichloroethene	ND		50.0	52.6		ug/L		105	80 - 124
cis-1,3-Dichloropropene	ND		50.0	55.5		ug/L		111	67 - 130
Dibromochloromethane	ND		50.0	49.2		ug/L		98	68 - 133
1,2-Dibromo-3-Chloropropane	ND		50.0	49.4		ug/L		99	58 - 148
1,2-Dibromoethane (EDB)	ND		50.0	51.8		ug/L		104	65 - 138
1,3-Dichlorobenzene	ND		50.0	47.3		ug/L		95	80 - 120
1,4-Dichlorobenzene	ND		50.0	47.9		ug/L		96	80 - 120
Dichlorodifluoromethane	ND		50.0	64.0		ug/L		128	65 - 140
1,1-Dichloroethane	ND		50.0	54.0		ug/L		108	80 - 120
1,2-Dichloroethane	ND		50.0	57.2		ug/L		114	56 - 136
1,1-Dichloroethene	ND		50.0	45.8		ug/L		92	66 - 137
1,2-Dichloropropane	ND		50.0	55.7		ug/L		111	80 - 123
Ethylbenzene	ND		50.0	52.8		ug/L		106	80 - 121
2-Hexanone	ND		50.0	55.8		ug/L		112	47 - 150
Methyl bromide	1.0	J	50.0	54.0		ug/L		106	53 - 146
Methyl chloride	ND		50.0	57.5		ug/L		115	61 - 137
Methylene bromide	ND		50.0	54.6		ug/L		109	61 - 136
Methylene Chloride	ND		50.0	51.5		ug/L		103	80 - 120
Methyl Ethyl Ketone	19	J	50.0	57.9		ug/L		78	58 - 143
Methyl iodide	ND	*	50.0	36.7		ug/L		73	69 - 124
4-Methyl-2-pentanone (MIBK)	ND		50.0	57.5		ug/L		115	53 - 150
Styrene	ND		50.0	51.7		ug/L		103	44 - 150
1,1,1,2-Tetrachloroethane	ND		50.0	46.3		ug/L		93	80 - 120
1,1,2,2-Tetrachloroethane	ND		50.0	51.8		ug/L		104	60 - 150
Tetrachloroethene	ND		50.0	47.5		ug/L		95	66 - 132
Toluene	1.5	J B	50.0	46.0		ug/L		89	75 - 134
trans-1,4-Dichloro-2-butene	ND		50.0	56.0		ug/L		112	55 - 146
trans-1,2-Dichloroethene	ND		50.0	50.5		ug/L		101	79 - 121
trans-1,3-Dichloropropene	ND		50.0	57.1		ug/L		114	68 - 143
1,1,1-Trichloroethane	ND		50.0	53.9		ug/L		108	74 - 123
1,1,2-Trichloroethane	ND		50.0	50.3		ug/L		101	70 - 134
Trichloroethene	ND		50.0	52.5		ug/L		105	63 - 120
Trichlorofluoromethane	ND		50.0	56.6		ug/L		113	53 - 150
1,2,3-Trichloropropane	ND		50.0	49.3		ug/L		99	62 - 137
Vinyl acetate	ND		50.0	71.8		ug/L		144	63 - 150
Vinyl chloride	ND		50.0	54.2		ug/L		108	54 - 140
Xylenes, Total	ND		100	101		ug/L		101	80 - 124

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*71 - 139*
Dibromofluoromethane (Surr)	*101*		*80 - 121*
1,2-Dichloroethane-d4 (Surr)	*110*		*76 - 121*
Toluene-d8 (Surr)	*98*		*80 - 129*

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

Lab Sample ID: 160-17722-1 MSD
Matrix: Water
Analysis Batch: 256079

Client Sample ID: PZ-206-SS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	ND		50.0	51.2		ug/L		102	52 - 138	8	20
Acrylonitrile	ND		500	524		ug/L		105	58 - 142	7	20
Benzene	ND		50.0	52.6		ug/L		105	80 - 120	2	20
Bromochloromethane	ND		50.0	47.6		ug/L		95	72 - 125	2	20
Bromodichloromethane	ND		50.0	52.6		ug/L		105	71 - 128	3	20
Bromoform	ND		50.0	47.2		ug/L		94	65 - 133	1	20
Carbon disulfide	ND		50.0	51.4		ug/L		103	69 - 139	0	20
Carbon tetrachloride	ND		50.0	53.5		ug/L		107	70 - 126	1	20
Chlorobenzene	ND		50.0	48.6		ug/L		97	80 - 120	1	20
Chloroethane	ND		50.0	45.4		ug/L		91	59 - 144	4	20
Chloroform	ND		50.0	53.2		ug/L		106	80 - 120	0	20
Chloroprene	ND	* F1	50.0	61.0	F1	ug/L		122	77 - 121	2	20
cis-1,2-Dichloroethene	ND		50.0	52.6		ug/L		105	80 - 124	0	20
cis-1,3-Dichloropropene	ND		50.0	53.6		ug/L		107	67 - 130	4	20
Dibromochloromethane	ND		50.0	49.1		ug/L		98	68 - 133	0	20
1,2-Dibromo-3-Chloropropane	ND		50.0	46.9		ug/L		94	58 - 148	5	20
1,2-Dibromoethane (EDB)	ND		50.0	50.8		ug/L		102	65 - 138	2	20
1,3-Dichlorobenzene	ND		50.0	49.6		ug/L		99	80 - 120	5	20
1,4-Dichlorobenzene	ND		50.0	49.4		ug/L		99	80 - 120	3	20
Dichlorodifluoromethane	ND		50.0	64.8		ug/L		130	65 - 140	1	20
1,1-Dichloroethane	ND		50.0	53.7		ug/L		107	80 - 120	1	20
1,2-Dichloroethane	ND		50.0	55.2		ug/L		110	56 - 136	4	20
1,1-Dichloroethene	ND		50.0	46.7		ug/L		93	66 - 137	2	20
1,2-Dichloropropane	ND		50.0	53.6		ug/L		107	80 - 123	4	20
Ethylbenzene	ND		50.0	53.0		ug/L		106	80 - 121	1	20
2-Hexanone	ND		50.0	52.2		ug/L		104	47 - 150	7	20
Methyl bromide	1.0	J	50.0	54.3		ug/L		107	53 - 146	0	20
Methyl chloride	ND		50.0	56.7		ug/L		113	61 - 137	1	20
Methylene bromide	ND		50.0	51.6		ug/L		103	61 - 136	6	20
Methylene Chloride	ND		50.0	50.5		ug/L		101	80 - 120	2	20
Methyl Ethyl Ketone	19	J	50.0	51.2		ug/L		65	58 - 143	12	20
Methyl iodide	ND	*	50.0	40.3		ug/L		81	69 - 124	9	20
4-Methyl-2-pentanone (MIBK)	ND		50.0	57.2		ug/L		114	53 - 150	1	20
Styrene	ND		50.0	52.0		ug/L		104	44 - 150	1	20
1,1,1,2-Tetrachloroethane	ND		50.0	48.1		ug/L		96	80 - 120	4	20
1,1,2,2-Tetrachloroethane	ND		50.0	51.0		ug/L		102	60 - 150	1	20
Tetrachloroethene	ND		50.0	49.6		ug/L		99	66 - 132	4	20
Toluene	1.5	J B	50.0	47.2		ug/L		91	75 - 134	3	20
trans-1,4-Dichloro-2-butene	ND		50.0	55.7		ug/L		111	55 - 146	0	20
trans-1,2-Dichloroethene	ND		50.0	51.6		ug/L		103	79 - 121	2	20
trans-1,3-Dichloropropene	ND		50.0	56.1		ug/L		112	68 - 143	2	20
1,1,1-Trichloroethane	ND		50.0	54.6		ug/L		109	74 - 123	1	20
1,1,2-Trichloroethane	ND		50.0	49.7		ug/L		99	70 - 134	1	20
Trichloroethene	ND		50.0	51.1		ug/L		102	63 - 120	3	20
Trichlorofluoromethane	ND		50.0	56.7		ug/L		113	53 - 150	0	20
1,2,3-Trichloropropane	ND		50.0	47.7		ug/L		95	62 - 137	3	20
Vinyl acetate	ND		50.0	68.1		ug/L		136	63 - 150	5	20
Vinyl chloride	ND		50.0	57.0		ug/L		114	54 - 140	5	20

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

Lab Sample ID: 160-17722-1 MSD
Matrix: Water
Analysis Batch: 256079

Client Sample ID: PZ-206-SS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Xylenes, Total	ND		100	103		ug/L		103	80 - 124	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*71 - 139*
Dibromofluoromethane (Surr)	*98*		*80 - 121*
1,2-Dichloroethane-d4 (Surr)	*107*		*76 - 121*
Toluene-d8 (Surr)	*102*		*80 - 129*

Lab Sample ID: MB 160-256488/9
Matrix: Water
Analysis Batch: 256488

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/15/16 09:30	1
Acrylonitrile	ND		50	1.7	ug/L			06/15/16 09:30	1
Benzene	ND		5.0	0.25	ug/L			06/15/16 09:30	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/15/16 09:30	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/15/16 09:30	1
Bromoform	ND		5.0	0.37	ug/L			06/15/16 09:30	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/15/16 09:30	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/15/16 09:30	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/15/16 09:30	1
Chloroethane	ND		10	0.38	ug/L			06/15/16 09:30	1
Chloroform	ND		5.0	0.15	ug/L			06/15/16 09:30	1
Chloroprene	ND		5.0	0.39	ug/L			06/15/16 09:30	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/15/16 09:30	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/15/16 09:30	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/15/16 09:30	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/15/16 09:30	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/15/16 09:30	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/15/16 09:30	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/15/16 09:30	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/15/16 09:30	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/15/16 09:30	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/15/16 09:30	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/15/16 09:30	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/15/16 09:30	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/15/16 09:30	1
2-Hexanone	ND		20	0.59	ug/L			06/15/16 09:30	1
Methyl bromide	ND		10	0.40	ug/L			06/15/16 09:30	1
Methyl chloride	ND		10	0.55	ug/L			06/15/16 09:30	1
Methylene bromide	ND		5.0	0.41	ug/L			06/15/16 09:30	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/15/16 09:30	1
Methyl Ethyl Ketone	ND		20	0.39	ug/L			06/15/16 09:30	1
Methyl iodide	ND		5.0	1.5	ug/L			06/15/16 09:30	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/15/16 09:30	1
Styrene	ND		5.0	0.35	ug/L			06/15/16 09:30	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/15/16 09:30	1

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

Lab Sample ID: MB 160-256488/9
Matrix: Water
Analysis Batch: 256488

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/15/16 09:30	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/15/16 09:30	1
Toluene	1.06	J	5.0	1.0	ug/L			06/15/16 09:30	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/15/16 09:30	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/15/16 09:30	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/15/16 09:30	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/15/16 09:30	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/15/16 09:30	1
Trichloroethene	ND		5.0	0.29	ug/L			06/15/16 09:30	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/15/16 09:30	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/15/16 09:30	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/15/16 09:30	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/15/16 09:30	1
Xylenes, Total	ND		10	0.85	ug/L			06/15/16 09:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*71 - 139*		*06/15/16 09:30*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 121*		*06/15/16 09:30*	*1*
1,2-Dichloroethane-d4 (Surr)	*90*		*76 - 121*		*06/15/16 09:30*	*1*
Toluene-d8 (Surr)	*109*		*80 - 129*		*06/15/16 09:30*	*1*

Lab Sample ID: LCS 160-256488/6
Matrix: Water
Analysis Batch: 256488

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	50.0	50.7		ug/L		101	63 - 131
Acrylonitrile	500	494		ug/L		99	81 - 117
Benzene	50.0	49.3		ug/L		99	80 - 120
Bromochloromethane	50.0	50.8		ug/L		102	80 - 120
Bromodichloromethane	50.0	49.8		ug/L		100	80 - 120
Bromoform	50.0	52.4		ug/L		105	80 - 120
Carbon disulfide	50.0	48.1		ug/L		96	79 - 126
Carbon tetrachloride	50.0	50.6		ug/L		101	73 - 123
Chlorobenzene	50.0	51.0		ug/L		102	80 - 120
Chloroethane	50.0	40.0		ug/L		80	52 - 140
Chloroform	50.0	47.2		ug/L		94	80 - 120
Chloroprene	50.0	52.6		ug/L		105	80 - 120
cis-1,2-Dichloroethene	50.0	52.4		ug/L		105	80 - 120
cis-1,3-Dichloropropene	50.0	54.3		ug/L		109	80 - 122
Dibromochloromethane	50.0	52.0		ug/L		104	80 - 120
1,2-Dibromo-3-Chloropropane	50.0	52.6		ug/L		105	77 - 125
1,2-Dibromoethane (EDB)	50.0	51.1		ug/L		102	80 - 120
1,3-Dichlorobenzene	50.0	52.0		ug/L		104	80 - 120
1,4-Dichlorobenzene	50.0	50.9		ug/L		102	80 - 120
Dichlorodifluoromethane	50.0	47.8		ug/L		96	62 - 140
1,1-Dichloroethane	50.0	47.2		ug/L		94	80 - 120
1,2-Dichloroethane	50.0	47.1		ug/L		94	69 - 124

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

Lab Sample ID: LCS 160-256488/6
Matrix: Water
Analysis Batch: 256488

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	50.0	49.3		ug/L		99	77 - 126
1,2-Dichloropropane	50.0	49.0		ug/L		98	80 - 120
Ethylbenzene	50.0	52.0		ug/L		104	80 - 120
2-Hexanone	50.0	54.7		ug/L		109	64 - 136
Methyl bromide	50.0	44.5		ug/L		89	57 - 139
Methyl chloride	50.0	45.8		ug/L		92	70 - 127
Methylene bromide	50.0	50.7		ug/L		101	78 - 120
Methylene Chloride	50.0	47.2		ug/L		94	80 - 120
Methyl Ethyl Ketone	50.0	49.5		ug/L		99	70 - 130
Methyl iodide	50.0	50.1		ug/L		100	73 - 125
4-Methyl-2-pentanone (MIBK)	50.0	54.5		ug/L		109	76 - 129
Styrene	50.0	56.3		ug/L		113	80 - 120
1,1,1,2-Tetrachloroethane	50.0	51.6		ug/L		103	80 - 120
1,1,2,2-Tetrachloroethane	50.0	45.8		ug/L		92	80 - 120
Tetrachloroethene	50.0	51.5		ug/L		103	80 - 120
Toluene	50.0	49.4		ug/L		99	80 - 120
trans-1,4-Dichloro-2-butene	50.0	46.8		ug/L		94	75 - 127
trans-1,2-Dichloroethene	50.0	51.9		ug/L		104	80 - 120
trans-1,3-Dichloropropene	50.0	52.4		ug/L		105	80 - 130
1,1,1-Trichloroethane	50.0	49.4		ug/L		99	76 - 120
1,1,2-Trichloroethane	50.0	49.2		ug/L		98	80 - 120
Trichloroethene	50.0	51.1		ug/L		102	73 - 120
Trichlorofluoromethane	50.0	45.8		ug/L		92	74 - 130
1,2,3-Trichloropropane	50.0	49.3		ug/L		99	80 - 120
Vinyl acetate	50.0	47.3		ug/L		95	37 - 140
Vinyl chloride	50.0	48.2		ug/L		96	51 - 140
Xylenes, Total	100	117		ug/L		117	80 - 121

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*71 - 139*
Dibromofluoromethane (Surr)	*103*		*80 - 121*
1,2-Dichloroethane-d4 (Surr)	*93*		*76 - 121*
Toluene-d8 (Surr)	*105*		*80 - 129*

Lab Sample ID: LCSD 160-256488/7
Matrix: Water
Analysis Batch: 256488

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
Acetone	50.0	46.4		ug/L		93	63 - 131	9	20
Acrylonitrile	500	461		ug/L		92	81 - 117	7	20
Benzene	50.0	48.2		ug/L		96	80 - 120	2	20
Bromochloromethane	50.0	49.5		ug/L		99	80 - 120	3	20
Bromodichloromethane	50.0	48.0		ug/L		96	80 - 120	4	20
Bromoform	50.0	51.0		ug/L		102	80 - 120	3	20
Carbon disulfide	50.0	47.4		ug/L		95	79 - 126	2	20
Carbon tetrachloride	50.0	50.5		ug/L		101	73 - 123	0	20
Chlorobenzene	50.0	49.4		ug/L		99	80 - 120	3	20

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

Lab Sample ID: LCSD 160-256488/7
Matrix: Water
Analysis Batch: 256488

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
Chloroethane	50.0	36.9		ug/L		74	52 - 140	8	20
Chloroform	50.0	46.5		ug/L		93	80 - 120	1	20
Chloroprene	50.0	52.0		ug/L		104	80 - 120	1	20
cis-1,2-Dichloroethene	50.0	51.7		ug/L		103	80 - 120	1	20
cis-1,3-Dichloropropene	50.0	52.5		ug/L		105	80 - 122	3	20
Dibromochloromethane	50.0	49.3		ug/L		99	80 - 120	5	20
1,2-Dibromo-3-Chloropropane	50.0	49.2		ug/L		98	77 - 125	7	20
1,2-Dibromoethane (EDB)	50.0	48.4		ug/L		97	80 - 120	6	20
1,3-Dichlorobenzene	50.0	52.5		ug/L		105	80 - 120	1	20
1,4-Dichlorobenzene	50.0	49.9		ug/L		100	80 - 120	2	20
Dichlorodifluoromethane	50.0	47.0		ug/L		94	62 - 140	2	20
1,1-Dichloroethane	50.0	46.6		ug/L		93	80 - 120	1	20
1,2-Dichloroethane	50.0	44.7		ug/L		89	69 - 124	5	20
1,1-Dichloroethene	50.0	49.3		ug/L		99	77 - 126	0	20
1,2-Dichloropropane	50.0	48.5		ug/L		97	80 - 120	1	20
Ethylbenzene	50.0	51.0		ug/L		102	80 - 120	2	20
2-Hexanone	50.0	49.3		ug/L		99	64 - 136	10	20
Methyl bromide	50.0	41.3		ug/L		83	57 - 139	7	20
Methyl chloride	50.0	45.6		ug/L		91	70 - 127	1	20
Methylene bromide	50.0	48.0		ug/L		96	78 - 120	6	20
Methylene Chloride	50.0	46.7		ug/L		93	80 - 120	1	20
Methyl Ethyl Ketone	50.0	44.6		ug/L		89	70 - 130	10	20
Methyl iodide	50.0	51.2		ug/L		102	73 - 125	2	20
4-Methyl-2-pentanone (MIBK)	50.0	50.1		ug/L		100	76 - 129	8	20
Styrene	50.0	54.4		ug/L		109	80 - 120	3	20
1,1,1,2-Tetrachloroethane	50.0	49.1		ug/L		98	80 - 120	5	20
1,1,2,2-Tetrachloroethane	50.0	43.6		ug/L		87	80 - 120	5	20
Tetrachloroethene	50.0	49.0		ug/L		98	80 - 120	5	20
Toluene	50.0	47.4		ug/L		95	80 - 120	4	20
trans-1,4-Dichloro-2-butene	50.0	45.0		ug/L		90	75 - 127	4	20
trans-1,2-Dichloroethene	50.0	50.6		ug/L		101	80 - 120	3	20
trans-1,3-Dichloropropene	50.0	48.3		ug/L		97	80 - 130	8	20
1,1,1-Trichloroethane	50.0	49.6		ug/L		99	76 - 120	0	20
1,1,2-Trichloroethane	50.0	46.0		ug/L		92	80 - 120	7	20
Trichloroethene	50.0	49.6		ug/L		99	73 - 120	3	20
Trichlorofluoromethane	50.0	44.4		ug/L		89	74 - 130	3	20
1,2,3-Trichloropropane	50.0	45.1		ug/L		90	80 - 120	9	20
Vinyl acetate	50.0	42.7		ug/L		85	37 - 140	10	20
Vinyl chloride	50.0	46.7		ug/L		93	51 - 140	3	20
Xylenes, Total	100	112		ug/L		112	80 - 121	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*71 - 139*
Dibromofluoromethane (Surr)	*100*		*80 - 121*
1,2-Dichloroethane-d4 (Surr)	*88*		*76 - 121*
Toluene-d8 (Surr)	*101*		*80 - 129*

QC Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17722-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 160-258375/25
Matrix: Water
Analysis Batch: 258375

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.10	0.010	mg/L			06/28/16 20:46	1
Sulfate	ND		0.50	0.050	mg/L			06/28/16 20:46	1
Chloride	ND		0.20	0.020	mg/L			06/28/16 20:46	1

Lab Sample ID: LCS 160-258375/26
Matrix: Water
Analysis Batch: 258375

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.00	0.994		mg/L		99	90 - 110
Sulfate	8.00	7.66		mg/L		96	90 - 110
Chloride	2.00	1.91		mg/L		96	90 - 110

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 160-257622/1-A
Matrix: Water
Analysis Batch: 258532

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 257622

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		10	3.0	ug/L		06/22/16 14:33	06/28/16 18:15	1
Arsenic	ND		10	4.0	ug/L		06/22/16 14:33	06/28/16 18:15	1
Barium	ND		50	15	ug/L		06/22/16 14:33	06/28/16 18:15	1
Beryllium	ND		5.0	1.5	ug/L		06/22/16 14:33	06/28/16 18:15	1
Boron	ND		100	25	ug/L		06/22/16 14:33	06/28/16 18:15	1
Cadmium	ND		5.0	1.5	ug/L		06/22/16 14:33	06/28/16 18:15	1
CaHard	ND		2500	750	ug/L		06/22/16 14:33	06/28/16 18:15	1
Calcium	ND		1000	300	ug/L		06/22/16 14:33	06/28/16 18:15	1
Chromium	ND		10	3.0	ug/L		06/22/16 14:33	06/28/16 18:15	1
Cobalt	ND		50	15	ug/L		06/22/16 14:33	06/28/16 18:15	1
Copper	ND		25	5.0	ug/L		06/22/16 14:33	06/28/16 18:15	1
Iron	ND		100	30	ug/L		06/22/16 14:33	06/28/16 18:15	1
Lead	ND		10	3.0	ug/L		06/22/16 14:33	06/28/16 18:15	1
Magnesium	ND		1.0	0.30	mg/L		06/22/16 14:33	06/28/16 18:15	1
Manganese	ND		15	2.5	ug/L		06/22/16 14:33	06/28/16 18:15	1
MgHard	ND		4100	1200	ug/L		06/22/16 14:33	06/28/16 18:15	1
Nickel	ND		0.040	0.010	mg/L		06/22/16 14:33	06/28/16 18:15	1
Phosphorus	ND	^	250	75	ug/L		06/22/16 14:33	06/28/16 18:15	1
Selenium	ND		15	5.0	ug/L		06/22/16 14:33	06/28/16 18:15	1
Silver	ND		10	3.0	ug/L		06/22/16 14:33	06/28/16 18:15	1
Sodium	ND		1000	300	ug/L		06/22/16 14:33	06/28/16 18:15	1
Thallium	ND		20	5.0	ug/L		06/22/16 14:33	06/28/16 18:15	1
Total Hardness	ND		6600	2000	ug/L		06/22/16 14:33	06/28/16 18:15	1
Vanadium	ND		50	15	ug/L		06/22/16 14:33	06/28/16 18:15	1
Zinc	ND		20	6.0	ug/L		06/22/16 14:33	06/28/16 18:15	1

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

Lab Sample ID: LCS 160-257622/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258532 — **Prep Batch: 257622**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	500	507		ug/L		101	80 - 120
Arsenic	1000	1010		ug/L		101	80 - 120
Barium	1000	951		ug/L		95	80 - 120
Beryllium	1000	975		ug/L		98	80 - 120
Boron	2000	1910		ug/L		95	80 - 120
Cadmium	1000	1040		ug/L		104	80 - 120
Calcium	10000	10600		ug/L		106	80 - 120
Chromium	1000	1050		ug/L		105	80 - 120
Cobalt	1000	1050		ug/L		105	80 - 120
Copper	1000	955		ug/L		95	80 - 120
Iron	10000	9560		ug/L		96	80 - 120
Lead	1000	1010		ug/L		101	80 - 120
Magnesium	10.0	9.65		mg/L		96	80 - 120
Manganese	1000	950		ug/L		95	80 - 120
Nickel	1.00	1.06		mg/L		106	80 - 120
Selenium	500	503		ug/L		101	80 - 120
Silver	200	199		ug/L		99	80 - 120
Sodium	10000	10100		ug/L		101	80 - 120
Thallium	200	198		ug/L		99	80 - 120
Vanadium	1000	954		ug/L		95	80 - 120
Zinc	1000	1060		ug/L		106	80 - 120

Lab Sample ID: LCS 160-257622/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258751 — **Prep Batch: 257622**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	1000	1150		ug/L		115	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 160-258736/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258913 — **Prep Batch: 258736**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		06/30/16 11:53	06/30/16 20:35	1

Lab Sample ID: LCS 160-258736/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258913 — **Prep Batch: 258736**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	5.00	5.37		ug/L		107	80 - 120

Method: 160.1 - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 160-255914/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 255914

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		5.0	3.5	mg/L			06/10/16 09:36	1

Lab Sample ID: LCS 160-255914/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 255914

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids (TDS)	500	518		mg/L		104	90 - 110

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 160-259180/11 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259180

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.050	0.022	mg/L			07/01/16 16:51	1

Lab Sample ID: LCS 160-259180/12 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259180

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	0.500	0.498		mg/L		100	90 - 110

Lab Sample ID: MB 160-259230/11 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259230

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.050	0.022	mg/L			07/05/16 14:06	1

Lab Sample ID: LCS 160-259230/12 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259230

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	0.500	0.509		mg/L		102	90 - 110

Method: 353.1 Preserved - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 160-258930/13 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258930

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate/Nitrite	ND		0.050	0.011	mg/L			07/01/16 14:25	1

Method: 353.1 Preserved - Nitrogen, Nitrate-Nitrite (Continued)

Lab Sample ID: LCS 160-258930/14 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258930

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate/Nitrite	0.500	0.541		mg/L		108	90 - 110

Method: 410.4 - COD

Lab Sample ID: MB 160-257482/3-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257594 — **Prep Batch: 257482**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		5.0	1.1	mg/L		06/22/16 09:41	06/22/16 12:34	1

Lab Sample ID: LCS 160-257482/4-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257594 — **Prep Batch: 257482**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	50.0	49.0		mg/L		98	90 - 110

Lab Sample ID: 160-17722-1 MS — **Client Sample ID: PZ-206-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257594 — **Prep Batch: 257482**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	68		50.0	120		mg/L		104	90 - 110

Lab Sample ID: 160-17722-1 DU — **Client Sample ID: PZ-206-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257594 — **Prep Batch: 257482**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chemical Oxygen Demand	68		67.0		mg/L		1	20

Method: 415.1 - TOC

Lab Sample ID: MB 160-259381/33 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259381

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		1.0	0.72	mg/L			07/05/16 22:19	1

Lab Sample ID: LCS 160-259381/34 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259381

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	10.0	9.13		mg/L		91	90 - 110

Method: 415.1 - TOC - DL

Lab Sample ID: 160-17722-1 MS — **Client Sample ID: PZ-206-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259381

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - DL	19		50.0	67.8		mg/L		97	76 - 120

Lab Sample ID: 160-17722-1 DU — **Client Sample ID: PZ-206-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259381

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Organic Carbon - DL	19		19.2		mg/L		0.05	20

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-256198/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259194 — **Prep Batch: 256198**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.001762	U	0.0387	0.0387	1.00	0.0775	pCi/L	06/13/16 17:57	07/05/16 07:42	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.2*		*40 - 110*	*06/13/16 17:57*	*07/05/16 07:42*	*1*

Lab Sample ID: LCS 160-256198/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259194 — **Prep Batch: 256198**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226			11.2	14.28		1.38	1.00	0.0787	pCi/L	128	68 - 137

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*93.2*		*40 - 110*

Lab Sample ID: MB 160-256206/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259193 — **Prep Batch: 256206**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.04701	U	0.0439	0.0441	1.00	0.0679	pCi/L	06/13/16 18:55	07/05/16 07:32	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.0*		*40 - 110*	*06/13/16 18:55*	*07/05/16 07:32*	*1*

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCS 160-256206/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259193 — **Prep Batch: 256206**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.2	14.81		1.43	1.00	0.0685	pCi/L	133	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*98.0*		*40 - 110*

Lab Sample ID: LCSD 160-256206/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259193 — **Prep Batch: 256206**

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.2	14.62		1.41	1.00	0.0724	pCi/L	131	68 - 137	0.07	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*91.7*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-256205/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258190 — **Prep Batch: 256205**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.1317	U	0.186	0.187	1.00	0.364	pCi/L	06/13/16 18:53	06/27/16 12:53	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.2*		*40 - 110*	*06/13/16 18:53*	*06/27/16 12:53*	*1*
Y Carrier	*86.0*		*40 - 110*	*06/13/16 18:53*	*06/27/16 12:53*	*1*

Lab Sample ID: LCS 160-256205/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258190 — **Prep Batch: 256205**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			15.0	16.22		1.71	1.00	0.360	pCi/L	108	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*93.2*		*40 - 110*
Y Carrier	*88.2*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: MB 160-256209/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258247 — **Prep Batch: 256209**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.06947	U	0.225	0.225	1.00	0.390	pCi/L	06/13/16 19:35	06/28/16 13:28	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.0*		*40 - 110*	*06/13/16 19:35*	*06/28/16 13:28*	*1*
Y Carrier	*86.7*		*40 - 110*	*06/13/16 19:35*	*06/28/16 13:28*	*1*

Lab Sample ID: LCS 160-256209/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258247 — **Prep Batch: 256209**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			14.9	17.17		1.80	1.00	0.351	pCi/L	115	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*98.0*		*40 - 110*
Y Carrier	*89.0*		*40 - 110*

Lab Sample ID: LCSD 160-256209/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258247 — **Prep Batch: 256209**

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			14.9	19.64		2.04	1.00	0.365	pCi/L	131	56 - 140	0.64	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*91.7*		*40 - 110*
Y Carrier	*87.5*		*40 - 110*

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-257965/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258237 — **Prep Batch: 257965**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	53.15	U	159	159	500	280	pCi/L	06/26/16 12:26	06/27/16 21:02	1

Method: 906.0 - Tritium, Total (LSC) (Continued)

Lab Sample ID: LCS 160-257965/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258237 — **Prep Batch: 257965**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Tritium	3060	2594		394	500	271	pCi/L	85	74 - 114

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

Lab Sample ID: MB 160-259427/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259667 — **Prep Batch: 259427**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Thorium-230	0.2077		0.0710	0.0731	1.00	0.0412	pCi/L	07/06/16 16:57	07/07/16 14:54	1

Tracer	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Thorium-229	*80.3*		*30 - 110*	*07/06/16 16:57*	*07/07/16 14:54*	*1*

Lab Sample ID: LCS 160-259427/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259668 — **Prep Batch: 259427**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Thorium-230	8.03	9.509		0.962	1.00	0.0533	pCi/L	118	81 - 125

Tracer	*LCS %Yield*	*LCS Qualifier*	*Limits*
Thorium-229	*57.6*		*30 - 110*

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-258173/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259049 — **Prep Batch: 258173**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Uranium-233/234	0.009806	U	0.0364	0.0364	1.00	0.0929	pCi/L	06/27/16 13:48	07/01/16 14:49	1
Uranium-235/236	0.02092	U	0.0418	0.0419	1.00	0.0628	pCi/L	06/27/16 13:48	07/01/16 14:49	1
Uranium-238	0.02656	U	0.0495	0.0495	1.00	0.0927	pCi/L	06/27/16 13:48	07/01/16 14:49	1

Tracer	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*54.6*		*30 - 110*	*06/27/16 13:48*	*07/01/16 14:49*	*1*

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) (Continued)

Lab Sample ID: LCS 160-258173/2-A
Matrix: Water
Analysis Batch: 259050

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 258173

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Uranium-233/234	12.7	12.83		1.31	1.00	0.0586	pCi/L	101	84 - 120
Uranium-238	13.0	12.66		1.29	1.00	0.0585	pCi/L	97	83 - 121

Tracer	*LCS %Yield*	*LCS Qualifier*	*Limits*
Uranium-232	*82.7*		*30 - 110*

QC Association Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17722-1

GC/MS VOA

Analysis Batch: 256079

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17722-1	PZ-206-SS	Total/NA	Water	8260C	
160-17722-1 MS	PZ-206-SS	Total/NA	Water	8260C	
160-17722-1 MSD	PZ-206-SS	Total/NA	Water	8260C	
160-17722-2	LR-100	Total/NA	Water	8260C	
160-17722-3	MW-1204	Total/NA	Water	8260C	
160-17722-4	PZ-205-AS	Total/NA	Water	8260C	
LCS 160-256079/6	Lab Control Sample	Total/NA	Water	8260C	
LCSD 160-256079/7	Lab Control Sample Dup	Total/NA	Water	8260C	
MB 160-256079/9	Method Blank	Total/NA	Water	8260C	

Analysis Batch: 256488

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17722-3	MW-1204	Total/NA	Water	8260C	
160-17722-4	PZ-205-AS	Total/NA	Water	8260C	
LCS 160-256488/6	Lab Control Sample	Total/NA	Water	8260C	
LCSD 160-256488/7	Lab Control Sample Dup	Total/NA	Water	8260C	
MB 160-256488/9	Method Blank	Total/NA	Water	8260C	

HPLC/IC

Analysis Batch: 258375

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17722-1	PZ-206-SS	Total/NA	Water	300.0	
160-17722-1 - DL	PZ-206-SS	Total/NA	Water	300.0	
160-17722-1 - DL2	PZ-206-SS	Total/NA	Water	300.0	
160-17722-2 - DL	LR-100	Total/NA	Water	300.0	
160-17722-2 - DL3	LR-100	Total/NA	Water	300.0	
160-17722-3 - DL	MW-1204	Total/NA	Water	300.0	
160-17722-3 - DL3	MW-1204	Total/NA	Water	300.0	
160-17722-4 - DL	PZ-205-AS	Total/NA	Water	300.0	
160-17722-4 - DL3	PZ-205-AS	Total/NA	Water	300.0	
LCS 160-258375/26	Lab Control Sample	Total/NA	Water	300.0	
MB 160-258375/25	Method Blank	Total/NA	Water	300.0	

Metals

Prep Batch: 257622

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17722-1	PZ-206-SS	Total/NA	Water	3010A	
160-17722-2	LR-100	Total/NA	Water	3010A	
160-17722-3	MW-1204	Total/NA	Water	3010A	
160-17722-4	PZ-205-AS	Total/NA	Water	3010A	
LCS 160-257622/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 160-257622/1-A	Method Blank	Total/NA	Water	3010A	

Analysis Batch: 258532

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17722-1	PZ-206-SS	Total/NA	Water	6010C	257622
160-17722-2	LR-100	Total/NA	Water	6010C	257622
160-17722-3	MW-1204	Total/NA	Water	6010C	257622

Metals (Continued)

Analysis Batch: 258532 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17722-4	PZ-205-AS	Total/NA	Water	6010C	257622
LCS 160-257622/2-A	Lab Control Sample	Total/NA	Water	6010C	257622
MB 160-257622/1-A	Method Blank	Total/NA	Water	6010C	257622

Prep Batch: 258736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17722-1	PZ-206-SS	Total/NA	Water	7470A	
160-17722-2	LR-100	Total/NA	Water	7470A	
160-17722-3	MW-1204	Total/NA	Water	7470A	
160-17722-4	PZ-205-AS	Total/NA	Water	7470A	
LCS 160-258736/2-A	Lab Control Sample	Total/NA	Water	7470A	
MB 160-258736/1-A	Method Blank	Total/NA	Water	7470A	

Analysis Batch: 258751

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17722-4	PZ-205-AS	Total/NA	Water	6010C	257622
LCS 160-257622/2-A	Lab Control Sample	Total/NA	Water	6010C	257622

Analysis Batch: 258913

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17722-1	PZ-206-SS	Total/NA	Water	7470A	258736
160-17722-2	LR-100	Total/NA	Water	7470A	258736
160-17722-3	MW-1204	Total/NA	Water	7470A	258736
160-17722-4	PZ-205-AS	Total/NA	Water	7470A	258736
LCS 160-258736/2-A	Lab Control Sample	Total/NA	Water	7470A	258736
MB 160-258736/1-A	Method Blank	Total/NA	Water	7470A	258736

General Chemistry

Analysis Batch: 255914

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17722-1	PZ-206-SS	Total/NA	Water	160.1	
160-17722-2 - DL	LR-100	Total/NA	Water	160.1	
160-17722-3 - DL	MW-1204	Total/NA	Water	160.1	
160-17722-4 - DL	PZ-205-AS	Total/NA	Water	160.1	
LCS 160-255914/2	Lab Control Sample	Total/NA	Water	160.1	
MB 160-255914/1	Method Blank	Total/NA	Water	160.1	

Prep Batch: 257482

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17722-1	PZ-206-SS	Total/NA	Water	410.4	
160-17722-1 DU	PZ-206-SS	Total/NA	Water	410.4	
160-17722-1 MS	PZ-206-SS	Total/NA	Water	410.4	
160-17722-2	LR-100	Total/NA	Water	410.4	
160-17722-3 - DL	MW-1204	Total/NA	Water	410.4	
160-17722-4 - DL	PZ-205-AS	Total/NA	Water	410.4	
LCS 160-257482/4-A	Lab Control Sample	Total/NA	Water	410.4	
MB 160-257482/3-A	Method Blank	Total/NA	Water	410.4	

General Chemistry (Continued)

Analysis Batch: 257594

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17722-1	PZ-206-SS	Total/NA	Water	410.4	257482
160-17722-1 DU	PZ-206-SS	Total/NA	Water	410.4	257482
160-17722-1 MS	PZ-206-SS	Total/NA	Water	410.4	257482
160-17722-2	LR-100	Total/NA	Water	410.4	257482
160-17722-3 - DL	MW-1204	Total/NA	Water	410.4	257482
160-17722-4 - DL	PZ-205-AS	Total/NA	Water	410.4	257482
LCS 160-257482/4-A	Lab Control Sample	Total/NA	Water	410.4	257482
MB 160-257482/3-A	Method Blank	Total/NA	Water	410.4	257482

Analysis Batch: 258930

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17722-1	PZ-206-SS	Total/NA	Water	353.1 Preserved	
160-17722-2	LR-100	Total/NA	Water	353.1 Preserved	
160-17722-3	MW-1204	Total/NA	Water	353.1 Preserved	
160-17722-4	PZ-205-AS	Total/NA	Water	353.1 Preserved	
LCS 160-258930/14	Lab Control Sample	Total/NA	Water	353.1 Preserved	
MB 160-258930/13	Method Blank	Total/NA	Water	353.1 Preserved	

Analysis Batch: 259180

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17722-1	PZ-206-SS	Total/NA	Water	350.1	
LCS 160-259180/12	Lab Control Sample	Total/NA	Water	350.1	
MB 160-259180/11	Method Blank	Total/NA	Water	350.1	

Analysis Batch: 259230

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17722-2 - RADL2	LR-100	Total/NA	Water	350.1	
160-17722-3 - RADL	MW-1204	Total/NA	Water	350.1	
160-17722-4 - RADL	PZ-205-AS	Total/NA	Water	350.1	
LCS 160-259230/12	Lab Control Sample	Total/NA	Water	350.1	
MB 160-259230/11	Method Blank	Total/NA	Water	350.1	

Analysis Batch: 259381

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17722-1 - DL	PZ-206-SS	Total/NA	Water	415.1	
160-17722-1 DU - DL	PZ-206-SS	Total/NA	Water	415.1	
160-17722-1 MS - DL	PZ-206-SS	Total/NA	Water	415.1	
160-17722-2 - DL	LR-100	Total/NA	Water	415.1	
160-17722-3 - DL	MW-1204	Total/NA	Water	415.1	
160-17722-4 - DL	PZ-205-AS	Total/NA	Water	415.1	
LCS 160-259381/34	Lab Control Sample	Total/NA	Water	415.1	
MB 160-259381/33	Method Blank	Total/NA	Water	415.1	

Rad

Filtration Batch: 255892

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17722-1	PZ-206-SS	Dissolved	Water	Filtration	
160-17722-2	LR-100	Dissolved	Water	Filtration	
160-17722-3	MW-1204	Dissolved	Water	Filtration	

Rad (Continued)

Filtration Batch: 255892 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17722-4	PZ-205-AS	Dissolved	Water	Filtration	

Prep Batch: 256198

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17722-1	PZ-206-SS	Total/NA	Water	PrecSep-21	
160-17722-2	LR-100	Total/NA	Water	PrecSep-21	
160-17722-3	MW-1204	Total/NA	Water	PrecSep-21	
160-17722-4	PZ-205-AS	Total/NA	Water	PrecSep-21	
LCS 160-256198/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
MB 160-256198/1-A	Method Blank	Total/NA	Water	PrecSep-21	

Prep Batch: 256205

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17722-1	PZ-206-SS	Total/NA	Water	PrecSep_0	
160-17722-2	LR-100	Total/NA	Water	PrecSep_0	
160-17722-3	MW-1204	Total/NA	Water	PrecSep_0	
160-17722-4	PZ-205-AS	Total/NA	Water	PrecSep_0	
LCS 160-256205/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
MB 160-256205/1-A	Method Blank	Total/NA	Water	PrecSep_0	

Prep Batch: 256206

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17722-1	PZ-206-SS	Dissolved	Water	PrecSep-21	255892
160-17722-2	LR-100	Dissolved	Water	PrecSep-21	255892
160-17722-3	MW-1204	Dissolved	Water	PrecSep-21	255892
160-17722-4	PZ-205-AS	Dissolved	Water	PrecSep-21	255892
LCS 160-256206/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-256206/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	
MB 160-256206/1-A	Method Blank	Total/NA	Water	PrecSep-21	

Prep Batch: 256209

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17722-1	PZ-206-SS	Dissolved	Water	PrecSep_0	255892
160-17722-2	LR-100	Dissolved	Water	PrecSep_0	255892
160-17722-3	MW-1204	Dissolved	Water	PrecSep_0	255892
160-17722-4	PZ-205-AS	Dissolved	Water	PrecSep_0	255892
LCS 160-256209/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-256209/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	
MB 160-256209/1-A	Method Blank	Total/NA	Water	PrecSep_0	

Prep Batch: 257965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17722-1	PZ-206-SS	Total/NA	Water	LSC_Dist_Susp	
160-17722-2	LR-100	Total/NA	Water	LSC_Dist_Susp	
160-17722-3	MW-1204	Total/NA	Water	LSC_Dist_Susp	
160-17722-4	PZ-205-AS	Total/NA	Water	LSC_Dist_Susp	
LCS 160-257965/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	
MB 160-257965/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	

Rad (Continued)

Prep Batch: 258173

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17722-1	PZ-206-SS	Total/NA	Water	ExtChrom	
160-17722-2	LR-100	Total/NA	Water	ExtChrom	
160-17722-3	MW-1204	Total/NA	Water	ExtChrom	
160-17722-4	PZ-205-AS	Total/NA	Water	ExtChrom	
LCS 160-258173/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
MB 160-258173/1-A	Method Blank	Total/NA	Water	ExtChrom	

Prep Batch: 259427

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17722-1	PZ-206-SS	Total/NA	Water	ExtChrom	
160-17722-2	LR-100	Total/NA	Water	ExtChrom	
160-17722-3	MW-1204	Total/NA	Water	ExtChrom	
160-17722-4	PZ-205-AS	Total/NA	Water	ExtChrom	
LCS 160-259427/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
MB 160-259427/1-A	Method Blank	Total/NA	Water	ExtChrom	

Surrogate Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17722-1

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

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

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	12DCE	TOL
Lab Sample ID	Client Sample ID	(71-139)	(80-121)	(76-121)	(80-129)
160-17722-1	PZ-206-SS	121	98	109	111
160-17722-1 MS	PZ-206-SS	103	101	110	98
160-17722-1 MSD	PZ-206-SS	109	98	107	102
160-17722-2	LR-100	125	101	112	108
160-17722-3	MW-1204	124	101	105	108
160-17722-3	MW-1204	117	100	94	113
160-17722-4	PZ-205-AS	115	129 X	106	102
160-17722-4	PZ-205-AS	116	103	93	111
LCS 160-256079/6	Lab Control Sample	104	97	113	100
LCS 160-256488/6	Lab Control Sample	107	103	93	105
LCSD 160-256079/7	Lab Control Sample Dup	107	98	107	102
LCSD 160-256488/7	Lab Control Sample Dup	107	100	88	101
MB 160-256079/9	Method Blank	123	96	113	110
MB 160-256488/9	Method Blank	115	98	90	109

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Tracer/Carrier Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17722-1

Method: 903.0 - Radium-226 (GFPC)

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

		Percent Yield (Acceptance Limits)						
Lab Sample ID	Client Sample ID	Ba (40-110)						
160-17722-1	PZ-206-SS	85.5						
160-17722-2	LR-100	82.1						
160-17722-3	MW-1204	65.0						
160-17722-4	PZ-205-AS	89.5						
LCS 160-256198/2-A	Lab Control Sample	93.2						
LCS 160-256206/2-A	Lab Control Sample	98.0						
LCSD 160-256206/3-A	Lab Control Sample Dup	91.7						
MB 160-256198/1-A	Method Blank	87.2						
MB 160-256206/1-A	Method Blank	96.0						

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Dissolved**

		Percent Yield (Acceptance Limits)						
Lab Sample ID	Client Sample ID	Ba (40-110)						
160-17722-1	PZ-206-SS	92.6						
160-17722-2	LR-100	94.9						
160-17722-3	MW-1204	92.3						
160-17722-4	PZ-205-AS	98.0						

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

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

		Percent Yield (Acceptance Limits)						
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)					
160-17722-1	PZ-206-SS	85.5	91.6					
160-17722-2	LR-100	82.1	84.9					
160-17722-3	MW-1204	65.0	90.1					
160-17722-4	PZ-205-AS	89.5	90.8					
LCS 160-256205/2-A	Lab Control Sample	93.2	88.2					
LCS 160-256209/2-A	Lab Control Sample	98.0	89.0					
LCSD 160-256209/3-A	Lab Control Sample Dup	91.7	87.5					
MB 160-256205/1-A	Method Blank	87.2	86.0					
MB 160-256209/1-A	Method Blank	96.0	86.7					

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Tracer/Carrier Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17722-1

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Dissolved**

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
160-17722-1	PZ-206-SS	92.6	88.2
160-17722-2	LR-100	94.9	86.0
160-17722-3	MW-1204	92.3	83.0
160-17722-4	PZ-205-AS	98.0	82.6

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

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

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Th-229 (30-110)
160-17722-1	PZ-206-SS	70.0
160-17722-2	LR-100	64.4
160-17722-3	MW-1204	55.6
160-17722-4	PZ-205-AS	64.1
LCS 160-259427/2-A	Lab Control Sample	57.6
MB 160-259427/1-A	Method Blank	80.3

Tracer/Carrier Legend

Th-229 = Thorium-229

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

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

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	U-232 (30-110)
160-17722-1	PZ-206-SS	56.1
160-17722-2	LR-100	53.1
160-17722-3	MW-1204	45.8
160-17722-4	PZ-205-AS	54.8
LCS 160-258173/2-A	Lab Control Sample	82.7
MB 160-258173/1-A	Method Blank	54.6

Tracer/Carrier Legend

U-232 = Uranium-232

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Tel: (314)298-8566

TestAmerica Job ID: 160-17746-1
Client Project/Site: Groundwater - 2nd Quarter 2016

For:
Missouri Attorney General's Office
PO BOX 899
Jefferson City, Missouri 65102

Attn: Brenna McDonald

Authorized for release by:
7/13/2016 5:27:12 PM
Erika Gish, Project Manager II
(314)298-8566
erika.gish@testamericainc.com

Designee for

Chenise Lambert-Sykes, Project Manager I
(314)298-8566
chenise.lambert-sykes@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

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.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Chain of Custody 8
Receipt Checklists 9
Definitions/Glossary 10
Method Summary 11
Sample Summary 12
Detection Summary 13
Client Sample Results 16
QC Sample Results 30
QC Association Summary 42
Surrogate Summary 46
Tracer Carrier Summary 47

Job ID: 160-17746-1

Laboratory: TestAmerica St. Louis

Narrative

CASE NARRATIVE

Client: Missouri Attorney General's Office

Project: Groundwater - 2nd Quarter 2016

Report Number: 160-17746-1

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.

TestAmerica St. Louis attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

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.

All solid sample results for Chemistry analyses are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header. All soil/sediment sample results for radiochemistry analyses are based upon sample as dried and disaggregated with the exception of tritium, carbon-14, and iodine-129 by gamma spectroscopy unless requested as wet weight by the client."

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT

The samples were received on 6/9/2016 3:57 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 12.2º C and 21.0º C.

Receipt Exceptions

The following samples was received at the laboratory outside the required temperature criteria: TRIPBLANK060816, TRIPBLANK060916, PZ-103-SS, PZ-200-SS, PZ-203-SS; PZ-204A-SS TRIPBLANK060816 (160-17746-1), TRIPBLANK060916 (160-17746-2), PZ-103-SS (160-17746-3), PZ-200-SS (160-17746-4), PZ-203-SS (160-17746-5) and PZ-204A-SS (160-17746-6). The sample(s) is considered acceptable since it was collected and submitted to the laboratory on the same day and there is evidence that the chilling process has begun.

The following sample was improperly preserved in the field: PZ-103-SS PZ-103-SS (160-17746-3). The preservative used is not compatible with the analytes requested. Sample was received with a pH of approx. 7; added 6mL of nitric acid to each 1L poly that required nitric acid and pH was checked again showing a pH of <2.

Job ID: 160-17746-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

VOLATILE ORGANIC COMPOUNDS (GC MS)

Samples TRIPBLANK060816 (160-17746-1), TRIPBLANK060916 (160-17746-2), PZ-103-SS (160-17746-3), PZ-200-SS (160-17746-4), PZ-203-SS (160-17746-5) and PZ-204A-SS (160-17746-6) were analyzed for volatile organic compounds (GC MS) in accordance with EPA SW-846 Method 8260C. The samples were analyzed on 06/13/2016.

The following analyte recovered outside control limits for the LCS: Methyl iodide. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported. (LCS 160-256079/6)

The following analyte recovered outside control limits for the LCSD: 2-Chloro-1,3-butadiene. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported. (LCSD 160-256079/7)

The continuing calibration verification (CCV) recovered above the upper control limit for 2-Chloro-1,3-butadiene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCVIS 160-256079/5).

The continuing calibration verification (CCV) recovered outside acceptance criteria, low biased, for Iodomethane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported. (CCVIS 160-256079/5)

The following compounds did not meet the minimum relative response factor limits in the continuing calibration verification (CCV): 2-Butanone and Acetone. A low level CCV was analyzed at the base reporting limit of 1ug/L and the affected analytes were detected. Affected target analytes recovering above the reporting limit in the associated samples will be qualified and reported. (CCVIS 160-256079/5)

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

TOTAL METALS (ICP)

Samples PZ-103-SS (160-17746-3), PZ-200-SS (160-17746-4), PZ-203-SS (160-17746-5) and PZ-204A-SS (160-17746-6) were analyzed for total metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 06/22/2016 and analyzed on 06/28/2016 and 06/30/2016.

Analytical Batch 258532

The following samples were diluted due to the nature of the sample matrix. Samples had high concentrations of salts which could cause internal standard and instrument QC failure.: PZ-103-SS (160-17746-3), PZ-200-SS (160-17746-4), PZ-203-SS (160-17746-5), PZ-204A-SS (160-17746-6), (160-17695-G-1-B MS ^), (160-17695-G-1-C MSD) and (160-17695-G-1-A SD ^). Elevated reporting limits (RLs) are provided.

The continuing calibration verification (CCV) recovered above the upper control limit for Phosphorus. The samples associated with this CCV were below the reporting limit for the affected analytes; therefore, the data have been reported. (CCV 160-258532/103), (CCV 160-258532/116) and (CCV 160-258532/129)

Analytical Batch 258751

The following samples were diluted to bring the concentration of target analytes within the calibration range: PZ-200-SS (160-17746-4), PZ-204A-SS (160-17746-6), (160-17695-G-1-A ^10), (160-17695-G-1-B MS ^), (160-17695-G-1-C MSD) and (160-17695-G-1-A SD). Elevated reporting limits (RLs) are provided.

The sequence was such that the samples were run immediately following the LRC. Our standard analysis sequence is set up to run a CCVL/CCV/CCB before running the samples. This however is an internal requirement and not one governed by the analytical method.

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

TOTAL MERCURY

Samples PZ-103-SS (160-17746-3), PZ-200-SS (160-17746-4), PZ-203-SS (160-17746-5) and PZ-204A-SS (160-17746-6) were analyzed for total mercury in accordance with EPA SW-846 Methods 7470A. The samples were prepared and analyzed on 06/30/2016.

Job ID: 160-17746-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

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

TOTAL DISSOLVED SOLIDS
Samples PZ-103-SS (160-17746-3), PZ-200-SS (160-17746-4), PZ-203-SS (160-17746-5) and PZ-204A-SS (160-17746-6) were analyzed for total dissolved solids in accordance with EPA Method 160.1. The samples were analyzed on 06/15/2016.

The following samples were diluted to bring the concentrations of the target analyte within the calibration range: PZ-103-SS (160-17746-3), PZ-200-SS (160-17746-4) and PZ-204A-SS (160-17746-6). Elevated reporting limits (RLs) are provided.

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

ANIONS, ION CHROMATOGRAPHY
Samples PZ-103-SS (160-17746-3), PZ-200-SS (160-17746-4), PZ-203-SS (160-17746-5) and PZ-204A-SS (160-17746-6) were analyzed for Anions, Ion Chromatography in accordance with EPA Method 300.0. The samples were analyzed on 06/29/2016.

The following samples were diluted to bring the concentrations of target analytes within the calibration range: PZ-103-SS (160-17746-3), PZ-200-SS (160-17746-4), PZ-203-SS (160-17746-5) and PZ-204A-SS (160-17746-6). Elevated reporting limits (RLs) are provided.

The following samples were analyzed at dilution to start (2x and 5x dilutions) due to high sample conductivities that made undiluted analysis inadvisable: PZ-200-SS (160-17746-4) and PZ-204A-SS (160-17746-6). As a result, these samples have Fluoride results that are non-detect (ND) at the initial dilutions. Elevated reporting limits (RLs) are provided.

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

AMMONIA
Samples PZ-103-SS (160-17746-3), PZ-200-SS (160-17746-4), PZ-203-SS (160-17746-5) and PZ-204A-SS (160-17746-6) were analyzed for ammonia in accordance with EPA Method 350.1. The samples were analyzed on 07/01/2016 and 07/05/2016.

The following matrix spike (MS) recovery was outside control limits: (160-17746-F-3 MS). Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

NITROGEN, NITRATE-NITRITE
Samples PZ-103-SS (160-17746-3), PZ-200-SS (160-17746-4), PZ-203-SS (160-17746-5) and PZ-204A-SS (160-17746-6) were analyzed for Nitrogen, Nitrate-Nitrite in accordance with Method 353.1 Preserved. The samples were analyzed on 07/01/2016.

The following matrix spike (MS) recovery was outside control limits: (160-17746-F-3 MS). Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

The continuing calibration verifications (CCV) recovered above the upper control limit: PZ-203-SS (160-17746-5). These samples were all non-detect (ND) for the affected analyte; therefore, the data have been reported.

The following samples have a bracketing CCV that was higher than acceptance criteria: PZ-103-SS (160-17746-3), PZ-200-SS (160-17746-4), PZ-204A-SS (160-17746-6) and (160-17746-F-3 MS). Re-analysis was unable to be performed within the holding time; however, re-analysis yielded comparable results with acceptable QC and thus the original, in hold, results are reportable.

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

CHEMICAL OXYGEN DEMAND
Samples PZ-103-SS (160-17746-3), PZ-200-SS (160-17746-4), PZ-203-SS (160-17746-5) and PZ-204A-SS (160-17746-6) were analyzed for chemical oxygen demand in accordance with EPA Method 410.4. The samples were prepared and analyzed on 06/22/2016.

The following sample was diluted to bring the concentration of target analytes within the calibration range: PZ-204A-SS (160-17746-6). Elevated reporting limits (RLs) are provided.

Job ID: 160-17746-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

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

TOTAL ORGANIC CARBON
Samples PZ-103-SS (160-17746-3), PZ-200-SS (160-17746-4), PZ-203-SS (160-17746-5) and PZ-204A-SS (160-17746-6) were analyzed for total organic carbon in accordance with EPA Method 415.1. The samples were analyzed on 07/06/2016.

The following samples were diluted to bring the concentrations of the target analyte within the calibration range: PZ-103-SS (160-17746-3) and PZ-204A-SS (160-17746-6). Elevated reporting limits (RLs) are provided.

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

RADIUM-226 (GFPC) - DISSOLVED
Samples PZ-103-SS (160-17746-3) and PZ-200-SS (160-17746-4) were analyzed for Radium-226 (GFPC) in accordance with EPA Method 903.0. The samples were prepared on 06/15/2016 and analyzed on 07/07/2016.

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

RADIUM-226 (GFPC)
Samples PZ-103-SS (160-17746-3) and PZ-200-SS (160-17746-4) were analyzed for Radium-226 (GFPC) in accordance with EPA Method 903.0. The samples were prepared on 06/13/2016 and analyzed on 07/05/2016.

The following sample was prepared at a reduced aliquot due to sediment, discoloration, and a strong hydrocarbon smell: PZ-103-SS (160-17746-3).

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

RADIUM-228 (GFPC)-DISSOLVED
Samples PZ-103-SS (160-17746-3) and PZ-200-SS (160-17746-4) were analyzed for Radium-228 (GFPC)-Dissolved in accordance with EPA 904. The samples were prepared on 06/15/2016 and analyzed on 07/01/2016.

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

RADIUM-228 (GFPC)
Samples PZ-103-SS (160-17746-3) and PZ-200-SS (160-17746-4) were analyzed for Radium-228 (GFPC) in accordance with EPA 904. The samples were prepared on 06/13/2016 and analyzed on 06/27/2016.

The following samples were prepared at a reduced aliquot due to sediment, discoloration, and a strong hydrocarbon smell: PZ-103-SS (160-17746-3). The sample did not meet the radium-228 detection goal (1.00 pCi/L) due to the reduced sample volume attributed to matrix interferences. The data have been qualified and reported. PZ-103-SS (160-17746-3)

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

TRITIUM, TOTAL (LSC)
Samples PZ-103-SS (160-17746-3) and PZ-200-SS (160-17746-4) were analyzed for Tritium, Total (LSC) in accordance with USEPA 906.0. The samples were prepared on 07/05/2016 and analyzed on 07/06/2016.

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

ISOTOPIC THORIUM (ALPHA SPECTROMETRY)
Samples PZ-103-SS (160-17746-3) and PZ-200-SS (160-17746-4) were analyzed for Isotopic Thorium (Alpha Spectrometry) in accordance with DOE. The samples were prepared on 07/06/2016 and analyzed on 07/07/2016.

The following samples were weighed at a reduced aliquot to prevent matrix interference. Sample PZ-200-SS (160-17746-4) is "soapy" and smells like sulfur. Sample PZ-103-SS (160-17746-3) is slightly dirty and contains sediment/milky precipitate.

Job ID: 160-17746-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

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

ISOTOPIC URANIUM (ALPHA SPECTROMETRY)
Samples PZ-103-SS (160-17746-3) and PZ-200-SS (160-17746-4) were analyzed for Isotopic Uranium (Alpha Spectrometry) in accordance with DOE. The samples were prepared on 06/27/2016 and analyzed on 06/30/2016.

Samples were soapy, smelled like sulfur and contained sediment. A reduced aliquot was used to prevent matrix interference. PZ-103-SS (160-17746-3) and PZ-200-SS (160-17746-4)

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

TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Phone (314) 298-8566 Fax (314) 298-8757

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: LYNN MICKERS	Lab PM: Lambert-Sykes, Chenise Y	Carrier Tracking No(s):	COC No: 160-4182-2039.1
Client Contact: Brenna McDonald	Phone: 573-453-4329	E-Mail: chenise.lambert-sykes@testamericainc.com		Page: Page 1 of 1
Company: Missouri Attorney General's Office				Job #:
Address: PO BOX 899	Due Date Requested: Standard			
City: Jefferson City	TAT Requested (days): Standard			
State, Zip: MO, 65102				
Phone: 573-368-2163(Tel)	PO #: Purchase Order Requested			
Email: brenna.mcdonald@dnr.mo.gov	WO #:			
Project Name: Groundwater - 2nd Quarter 2016	Project #: 16005341			
Site: Bridgeton Landfill	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - ph 4-5
Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	906.0 - Tritium	350.1, 353.1_Pres, 410.4	903.0, 904.0, A01R_Th, A01R_U	903.0, 904.0	160.1_Calcd, 300_ORGFM_28D	6010C, 7470A	415.1 - Total Organic Carbon	6260C - (MOD) OLM 4.2	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	S	D	D	N	D	S	A		
TRIPBLANK060816	6/8/16	0800	G	Water	N	N								✓	2	
TRIPBLANK060916	6/9/16	0800	G	Water	N	N								✓	2	
PZ-103-SS	6/9/16	0957	G	Water	N	N	✓	✓	✓	✓	✓	✓	✓	✓	14	
PZ-200-SS	6/9/16	1136	G	Water	N	N	✓	✓	✓	✓	✓	✓	✓	✓	14	
PZ-203-SS	6/9/16	1424	G	Water	N	N	✓	✓			✓	✓	✓	✓	8	
PZ-204A-SS	6/9/16	1521	G	Water	N	N	✓	✓			✓	✓	✓	✓	8	

160-17746 Chain of Custody

Possible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* ☐ *Poison B* ☐ *Unknown* ☐ *Radiological*

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	6/9/2016 1557		[signature]	6-9-16 1557	TASTL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No

Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Login Sample Receipt Checklist

Client: Missouri Attorney General's Office

Job Number: 160-17746-1

Login Number: 17746
List Number: 1
Creator: McKinney, Gerrod E

List Source: TestAmerica St. Louis

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
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	Received same day of collection; chilling process has begun.
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").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
*	LCS or LCSD is outside acceptance limits.
B	Compound was found in the blank and sample.

HPLC/IC

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
*	LCS or LCSD is outside acceptance limits.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

General Chemistry

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

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

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

Method Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17746-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL SL
300.0	Anions, Ion Chromatography	MCAWW	TAL SL
6010C	Metals (ICP)	SW846	TAL SL
7470A	Mercury (CVAA)	SW846	TAL SL
160.1	Solids, Total Dissolved (TDS)	MCAWW	TAL SL
350.1	Nitrogen, Ammonia	MCAWW	TAL SL
353.1 Preserved	Nitrogen, Nitrate-Nitrite	MCAWW	TAL SL
410.4	COD	MCAWW	TAL SL
415.1	TOC	MCAWW	TAL SL
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
906.0	Tritium, Total (LSC)	EPA	TAL SL
A-01-R	Isotopic Uranium (Alpha Spectrometry)	DOE	TAL SL
A-01-R	Isotopic Thorium (Alpha Spectrometry)	DOE	TAL SL

Protocol References:

DOE = U.S. Department of Energy
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17746-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
160-17746-1	TRIPBLANK060816	Water	06/08/16 08:00	06/09/16 15:57
160-17746-2	TRIPBLANK060916	Water	06/09/16 08:00	06/09/16 15:57
160-17746-3	PZ-103-SS	Water	06/09/16 09:52	06/09/16 15:57
160-17746-4	PZ-200-SS	Water	06/09/16 11:36	06/09/16 15:57
160-17746-5	PZ-203-SS	Water	06/09/16 14:24	06/09/16 15:57
160-17746-6	PZ-204A-SS	Water	06/09/16 15:21	06/09/16 15:57

Detection Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17746-1

Client Sample ID: TRIPBLANK060816 — Lab Sample ID: 160-17746-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.49	J	5.0	0.25	ug/L	1		8260C	Total/NA
Methyl Ethyl Ketone	8.7	J	20	0.39	ug/L	1		8260C	Total/NA
Toluene	1.2	J B	5.0	1.0	ug/L	1		8260C	Total/NA

Client Sample ID: TRIPBLANK060916 — Lab Sample ID: 160-17746-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methyl Ethyl Ketone	8.3	J	20	0.39	ug/L	1		8260C	Total/NA
Toluene	1.5	J B	5.0	1.0	ug/L	1		8260C	Total/NA

Client Sample ID: PZ-103-SS — Lab Sample ID: 160-17746-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	9.4	J	20	6.7	ug/L	1		8260C	Total/NA
Benzene	61		5.0	0.25	ug/L	1		8260C	Total/NA
Chlorobenzene	1.0	J	5.0	0.38	ug/L	1		8260C	Total/NA
1,4-Dichlorobenzene	4.7	J	5.0	0.35	ug/L	1		8260C	Total/NA
Ethylbenzene	4.9	J	5.0	0.30	ug/L	1		8260C	Total/NA
Methyl Ethyl Ketone	13	J	20	0.39	ug/L	1		8260C	Total/NA
Toluene	12	B	5.0	1.0	ug/L	1		8260C	Total/NA
Xylenes, Total	7.1	J	10	0.85	ug/L	1		8260C	Total/NA
Fluoride - DL	0.70		0.20	0.020	mg/L	2		300.0	Total/NA
Sulfate - DL	1.4		1.0	0.10	mg/L	2		300.0	Total/NA
Chloride - DL2	17		4.0	0.40	mg/L	20		300.0	Total/NA
Barium	700		250	75	ug/L	5		6010C	Total/NA
Boron	260	J	500	130	ug/L	5		6010C	Total/NA
CaHard	690000		12000	3700	ug/L	5		6010C	Total/NA
Calcium	280000		5000	1500	ug/L	5		6010C	Total/NA
Iron	22000		500	150	ug/L	5		6010C	Total/NA
Magnesium	97		5.0	1.5	mg/L	5		6010C	Total/NA
Manganese	530		75	13	ug/L	5		6010C	Total/NA
MgHard	400000		21000	6200	ug/L	5		6010C	Total/NA
Phosphorus	620	J ^ *	1300	380	ug/L	5		6010C	Total/NA
Sodium	79000		5000	1500	ug/L	5		6010C	Total/NA
Total Hardness	1100000		33000	9900	ug/L	5		6010C	Total/NA
Zinc	54	J	100	30	ug/L	5		6010C	Total/NA
Mercury	0.093	J	0.20	0.060	ug/L	1		7470A	Total/NA
Ammonia	0.42	F1	0.050	0.022	mg/L	1		350.1	Total/NA
Nitrate/Nitrite	0.12	^ F1	0.050	0.011	mg/L	1		353.1 Preserved	Total/NA
Chemical Oxygen Demand	24		5.0	1.1	mg/L	1		410.4	Total/NA
Total Dissolved Solids (TDS) - DL	1300		10	7.0	mg/L	2		160.1	Total/NA
Total Organic Carbon - DL	6.6		2.0	1.4	mg/L	2		415.1	Total/NA

Client Sample ID: PZ-200-SS — Lab Sample ID: 160-17746-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.30	J	5.0	0.25	ug/L	1		8260C	Total/NA
Methyl Ethyl Ketone	9.9	J	20	0.39	ug/L	1		8260C	Total/NA
Toluene	1.4	J B	5.0	1.0	ug/L	1		8260C	Total/NA
Fluoride - DL	0.098	J	0.20	0.020	mg/L	2		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17746-1

Client Sample ID: PZ-200-SS (Continued) — Lab Sample ID: 160-17746-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate - DL2	47		10	1.0	mg/L	20		300.0	Total/NA
Chloride - DL3	720		40	4.0	mg/L	200		300.0	Total/NA
Arsenic	100		50	20	ug/L	5		6010C	Total/NA
Barium	290		250	75	ug/L	5		6010C	Total/NA
CaHard	690000		12000	3700	ug/L	5		6010C	Total/NA
Calcium	280000		5000	1500	ug/L	5		6010C	Total/NA
Iron	49000		500	150	ug/L	5		6010C	Total/NA
Magnesium	89		5.0	1.5	mg/L	5		6010C	Total/NA
Manganese	3400		75	13	ug/L	5		6010C	Total/NA
MgHard	370000		21000	6200	ug/L	5		6010C	Total/NA
Nickel	0.088	J	0.20	0.050	mg/L	5		6010C	Total/NA
Phosphorus	1400		1300	380	ug/L	5		6010C	Total/NA
Sodium	110000		5000	1500	ug/L	5		6010C	Total/NA
Total Hardness	1100000		33000	9900	ug/L	5		6010C	Total/NA
Zinc	40	J	100	30	ug/L	5		6010C	Total/NA
Ammonia	1.1		0.050	0.022	mg/L	1		350.1	Total/NA
Nitrate/Nitrite	0.18	^	0.050	0.011	mg/L	1		353.1 Preserved	Total/NA
Chemical Oxygen Demand	30		5.0	1.1	mg/L	1		410.4	Total/NA
Total Organic Carbon	1.9		1.0	0.72	mg/L	1		415.1	Total/NA
Total Dissolved Solids (TDS) - DL	2300		10	7.0	mg/L	2		160.1	Total/NA

Client Sample ID: PZ-203-SS — Lab Sample ID: 160-17746-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methyl Ethyl Ketone	9.4	J	20	0.39	ug/L	1		8260C	Total/NA
Toluene	1.4	J B	5.0	1.0	ug/L	1		8260C	Total/NA
Fluoride	0.42		0.10	0.010	mg/L	1		300.0	Total/NA
Sulfate - DL	52		10	1.0	mg/L	20		300.0	Total/NA
Chloride - DL	8.3		4.0	0.40	mg/L	20		300.0	Total/NA
Barium	88	J	250	75	ug/L	5		6010C	Total/NA
CaHard	260000		12000	3700	ug/L	5		6010C	Total/NA
Calcium	100000		5000	1500	ug/L	5		6010C	Total/NA
Iron	1400		500	150	ug/L	5		6010C	Total/NA
Magnesium	44		5.0	1.5	mg/L	5		6010C	Total/NA
Manganese	18	J	75	13	ug/L	5		6010C	Total/NA
MgHard	180000		21000	6200	ug/L	5		6010C	Total/NA
Sodium	8600		5000	1500	ug/L	5		6010C	Total/NA
Total Hardness	440000		33000	9900	ug/L	5		6010C	Total/NA
Total Dissolved Solids (TDS)	480		5.0	3.5	mg/L	1		160.1	Total/NA
Ammonia	0.15		0.050	0.022	mg/L	1		350.1	Total/NA
Chemical Oxygen Demand	14		5.0	1.1	mg/L	1		410.4	Total/NA
Total Organic Carbon	5.5		1.0	0.72	mg/L	1		415.1	Total/NA

Client Sample ID: PZ-204A-SS — Lab Sample ID: 160-17746-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	31		20	6.7	ug/L	1		8260C	Total/NA
Benzene	2.5	J	5.0	0.25	ug/L	1		8260C	Total/NA
Chlorobenzene	0.88	J	5.0	0.38	ug/L	1		8260C	Total/NA
Methyl Ethyl Ketone	17	J	20	0.39	ug/L	1		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17746-1

Client Sample ID: PZ-204A-SS (Continued) — Lab Sample ID: 160-17746-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Toluene	1.4	J B	5.0	1.0	ug/L	1		8260C	Total/NA
Fluoride - DL	0.21	J	0.50	0.050	mg/L	5		300.0	Total/NA
Sulfate - DL2	600		25	2.5	mg/L	50		300.0	Total/NA
Chloride - DL3	1400		100	10	mg/L	500		300.0	Total/NA
Arsenic	55		50	20	ug/L	5		6010C	Total/NA
Barium	260		250	75	ug/L	5		6010C	Total/NA
Boron	170	J	500	130	ug/L	5		6010C	Total/NA
CaHard	1600000		25000	7500	ug/L	10		6010C	Total/NA
Calcium	630000		10000	3000	ug/L	10		6010C	Total/NA
Iron	60000		500	150	ug/L	5		6010C	Total/NA
Magnesium	250		5.0	1.5	mg/L	5		6010C	Total/NA
Manganese	4700		75	13	ug/L	5		6010C	Total/NA
MgHard	1000000		21000	6200	ug/L	5		6010C	Total/NA
Nickel	0.087	J	0.20	0.050	mg/L	5		6010C	Total/NA
Phosphorus	820	J ^ *	1300	380	ug/L	5		6010C	Total/NA
Sodium	380000		5000	1500	ug/L	5		6010C	Total/NA
Total Hardness	2600000		33000	9900	ug/L	5		6010C	Total/NA
Zinc	120		100	30	ug/L	5		6010C	Total/NA
Ammonia	1.5		0.050	0.022	mg/L	1		350.1	Total/NA
Nitrate/Nitrite	0.32	^	0.050	0.011	mg/L	1		353.1 Preserved	Total/NA
Total Dissolved Solids (TDS) - DL	4600		25	17	mg/L	5		160.1	Total/NA
Chemical Oxygen Demand - DL	410		25	5.6	mg/L	5		410.4	Total/NA
Total Organic Carbon - DL	110		20	14	mg/L	20		415.1	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17746-1

Client Sample ID: TRIPBLANK060816

Lab Sample ID: 160-17746-1

Date Collected: 06/08/16 08:00
Matrix: Water
Date Received: 06/09/16 15:57

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/13/16 13:17	1
Acrylonitrile	ND		50	1.7	ug/L			06/13/16 13:17	1
Benzene	**0.49**	**J**	5.0	0.25	ug/L			06/13/16 13:17	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/13/16 13:17	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/13/16 13:17	1
Bromoform	ND		5.0	0.37	ug/L			06/13/16 13:17	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/13/16 13:17	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/13/16 13:17	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/13/16 13:17	1
Chloroethane	ND		10	0.38	ug/L			06/13/16 13:17	1
Chloroform	ND		5.0	0.15	ug/L			06/13/16 13:17	1
Chloroprene	ND	*	5.0	0.39	ug/L			06/13/16 13:17	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/13/16 13:17	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/13/16 13:17	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/13/16 13:17	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/13/16 13:17	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/13/16 13:17	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/13/16 13:17	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/13/16 13:17	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/13/16 13:17	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/13/16 13:17	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/13/16 13:17	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/13/16 13:17	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/13/16 13:17	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/13/16 13:17	1
2-Hexanone	ND		20	0.59	ug/L			06/13/16 13:17	1
Methyl bromide	ND		10	0.40	ug/L			06/13/16 13:17	1
Methyl chloride	ND		10	0.55	ug/L			06/13/16 13:17	1
Methylene bromide	ND		5.0	0.41	ug/L			06/13/16 13:17	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/13/16 13:17	1
Methyl Ethyl Ketone	**8.7**	**J**	20	0.39	ug/L			06/13/16 13:17	1
Methyl iodide	ND	*	5.0	1.5	ug/L			06/13/16 13:17	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/13/16 13:17	1
Styrene	ND		5.0	0.35	ug/L			06/13/16 13:17	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/13/16 13:17	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/13/16 13:17	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/13/16 13:17	1
Toluene	**1.2**	**J B**	5.0	1.0	ug/L			06/13/16 13:17	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/13/16 13:17	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/13/16 13:17	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/13/16 13:17	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/13/16 13:17	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/13/16 13:17	1
Trichloroethene	ND		5.0	0.29	ug/L			06/13/16 13:17	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/13/16 13:17	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/13/16 13:17	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/13/16 13:17	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/13/16 13:17	1
Xylenes, Total	ND		10	0.85	ug/L			06/13/16 13:17	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17746-1

Client Sample ID: TRIPBLANK060816

Lab Sample ID: 160-17746-1
Date Collected: 06/08/16 08:00
Matrix: Water
Date Received: 06/09/16 15:57

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*71 - 139*		*06/13/16 13:17*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 121*		*06/13/16 13:17*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*76 - 121*		*06/13/16 13:17*	*1*
Toluene-d8 (Surr)	*107*		*80 - 129*		*06/13/16 13:17*	*1*

Client Sample ID: TRIPBLANK060916

Lab Sample ID: 160-17746-2
Date Collected: 06/09/16 08:00
Matrix: Water
Date Received: 06/09/16 15:57

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/13/16 13:42	1
Acrylonitrile	ND		50	1.7	ug/L			06/13/16 13:42	1
Benzene	ND		5.0	0.25	ug/L			06/13/16 13:42	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/13/16 13:42	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/13/16 13:42	1
Bromoform	ND		5.0	0.37	ug/L			06/13/16 13:42	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/13/16 13:42	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/13/16 13:42	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/13/16 13:42	1
Chloroethane	ND		10	0.38	ug/L			06/13/16 13:42	1
Chloroform	ND		5.0	0.15	ug/L			06/13/16 13:42	1
Chloroprene	ND	*	5.0	0.39	ug/L			06/13/16 13:42	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/13/16 13:42	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/13/16 13:42	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/13/16 13:42	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/13/16 13:42	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/13/16 13:42	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/13/16 13:42	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/13/16 13:42	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/13/16 13:42	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/13/16 13:42	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/13/16 13:42	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/13/16 13:42	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/13/16 13:42	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/13/16 13:42	1
2-Hexanone	ND		20	0.59	ug/L			06/13/16 13:42	1
Methyl bromide	ND		10	0.40	ug/L			06/13/16 13:42	1
Methyl chloride	ND		10	0.55	ug/L			06/13/16 13:42	1
Methylene bromide	ND		5.0	0.41	ug/L			06/13/16 13:42	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/13/16 13:42	1
Methyl Ethyl Ketone	**8.3**	**J**	20	0.39	ug/L			06/13/16 13:42	1
Methyl iodide	ND	*	5.0	1.5	ug/L			06/13/16 13:42	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/13/16 13:42	1
Styrene	ND		5.0	0.35	ug/L			06/13/16 13:42	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/13/16 13:42	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/13/16 13:42	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/13/16 13:42	1
Toluene	**1.5**	**J B**	5.0	1.0	ug/L			06/13/16 13:42	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/13/16 13:42	1

Client Sample ID: TRIPBLANK060916

Lab Sample ID: 160-17746-2
Date Collected: 06/09/16 08:00
Matrix: Water
Date Received: 06/09/16 15:57

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/13/16 13:42	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/13/16 13:42	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/13/16 13:42	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/13/16 13:42	1
Trichloroethene	ND		5.0	0.29	ug/L			06/13/16 13:42	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/13/16 13:42	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/13/16 13:42	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/13/16 13:42	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/13/16 13:42	1
Xylenes, Total	ND		10	0.85	ug/L			06/13/16 13:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*119*		*71 - 139*		*06/13/16 13:42*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 121*		*06/13/16 13:42*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*76 - 121*		*06/13/16 13:42*	*1*
Toluene-d8 (Surr)	*109*		*80 - 129*		*06/13/16 13:42*	*1*

Client Sample ID: PZ-103-SS

Lab Sample ID: 160-17746-3
Date Collected: 06/09/16 09:52
Matrix: Water
Date Received: 06/09/16 15:57

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**9.4**	**J**	20	6.7	ug/L			06/13/16 14:07	1
Acrylonitrile	ND		50	1.7	ug/L			06/13/16 14:07	1
Benzene	**61**		5.0	0.25	ug/L			06/13/16 14:07	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/13/16 14:07	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/13/16 14:07	1
Bromoform	ND		5.0	0.37	ug/L			06/13/16 14:07	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/13/16 14:07	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/13/16 14:07	1
Chlorobenzene	**1.0**	**J**	5.0	0.38	ug/L			06/13/16 14:07	1
Chloroethane	ND		10	0.38	ug/L			06/13/16 14:07	1
Chloroform	ND		5.0	0.15	ug/L			06/13/16 14:07	1
Chloroprene	ND	*	5.0	0.39	ug/L			06/13/16 14:07	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/13/16 14:07	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/13/16 14:07	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/13/16 14:07	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/13/16 14:07	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/13/16 14:07	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/13/16 14:07	1
1,4-Dichlorobenzene	**4.7**	**J**	5.0	0.35	ug/L			06/13/16 14:07	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/13/16 14:07	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/13/16 14:07	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/13/16 14:07	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/13/16 14:07	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/13/16 14:07	1
Ethylbenzene	**4.9**	**J**	5.0	0.30	ug/L			06/13/16 14:07	1
2-Hexanone	ND		20	0.59	ug/L			06/13/16 14:07	1
Methyl bromide	ND		10	0.40	ug/L			06/13/16 14:07	1

Client Sample ID: PZ-103-SS

Date Collected: 06/09/16 09:52
Date Received: 06/09/16 15:57

Lab Sample ID: 160-17746-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl chloride	ND		10	0.55	ug/L			06/13/16 14:07	1
Methylene bromide	ND		5.0	0.41	ug/L			06/13/16 14:07	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/13/16 14:07	1
Methyl Ethyl Ketone	**13**	**J**	20	0.39	ug/L			06/13/16 14:07	1
Methyl iodide	ND	*	5.0	1.5	ug/L			06/13/16 14:07	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/13/16 14:07	1
Styrene	ND		5.0	0.35	ug/L			06/13/16 14:07	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/13/16 14:07	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/13/16 14:07	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/13/16 14:07	1
Toluene	**12**	**B**	5.0	1.0	ug/L			06/13/16 14:07	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/13/16 14:07	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/13/16 14:07	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/13/16 14:07	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/13/16 14:07	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/13/16 14:07	1
Trichloroethene	ND		5.0	0.29	ug/L			06/13/16 14:07	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/13/16 14:07	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/13/16 14:07	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/13/16 14:07	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/13/16 14:07	1
Xylenes, Total	**7.1**	**J**	10	0.85	ug/L			06/13/16 14:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*118*		*71 - 139*		*06/13/16 14:07*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 121*		*06/13/16 14:07*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*76 - 121*		*06/13/16 14:07*	*1*
Toluene-d8 (Surr)	*107*		*80 - 129*		*06/13/16 14:07*	*1*

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.70**		0.20	0.020	mg/L			06/29/16 03:15	2
Sulfate	**1.4**		1.0	0.10	mg/L			06/29/16 03:15	2

Method: 300.0 - Anions, Ion Chromatography - DL2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**17**		4.0	0.40	mg/L			06/29/16 03:29	20

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		50	15	ug/L		06/22/16 14:33	06/28/16 19:58	5
Arsenic	ND		50	20	ug/L		06/22/16 14:33	06/28/16 19:58	5
Barium	**700**		250	75	ug/L		06/22/16 14:33	06/28/16 19:58	5
Beryllium	ND		25	7.5	ug/L		06/22/16 14:33	06/28/16 19:58	5
Boron	**260**	**J**	500	130	ug/L		06/22/16 14:33	06/28/16 19:58	5
Cadmium	ND		25	7.5	ug/L		06/22/16 14:33	06/28/16 19:58	5
CaHard	**690000**		12000	3700	ug/L		06/22/16 14:33	06/28/16 19:58	5
Calcium	**280000**		5000	1500	ug/L		06/22/16 14:33	06/28/16 19:58	5
Chromium	ND		50	15	ug/L		06/22/16 14:33	06/28/16 19:58	5
Cobalt	ND		250	75	ug/L		06/22/16 14:33	06/28/16 19:58	5

Client Sample ID: PZ-103-SS

Date Collected: 06/09/16 09:52
Date Received: 06/09/16 15:57

Lab Sample ID: 160-17746-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	ND		130	25	ug/L		06/22/16 14:33	06/28/16 19:58	5
Iron	**22000**		500	150	ug/L		06/22/16 14:33	06/28/16 19:58	5
Lead	ND		50	15	ug/L		06/22/16 14:33	06/28/16 19:58	5
Magnesium	**97**		5.0	1.5	mg/L		06/22/16 14:33	06/28/16 19:58	5
Manganese	**530**		75	13	ug/L		06/22/16 14:33	06/28/16 19:58	5
MgHard	**400000**		21000	6200	ug/L		06/22/16 14:33	06/28/16 19:58	5
Nickel	ND		0.20	0.050	mg/L		06/22/16 14:33	06/28/16 19:58	5
Phosphorus	**620**	**J ^ ***	1300	380	ug/L		06/22/16 14:33	06/28/16 19:58	5
Selenium	ND		75	25	ug/L		06/22/16 14:33	06/28/16 19:58	5
Silver	ND		50	15	ug/L		06/22/16 14:33	06/28/16 19:58	5
Sodium	**79000**		5000	1500	ug/L		06/22/16 14:33	06/28/16 19:58	5
Thallium	ND		100	25	ug/L		06/22/16 14:33	06/28/16 19:58	5
Total Hardness	**1100000**		33000	9900	ug/L		06/22/16 14:33	06/28/16 19:58	5
Vanadium	ND		250	75	ug/L		06/22/16 14:33	06/28/16 19:58	5
Zinc	**54**	**J**	100	30	ug/L		06/22/16 14:33	06/28/16 19:58	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.093**	**J**	0.20	0.060	ug/L		06/30/16 11:53	06/30/16 21:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	**0.42**	**F1**	0.050	0.022	mg/L			07/05/16 14:28	1
Nitrate/Nitrite	**0.12**	**^ F1**	0.050	0.011	mg/L			07/01/16 15:07	1
Chemical Oxygen Demand	**24**		5.0	1.1	mg/L		06/22/16 09:41	06/22/16 12:34	1

General Chemistry - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	**1300**		10	7.0	mg/L			06/15/16 07:01	2
Total Organic Carbon	**6.6**		2.0	1.4	mg/L			07/06/16 00:11	2

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**5.48**		0.513	0.712	1.00	0.193	pCi/L	06/13/16 17:57	07/05/16 07:43	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*59.5*		*40 - 110*	*06/13/16 17:57*	*07/05/16 07:43*	*1*

Method: 903.0 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**2.73**		0.240	0.344	1.00	0.0739	pCi/L	06/15/16 18:55	07/07/16 07:04	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.5*		*40 - 110*	*06/15/16 18:55*	*07/07/16 07:04*	*1*

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17746-1

Client Sample ID: PZ-103-SS

Lab Sample ID: 160-17746-3
Date Collected: 06/09/16 09:52
Matrix: Water
Date Received: 06/09/16 15:57

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.85	G	0.849	0.865	1.00	1.24	pCi/L	06/13/16 18:53	06/27/16 12:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*59.5*		*40 - 110*	*06/13/16 18:53*	*06/27/16 12:59*	*1*
Y Carrier	*89.0*		*40 - 110*	*06/13/16 18:53*	*06/27/16 12:59*	*1*

Method: 904.0 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.603		0.270	0.275	1.00	0.392	pCi/L	06/15/16 19:54	07/01/16 12:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.5*		*40 - 110*	*06/15/16 19:54*	*07/01/16 12:52*	*1*
Y Carrier	*91.6*		*40 - 110*	*06/15/16 19:54*	*07/01/16 12:52*	*1*

Method: 906.0 - Tritium, Total (LSC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	127	U	169	170	500	284	pCi/L	07/05/16 18:07	07/06/16 03:49	1

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Thorium-230	3.17		1.12	1.15	1.00	0.297	pCi/L	07/06/16 16:57	07/07/16 14:54	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Thorium-229	*70.5*		*30 - 110*	*07/06/16 16:57*	*07/07/16 14:54*	*1*

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Uranium-233/234	0.926		0.558	0.563	1.00	0.442	pCi/L	06/27/16 13:48	06/30/16 14:00	1
Uranium-235/236	0.0995	U	0.199	0.199	1.00	0.298	pCi/L	06/27/16 13:48	06/30/16 14:00	1
Uranium-238	0.798		0.505	0.509	1.00	0.239	pCi/L	06/27/16 13:48	06/30/16 14:00	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*55.8*		*30 - 110*	*06/27/16 13:48*	*06/30/16 14:00*	*1*

Client Sample ID: PZ-200-SS

Lab Sample ID: 160-17746-4
Date Collected: 06/09/16 11:36
Matrix: Water
Date Received: 06/09/16 15:57

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/13/16 14:32	1
Acrylonitrile	ND		50	1.7	ug/L			06/13/16 14:32	1

Client Sample ID: PZ-200-SS

Date Collected: 06/09/16 11:36
Date Received: 06/09/16 15:57

Lab Sample ID: 160-17746-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.30**	**J**	5.0	0.25	ug/L			06/13/16 14:32	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/13/16 14:32	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/13/16 14:32	1
Bromoform	ND		5.0	0.37	ug/L			06/13/16 14:32	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/13/16 14:32	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/13/16 14:32	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/13/16 14:32	1
Chloroethane	ND		10	0.38	ug/L			06/13/16 14:32	1
Chloroform	ND		5.0	0.15	ug/L			06/13/16 14:32	1
Chloroprene	ND	*	5.0	0.39	ug/L			06/13/16 14:32	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/13/16 14:32	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/13/16 14:32	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/13/16 14:32	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/13/16 14:32	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/13/16 14:32	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/13/16 14:32	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/13/16 14:32	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/13/16 14:32	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/13/16 14:32	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/13/16 14:32	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/13/16 14:32	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/13/16 14:32	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/13/16 14:32	1
2-Hexanone	ND		20	0.59	ug/L			06/13/16 14:32	1
Methyl bromide	ND		10	0.40	ug/L			06/13/16 14:32	1
Methyl chloride	ND		10	0.55	ug/L			06/13/16 14:32	1
Methylene bromide	ND		5.0	0.41	ug/L			06/13/16 14:32	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/13/16 14:32	1
Methyl Ethyl Ketone	**9.9**	**J**	20	0.39	ug/L			06/13/16 14:32	1
Methyl iodide	ND	*	5.0	1.5	ug/L			06/13/16 14:32	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/13/16 14:32	1
Styrene	ND		5.0	0.35	ug/L			06/13/16 14:32	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/13/16 14:32	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/13/16 14:32	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/13/16 14:32	1
Toluene	**1.4**	**J B**	5.0	1.0	ug/L			06/13/16 14:32	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/13/16 14:32	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/13/16 14:32	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/13/16 14:32	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/13/16 14:32	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/13/16 14:32	1
Trichloroethene	ND		5.0	0.29	ug/L			06/13/16 14:32	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/13/16 14:32	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/13/16 14:32	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/13/16 14:32	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/13/16 14:32	1
Xylenes, Total	ND		10	0.85	ug/L			06/13/16 14:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*119*		*71 - 139*		*06/13/16 14:32*	*1*

Client Sample ID: PZ-200-SS

Date Collected: 06/09/16 11:36
Date Received: 06/09/16 15:57

Lab Sample ID: 160-17746-4

Matrix: Water

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*100*		*80 - 121*		*06/13/16 14:32*	*1*
1,2-Dichloroethane-d4 (Surr)	*112*		*76 - 121*		*06/13/16 14:32*	*1*
Toluene-d8 (Surr)	*108*		*80 - 129*		*06/13/16 14:32*	*1*

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.098**	**J**	0.20	0.020	mg/L			06/29/16 04:25	2

Method: 300.0 - Anions, Ion Chromatography - DL2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**47**		10	1.0	mg/L			06/29/16 04:39	20

Method: 300.0 - Anions, Ion Chromatography - DL3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**720**		40	4.0	mg/L			06/29/16 04:53	200

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		50	15	ug/L		06/22/16 14:33	06/28/16 20:02	5
Arsenic	**100**		50	20	ug/L		06/22/16 14:33	06/28/16 20:02	5
Barium	**290**		250	75	ug/L		06/22/16 14:33	06/28/16 20:02	5
Beryllium	ND		25	7.5	ug/L		06/22/16 14:33	06/28/16 20:02	5
Boron	ND		500	130	ug/L		06/22/16 14:33	06/28/16 20:02	5
Cadmium	ND		25	7.5	ug/L		06/22/16 14:33	06/28/16 20:02	5
CaHard	**690000**		12000	3700	ug/L		06/22/16 14:33	06/28/16 20:02	5
Calcium	**280000**		5000	1500	ug/L		06/22/16 14:33	06/28/16 20:02	5
Chromium	ND		50	15	ug/L		06/22/16 14:33	06/28/16 20:02	5
Cobalt	ND		250	75	ug/L		06/22/16 14:33	06/28/16 20:02	5
Copper	ND		130	25	ug/L		06/22/16 14:33	06/28/16 20:02	5
Iron	**49000**		500	150	ug/L		06/22/16 14:33	06/28/16 20:02	5
Lead	ND		50	15	ug/L		06/22/16 14:33	06/28/16 20:02	5
Magnesium	**89**		5.0	1.5	mg/L		06/22/16 14:33	06/28/16 20:02	5
Manganese	**3400**		75	13	ug/L		06/22/16 14:33	06/28/16 20:02	5
MgHard	**370000**		21000	6200	ug/L		06/22/16 14:33	06/28/16 20:02	5
Nickel	**0.088**	**J**	0.20	0.050	mg/L		06/22/16 14:33	06/28/16 20:02	5
Phosphorus	**1400**		1300	380	ug/L		06/22/16 14:33	06/30/16 12:51	5
Selenium	ND		75	25	ug/L		06/22/16 14:33	06/28/16 20:02	5
Silver	ND		50	15	ug/L		06/22/16 14:33	06/28/16 20:02	5
Sodium	**110000**		5000	1500	ug/L		06/22/16 14:33	06/28/16 20:02	5
Thallium	ND		100	25	ug/L		06/22/16 14:33	06/28/16 20:02	5
Total Hardness	**1100000**		33000	9900	ug/L		06/22/16 14:33	06/28/16 20:02	5
Vanadium	ND		250	75	ug/L		06/22/16 14:33	06/28/16 20:02	5
Zinc	**40**	**J**	100	30	ug/L		06/22/16 14:33	06/28/16 20:02	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		06/30/16 11:53	06/30/16 21:21	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17746-1

Client Sample ID: PZ-200-SS

Date Collected: 06/09/16 11:36
Date Received: 06/09/16 15:57

Lab Sample ID: 160-17746-4

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	1.1		0.050	0.022	mg/L			07/01/16 17:39	1
Nitrate/Nitrite	0.18	^	0.050	0.011	mg/L			07/01/16 15:11	1
Chemical Oxygen Demand	30		5.0	1.1	mg/L		06/22/16 09:41	06/22/16 12:34	1
Total Organic Carbon	1.9		1.0	0.72	mg/L			07/06/16 00:23	1

General Chemistry - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	2300		10	7.0	mg/L			06/15/16 07:01	2

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.944		0.147	0.170	1.00	0.105	pCi/L	06/13/16 17:57	07/05/16 16:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*77.2*		*40 - 110*	*06/13/16 17:57*	*07/05/16 16:53*	*1*

Method: 903.0 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.345		0.0950	0.0999	1.00	0.0783	pCi/L	06/15/16 18:55	07/07/16 07:04	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*79.2*		*40 - 110*	*06/15/16 18:55*	*07/07/16 07:04*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.918		0.336	0.346	1.00	0.464	pCi/L	06/13/16 18:53	06/27/16 13:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*77.2*		*40 - 110*	*06/13/16 18:53*	*06/27/16 13:00*	*1*
Y Carrier	*87.9*		*40 - 110*	*06/13/16 18:53*	*06/27/16 13:00*	*1*

Method: 904.0 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.417	U	0.273	0.276	1.00	0.424	pCi/L	06/15/16 19:54	07/01/16 12:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*79.2*		*40 - 110*	*06/15/16 19:54*	*07/01/16 12:52*	*1*
Y Carrier	*93.5*		*40 - 110*	*06/15/16 19:54*	*07/01/16 12:52*	*1*

Method: 906.0 - Tritium, Total (LSC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	205	U	174	175	500	274	pCi/L	07/05/16 18:07	07/06/16 04:12	1

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17746-1

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Thorium-230	**1.03**		0.378	0.388	1.00	0.128	pCi/L	07/06/16 16:57	07/07/16 14:54	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Thorium-229	*65.9*		*30 - 110*	*07/06/16 16:57*	*07/07/16 14:54*	*1*

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Uranium-233/234	-0.0900	U	0.227	0.227	1.00	0.718	pCi/L	06/27/16 13:48	06/30/16 14:00	1
Uranium-235/236	-0.0258	U	0.255	0.255	1.00	0.762	pCi/L	06/27/16 13:48	06/30/16 14:00	1
Uranium-238	0.214	U	0.295	0.296	1.00	0.458	pCi/L	06/27/16 13:48	06/30/16 14:00	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*51.2*		*30 - 110*	*06/27/16 13:48*	*06/30/16 14:00*	*1*

Client Sample ID: PZ-203-SS

Lab Sample ID: 160-17746-5

Date Collected: 06/09/16 14:24

Matrix: Water

Date Received: 06/09/16 15:57

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/13/16 14:57	1
Acrylonitrile	ND		50	1.7	ug/L			06/13/16 14:57	1
Benzene	ND		5.0	0.25	ug/L			06/13/16 14:57	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/13/16 14:57	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/13/16 14:57	1
Bromoform	ND		5.0	0.37	ug/L			06/13/16 14:57	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/13/16 14:57	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/13/16 14:57	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/13/16 14:57	1
Chloroethane	ND		10	0.38	ug/L			06/13/16 14:57	1
Chloroform	ND		5.0	0.15	ug/L			06/13/16 14:57	1
Chloroprene	ND	*	5.0	0.39	ug/L			06/13/16 14:57	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/13/16 14:57	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/13/16 14:57	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/13/16 14:57	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/13/16 14:57	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/13/16 14:57	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/13/16 14:57	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/13/16 14:57	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/13/16 14:57	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/13/16 14:57	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/13/16 14:57	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/13/16 14:57	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/13/16 14:57	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/13/16 14:57	1
2-Hexanone	ND		20	0.59	ug/L			06/13/16 14:57	1
Methyl bromide	ND		10	0.40	ug/L			06/13/16 14:57	1
Methyl chloride	ND		10	0.55	ug/L			06/13/16 14:57	1
Methylene bromide	ND		5.0	0.41	ug/L			06/13/16 14:57	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/13/16 14:57	1

Client Sample ID: PZ-203-SS

Date Collected: 06/09/16 14:24
Date Received: 06/09/16 15:57

Lab Sample ID: 160-17746-5

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl Ethyl Ketone	**9.4**	**J**	20	0.39	ug/L			06/13/16 14:57	1
Methyl iodide	ND	*	5.0	1.5	ug/L			06/13/16 14:57	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/13/16 14:57	1
Styrene	ND		5.0	0.35	ug/L			06/13/16 14:57	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/13/16 14:57	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/13/16 14:57	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/13/16 14:57	1
Toluene	**1.4**	**J B**	5.0	1.0	ug/L			06/13/16 14:57	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/13/16 14:57	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/13/16 14:57	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/13/16 14:57	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/13/16 14:57	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/13/16 14:57	1
Trichloroethene	ND		5.0	0.29	ug/L			06/13/16 14:57	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/13/16 14:57	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/13/16 14:57	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/13/16 14:57	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/13/16 14:57	1
Xylenes, Total	ND		10	0.85	ug/L			06/13/16 14:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*120*		*71 - 139*		*06/13/16 14:57*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 121*		*06/13/16 14:57*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*76 - 121*		*06/13/16 14:57*	*1*
Toluene-d8 (Surr)	*109*		*80 - 129*		*06/13/16 14:57*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.42**		0.10	0.010	mg/L			06/29/16 05:07	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**52**		10	1.0	mg/L			06/29/16 05:21	20
Chloride	**8.3**		4.0	0.40	mg/L			06/29/16 05:21	20

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		50	15	ug/L		06/22/16 14:33	06/28/16 20:07	5
Arsenic	ND		50	20	ug/L		06/22/16 14:33	06/28/16 20:07	5
Barium	**88**	**J**	250	75	ug/L		06/22/16 14:33	06/28/16 20:07	5
Beryllium	ND		25	7.5	ug/L		06/22/16 14:33	06/28/16 20:07	5
Boron	ND		500	130	ug/L		06/22/16 14:33	06/28/16 20:07	5
Cadmium	ND		25	7.5	ug/L		06/22/16 14:33	06/28/16 20:07	5
CaHard	**260000**		12000	3700	ug/L		06/22/16 14:33	06/28/16 20:07	5
Calcium	**100000**		5000	1500	ug/L		06/22/16 14:33	06/28/16 20:07	5
Chromium	ND		50	15	ug/L		06/22/16 14:33	06/28/16 20:07	5
Cobalt	ND		250	75	ug/L		06/22/16 14:33	06/28/16 20:07	5
Copper	ND		130	25	ug/L		06/22/16 14:33	06/28/16 20:07	5
Iron	**1400**		500	150	ug/L		06/22/16 14:33	06/28/16 20:07	5
Lead	ND		50	15	ug/L		06/22/16 14:33	06/28/16 20:07	5

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17746-1

Client Sample ID: PZ-203-SS

Lab Sample ID: 160-17746-5
Date Collected: 06/09/16 14:24
Matrix: Water
Date Received: 06/09/16 15:57

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	44		5.0	1.5	mg/L		06/22/16 14:33	06/28/16 20:07	5
Manganese	18	J	75	13	ug/L		06/22/16 14:33	06/28/16 20:07	5
MgHard	180000		21000	6200	ug/L		06/22/16 14:33	06/28/16 20:07	5
Nickel	ND		0.20	0.050	mg/L		06/22/16 14:33	06/28/16 20:07	5
Phosphorus	ND	^ *	1300	380	ug/L		06/22/16 14:33	06/28/16 20:07	5
Selenium	ND		75	25	ug/L		06/22/16 14:33	06/28/16 20:07	5
Silver	ND		50	15	ug/L		06/22/16 14:33	06/28/16 20:07	5
Sodium	8600		5000	1500	ug/L		06/22/16 14:33	06/28/16 20:07	5
Thallium	ND		100	25	ug/L		06/22/16 14:33	06/28/16 20:07	5
Total Hardness	440000		33000	9900	ug/L		06/22/16 14:33	06/28/16 20:07	5
Vanadium	ND		250	75	ug/L		06/22/16 14:33	06/28/16 20:07	5
Zinc	ND		100	30	ug/L		06/22/16 14:33	06/28/16 20:07	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		06/30/16 11:53	06/30/16 21:23	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	480		5.0	3.5	mg/L			06/15/16 07:01	1
Ammonia	0.15		0.050	0.022	mg/L			07/01/16 17:41	1
Nitrate/Nitrite	ND	^	0.050	0.011	mg/L			07/01/16 15:17	1
Chemical Oxygen Demand	14		5.0	1.1	mg/L		06/22/16 09:41	06/22/16 12:34	1
Total Organic Carbon	5.5		1.0	0.72	mg/L			07/06/16 00:36	1

Client Sample ID: PZ-204A-SS

Lab Sample ID: 160-17746-6
Date Collected: 06/09/16 15:21
Matrix: Water
Date Received: 06/09/16 15:57

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	31		20	6.7	ug/L			06/13/16 15:22	1
Acrylonitrile	ND		50	1.7	ug/L			06/13/16 15:22	1
Benzene	2.5	J	5.0	0.25	ug/L			06/13/16 15:22	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/13/16 15:22	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/13/16 15:22	1
Bromoform	ND		5.0	0.37	ug/L			06/13/16 15:22	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/13/16 15:22	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/13/16 15:22	1
Chlorobenzene	0.88	J	5.0	0.38	ug/L			06/13/16 15:22	1
Chloroethane	ND		10	0.38	ug/L			06/13/16 15:22	1
Chloroform	ND		5.0	0.15	ug/L			06/13/16 15:22	1
Chloroprene	ND	*	5.0	0.39	ug/L			06/13/16 15:22	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/13/16 15:22	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/13/16 15:22	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/13/16 15:22	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/13/16 15:22	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/13/16 15:22	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/13/16 15:22	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/13/16 15:22	1

Client Sample ID: PZ-204A-SS

Lab Sample ID: 160-17746-6

Date Collected: 06/09/16 15:21
Matrix: Water
Date Received: 06/09/16 15:57

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/13/16 15:22	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/13/16 15:22	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/13/16 15:22	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/13/16 15:22	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/13/16 15:22	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/13/16 15:22	1
2-Hexanone	ND		20	0.59	ug/L			06/13/16 15:22	1
Methyl bromide	ND		10	0.40	ug/L			06/13/16 15:22	1
Methyl chloride	ND		10	0.55	ug/L			06/13/16 15:22	1
Methylene bromide	ND		5.0	0.41	ug/L			06/13/16 15:22	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/13/16 15:22	1
Methyl Ethyl Ketone	**17**	**J**	20	0.39	ug/L			06/13/16 15:22	1
Methyl iodide	ND	*	5.0	1.5	ug/L			06/13/16 15:22	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/13/16 15:22	1
Styrene	ND		5.0	0.35	ug/L			06/13/16 15:22	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/13/16 15:22	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/13/16 15:22	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/13/16 15:22	1
Toluene	**1.4**	**J B**	5.0	1.0	ug/L			06/13/16 15:22	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/13/16 15:22	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/13/16 15:22	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/13/16 15:22	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/13/16 15:22	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/13/16 15:22	1
Trichloroethene	ND		5.0	0.29	ug/L			06/13/16 15:22	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/13/16 15:22	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/13/16 15:22	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/13/16 15:22	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/13/16 15:22	1
Xylenes, Total	ND		10	0.85	ug/L			06/13/16 15:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*123*		*71 - 139*		*06/13/16 15:22*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 121*		*06/13/16 15:22*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*76 - 121*		*06/13/16 15:22*	*1*
Toluene-d8 (Surr)	*109*		*80 - 129*		*06/13/16 15:22*	*1*

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.21**	**J**	0.50	0.050	mg/L			06/29/16 05:49	5

Method: 300.0 - Anions, Ion Chromatography - DL2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**600**		25	2.5	mg/L			06/29/16 06:03	50

Method: 300.0 - Anions, Ion Chromatography - DL3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1400**		100	10	mg/L			06/29/16 06:16	500

Client Sample Results

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17746-1

Client Sample ID: PZ-204A-SS

Date Collected: 06/09/16 15:21
Date Received: 06/09/16 15:57

Lab Sample ID: 160-17746-6

Matrix: Water

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		50	15	ug/L		06/22/16 14:33	06/28/16 20:11	5
Arsenic	**55**		50	20	ug/L		06/22/16 14:33	06/28/16 20:11	5
Barium	**260**		250	75	ug/L		06/22/16 14:33	06/28/16 20:11	5
Beryllium	ND		25	7.5	ug/L		06/22/16 14:33	06/28/16 20:11	5
Boron	**170**	**J**	500	130	ug/L		06/22/16 14:33	06/28/16 20:11	5
Cadmium	ND		25	7.5	ug/L		06/22/16 14:33	06/28/16 20:11	5
CaHard	**1600000**		25000	7500	ug/L		06/22/16 14:33	06/30/16 13:09	10
Calcium	**630000**		10000	3000	ug/L		06/22/16 14:33	06/30/16 13:09	10
Chromium	ND		50	15	ug/L		06/22/16 14:33	06/28/16 20:11	5
Cobalt	ND		250	75	ug/L		06/22/16 14:33	06/28/16 20:11	5
Copper	ND		130	25	ug/L		06/22/16 14:33	06/28/16 20:11	5
Iron	**60000**		500	150	ug/L		06/22/16 14:33	06/28/16 20:11	5
Lead	ND		50	15	ug/L		06/22/16 14:33	06/28/16 20:11	5
Magnesium	**250**		5.0	1.5	mg/L		06/22/16 14:33	06/28/16 20:11	5
Manganese	**4700**		75	13	ug/L		06/22/16 14:33	06/28/16 20:11	5
MgHard	**1000000**		21000	6200	ug/L		06/22/16 14:33	06/28/16 20:11	5
Nickel	**0.087**	**J**	0.20	0.050	mg/L		06/22/16 14:33	06/28/16 20:11	5
Phosphorus	**820**	**J ^ ***	1300	380	ug/L		06/22/16 14:33	06/28/16 20:11	5
Selenium	ND		75	25	ug/L		06/22/16 14:33	06/28/16 20:11	5
Silver	ND		50	15	ug/L		06/22/16 14:33	06/28/16 20:11	5
Sodium	**380000**		5000	1500	ug/L		06/22/16 14:33	06/28/16 20:11	5
Thallium	ND		100	25	ug/L		06/22/16 14:33	06/28/16 20:11	5
Total Hardness	**2600000**		33000	9900	ug/L		06/22/16 14:33	06/28/16 20:11	5
Vanadium	ND		250	75	ug/L		06/22/16 14:33	06/28/16 20:11	5
Zinc	**120**		100	30	ug/L		06/22/16 14:33	06/28/16 20:11	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		06/30/16 11:53	06/30/16 21:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	**1.5**		0.050	0.022	mg/L			07/01/16 17:48	1
Nitrate/Nitrite	**0.32**	**^**	0.050	0.011	mg/L			07/01/16 15:20	1

General Chemistry - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	**4600**		25	17	mg/L			06/15/16 07:01	5
Chemical Oxygen Demand	**410**		25	5.6	mg/L		06/22/16 09:41	06/22/16 12:34	5
Total Organic Carbon	**110**		20	14	mg/L			07/06/16 00:48	20

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

Lab Sample ID: MB 160-256079/9
Matrix: Water
Analysis Batch: 256079

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.7	ug/L			06/13/16 09:33	1
Acrylonitrile	ND		50	1.7	ug/L			06/13/16 09:33	1
Benzene	ND		5.0	0.25	ug/L			06/13/16 09:33	1
Bromochloromethane	ND		5.0	0.55	ug/L			06/13/16 09:33	1
Bromodichloromethane	ND		5.0	0.25	ug/L			06/13/16 09:33	1
Bromoform	ND		5.0	0.37	ug/L			06/13/16 09:33	1
Carbon disulfide	ND		5.0	0.37	ug/L			06/13/16 09:33	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			06/13/16 09:33	1
Chlorobenzene	ND		5.0	0.38	ug/L			06/13/16 09:33	1
Chloroethane	ND		10	0.38	ug/L			06/13/16 09:33	1
Chloroform	ND		5.0	0.15	ug/L			06/13/16 09:33	1
Chloroprene	ND		5.0	0.39	ug/L			06/13/16 09:33	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			06/13/16 09:33	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			06/13/16 09:33	1
Dibromochloromethane	ND		5.0	0.33	ug/L			06/13/16 09:33	1
1,2-Dibromo-3-Chloropropane	ND		10	1.2	ug/L			06/13/16 09:33	1
1,2-Dibromoethane (EDB)	ND		5.0	0.44	ug/L			06/13/16 09:33	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			06/13/16 09:33	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			06/13/16 09:33	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			06/13/16 09:33	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			06/13/16 09:33	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			06/13/16 09:33	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			06/13/16 09:33	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			06/13/16 09:33	1
Ethylbenzene	ND		5.0	0.30	ug/L			06/13/16 09:33	1
2-Hexanone	ND		20	0.59	ug/L			06/13/16 09:33	1
Methyl bromide	ND		10	0.40	ug/L			06/13/16 09:33	1
Methyl chloride	ND		10	0.55	ug/L			06/13/16 09:33	1
Methylene bromide	ND		5.0	0.41	ug/L			06/13/16 09:33	1
Methylene Chloride	ND		5.0	1.7	ug/L			06/13/16 09:33	1
Methyl Ethyl Ketone	ND		20	0.39	ug/L			06/13/16 09:33	1
Methyl iodide	ND		5.0	1.5	ug/L			06/13/16 09:33	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			06/13/16 09:33	1
Styrene	ND		5.0	0.35	ug/L			06/13/16 09:33	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			06/13/16 09:33	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			06/13/16 09:33	1
Tetrachloroethene	ND		5.0	0.28	ug/L			06/13/16 09:33	1
Toluene	1.50	J	5.0	1.0	ug/L			06/13/16 09:33	1
trans-1,4-Dichloro-2-butene	ND		10	0.95	ug/L			06/13/16 09:33	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			06/13/16 09:33	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			06/13/16 09:33	1
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			06/13/16 09:33	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			06/13/16 09:33	1
Trichloroethene	ND		5.0	0.29	ug/L			06/13/16 09:33	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			06/13/16 09:33	1
1,2,3-Trichloropropane	ND		5.0	0.56	ug/L			06/13/16 09:33	1
Vinyl acetate	ND		5.0	0.61	ug/L			06/13/16 09:33	1
Vinyl chloride	ND		5.0	0.43	ug/L			06/13/16 09:33	1

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

Lab Sample ID: MB 160-256079/9
Matrix: Water
Analysis Batch: 256079

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		10	0.85	ug/L			06/13/16 09:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*123*		*71 - 139*		*06/13/16 09:33*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 121*		*06/13/16 09:33*	*1*
1,2-Dichloroethane-d4 (Surr)	*113*		*76 - 121*		*06/13/16 09:33*	*1*
Toluene-d8 (Surr)	*110*		*80 - 129*		*06/13/16 09:33*	*1*

Lab Sample ID: LCS 160-256079/6
Matrix: Water
Analysis Batch: 256079

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	50.0	54.2		ug/L		108	63 - 131
Acrylonitrile	500	556		ug/L		111	81 - 117
Benzene	50.0	53.6		ug/L		107	80 - 120
Bromochloromethane	50.0	47.1		ug/L		94	80 - 120
Bromodichloromethane	50.0	52.5		ug/L		105	80 - 120
Bromoform	50.0	45.6		ug/L		91	80 - 120
Carbon disulfide	50.0	50.2		ug/L		100	79 - 126
Carbon tetrachloride	50.0	51.3		ug/L		103	73 - 123
Chlorobenzene	50.0	47.2		ug/L		94	80 - 120
Chloroethane	50.0	47.6		ug/L		95	52 - 140
Chloroform	50.0	51.7		ug/L		103	80 - 120
Chloroprene	50.0	60.0		ug/L		120	80 - 120
cis-1,2-Dichloroethene	50.0	49.7		ug/L		99	80 - 120
cis-1,3-Dichloropropene	50.0	54.6		ug/L		109	80 - 122
Dibromochloromethane	50.0	46.6		ug/L		93	80 - 120
1,2-Dibromo-3-Chloropropane	50.0	46.0		ug/L		92	77 - 125
1,2-Dibromoethane (EDB)	50.0	48.9		ug/L		98	80 - 120
1,3-Dichlorobenzene	50.0	46.7		ug/L		93	80 - 120
1,4-Dichlorobenzene	50.0	48.1		ug/L		96	80 - 120
Dichlorodifluoromethane	50.0	65.8		ug/L		132	62 - 140
1,1-Dichloroethane	50.0	53.5		ug/L		107	80 - 120
1,2-Dichloroethane	50.0	56.7		ug/L		113	69 - 124
1,1-Dichloroethene	50.0	44.9		ug/L		90	77 - 126
1,2-Dichloropropane	50.0	54.4		ug/L		109	80 - 120
Ethylbenzene	50.0	52.0		ug/L		104	80 - 120
2-Hexanone	50.0	52.7		ug/L		105	64 - 136
Methyl bromide	50.0	50.9		ug/L		102	57 - 139
Methyl chloride	50.0	55.7		ug/L		111	70 - 127
Methylene bromide	50.0	51.9		ug/L		104	78 - 120
Methylene Chloride	50.0	49.7		ug/L		99	80 - 120
Methyl Ethyl Ketone	50.0	53.6		ug/L		107	70 - 130
Methyl iodide	50.0	34.9	*	ug/L		70	73 - 125
4-Methyl-2-pentanone (MIBK)	50.0	56.5		ug/L		113	76 - 129
Styrene	50.0	50.3		ug/L		101	80 - 120
1,1,1,2-Tetrachloroethane	50.0	46.1		ug/L		92	80 - 120

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

Lab Sample ID: LCS 160-256079/6
Matrix: Water
Analysis Batch: 256079

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2,2-Tetrachloroethane	50.0	49.0		ug/L		98	80 - 120
Tetrachloroethene	50.0	47.5		ug/L		95	80 - 120
Toluene	50.0	45.8		ug/L		92	80 - 120
trans-1,4-Dichloro-2-butene	50.0	55.2		ug/L		110	75 - 127
trans-1,2-Dichloroethene	50.0	50.0		ug/L		100	80 - 120
trans-1,3-Dichloropropene	50.0	56.5		ug/L		113	80 - 130
1,1,1-Trichloroethane	50.0	53.5		ug/L		107	76 - 120
1,1,2-Trichloroethane	50.0	50.0		ug/L		100	80 - 120
Trichloroethene	50.0	53.8		ug/L		108	73 - 120
Trichlorofluoromethane	50.0	56.3		ug/L		113	74 - 130
1,2,3-Trichloropropane	50.0	47.4		ug/L		95	80 - 120
Vinyl acetate	50.0	52.6		ug/L		105	37 - 140
Vinyl chloride	50.0	58.0		ug/L		116	51 - 140
Xylenes, Total	100	99.4		ug/L		99	80 - 121

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*71 - 139*
Dibromofluoromethane (Surr)	*97*		*80 - 121*
1,2-Dichloroethane-d4 (Surr)	*113*		*76 - 121*
Toluene-d8 (Surr)	*100*		*80 - 129*

Lab Sample ID: LCSD 160-256079/7
Matrix: Water
Analysis Batch: 256079

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
Acetone	50.0	55.8		ug/L		112	63 - 131	3	20
Acrylonitrile	500	526		ug/L		105	81 - 117	6	20
Benzene	50.0	53.0		ug/L		106	80 - 120	1	20
Bromochloromethane	50.0	47.6		ug/L		95	80 - 120	1	20
Bromodichloromethane	50.0	53.2		ug/L		106	80 - 120	1	20
Bromoform	50.0	45.6		ug/L		91	80 - 120	0	20
Carbon disulfide	50.0	52.1		ug/L		104	79 - 126	4	20
Carbon tetrachloride	50.0	53.7		ug/L		107	73 - 123	5	20
Chlorobenzene	50.0	48.1		ug/L		96	80 - 120	2	20
Chloroethane	50.0	46.1		ug/L		92	52 - 140	3	20
Chloroform	50.0	53.1		ug/L		106	80 - 120	3	20
Chloroprene	50.0	61.4	*	ug/L		123	80 - 120	2	20
cis-1,2-Dichloroethene	50.0	52.4		ug/L		105	80 - 120	5	20
cis-1,3-Dichloropropene	50.0	54.4		ug/L		109	80 - 122	0	20
Dibromochloromethane	50.0	47.5		ug/L		95	80 - 120	2	20
1,2-Dibromo-3-Chloropropane	50.0	46.1		ug/L		92	77 - 125	0	20
1,2-Dibromoethane (EDB)	50.0	48.3		ug/L		97	80 - 120	1	20
1,3-Dichlorobenzene	50.0	48.6		ug/L		97	80 - 120	4	20
1,4-Dichlorobenzene	50.0	48.9		ug/L		98	80 - 120	2	20
Dichlorodifluoromethane	50.0	68.5		ug/L		137	62 - 140	4	20
1,1-Dichloroethane	50.0	53.6		ug/L		107	80 - 120	0	20
1,2-Dichloroethane	50.0	55.1		ug/L		110	69 - 124	3	20

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

Lab Sample ID: LCSD 160-256079/7
Matrix: Water
Analysis Batch: 256079

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
1,1-Dichloroethene	50.0	47.8		ug/L		96	77 - 126	6	20
1,2-Dichloropropane	50.0	54.1		ug/L		108	80 - 120	0	20
Ethylbenzene	50.0	53.2		ug/L		106	80 - 120	2	20
2-Hexanone	50.0	50.8		ug/L		102	64 - 136	4	20
Methyl bromide	50.0	51.8		ug/L		104	57 - 139	2	20
Methyl chloride	50.0	57.6		ug/L		115	70 - 127	3	20
Methylene bromide	50.0	52.5		ug/L		105	78 - 120	1	20
Methylene Chloride	50.0	50.7		ug/L		101	80 - 120	2	20
Methyl Ethyl Ketone	50.0	50.9		ug/L		102	70 - 130	5	20
Methyl iodide	50.0	38.5		ug/L		77	73 - 125	10	20
4-Methyl-2-pentanone (MIBK)	50.0	52.6		ug/L		105	76 - 129	7	20
Styrene	50.0	50.4		ug/L		101	80 - 120	0	20
1,1,1,2-Tetrachloroethane	50.0	47.2		ug/L		94	80 - 120	2	20
1,1,2,2-Tetrachloroethane	50.0	47.7		ug/L		95	80 - 120	3	20
Tetrachloroethene	50.0	48.5		ug/L		97	80 - 120	2	20
Toluene	50.0	46.1		ug/L		92	80 - 120	1	20
trans-1,4-Dichloro-2-butene	50.0	52.1		ug/L		104	75 - 127	6	20
trans-1,2-Dichloroethene	50.0	52.2		ug/L		104	80 - 120	4	20
trans-1,3-Dichloropropene	50.0	54.4		ug/L		109	80 - 130	4	20
1,1,1-Trichloroethane	50.0	55.1		ug/L		110	76 - 120	3	20
1,1,2-Trichloroethane	50.0	48.8		ug/L		98	80 - 120	2	20
Trichloroethene	50.0	54.9		ug/L		110	73 - 120	2	20
Trichlorofluoromethane	50.0	58.7		ug/L		117	74 - 130	4	20
1,2,3-Trichloropropane	50.0	47.6		ug/L		95	80 - 120	0	20
Vinyl acetate	50.0	45.5		ug/L		91	37 - 140	14	20
Vinyl chloride	50.0	58.8		ug/L		118	51 - 140	1	20
Xylenes, Total	100	100		ug/L		100	80 - 121	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*71 - 139*
Dibromofluoromethane (Surr)	*98*		*80 - 121*
1,2-Dichloroethane-d4 (Surr)	*107*		*76 - 121*
Toluene-d8 (Surr)	*102*		*80 - 129*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 160-258375/25
Matrix: Water
Analysis Batch: 258375

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.10	0.010	mg/L			06/28/16 20:46	1
Sulfate	ND		0.50	0.050	mg/L			06/28/16 20:46	1
Chloride	ND		0.20	0.020	mg/L			06/28/16 20:46	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 160-258375/26
Matrix: Water
Analysis Batch: 258375

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.00	0.994		mg/L		99	90 - 110
Sulfate	8.00	7.66		mg/L		96	90 - 110
Chloride	2.00	1.91		mg/L		96	90 - 110

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 160-257622/1-A
Matrix: Water
Analysis Batch: 258532

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 257622

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		10	3.0	ug/L		06/22/16 14:33	06/28/16 18:15	1
Arsenic	ND		10	4.0	ug/L		06/22/16 14:33	06/28/16 18:15	1
Barium	ND		50	15	ug/L		06/22/16 14:33	06/28/16 18:15	1
Beryllium	ND		5.0	1.5	ug/L		06/22/16 14:33	06/28/16 18:15	1
Boron	ND		100	25	ug/L		06/22/16 14:33	06/28/16 18:15	1
Cadmium	ND		5.0	1.5	ug/L		06/22/16 14:33	06/28/16 18:15	1
CaHard	ND		2500	750	ug/L		06/22/16 14:33	06/28/16 18:15	1
Calcium	ND		1000	300	ug/L		06/22/16 14:33	06/28/16 18:15	1
Chromium	ND		10	3.0	ug/L		06/22/16 14:33	06/28/16 18:15	1
Cobalt	ND		50	15	ug/L		06/22/16 14:33	06/28/16 18:15	1
Copper	ND		25	5.0	ug/L		06/22/16 14:33	06/28/16 18:15	1
Iron	ND		100	30	ug/L		06/22/16 14:33	06/28/16 18:15	1
Lead	ND		10	3.0	ug/L		06/22/16 14:33	06/28/16 18:15	1
Magnesium	ND		1.0	0.30	mg/L		06/22/16 14:33	06/28/16 18:15	1
Manganese	ND		15	2.5	ug/L		06/22/16 14:33	06/28/16 18:15	1
MgHard	ND		4100	1200	ug/L		06/22/16 14:33	06/28/16 18:15	1
Nickel	ND		0.040	0.010	mg/L		06/22/16 14:33	06/28/16 18:15	1
Phosphorus	ND	^	250	75	ug/L		06/22/16 14:33	06/28/16 18:15	1
Selenium	ND		15	5.0	ug/L		06/22/16 14:33	06/28/16 18:15	1
Silver	ND		10	3.0	ug/L		06/22/16 14:33	06/28/16 18:15	1
Sodium	ND		1000	300	ug/L		06/22/16 14:33	06/28/16 18:15	1
Thallium	ND		20	5.0	ug/L		06/22/16 14:33	06/28/16 18:15	1
Total Hardness	ND		6600	2000	ug/L		06/22/16 14:33	06/28/16 18:15	1
Vanadium	ND		50	15	ug/L		06/22/16 14:33	06/28/16 18:15	1
Zinc	ND		20	6.0	ug/L		06/22/16 14:33	06/28/16 18:15	1

Lab Sample ID: LCS 160-257622/2-A
Matrix: Water
Analysis Batch: 258532

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 257622

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	500	507		ug/L		101	80 - 120
Arsenic	1000	1010		ug/L		101	80 - 120
Barium	1000	951		ug/L		95	80 - 120
Beryllium	1000	975		ug/L		98	80 - 120
Boron	2000	1910		ug/L		95	80 - 120
Cadmium	1000	1040		ug/L		104	80 - 120

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

Lab Sample ID: LCS 160-257622/2-A
Matrix: Water
Analysis Batch: 258532

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 257622

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	10000	10600		ug/L		106	80 - 120
Chromium	1000	1050		ug/L		105	80 - 120
Cobalt	1000	1050		ug/L		105	80 - 120
Copper	1000	955		ug/L		95	80 - 120
Iron	10000	9560		ug/L		96	80 - 120
Lead	1000	1010		ug/L		101	80 - 120
Magnesium	10.0	9.65		mg/L		96	80 - 120
Manganese	1000	950		ug/L		95	80 - 120
Nickel	1.00	1.06		mg/L		106	80 - 120
Selenium	500	503		ug/L		101	80 - 120
Silver	200	199		ug/L		99	80 - 120
Sodium	10000	10100		ug/L		101	80 - 120
Thallium	200	198		ug/L		99	80 - 120
Vanadium	1000	954		ug/L		95	80 - 120
Zinc	1000	1060		ug/L		106	80 - 120

Lab Sample ID: LCS 160-257622/2-A
Matrix: Water
Analysis Batch: 258751

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 257622

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	1000	1150		ug/L		115	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 160-258736/1-A
Matrix: Water
Analysis Batch: 258913

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 258736

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		06/30/16 11:53	06/30/16 20:35	1

Lab Sample ID: LCS 160-258736/2-A
Matrix: Water
Analysis Batch: 258913

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 258736

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	5.00	5.37		ug/L		107	80 - 120

Method: 160.1 - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 160-256400/1
Matrix: Water
Analysis Batch: 256400

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		5.0	3.5	mg/L			06/15/16 07:01	1

Method: 160.1 - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 160-256400/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256400

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids (TDS)	500	502		mg/L		100	90 - 110

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 160-259180/11 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259180

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.050	0.022	mg/L			07/01/16 16:51	1

Lab Sample ID: LCS 160-259180/12 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259180

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	0.500	0.498		mg/L		100	90 - 110

Lab Sample ID: MB 160-259230/11 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259230

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.050	0.022	mg/L			07/05/16 14:06	1

Lab Sample ID: LCS 160-259230/12 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259230

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	0.500	0.509		mg/L		102	90 - 110

Lab Sample ID: 160-17746-3 MS — **Client Sample ID: PZ-103-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259230

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	0.42	F1	0.500	1.04	F1	mg/L		124	90 - 110

Lab Sample ID: 160-17746-3 DU — **Client Sample ID: PZ-103-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259230

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Ammonia	0.42	F1	0.413		mg/L		2	20

Method: 353.1 Preserved - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 160-258930/13 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258930

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate/Nitrite	ND		0.050	0.011	mg/L			07/01/16 14:25	1

Lab Sample ID: LCS 160-258930/14 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258930

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate/Nitrite	0.500	0.541		mg/L		108	90 - 110

Lab Sample ID: 160-17746-3 MS — **Client Sample ID: PZ-103-SS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258930

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate/Nitrite	0.12	^ F1	0.500	0.131	F1 ^	mg/L		2	90 - 110

Method: 410.4 - COD

Lab Sample ID: MB 160-257482/3-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257594 — **Prep Batch: 257482**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		5.0	1.1	mg/L		06/22/16 09:41	06/22/16 12:34	1

Lab Sample ID: LCS 160-257482/4-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257594 — **Prep Batch: 257482**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	50.0	49.0		mg/L		98	90 - 110

Method: 415.1 - TOC

Lab Sample ID: MB 160-259381/33 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259381

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		1.0	0.72	mg/L			07/05/16 22:19	1

Lab Sample ID: LCS 160-259381/34 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259381

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	10.0	9.13		mg/L		91	90 - 110

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-256198/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259194 — **Prep Batch: 256198**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.001762	U	0.0387	0.0387	1.00	0.0775	pCi/L	06/13/16 17:57	07/05/16 07:42	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.2*		*40 - 110*	*06/13/16 17:57*	*07/05/16 07:42*	*1*

Lab Sample ID: LCS 160-256198/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259194 — **Prep Batch: 256198**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.2	14.28		1.38	1.00	0.0787	pCi/L	128	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*93.2*		*40 - 110*

Lab Sample ID: MB 160-256592/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259552 — **Prep Batch: 256592**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.03367	U	0.0420	0.0421	1.00	0.0694	pCi/L	06/15/16 18:55	07/07/16 07:04	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.3*		*40 - 110*	*06/15/16 18:55*	*07/07/16 07:04*	*1*

Lab Sample ID: LCS 160-256592/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259552 — **Prep Batch: 256592**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.2	14.73		1.43	1.00	0.0925	pCi/L	132	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*91.5*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-256205/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258190 — **Prep Batch: 256205**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.1317	U	0.186	0.187	1.00	0.364	pCi/L	06/13/16 18:53	06/27/16 12:53	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.2*		*40 - 110*	*06/13/16 18:53*	*06/27/16 12:53*	*1*
Y Carrier	*86.0*		*40 - 110*	*06/13/16 18:53*	*06/27/16 12:53*	*1*

Lab Sample ID: LCS 160-256205/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258190 — **Prep Batch: 256205**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			15.0	16.22		1.71	1.00	0.360	pCi/L	108	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*93.2*		*40 - 110*
Y Carrier	*88.2*		*40 - 110*

Lab Sample ID: MB 160-256595/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258904 — **Prep Batch: 256595**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.2541	U	0.208	0.210	1.00	0.332	pCi/L	06/15/16 19:54	07/01/16 12:52	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.3*		*40 - 110*	*06/15/16 19:54*	*07/01/16 12:52*	*1*
Y Carrier	*95.0*		*40 - 110*	*06/15/16 19:54*	*07/01/16 12:52*	*1*

Lab Sample ID: LCS 160-256595/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258904 — **Prep Batch: 256595**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			14.9	16.19		1.69	1.00	0.364	pCi/L	108	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*91.5*		*40 - 110*
Y Carrier	*93.1*		*40 - 110*

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-259241/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259387 — **Prep Batch: 259241**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-82.43	U	139	140	500	273	pCi/L	07/05/16 18:07	07/06/16 03:03	1

Lab Sample ID: LCS 160-259241/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259387 — **Prep Batch: 259241**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Tritium	3060	2605		419	500	279	pCi/L	85	74 - 114

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

Lab Sample ID: MB 160-259427/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259667 — **Prep Batch: 259427**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Thorium-230	0.2077		0.0710	0.0731	1.00	0.0412	pCi/L	07/06/16 16:57	07/07/16 14:54	1

Tracer	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Thorium-229	*80.3*		*30 - 110*	*07/06/16 16:57*	*07/07/16 14:54*	*1*

Lab Sample ID: LCS 160-259427/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259668 — **Prep Batch: 259427**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Thorium-230	8.03	9.509		0.962	1.00	0.0533	pCi/L	118	81 - 125

Tracer	*LCS %Yield*	*LCS Qualifier*	*Limits*
Thorium-229	*57.6*		*30 - 110*

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-258173/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259049 — **Prep Batch: 258173**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Uranium-233/234	0.009806	U	0.0364	0.0364	1.00	0.0929	pCi/L	06/27/16 13:48	07/01/16 14:49	1
Uranium-235/236	0.02092	U	0.0418	0.0419	1.00	0.0628	pCi/L	06/27/16 13:48	07/01/16 14:49	1
Uranium-238	0.02656	U	0.0495	0.0495	1.00	0.0927	pCi/L	06/27/16 13:48	07/01/16 14:49	1

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) (Continued)

Lab Sample ID: MB 160-258173/1-A
Matrix: Water
Analysis Batch: 259049

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 258173

Tracer	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*54.6*		*30 - 110*	*06/27/16 13:48*	*07/01/16 14:49*	*1*

Lab Sample ID: LCS 160-258173/2-A
Matrix: Water
Analysis Batch: 259050

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 258173

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Uranium-233/234	12.7	12.83		1.31	1.00	0.0586	pCi/L	101	84 - 120
Uranium-238	13.0	12.66		1.29	1.00	0.0585	pCi/L	97	83 - 121

Tracer	*LCS %Yield*	*LCS Qualifier*	*Limits*
Uranium-232	*82.7*		*30 - 110*

QC Association Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17746-1

GC/MS VOA

Analysis Batch: 256079

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17746-1	TRIPBLANK060816	Total/NA	Water	8260C	
160-17746-2	TRIPBLANK060916	Total/NA	Water	8260C	
160-17746-3	PZ-103-SS	Total/NA	Water	8260C	
160-17746-4	PZ-200-SS	Total/NA	Water	8260C	
160-17746-5	PZ-203-SS	Total/NA	Water	8260C	
160-17746-6	PZ-204A-SS	Total/NA	Water	8260C	
LCS 160-256079/6	Lab Control Sample	Total/NA	Water	8260C	
LCSD 160-256079/7	Lab Control Sample Dup	Total/NA	Water	8260C	
MB 160-256079/9	Method Blank	Total/NA	Water	8260C	

HPLC/IC

Analysis Batch: 258375

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17746-3 - DL	PZ-103-SS	Total/NA	Water	300.0	
160-17746-3 - DL2	PZ-103-SS	Total/NA	Water	300.0	
160-17746-4 - DL	PZ-200-SS	Total/NA	Water	300.0	
160-17746-4 - DL2	PZ-200-SS	Total/NA	Water	300.0	
160-17746-4 - DL3	PZ-200-SS	Total/NA	Water	300.0	
160-17746-5	PZ-203-SS	Total/NA	Water	300.0	
160-17746-5 - DL	PZ-203-SS	Total/NA	Water	300.0	
160-17746-6 - DL	PZ-204A-SS	Total/NA	Water	300.0	
160-17746-6 - DL2	PZ-204A-SS	Total/NA	Water	300.0	
160-17746-6 - DL3	PZ-204A-SS	Total/NA	Water	300.0	
LCS 160-258375/26	Lab Control Sample	Total/NA	Water	300.0	
MB 160-258375/25	Method Blank	Total/NA	Water	300.0	

Metals

Prep Batch: 257622

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17746-3	PZ-103-SS	Total/NA	Water	3010A	
160-17746-4	PZ-200-SS	Total/NA	Water	3010A	
160-17746-5	PZ-203-SS	Total/NA	Water	3010A	
160-17746-6	PZ-204A-SS	Total/NA	Water	3010A	
LCS 160-257622/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 160-257622/1-A	Method Blank	Total/NA	Water	3010A	

Analysis Batch: 258532

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17746-3	PZ-103-SS	Total/NA	Water	6010C	257622
160-17746-4	PZ-200-SS	Total/NA	Water	6010C	257622
160-17746-5	PZ-203-SS	Total/NA	Water	6010C	257622
160-17746-6	PZ-204A-SS	Total/NA	Water	6010C	257622
LCS 160-257622/2-A	Lab Control Sample	Total/NA	Water	6010C	257622
MB 160-257622/1-A	Method Blank	Total/NA	Water	6010C	257622

Prep Batch: 258736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17746-3	PZ-103-SS	Total/NA	Water	7470A	

Metals (Continued)

Prep Batch: 258736 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17746-4	PZ-200-SS	Total/NA	Water	7470A	
160-17746-5	PZ-203-SS	Total/NA	Water	7470A	
160-17746-6	PZ-204A-SS	Total/NA	Water	7470A	
LCS 160-258736/2-A	Lab Control Sample	Total/NA	Water	7470A	
MB 160-258736/1-A	Method Blank	Total/NA	Water	7470A	

Analysis Batch: 258751

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17746-4	PZ-200-SS	Total/NA	Water	6010C	257622
160-17746-6	PZ-204A-SS	Total/NA	Water	6010C	257622
LCS 160-257622/2-A	Lab Control Sample	Total/NA	Water	6010C	257622

Analysis Batch: 258913

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17746-3	PZ-103-SS	Total/NA	Water	7470A	258736
160-17746-4	PZ-200-SS	Total/NA	Water	7470A	258736
160-17746-5	PZ-203-SS	Total/NA	Water	7470A	258736
160-17746-6	PZ-204A-SS	Total/NA	Water	7470A	258736
LCS 160-258736/2-A	Lab Control Sample	Total/NA	Water	7470A	258736
MB 160-258736/1-A	Method Blank	Total/NA	Water	7470A	258736

General Chemistry

Analysis Batch: 256400

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17746-3 - DL	PZ-103-SS	Total/NA	Water	160.1	
160-17746-4 - DL	PZ-200-SS	Total/NA	Water	160.1	
160-17746-5	PZ-203-SS	Total/NA	Water	160.1	
160-17746-6 - DL	PZ-204A-SS	Total/NA	Water	160.1	
LCS 160-256400/2	Lab Control Sample	Total/NA	Water	160.1	
MB 160-256400/1	Method Blank	Total/NA	Water	160.1	

Prep Batch: 257482

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17746-3	PZ-103-SS	Total/NA	Water	410.4	
160-17746-4	PZ-200-SS	Total/NA	Water	410.4	
160-17746-5	PZ-203-SS	Total/NA	Water	410.4	
160-17746-6 - DL	PZ-204A-SS	Total/NA	Water	410.4	
LCS 160-257482/4-A	Lab Control Sample	Total/NA	Water	410.4	
MB 160-257482/3-A	Method Blank	Total/NA	Water	410.4	

Analysis Batch: 257594

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17746-3	PZ-103-SS	Total/NA	Water	410.4	257482
160-17746-4	PZ-200-SS	Total/NA	Water	410.4	257482
160-17746-5	PZ-203-SS	Total/NA	Water	410.4	257482
160-17746-6 - DL	PZ-204A-SS	Total/NA	Water	410.4	257482
LCS 160-257482/4-A	Lab Control Sample	Total/NA	Water	410.4	257482
MB 160-257482/3-A	Method Blank	Total/NA	Water	410.4	257482

General Chemistry (Continued)

Analysis Batch: 258930

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17746-3	PZ-103-SS	Total/NA	Water	353.1 Preserved	
160-17746-3 MS	PZ-103-SS	Total/NA	Water	353.1 Preserved	
160-17746-4	PZ-200-SS	Total/NA	Water	353.1 Preserved	
160-17746-5	PZ-203-SS	Total/NA	Water	353.1 Preserved	
160-17746-6	PZ-204A-SS	Total/NA	Water	353.1 Preserved	
LCS 160-258930/14	Lab Control Sample	Total/NA	Water	353.1 Preserved	
MB 160-258930/13	Method Blank	Total/NA	Water	353.1 Preserved	

Analysis Batch: 259180

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17746-4	PZ-200-SS	Total/NA	Water	350.1	
160-17746-5	PZ-203-SS	Total/NA	Water	350.1	
160-17746-6	PZ-204A-SS	Total/NA	Water	350.1	
LCS 160-259180/12	Lab Control Sample	Total/NA	Water	350.1	
MB 160-259180/11	Method Blank	Total/NA	Water	350.1	

Analysis Batch: 259230

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17746-3	PZ-103-SS	Total/NA	Water	350.1	
160-17746-3 DU	PZ-103-SS	Total/NA	Water	350.1	
160-17746-3 MS	PZ-103-SS	Total/NA	Water	350.1	
LCS 160-259230/12	Lab Control Sample	Total/NA	Water	350.1	
MB 160-259230/11	Method Blank	Total/NA	Water	350.1	

Analysis Batch: 259381

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17746-3 - DL	PZ-103-SS	Total/NA	Water	415.1	
160-17746-4	PZ-200-SS	Total/NA	Water	415.1	
160-17746-5	PZ-203-SS	Total/NA	Water	415.1	
160-17746-6 - DL	PZ-204A-SS	Total/NA	Water	415.1	
LCS 160-259381/34	Lab Control Sample	Total/NA	Water	415.1	
MB 160-259381/33	Method Blank	Total/NA	Water	415.1	

Rad

Prep Batch: 256198

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17746-3	PZ-103-SS	Total/NA	Water	PrecSep-21	
160-17746-4	PZ-200-SS	Total/NA	Water	PrecSep-21	
LCS 160-256198/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
MB 160-256198/1-A	Method Blank	Total/NA	Water	PrecSep-21	

Prep Batch: 256205

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17746-3	PZ-103-SS	Total/NA	Water	PrecSep_0	
160-17746-4	PZ-200-SS	Total/NA	Water	PrecSep_0	
LCS 160-256205/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
MB 160-256205/1-A	Method Blank	Total/NA	Water	PrecSep_0	

Rad (Continued)

Filtration Batch: 256322

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17746-3	PZ-103-SS	Dissolved	Water	Filtration	
160-17746-4	PZ-200-SS	Dissolved	Water	Filtration	

Prep Batch: 256592

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17746-3	PZ-103-SS	Dissolved	Water	PrecSep-21	256322
160-17746-4	PZ-200-SS	Dissolved	Water	PrecSep-21	256322
LCS 160-256592/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
MB 160-256592/1-A	Method Blank	Total/NA	Water	PrecSep-21	

Prep Batch: 256595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17746-3	PZ-103-SS	Dissolved	Water	PrecSep_0	256322
160-17746-4	PZ-200-SS	Dissolved	Water	PrecSep_0	256322
LCS 160-256595/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
MB 160-256595/1-A	Method Blank	Total/NA	Water	PrecSep_0	

Prep Batch: 258173

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17746-3	PZ-103-SS	Total/NA	Water	ExtChrom	
160-17746-4	PZ-200-SS	Total/NA	Water	ExtChrom	
LCS 160-258173/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
MB 160-258173/1-A	Method Blank	Total/NA	Water	ExtChrom	

Prep Batch: 259241

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17746-3	PZ-103-SS	Total/NA	Water	LSC_Dist_Susp	
160-17746-4	PZ-200-SS	Total/NA	Water	LSC_Dist_Susp	
LCS 160-259241/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	
MB 160-259241/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	

Prep Batch: 259427

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17746-3	PZ-103-SS	Total/NA	Water	ExtChrom	
160-17746-4	PZ-200-SS	Total/NA	Water	ExtChrom	
LCS 160-259427/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
MB 160-259427/1-A	Method Blank	Total/NA	Water	ExtChrom	

Surrogate Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17746-1

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

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

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	12DCE	TOL
Lab Sample ID	Client Sample ID	(71-139)	(80-121)	(76-121)	(80-129)
160-17746-1	TRIPBLANK060816	116	100	103	107
160-17746-2	TRIPBLANK060916	119	101	105	109
160-17746-3	PZ-103-SS	118	98	103	107
160-17746-4	PZ-200-SS	119	100	112	108
160-17746-5	PZ-203-SS	120	96	104	109
160-17746-6	PZ-204A-SS	123	97	108	109
LCS 160-256079/6	Lab Control Sample	104	97	113	100
LCSD 160-256079/7	Lab Control Sample Dup	107	98	107	102
MB 160-256079/9	Method Blank	123	96	113	110

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Tracer/Carrier Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17746-1

Method: 903.0 - Radium-226 (GFPC)

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

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Ba (40-110)
160-17746-3	PZ-103-SS	59.5
160-17746-4	PZ-200-SS	77.2
LCS 160-256198/2-A	Lab Control Sample	93.2
LCS 160-256592/2-A	Lab Control Sample	91.5
MB 160-256198/1-A	Method Blank	87.2
MB 160-256592/1-A	Method Blank	94.3

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Dissolved**

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Ba (40-110)
160-17746-3	PZ-103-SS	85.5
160-17746-4	PZ-200-SS	79.2

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

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

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
160-17746-3	PZ-103-SS	59.5	89.0
160-17746-4	PZ-200-SS	77.2	87.9
LCS 160-256205/2-A	Lab Control Sample	93.2	88.2
LCS 160-256595/2-A	Lab Control Sample	91.5	93.1
MB 160-256205/1-A	Method Blank	87.2	86.0
MB 160-256595/1-A	Method Blank	94.3	95.0

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Dissolved**

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
160-17746-3	PZ-103-SS	85.5	91.6
160-17746-4	PZ-200-SS	79.2	93.5

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Tracer/Carrier Summary

Client: Missouri Attorney General's Office
Project/Site: Groundwater - 2nd Quarter 2016

TestAmerica Job ID: 160-17746-1

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

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

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Th-229 (30-110)
160-17746-3	PZ-103-SS	70.5
160-17746-4	PZ-200-SS	65.9
LCS 160-259427/2-A	Lab Control Sample	57.6
MB 160-259427/1-A	Method Blank	80.3

Tracer/Carrier Legend

Th-229 = Thorium-229

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

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

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	U-232 (30-110)
160-17746-3	PZ-103-SS	55.8
160-17746-4	PZ-200-SS	51.2
LCS 160-258173/2-A	Lab Control Sample	82.7
MB 160-258173/1-A	Method Blank	54.6

Tracer/Carrier Legend

U-232 = Uranium-232

June 17, 2016

Brenna McDonald
Missouri Geological Survey
111 Fairgrounds Road
Rolla, MO 65401
TEL: (573) 368-2163
FAX:

RE: Bridgeton Landfill **WorkOrder:** 16060536

Dear Brenna McDonald:

TEKLAB, INC received 3 samples on 6/8/2016 2:10:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Elizabeth A. Hurley

Elizabeth A. Hurley
Project Manager
(618)344-1004 ex 33
ehurley@teklabinc.com

Report Contents

http://www.teklabinc.com/

Client: Missouri Geological Survey
Client Project: Bridgeton Landfill

Work Order: 16060536
Report Date: 17-Jun-16

This reporting package includes the following:

Cover Letter	1
Report Contents	2
Definitions	3
Case Narrative	4
Laboratory Results	5
Sample Summary	13
Dates Report	14
Quality Control Results	16
Receiving Check List	32
Chain of Custody	Appended

Definitions

http://www.teklabinc.com/

Client: Missouri Geological Survey **Work Order:** 16060536

Client Project: Bridgeton Landfill **Report Date:** 17-Jun-16

Abbr	Definition
CCV	Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
DF	Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilutions factors.
DNI	Did not ignite
DUP	Laboratory duplicate is an aliquot of a sample taken from the same container under laboratory conditions for independent processing and analysis independently of the original aliquot.
ICV	Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
IDPH	IL Dept. of Public Health
LCS	Laboratory control sample, spiked with verified known amounts of analytes, is analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. The acceptable recovery range is in the QC Package (provided upon request).
LCSD	Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MBLK	Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
MDL	Method detection limit means the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero.
MS	Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
MSD	Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MW	Molecular weight
ND	Not Detected at the Reporting Limit
NELAP	NELAP Accredited
PQL	Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. The acceptable recovery range is listed in the QC Package (provided upon request).
RL	The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
RPD	Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
SPK	The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
Surr	Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
TIC	Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"
TNTC	Too numerous to count (> 200 CFU)

Qualifiers

# -	Unknown hydrocarbon	B -	Analyte detected in associated Method Blank
E -	Value above quantitation range	H -	Holding times exceeded
I -	Associated internal standard was outside method criteria	J -	Analyte detected below quantitation limits
M -	Manual Integration used to determine area response	ND -	Not Detected at the Reporting Limit
R -	RPD outside accepted recovery limits	S -	Spike Recovery outside recovery limits
T -	TIC(Tentatively identified compound)	X -	Value exceeds Maximum Contaminant Level

Client: Missouri Geological Survey

Client Project: Bridgeton Landfill

Work Order: 16060536

Report Date: 17-Jun-16

Cooler Receipt Temp: 1.22 °C

Locations and Accreditations

	Collinsville	Springfield	Kansas City	Collinsville Air
Address	5445 Horseshoe Lake Road	3920 Pintail Dr	8421 Nieman Road	5445 Horseshoe Lake Road
	Collinsville, IL 62234-7425	Springfield, IL 62711-9415	Lenexa, KS 66214	Collinsville, IL 62234-7425
Phone	(618) 344-1004	(217) 698-1004	(913) 541-1998	(618) 344-1004
Fax	(618) 344-1005	(217) 698-1005	(913) 541-1998	(618) 344-1005
Email	jhriley@teklabinc.com	KKlostermann@teklabinc.com	dthompson@teklabinc.com	EHurley@teklabinc.com

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2017	Collinsville
Kansas	KDHE	E-10374	NELAP	7/31/2016	Collinsville
Louisiana	LDEQ	166493	NELAP	6/30/2017	Collinsville
Louisiana	LDEQ	166578	NELAP	6/30/2017	Collinsville
Texas	TCEQ	T104704515-12-1	NELAP	7/31/2016	Collinsville
Arkansas	ADEQ	88-0966		3/14/2017	Collinsville
Illinois	IDPH	17584		5/31/2017	Collinsville
Kentucky	KDEP	98006		12/31/2016	Collinsville
Kentucky	UST	0073		1/31/2017	Collinsville
Missouri	MDNR	00930		5/31/2017	Collinsville
Missouri	MDNR	930		1/31/2017	Collinsville
Oklahoma	ODEQ	9978		8/31/2016	Collinsville

Laboratory Results

http://www.teklabinc.com/

Client: Missouri Geological Survey
Work Order: 16060536
Client Project: Bridgeton Landfill
Report Date: 17-Jun-16
Lab ID: 16060536-001
Client Sample ID: PZ-202-SS
Matrix: GROUNDWATER
Collection Date: 06/06/2016 9:07

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 350.1 R2.0 (DISTILLED) TOTAL								
Nitrogen, Ammonia (as N)	NELAP	0.10		**0.46**	mg/L	1	06/10/2016 14:05	119702
EPA 600 353.2 R2.0 (TOTAL)								
Nitrogen, Nitrate-Nitrite (as N)	NELAP	0.050	J	**0.012**	mg/L	1	06/09/2016 10:15	R219711
EPA 600 365.4 (TOTAL)								
Phosphorus, Total (as P)	NELAP	0.050		**0.229**	mg/L	1	06/15/2016 9:28	119788
EPA 600 410.4								
Chemical Oxygen Demand	NELAP	50		**757**	mg/L	1	06/09/2016 17:03	R219749
STANDARD METHODS 2540 C (TOTAL)								
Total Dissolved Solids	NELAP	50		**4860**	mg/L	2.5	06/13/2016 21:06	R219920
SW-846 9036 (TOTAL)								
Sulfate	NELAP	10	S	**< 10**	mg/L	1	06/16/2016 18:37	R220113
MS and/or MSD did not recover within control limits due to matrix interference.								
SW-846 9060								
Total Organic Carbon (TOC)	NELAP	10.0		**195**	mg/L	10	06/09/2016 18:24	R219750
Results of MS and MSD have less certainty because values exceed upper quantitation limits.								
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		**0.24**	mg/L	1	06/13/2016 15:13	R219862
SW-846 9251 (TOTAL)								
Chloride	NELAP	500		**1410**	mg/L	100	06/15/2016 20:55	R220049
STANDARD METHODS 2340 B, HARDNESS (TOTAL)								
Hardness, as (CaCO3)	NELAP	1.00		**2730**	mg/L	1	06/13/2016 0:00	R219837
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Antimony	NELAP	0.0500		**< 0.0500**	mg/L	1	06/13/2016 9:44	119722
Arsenic	NELAP	0.0250		**0.0710**	mg/L	1	06/13/2016 9:44	119722
Barium	NELAP	0.0025		**2.57**	mg/L	1	06/13/2016 9:44	119722
Beryllium	NELAP	0.0005		**< 0.0005**	mg/L	1	06/13/2016 9:44	119722
Boron	NELAP	0.0200	J	**0.019**	mg/L	1	06/13/2016 9:44	119722
Cadmium	NELAP	0.0020		**< 0.0020**	mg/L	1	06/13/2016 9:44	119722
Chromium	NELAP	0.0050	J	**0.0031**	mg/L	1	06/13/2016 9:44	119722
Cobalt	NELAP	0.0050		**0.0221**	mg/L	1	06/13/2016 9:44	119722
Copper	NELAP	0.0050		**< 0.0050**	mg/L	1	06/13/2016 9:44	119722
Iron	NELAP	0.0200	S	**86.8**	mg/L	1	06/13/2016 9:44	119722
Lead	NELAP	0.0150		**< 0.0150**	mg/L	1	06/13/2016 9:44	119722
Magnesium	NELAP	0.0500	S	**282**	mg/L	1	06/13/2016 9:44	119722
Manganese	NELAP	0.0030		**2.41**	mg/L	1	06/13/2016 9:44	119722
Nickel	NELAP	0.0050		**0.0646**	mg/L	1	06/13/2016 9:44	119722
Selenium	NELAP	0.0400		**< 0.0400**	mg/L	1	06/13/2016 9:44	119722
Silver	NELAP	0.0050		**< 0.0050**	mg/L	1	06/13/2016 9:44	119722
Sodium	NELAP	0.0500	S	**157**	mg/L	1	06/13/2016 9:44	119722
Thallium	NELAP	0.0500		**< 0.0500**	mg/L	1	06/13/2016 9:44	119722
Vanadium	NELAP	0.0100		**0.0104**	mg/L	1	06/13/2016 9:44	119722
Zinc	NELAP	0.0100	BJ	**0.0073**	mg/L	1	06/13/2016 9:44	119722
MS QC limits for Ca, Fe, Mg, and Na are not applicable due to high sample/spike ratio.								
Contamination present in MBLK for Zn. Sample results below the RL are reportable per 2009 TNI Standard (Volume1, Module 4, section 1.7.4.1).								
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	06/13/2016 13:45	119724

Laboratory Results

http://www.teklabinc.com/

Client: Missouri Geological Survey
Work Order: 16060536
Client Project: Bridgeton Landfill
Report Date: 17-Jun-16
Lab ID: 16060536-001
Client Sample ID: PZ-202-SS
Matrix: GROUNDWATER
Collection Date: 06/06/2016 9:07

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 13:38	119762
1,1,1-Trichloroethane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 13:38	119762
1,1,2,2-Tetrachloroethane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 13:38	119762
1,1,2-Trichloroethane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 13:38	119762
1,1-Dichloroethane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 13:38	119762
1,1-Dichloroethene	NELAP	5.0		**ND**	µg/L	1	06/13/2016 13:38	119762
1,2,3-Trichloropropane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 13:38	119762
1,2-Dibromo-3-chloropropane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 13:38	119762
1,2-Dibromoethane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 13:38	119762
1,2-Dichlorobenzene	NELAP	5.0		**ND**	µg/L	1	06/13/2016 13:38	119762
1,2-Dichloroethane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 13:38	119762
1,2-Dichloropropane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 13:38	119762
1,4-Dichlorobenzene	NELAP	5.0		**ND**	µg/L	1	06/13/2016 13:38	119762
2-Butanone	NELAP	25.0		**ND**	µg/L	1	06/13/2016 13:38	119762
2-Hexanone	NELAP	25.0		**ND**	µg/L	1	06/13/2016 13:38	119762
4-Methyl-2-pentanone	NELAP	25.0		**ND**	µg/L	1	06/13/2016 13:38	119762
Acetone	NELAP	25.0	J	**6.0**	µg/L	1	06/13/2016 13:38	119762
Acrylonitrile	NELAP	5.0		**ND**	µg/L	1	06/13/2016 13:38	119762
Benzene	NELAP	2.0		**198**	µg/L	1	06/13/2016 13:38	119762
Bromochloromethane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 13:38	119762
Bromodichloromethane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 13:38	119762
Bromoform	NELAP	5.0		**ND**	µg/L	1	06/13/2016 13:38	119762
Bromomethane	NELAP	10.0		**ND**	µg/L	1	06/13/2016 13:38	119762
Carbon disulfide	NELAP	5.0		**ND**	µg/L	1	06/13/2016 13:38	119762
Carbon tetrachloride	NELAP	5.0		**ND**	µg/L	1	06/13/2016 13:38	119762
Chlorobenzene	NELAP	5.0		**ND**	µg/L	1	06/13/2016 13:38	119762
Chloroethane	NELAP	10.0		**ND**	µg/L	1	06/13/2016 13:38	119762
Chloroform	NELAP	5.0		**ND**	µg/L	1	06/13/2016 13:38	119762
Chloromethane	NELAP	10.0		**ND**	µg/L	1	06/13/2016 13:38	119762
cis-1,2-Dichloroethene	NELAP	5.0		**ND**	µg/L	1	06/13/2016 13:38	119762
cis-1,3-Dichloropropene	NELAP	5.0		**ND**	µg/L	1	06/13/2016 13:38	119762
Dibromochloromethane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 13:38	119762
Dibromomethane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 13:38	119762
Ethylbenzene	NELAP	5.0		**ND**	µg/L	1	06/13/2016 13:38	119762
Iodomethane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 13:38	119762
Methylene chloride	NELAP	5.0		**ND**	µg/L	1	06/13/2016 13:38	119762
Styrene	NELAP	5.0		**ND**	µg/L	1	06/13/2016 13:38	119762
Tetrachloroethene	NELAP	5.0		**ND**	µg/L	1	06/13/2016 13:38	119762
Toluene	NELAP	5.0		**5.0**	µg/L	1	06/13/2016 13:38	119762
trans-1,2-Dichloroethene	NELAP	5.0		**ND**	µg/L	1	06/13/2016 13:38	119762
trans-1,3-Dichloropropene	NELAP	5.0		**ND**	µg/L	1	06/13/2016 13:38	119762
trans-1,4-Dichloro-2-butene	NELAP	10.0		**ND**	µg/L	1	06/13/2016 13:38	119762
Trichloroethene	NELAP	5.0		**ND**	µg/L	1	06/13/2016 13:38	119762
Trichlorofluoromethane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 13:38	119762
Vinyl acetate	NELAP	10.0		**ND**	µg/L	1	06/13/2016 13:38	119762
Vinyl chloride	NELAP	2.0		**ND**	µg/L	1	06/13/2016 13:38	119762
Xylenes, Total	NELAP	5.0		**ND**	µg/L	1	06/13/2016 13:38	119762

Laboratory Results

http://www.teklabinc.com/

Client: Missouri Geological Survey
Work Order: 16060536
Client Project: Bridgeton Landfill
Report Date: 17-Jun-16
Lab ID: 16060536-001
Client Sample ID: PZ-202-SS
Matrix: GROUNDWATER
Collection Date: 06/06/2016 9:07

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Surr: 1,2-Dichloroethane-d4		74.7-129		**102.8**	%REC	1	06/13/2016 13:38	119762
Surr: 4-Bromofluorobenzene		86-119		**97.6**	%REC	1	06/13/2016 13:38	119762
Surr: Dibromofluoromethane		81.7-123		**96.1**	%REC	1	06/13/2016 13:38	119762
Surr: Toluene-d8		84.3-114		**96.8**	%REC	1	06/13/2016 13:38	119762

Laboratory Results

http://www.teklabinc.com/

Client: Missouri Geological Survey
Work Order: 16060536
Client Project: Bridgeton Landfill
Report Date: 17-Jun-16
Lab ID: 16060536-002
Client Sample ID: PZ-206-SS
Matrix: GROUNDWATER
Collection Date: 06/08/2016 9:30

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 350.1 R2.0 (DISTILLED) TOTAL								
Nitrogen, Ammonia (as N)	NELAP	0.10		**0.26**	mg/L	1	06/10/2016 16:45	119702
EPA 600 353.2 R2.0 (TOTAL)								
Nitrogen, Nitrate-Nitrite (as N)	NELAP	0.050	J	**0.010**	mg/L	1	06/09/2016 10:12	R219711
EPA 600 365.4 (TOTAL)								
Phosphorus, Total (as P)	NELAP	0.050		**0.162**	mg/L	1	06/15/2016 8:58	119826
EPA 600 410.4								
Chemical Oxygen Demand	NELAP	50		**78**	mg/L	1	06/09/2016 17:04	R219749
STANDARD METHODS 2540 C (TOTAL)								
Total Dissolved Solids	NELAP	20		**892**	mg/L	1	06/10/2016 21:12	R219849
SW-846 9036 (TOTAL)								
Sulfate	NELAP	20		**48**	mg/L	2	06/15/2016 5:06	R219929
SW-846 9060								
Total Organic Carbon (TOC)	NELAP	10.0		**25.4**	mg/L	10	06/09/2016 18:49	R219750
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		**1.67**	mg/L	1	06/13/2016 15:14	R219862
SW-846 9251 (TOTAL)								
Chloride	NELAP	25		**144**	mg/L	5	06/15/2016 21:22	R220049
STANDARD METHODS 2340 B, HARDNESS (TOTAL)								
Hardness, as (CaCO3)	NELAP	1.00		**744**	mg/L	1	06/13/2016 0:00	R219837
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Antimony	NELAP	0.0500		**< 0.0500**	mg/L	1	06/13/2016 10:07	119722
Arsenic	NELAP	0.0250		**< 0.0250**	mg/L	1	06/13/2016 10:07	119722
Barium	NELAP	0.0025		**0.0874**	mg/L	1	06/13/2016 10:07	119722
Beryllium	NELAP	0.0005		**< 0.0005**	mg/L	1	06/13/2016 10:07	119722
Boron	NELAP	0.0200		**0.170**	mg/L	1	06/13/2016 10:07	119722
Cadmium	NELAP	0.0020		**< 0.0020**	mg/L	1	06/13/2016 10:07	119722
Chromium	NELAP	0.0050		**< 0.0050**	mg/L	1	06/13/2016 10:07	119722
Cobalt	NELAP	0.0050		**< 0.0050**	mg/L	1	06/13/2016 10:07	119722
Copper	NELAP	0.0050		**< 0.0050**	mg/L	1	06/13/2016 10:07	119722
Iron	NELAP	0.0200		**3.76**	mg/L	1	06/13/2016 10:07	119722
Lead	NELAP	0.0150		**< 0.0150**	mg/L	1	06/13/2016 10:07	119722
Magnesium	NELAP	0.0500		**91.5**	mg/L	1	06/13/2016 10:07	119722
Manganese	NELAP	0.0030		**0.0753**	mg/L	1	06/13/2016 10:07	119722
Nickel	NELAP	0.0050		**0.0077**	mg/L	1	06/13/2016 10:07	119722
Selenium	NELAP	0.0400		**< 0.0400**	mg/L	1	06/13/2016 10:07	119722
Silver	NELAP	0.0050		**< 0.0050**	mg/L	1	06/13/2016 10:07	119722
Sodium	NELAP	0.0500		**22.7**	mg/L	1	06/13/2016 10:07	119722
Thallium	NELAP	0.0500		**< 0.0500**	mg/L	1	06/13/2016 10:07	119722
Vanadium	NELAP	0.0100		**< 0.0100**	mg/L	1	06/13/2016 10:07	119722
Zinc	NELAP	0.0100	BJ	**0.0041**	mg/L	1	06/13/2016 10:07	119722
Contamination present in MBLK for Zn. Sample results below the RL are reportable per 2009 TNI Standard (Volume1, Module 4, section 1.7.4.1).								
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	06/13/2016 13:48	119724
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:08	119762
1,1,1-Trichloroethane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:08	119762

Laboratory Results

http://www.teklabinc.com/

Client: Missouri Geological Survey
Work Order: 16060536
Client Project: Bridgeton Landfill
Report Date: 17-Jun-16
Lab ID: 16060536-002
Client Sample ID: PZ-206-SS
Matrix: GROUNDWATER
Collection Date: 06/08/2016 9:30

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,2,2-Tetrachloroethane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:08	119762
1,1,2-Trichloroethane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:08	119762
1,1-Dichloroethane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:08	119762
1,1-Dichloroethene	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:08	119762
1,2,3-Trichloropropane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:08	119762
1,2-Dibromo-3-chloropropane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:08	119762
1,2-Dibromoethane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:08	119762
1,2-Dichlorobenzene	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:08	119762
1,2-Dichloroethane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:08	119762
1,2-Dichloropropane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:08	119762
1,4-Dichlorobenzene	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:08	119762
2-Butanone	NELAP	25.0		**ND**	µg/L	1	06/13/2016 15:08	119762
2-Hexanone	NELAP	25.0		**ND**	µg/L	1	06/13/2016 15:08	119762
4-Methyl-2-pentanone	NELAP	25.0		**ND**	µg/L	1	06/13/2016 15:08	119762
Acetone	NELAP	25.0		**ND**	µg/L	1	06/13/2016 15:08	119762
Acrylonitrile	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:08	119762
Benzene	NELAP	2.0		**ND**	µg/L	1	06/13/2016 15:08	119762
Bromochloromethane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:08	119762
Bromodichloromethane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:08	119762
Bromoform	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:08	119762
Bromomethane	NELAP	10.0		**ND**	µg/L	1	06/13/2016 15:08	119762
Carbon disulfide	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:08	119762
Carbon tetrachloride	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:08	119762
Chlorobenzene	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:08	119762
Chloroethane	NELAP	10.0		**ND**	µg/L	1	06/13/2016 15:08	119762
Chloroform	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:08	119762
Chloromethane	NELAP	10.0		**ND**	µg/L	1	06/13/2016 15:08	119762
cis-1,2-Dichloroethene	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:08	119762
cis-1,3-Dichloropropene	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:08	119762
Dibromochloromethane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:08	119762
Dibromomethane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:08	119762
Ethylbenzene	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:08	119762
Iodomethane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:08	119762
Methylene chloride	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:08	119762
Styrene	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:08	119762
Tetrachloroethene	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:08	119762
Toluene	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:08	119762
trans-1,2-Dichloroethene	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:08	119762
trans-1,3-Dichloropropene	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:08	119762
trans-1,4-Dichloro-2-butene	NELAP	10.0		**ND**	µg/L	1	06/13/2016 15:08	119762
Trichloroethene	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:08	119762
Trichlorofluoromethane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:08	119762
Vinyl acetate	NELAP	10.0		**ND**	µg/L	1	06/13/2016 15:08	119762
Vinyl chloride	NELAP	2.0		**ND**	µg/L	1	06/13/2016 15:08	119762
Xylenes, Total	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:08	119762
Surr: 1,2-Dichloroethane-d4		74.7-129		**98.6**	%REC	1	06/13/2016 15:08	119762
Surr: 4-Bromofluorobenzene		86-119		**98.7**	%REC	1	06/13/2016 15:08	119762

Laboratory Results

http://www.teklabinc.com/

Client: Missouri Geological Survey
Work Order: 16060536
Client Project: Bridgeton Landfill
Report Date: 17-Jun-16
Lab ID: 16060536-002
Client Sample ID: PZ-206-SS
Matrix: GROUNDWATER
Collection Date: 06/08/2016 9:30

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Surr: Dibromofluoromethane		81.7-123		**100.8**	%REC	1	06/13/2016 15:08	119762
Surr: Toluene-d8		84.3-114		**97.0**	%REC	1	06/13/2016 15:08	119762

Laboratory Results

http://www.teklabinc.com/

Client: Missouri Geological Survey
Work Order: 16060536
Client Project: Bridgeton Landfill
Report Date: 17-Jun-16
Lab ID: 16060536-003
Client Sample ID: Trip Blank
Matrix: TRIP BLANK
Collection Date: 06/08/2016 14:10

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:38	119762
1,1,1-Trichloroethane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:38	119762
1,1,2,2-Tetrachloroethane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:38	119762
1,1,2-Trichloroethane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:38	119762
1,1-Dichloroethane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:38	119762
1,1-Dichloroethene	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:38	119762
1,2,3-Trichloropropane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:38	119762
1,2-Dibromo-3-chloropropane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:38	119762
1,2-Dibromoethane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:38	119762
1,2-Dichlorobenzene	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:38	119762
1,2-Dichloroethane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:38	119762
1,2-Dichloropropane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:38	119762
1,4-Dichlorobenzene	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:38	119762
2-Butanone	NELAP	25.0		**ND**	µg/L	1	06/13/2016 15:38	119762
2-Hexanone	NELAP	25.0		**ND**	µg/L	1	06/13/2016 15:38	119762
4-Methyl-2-pentanone	NELAP	25.0		**ND**	µg/L	1	06/13/2016 15:38	119762
Acetone	NELAP	25.0		**ND**	µg/L	1	06/13/2016 15:38	119762
Acrylonitrile	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:38	119762
Benzene	NELAP	2.0		**ND**	µg/L	1	06/13/2016 15:38	119762
Bromochloromethane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:38	119762
Bromodichloromethane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:38	119762
Bromoform	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:38	119762
Bromomethane	NELAP	10.0		**ND**	µg/L	1	06/13/2016 15:38	119762
Carbon disulfide	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:38	119762
Carbon tetrachloride	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:38	119762
Chlorobenzene	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:38	119762
Chloroethane	NELAP	10.0		**ND**	µg/L	1	06/13/2016 15:38	119762
Chloroform	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:38	119762
Chloromethane	NELAP	10.0		**ND**	µg/L	1	06/13/2016 15:38	119762
cis-1,2-Dichloroethene	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:38	119762
cis-1,3-Dichloropropene	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:38	119762
Dibromochloromethane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:38	119762
Dibromomethane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:38	119762
Ethylbenzene	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:38	119762
Iodomethane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:38	119762
Methylene chloride	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:38	119762
Styrene	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:38	119762
Tetrachloroethene	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:38	119762
Toluene	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:38	119762
trans-1,2-Dichloroethene	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:38	119762
trans-1,3-Dichloropropene	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:38	119762
trans-1,4-Dichloro-2-butene	NELAP	10.0		**ND**	µg/L	1	06/13/2016 15:38	119762
Trichloroethene	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:38	119762
Trichlorofluoromethane	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:38	119762
Vinyl acetate	NELAP	10.0		**ND**	µg/L	1	06/13/2016 15:38	119762
Vinyl chloride	NELAP	2.0		**ND**	µg/L	1	06/13/2016 15:38	119762
Xylenes, Total	NELAP	5.0		**ND**	µg/L	1	06/13/2016 15:38	119762

Laboratory Results

http://www.teklabinc.com/

Client: Missouri Geological Survey
Work Order: 16060536
Client Project: Bridgeton Landfill
Report Date: 17-Jun-16
Lab ID: 16060536-003
Client Sample ID: Trip Blank
Matrix: TRIP BLANK
Collection Date: 06/08/2016 14:10

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Surr: 1,2-Dichloroethane-d4		74.7-129		**99.3**	%REC	1	06/13/2016 15:38	119762
Surr: 4-Bromofluorobenzene		86-119		**100.3**	%REC	1	06/13/2016 15:38	119762
Surr: Dibromofluoromethane		81.7-123		**100.2**	%REC	1	06/13/2016 15:38	119762
Surr: Toluene-d8		84.3-114		**97.5**	%REC	1	06/13/2016 15:38	119762

Sample Summary

http://www.teklabinc.com/

Client: Missouri Geological Survey
Client Project: Bridgeton Landfill

Work Order: 16060536
Report Date: 17-Jun-16

Lab Sample ID	Client Sample ID	Matrix	Fractions	Collection Date
16060536-001	PZ-202-SS	Groundwater	5	06/06/2016 9:07
16060536-002	PZ-206-SS	Groundwater	5	06/08/2016 9:30
16060536-003	Trip Blank	Trip Blank	1	06/08/2016 14:10

Dates Report

http://www.teklabinc.com/

Client: Missouri Geological Survey
Client Project: Bridgeton Landfill

Work Order: 16060536
Report Date: 17-Jun-16

Sample ID	Client Sample ID / Test Name	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
16060536-001A	PZ-202-SS	06/06/2016 9:07	06/08/2016 14:10		
	Standard Methods 2540 C (Total)				06/13/2016 21:06
	SW-846 9036 (Total)				06/16/2016 18:37
	SW-846 9214 (Total)				06/13/2016 15:13
	SW-846 9251 (Total)				06/15/2016 20:55
16060536-001B	PZ-202-SS	06/06/2016 9:07	06/08/2016 14:10		
	Standard Methods 2340 B, Hardness (Total)				06/13/2016 0:00
	SW-846 3005A, 6010B, Metals by ICP (Total)			06/10/2016 18:11	06/13/2016 9:44
	SW-846 7470A (Total)			06/10/2016 20:28	06/13/2016 13:45
16060536-001C	PZ-202-SS	06/06/2016 9:07	06/08/2016 14:10		
	EPA 600 410.4				06/09/2016 17:03
	SW-846 9060				06/09/2016 18:24
16060536-001D	PZ-202-SS	06/06/2016 9:07	06/08/2016 14:10		
	EPA 600 350.1 R2.0 (Distilled) Total			06/10/2016 10:12	06/10/2016 14:05
	EPA 600 353.2 R2.0 (Total)				06/09/2016 10:15
	EPA 600 365.4 (Total)			06/13/2016 23:45	06/15/2016 9:28
16060536-001E	PZ-202-SS	06/06/2016 9:07	06/08/2016 14:10		
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				06/13/2016 13:38
16060536-002A	PZ-206-SS	06/08/2016 9:30	06/08/2016 14:10		
	Standard Methods 2540 C (Total)				06/10/2016 21:12
	SW-846 9036 (Total)				06/15/2016 5:06
	SW-846 9214 (Total)				06/13/2016 15:14
	SW-846 9251 (Total)				06/15/2016 21:22
16060536-002B	PZ-206-SS	06/08/2016 9:30	06/08/2016 14:10		
	Standard Methods 2340 B, Hardness (Total)				06/13/2016 0:00
	SW-846 3005A, 6010B, Metals by ICP (Total)			06/10/2016 18:11	06/13/2016 10:07
	SW-846 7470A (Total)			06/10/2016 20:28	06/13/2016 13:48
16060536-002C	PZ-206-SS	06/08/2016 9:30	06/08/2016 14:10		
	EPA 600 410.4				06/09/2016 17:04
	SW-846 9060				06/09/2016 18:49
16060536-002D	PZ-206-SS	06/08/2016 9:30	06/08/2016 14:10		
	EPA 600 350.1 R2.0 (Distilled) Total			06/10/2016 10:12	06/10/2016 16:45
	EPA 600 353.2 R2.0 (Total)				06/09/2016 10:12
	EPA 600 365.4 (Total)			06/14/2016 21:06	06/15/2016 8:58
16060536-002E	PZ-206-SS	06/08/2016 9:30	06/08/2016 14:10		
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				06/13/2016 15:08

Dates Report

http://www.teklabinc.com/

Client: Missouri Geological Survey
Client Project: Bridgeton Landfill

Work Order: 16060536
Report Date: 17-Jun-16

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			**Prep Date/Time**	**Analysis Date/Time**
16060536-003A	Trip Blank	06/08/2016 14:10	06/08/2016 14:10		
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				06/13/2016 15:38

Client: Missouri Geological Survey **Work Order:** 16060536

Client Project: Bridgeton Landfill **Report Date:** 17-Jun-16

EPA 600 350.1 R2.0 (DISTILLED) TOTAL

Batch 119702 **SampType:** MBLK Units **mg/L**

SampID: MBLK 160610 NH3-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Ammonia (as N)	0.10	J	**0.10**						06/10/2016

Batch 119702 **SampType:** LCS Units **mg/L**

SampID: LCS 160610 NH3-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Ammonia (as N)	0.10		**1.94**	2.000	0	96.8	90	110	06/10/2016

Batch 119702 **SampType:** MS Units **mg/L**

SampID: 16060536-002DMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Ammonia (as N)	0.10		**2.22**	2.000	0.2560	98.0	90	110	06/10/2016

Batch 119702 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 16060536-002DMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Nitrogen, Ammonia (as N)	0.10		**2.25**	2.000	0.2560	99.6	2.216	1.43	06/10/2016

EPA 600 353.2 R2.0 (TOTAL)

Batch R219711 **SampType:** MBLK Units **mg/L**

SampID: ICB/MBLK

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)	0.050		**< 0.050**						06/09/2016

Batch R219711 **SampType:** LCS Units **mg/L**

SampID: ICV/LCS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)	2.50		**12.1**	11.50	0	105.3	90	110	06/09/2016

Batch R219711 **SampType:** MS Units **mg/L**

SampID: 16060536-001DMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)	0.050		**0.259**	0.2500	0.01200	98.8	90	110	06/09/2016

Batch R219711 **SampType:** MSD Units **mg/L** RPD Limit **10**

SampID: 16060536-001DMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)	0.050		**0.263**	0.2500	0.01200	100.4	0.2590	1.53	06/09/2016

Client: Missouri Geological Survey **Work Order:** 16060536

Client Project: Bridgeton Landfill **Report Date:** 17-Jun-16

EPA 600 365.4 (TOTAL)

Batch 119788 **SampType:** MBLK Units **mg/L**

SampID: MBLK 160613 TP-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Phosphorus, Total (as P)	0.050		**< 0.050**						06/14/2016

Batch 119788 **SampType:** LCS Units **mg/L**

SampID: LCS 160613 TP-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Phosphorus, Total (as P)	0.050		**1.06**	1.000	0	106.5	85	115	06/14/2016

Batch 119788 **SampType:** MS Units **mg/L**

SampID: 16060536-001DMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Phosphorus, Total (as P)	0.050		**1.24**	1.000	0.2290	100.9	85	115	06/15/2016

Batch 119788 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 16060536-001DMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Phosphorus, Total (as P)	0.050		**1.20**	1.000	0.2290	97.4	1.238	2.87	06/15/2016

Batch 119826 **SampType:** MBLK Units **mg/L**

SampID: MBLK 160614 TP-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Phosphorus, Total (as P)	0.050		**< 0.050**						06/15/2016

Batch 119826 **SampType:** LCS Units **mg/L**

SampID: LCS 160614 TP-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Phosphorus, Total (as P)	0.100		**0.969**	1.000	0	96.9	85	115	06/15/2016

EPA 600 410.4

Batch R219749 **SampType:** MBLK Units **mg/L**

SampID: MBLK

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chemical Oxygen Demand	50		**< 50**						06/09/2016

Batch R219749 **SampType:** LCS Units **mg/L**

SampID: LCS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chemical Oxygen Demand	50		**175**	172.0	0	101.6	90	110	06/09/2016

Client: Missouri Geological Survey **Work Order:** 16060536

Client Project: Bridgeton Landfill **Report Date:** 17-Jun-16

EPA 600 410.4

Batch R219749 **SampType:** MS Units **mg/L**

SampID: 16060536-001C MS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chemical Oxygen Demand	100		**1730**	1000	757.1	97.0	90	110	06/09/2016

Batch R219749 **SampType:** MSD Units **mg/L** RPD Limit **10**

SampID: 16060536-001C MSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Chemical Oxygen Demand	100		**1760**	1000	757.1	99.9	1727	1.67	06/09/2016

Batch R219749 **SampType:** MS Units **mg/L**

SampID: 16060536-002C MS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chemical Oxygen Demand	100		**1060**	1000	77.77	98.4	90	110	06/09/2016

Batch R219749 **SampType:** MSD Units **mg/L** RPD Limit **10**

SampID: 16060536-002C MSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Chemical Oxygen Demand	100		**1080**	1000	77.77	100.2	1061	1.73	06/09/2016

STANDARD METHODS 2540 C (TOTAL)

Batch R219849 **SampType:** MBLK Units **mg/L**

SampID: MBLK

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids	20		**< 20**						06/10/2016
Total Dissolved Solids	20	J	**18**						06/10/2016
Total Dissolved Solids	20	J	**12**						06/10/2016

Batch R219849 **SampType:** LCS Units **mg/L**

SampID: LCS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids	20		**1020**	1000	0	102.4	90	110	06/10/2016

Batch R219849 **SampType:** LCSQC Units **mg/L**

SampID: LCSQC

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids	20		**994**	1000	0	99.4	90	110	06/10/2016
Total Dissolved Solids	20		**990**	1000	0	99.0	90	110	06/10/2016

Batch R219849 **SampType:** MS Units **mg/L**

SampID: 16060536-002A MS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids	20		**1430**	500.0	892.0	107.6	85	115	06/10/2016

Quality Control Results

http://www.teklabinc.com/

Client: Missouri Geological Survey
Client Project: Bridgeton Landfill

Work Order: 16060536
Report Date: 17-Jun-16

STANDARD METHODS 2540 C (TOTAL)

Batch R219849 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 16060536-002A MSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids	20		**1400**	500.0	892.0	102.0	1430	1.98	06/10/2016

Batch R219920 **SampType:** MBLK Units **mg/L**
SampID: MBLK

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids	20	J	**10**						06/13/2016
Total Dissolved Solids	20		**< 20**						06/13/2016
Total Dissolved Solids	20		**< 20**						06/13/2016

Batch R219920 **SampType:** LCS Units **mg/L**
SampID: LCS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids	20		**966**	1000	0	96.6	90	110	06/13/2016

Batch R219920 **SampType:** LCSQC Units **mg/L**
SampID: LCSQC

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids	20		**986**	1000	0	98.6	90	110	06/13/2016
Total Dissolved Solids	20		**952**	1000	0	95.2	90	110	06/13/2016

Batch R219920 **SampType:** DUP Units **mg/L** RPD Limit **15**
SampID: 16060536-001A DUP

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids	50		**4930**				4855	1.53	06/13/2016

SW-846 9036 (TOTAL)

Batch R219801 **SampType:** MBLK Units **mg/L**
SampID: ICB/MBLK

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate	10		**< 10**						06/10/2016

Batch R219801 **SampType:** LCS Units **mg/L**
SampID: ICV/LCS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate	10		**19**	20.00	0	96.0	90	110	06/10/2016

Batch R219929 **SampType:** MBLK Units **mg/L**
SampID: CCB/MBLK

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate	10		**< 10**						06/14/2016

Client: Missouri Geological Survey **Work Order:** 16060536

Client Project: Bridgeton Landfill **Report Date:** 17-Jun-16

SW-846 9036 (TOTAL)

Batch R219929 **SampType:** LCS Units **mg/L**
SampID: CCV/LCS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate	10		**19**	20.00	0	97.0	90	110	06/14/2016

Batch R220044 **SampType:** MBLK Units **mg/L**
SampID: ICB/MBLK

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate	10		**< 10**						06/15/2016

Batch R220044 **SampType:** LCS Units **mg/L**
SampID: ICV/LCS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate	10		**20**	20.00	0	98.0	90	110	06/15/2016

Batch R220113 **SampType:** MBLK Units **mg/L**
SampID: ICB/MBLK

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate	10		**< 10**						06/16/2016

Batch R220113 **SampType:** LCS Units **mg/L**
SampID: ICV/LCS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate	10		**19**	20.00	0	92.7	90	110	06/16/2016

Batch R220113 **SampType:** MS Units **mg/L**
SampID: 16060536-001AMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate	10	JS	**5**	10.00	0	51.3	85	115	06/16/2016

Batch R220113 **SampType:** MSD Units **mg/L** RPD Limit **10**
SampID: 16060536-001AMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Sulfate	10	JS	**5**	10.00	0	52.6	5.130	0.00	06/16/2016

SW-846 9060

Batch R219750 **SampType:** MBLK Units **mg/L**
SampID: ICB/MBLK

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Organic Carbon (TOC)	1.0		**< 1.0**						06/09/2016

Client: Missouri Geological Survey **Work Order:** 16060536

Client Project: Bridgeton Landfill **Report Date:** 17-Jun-16

SW-846 9060

Batch R219750 **SampType:** LCS Units **mg/L**
SampID: ICV/LCS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Organic Carbon (TOC)	10.0		**67.3**	68.10	0	98.8	90	110	06/09/2016

Batch R219750 **SampType:** MS Units **mg/L**
SampID: 16060536-001CMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Organic Carbon (TOC)	10.0	E	**242**	50.00	194.7	94.1	85	115	06/09/2016

Batch R219750 **SampType:** MSD Units **mg/L** RPD Limit **10**
SampID: 16060536-001CMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Organic Carbon (TOC)	10.0	E	**243**	50.00	194.7	95.9	241.8	0.37	06/09/2016

SW-846 9214 (TOTAL)

Batch R219862 **SampType:** MBLK Units **mg/L**
SampID: MBLK

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride	0.10		**< 0.10**						06/13/2016

Batch R219862 **SampType:** LCS Units **mg/L**
SampID: LCS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride	0.10		**1.05**	1.000	0	105.0	90	110	06/13/2016

Batch R219862 **SampType:** MS Units **mg/L**
SampID: 16060536-002AMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride	0.10		**3.87**	2.000	1.673	110.0	85	115	06/13/2016

Batch R219862 **SampType:** MSD Units **mg/L** RPD Limit **10**
SampID: 16060536-002AMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride	0.10		**3.92**	2.000	1.673	112.4	3.872	1.26	06/13/2016

SW-846 9251 (TOTAL)

Batch R219802 **SampType:** MBLK Units **mg/L**
SampID: ICB/MBLK

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride	5	J	**3**						06/10/2016

Client: Missouri Geological Survey **Work Order:** 16060536

Client Project: Bridgeton Landfill **Report Date:** 17-Jun-16

SW-846 9251 (TOTAL)

Batch R219802 **SampType:** LCS Units **mg/L**
SampID: ICV/LCS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride	5		**22**	20.00	0	107.6	90	110	06/10/2016

Batch R219930 **SampType:** MBLK Units **mg/L**
SampID: MBLK/CCB

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride	5	J	**2**						06/14/2016

Batch R219930 **SampType:** LCS Units **mg/L**
SampID: LCS/CCV

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride	5		**20**	20.00	0	101.8	90	110	06/14/2016

Batch R220049 **SampType:** MBLK Units **mg/L**
SampID: ICB/MBLK

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride	5	J	**3**						06/15/2016

Batch R220049 **SampType:** LCS Units **mg/L**
SampID: ICV/LCS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride	5		**21**	20.00	0	105.2	90	110	06/15/2016

Batch R220049 **SampType:** MS Units **mg/L**
SampID: 16060536-001AMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride	500		**3340**	2000	1406	96.7	85	115	06/15/2016

Batch R220049 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 16060536-001AMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Chloride	500		**3280**	2000	1406	93.5	3339	1.88	06/15/2016

Quality Control Results

http://www.teklabinc.com/

Client: Missouri Geological Survey
Client Project: Bridgeton Landfill

Work Order: 16060536
Report Date: 17-Jun-16

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 119722 **SampType:** MBLK Units **mg/L**
SampID: MBLK-119722

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony	0.0500		**< 0.0500**	0.05000	0	0	-100	100	06/13/2016
Arsenic	0.0250		**< 0.0250**	0.02500	0	0	-100	100	06/13/2016
Barium	0.0025		**< 0.0025**	0.00250	0	0	-100	100	06/13/2016
Beryllium	0.0005		**< 0.0005**	0.00050	0	0	-100	100	06/13/2016
Boron	0.0200		**< 0.0200**	0.02000	0	0	-100	100	06/13/2016
Cadmium	0.0020		**< 0.0020**	0.00200	0	0	-100	100	06/13/2016
Calcium	0.0500		**< 0.0500**	0.05000	0	0	-100	100	06/13/2016
Chromium	0.0050		**< 0.0050**	0.00500	0	0	-100	100	06/13/2016
Cobalt	0.0050		**< 0.0050**	0.00500	0	0	-100	100	06/13/2016
Copper	0.0050		**< 0.0050**	0.00500	0	0	-100	100	06/13/2016
Iron	0.0200	J	**0.0083**	0.02000	0	41.5	-100	100	06/13/2016
Lead	0.0150		**< 0.0150**	0.01500	0	0	-100	100	06/13/2016
Magnesium	0.0500		**< 0.0500**	0.05000	0	0	-100	100	06/13/2016
Manganese	0.0030		**< 0.0030**	0.00300	0	0	-100	100	06/13/2016
Nickel	0.0050		**< 0.0050**	0.00500	0	0	-100	100	06/13/2016
Selenium	0.0400		**< 0.0400**	0.04000	0	0	-100	100	06/13/2016
Silver	0.0050		**< 0.0050**	0.00500	0	0	-100	100	06/13/2016
Sodium	0.0500		**< 0.0500**	0.05000	0	0	-100	100	06/13/2016
Thallium	0.0500		**< 0.0500**	0.05000	0	0	-100	100	06/13/2016
Vanadium	0.0100		**< 0.0100**	0.01000	0	0	-100	100	06/13/2016
Zinc	0.0100	S	**0.0117**	0.01000	0	117.0	-100	100	06/13/2016

Batch 119722 **SampType:** LCS Units **mg/L**
SampID: LCS-119722

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony	0.0500		**0.492**	0.5000	0	98.5	85	115	06/13/2016
Arsenic	0.0250		**0.512**	0.5000	0	102.5	85	115	06/13/2016
Barium	0.0025		**2.13**	2.000	0	106.4	85	115	06/13/2016
Beryllium	0.0005		**0.0522**	0.05000	0	104.4	85	115	06/13/2016
Boron	0.0200		**0.500**	0.5000	0	100.0	85	115	06/13/2016
Cadmium	0.0020		**0.0507**	0.05000	0	101.4	85	115	06/13/2016
Calcium	0.0500		**2.67**	2.500	0	106.7	85	115	06/13/2016
Chromium	0.0050		**0.205**	0.2000	0	102.5	85	115	06/13/2016
Cobalt	0.0050		**0.501**	0.5000	0	100.2	85	115	06/13/2016
Copper	0.0050		**0.258**	0.2500	0	103.1	85	115	06/13/2016
Iron	0.0200		**2.08**	2.000	0	104.2	85	115	06/13/2016
Lead	0.0150		**0.527**	0.5000	0	105.4	85	115	06/13/2016
Magnesium	0.0500		**2.53**	2.500	0	101.2	85	115	06/13/2016
Manganese	0.0030		**0.528**	0.5000	0	105.6	85	115	06/13/2016
Nickel	0.0050		**0.512**	0.5000	0	102.5	85	115	06/13/2016
Selenium	0.0400		**0.520**	0.5000	0	104.1	85	115	06/13/2016
Silver	0.0050		**0.0506**	0.05000	0	101.2	85	115	06/13/2016
Sodium	0.0500		**2.46**	2.500	0	98.4	85	115	06/13/2016
Thallium	0.0500		**0.251**	0.2500	0	100.4	85	115	06/13/2016
Vanadium	0.0100		**0.510**	0.5000	0	102.0	85	115	06/13/2016
Zinc	0.0100	B	**0.522**	0.5000	0	104.5	85	115	06/13/2016

Client: Missouri Geological Survey **Work Order:** 16060536

Client Project: Bridgeton Landfill **Report Date:** 17-Jun-16

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 119722 **SampType:** MS Units **mg/L**

SampID: 16060536-001BMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony	0.0500		**0.495**	0.5000	0	99.0	75	125	06/13/2016
Arsenic	0.0250		**0.578**	0.5000	0.07100	101.5	75	125	06/13/2016
Barium	0.0025		**4.44**	2.000	2.566	93.9	75	125	06/13/2016
Beryllium	0.0005		**0.0499**	0.05000	0	99.8	75	125	06/13/2016
Boron	0.0200		**0.517**	0.5000	0.01860	99.6	75	125	06/13/2016
Cadmium	0.0020		**0.0471**	0.05000	0	94.2	75	125	06/13/2016
Calcium	0.0500	S	**647**	2.500	626.8	824.0	75	125	06/13/2016
Chromium	0.0050		**0.200**	0.2000	0.003100	98.4	75	125	06/13/2016
Cobalt	0.0050		**0.499**	0.5000	0.02210	95.4	75	125	06/13/2016
Copper	0.0050		**0.264**	0.2500	0	105.5	75	125	06/13/2016
Iron	0.0200	S	**91.0**	2.000	86.84	207.5	75	125	06/13/2016
Lead	0.0150		**0.498**	0.5000	0	99.5	75	125	06/13/2016
Magnesium	0.0500	S	**291**	2.500	282.0	364.0	75	125	06/13/2016
Manganese	0.0030		**2.93**	0.5000	2.414	103.0	75	125	06/13/2016
Nickel	0.0050		**0.547**	0.5000	0.06460	96.5	75	125	06/13/2016
Selenium	0.0400		**0.511**	0.5000	0	102.2	75	125	06/13/2016
Silver	0.0050		**0.0510**	0.05000	0	102.0	75	125	06/13/2016
Sodium	0.0500	S	**163**	2.500	156.7	264.0	75	125	06/13/2016
Thallium	0.0500		**0.232**	0.2500	0	92.7	75	125	06/13/2016
Vanadium	0.0100		**0.508**	0.5000	0.01040	99.6	75	125	06/13/2016
Zinc	0.0100	B	**0.482**	0.5000	0.007300	94.9	75	125	06/13/2016

Batch 119722 **SampType:** MSD Units **mg/L** RPD Limit **20**

SampID: 16060536-001BMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony	0.0500		**0.501**	0.5000	0	100.1	0.4948	1.17	06/13/2016
Arsenic	0.0250		**0.582**	0.5000	0.07100	102.1	0.5784	0.57	06/13/2016
Barium	0.0025		**4.47**	2.000	2.566	95.2	4.444	0.58	06/13/2016
Beryllium	0.0005		**0.0502**	0.05000	0	100.4	0.04990	0.60	06/13/2016
Boron	0.0200		**0.520**	0.5000	0.01860	100.2	0.5168	0.54	06/13/2016
Cadmium	0.0020		**0.0474**	0.05000	0	94.8	0.04710	0.63	06/13/2016
Calcium	0.0500	S	**647**	2.500	626.8	816.0	647.4	0.03	06/13/2016
Chromium	0.0050		**0.202**	0.2000	0.003100	99.2	0.2000	0.75	06/13/2016
Cobalt	0.0050		**0.500**	0.5000	0.02210	95.7	0.4989	0.30	06/13/2016
Copper	0.0050		**0.265**	0.2500	0	106.0	0.2638	0.49	06/13/2016
Iron	0.0200	S	**91.2**	2.000	86.84	216.5	90.99	0.20	06/13/2016
Lead	0.0150		**0.499**	0.5000	0	99.9	0.4977	0.34	06/13/2016
Magnesium	0.0500	S	**294**	2.500	282.0	460.0	291.1	0.82	06/13/2016
Manganese	0.0030		**2.93**	0.5000	2.414	104.0	2.929	0.17	06/13/2016
Nickel	0.0050		**0.551**	0.5000	0.06460	97.3	0.5470	0.73	06/13/2016
Selenium	0.0400		**0.521**	0.5000	0	104.3	0.5110	2.01	06/13/2016
Silver	0.0050		**0.0512**	0.05000	0	102.4	0.05100	0.39	06/13/2016
Sodium	0.0500	S	**164**	2.500	156.7	300.0	163.3	0.55	06/13/2016
Thallium	0.0500		**0.233**	0.2500	0	93.2	0.2317	0.60	06/13/2016
Vanadium	0.0100		**0.511**	0.5000	0.01040	100.1	0.5084	0.51	06/13/2016
Zinc	0.0100	B	**0.484**	0.5000	0.007300	95.2	0.4816	0.39	06/13/2016

Quality Control Results

http://www.teklabinc.com/

Client: Missouri Geological Survey
Client Project: Bridgeton Landfill

Work Order: 16060536
Report Date: 17-Jun-16

SW-846 7470A (TOTAL)

Batch 119724 **SampType:** MBLK Units **mg/L**
SampID: MBLK-119724

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury	0.00020		**< 0.00020**	.000200	0	0	-100	100	06/13/2016

Batch 119724 **SampType:** LCS Units **mg/L**
SampID: LCS-119724

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury	0.00020		**0.00508**	0.00500	0	101.6	85	115	06/13/2016

Batch 119724 **SampType:** MS Units **mg/L**
SampID: 16060536-002BMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury	0.00020		**0.00485**	0.00500	0	97.0	75	125	06/13/2016

Batch 119724 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 16060536-002BMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury	0.00020		**0.00477**	0.00500	0	95.4	0.004850	1.66	06/13/2016

Client: Missouri Geological Survey **Work Order:** 16060536

Client Project: Bridgeton Landfill **Report Date:** 17-Jun-16

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch **119762** **SampType:** **MBLK** Units **µg/L**

SampID: MBLK-R160613A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1,1,2-Tetrachloroethane	5.0		**ND**						06/13/2016
1,1,1-Trichloroethane	5.0		**ND**						06/13/2016
1,1,2,2-Tetrachloroethane	5.0		**ND**						06/13/2016
1,1,2-Trichloroethane	5.0		**ND**						06/13/2016
1,1-Dichloroethane	5.0		**ND**						06/13/2016
1,1-Dichloroethene	5.0		**ND**						06/13/2016
1,2,3-Trichloropropane	5.0		**ND**						06/13/2016
1,2-Dibromo-3-chloropropane	5.0		**ND**						06/13/2016
1,2-Dibromoethane	5.0		**ND**						06/13/2016
1,2-Dichlorobenzene	5.0		**ND**						06/13/2016
1,2-Dichloroethane	5.0		**ND**						06/13/2016
1,2-Dichloropropane	5.0		**ND**						06/13/2016
1,4-Dichlorobenzene	5.0		**ND**						06/13/2016
2-Butanone	25.0		**ND**						06/13/2016
2-Hexanone	25.0		**ND**						06/13/2016
4-Methyl-2-pentanone	25.0		**ND**						06/13/2016
Acetone	25.0		**ND**						06/13/2016
Acrylonitrile	5.0		**ND**						06/13/2016
Benzene	2.0		**ND**						06/13/2016
Bromochloromethane	5.0		**ND**						06/13/2016
Bromodichloromethane	5.0		**ND**						06/13/2016
Bromoform	5.0		**ND**						06/13/2016
Bromomethane	10.0		**ND**						06/13/2016
Carbon disulfide	5.0		**ND**						06/13/2016
Carbon tetrachloride	5.0		**ND**						06/13/2016
Chlorobenzene	5.0		**ND**						06/13/2016
Chloroethane	10.0		**ND**						06/13/2016
Chloroform	5.0		**ND**						06/13/2016
Chloromethane	10.0		**ND**						06/13/2016
cis-1,2-Dichloroethene	5.0		**ND**						06/13/2016
cis-1,3-Dichloropropene	5.0		**ND**						06/13/2016
Dibromochloromethane	5.0		**ND**						06/13/2016
Dibromomethane	5.0		**ND**						06/13/2016
Ethylbenzene	5.0		**ND**						06/13/2016
Iodomethane	5.0		**ND**						06/13/2016
Methylene chloride	5.0		**ND**						06/13/2016
Styrene	5.0		**ND**						06/13/2016
Tetrachloroethene	5.0		**ND**						06/13/2016
Toluene	5.0		**ND**						06/13/2016
trans-1,2-Dichloroethene	5.0		**ND**						06/13/2016
trans-1,3-Dichloropropene	5.0		**ND**						06/13/2016
trans-1,4-Dichloro-2-butene	10.0		**ND**						06/13/2016
Trichloroethene	5.0		**ND**						06/13/2016
Trichlorofluoromethane	5.0		**ND**						06/13/2016
Vinyl acetate	10.0		**ND**						06/13/2016
Vinyl chloride	2.0		**ND**						06/13/2016
Xylenes, Total	5.0		**ND**						06/13/2016

Client: Missouri Geological Survey **Work Order:** 16060536

Client Project: Bridgeton Landfill **Report Date:** 17-Jun-16

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch **119762** **SampType:** **MBLK** Units **µg/L**

SampID: MBLK-R160613A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Surr: 1,2-Dichloroethane-d4			**48.9**	50.00		97.9	74.7	129	06/13/2016
Surr: 4-Bromofluorobenzene			**50.0**	50.00		99.9	86	119	06/13/2016
Surr: Dibromofluoromethane			**49.6**	50.00		99.3	81.7	123	06/13/2016
Surr: Toluene-d8			**49.1**	50.00		98.2	84.3	114	06/13/2016

Client: Missouri Geological Survey **Work Order:** 16060536

Client Project: Bridgeton Landfill **Report Date:** 17-Jun-16

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch **119762** **SampType:** **LCSD** Units **µg/L** RPD Limit **40**

SampID: LCSD-R160613A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
1,1,1,2-Tetrachloroethane	5.0		**55.2**	50.00	0	110.5	47.50	15.05	06/13/2016
1,1,1-Trichloroethane	5.0		**54.5**	50.00	0	109.0	47.93	12.79	06/13/2016
1,1,2,2-Tetrachloroethane	5.0		**50.5**	50.00	0	100.9	43.89	13.93	06/13/2016
1,1,2-Trichloroethane	5.0		**51.4**	50.00	0	102.8	44.60	14.15	06/13/2016
1,1-Dichloroethane	5.0		**52.5**	50.00	0	105.0	46.13	12.95	06/13/2016
1,1-Dichloroethene	5.0		**51.2**	50.00	0	102.3	44.59	13.70	06/13/2016
1,2,3-Trichloropropane	5.0		**48.1**	50.00	0	96.2	41.08	15.76	06/13/2016
1,2-Dibromo-3-chloropropane	5.0		**49.9**	50.00	0	99.8	42.73	15.50	06/13/2016
1,2-Dibromoethane	5.0		**51.2**	50.00	0	102.4	44.36	14.35	06/13/2016
1,2-Dichlorobenzene	5.0		**51.2**	50.00	0	102.5	44.18	14.80	06/13/2016
1,2-Dichloroethane	5.0		**53.1**	50.00	0	106.2	45.93	14.48	06/13/2016
1,2-Dichloropropane	5.0		**53.1**	50.00	0	106.2	46.07	14.22	06/13/2016
1,4-Dichlorobenzene	5.0		**51.6**	50.00	0	103.3	44.54	14.78	06/13/2016
2-Butanone	25.0		**123**	125.0	0	98.5	110.0	11.19	06/13/2016
2-Hexanone	25.0		**128**	125.0	0	102.6	111.5	13.90	06/13/2016
4-Methyl-2-pentanone	25.0		**129**	125.0	0	103.5	111.3	14.99	06/13/2016
Acetone	25.0		**112**	125.0	0	89.9	104.0	7.73	06/13/2016
Acrylonitrile	5.0		**50.2**	50.00	0	100.4	43.78	13.70	06/13/2016
Benzene	2.0		**52.1**	50.00	0	104.1	45.65	13.12	06/13/2016
Bromochloromethane	5.0		**51.5**	50.00	0	103.0	44.51	14.56	06/13/2016
Bromodichloromethane	5.0		**55.9**	50.00	0	111.9	48.24	14.76	06/13/2016
Bromoform	5.0		**56.4**	50.00	0	112.8	48.51	15.06	06/13/2016
Bromomethane	10.0		**48.7**	50.00	0	97.4	37.22	26.70	06/13/2016
Carbon disulfide	5.0		**46.6**	50.00	0	93.3	41.23	12.29	06/13/2016
Carbon tetrachloride	5.0		**57.3**	50.00	0	114.6	50.04	13.51	06/13/2016
Chlorobenzene	5.0		**52.7**	50.00	0	105.4	45.71	14.22	06/13/2016
Chloroethane	10.0		**46.7**	50.00	0	93.4	38.62	18.98	06/13/2016
Chloroform	5.0		**50.6**	50.00	0	101.1	43.81	14.31	06/13/2016
Chloromethane	10.0		**35.4**	50.00	0	70.7	29.67	17.53	06/13/2016
cis-1,2-Dichloroethene	5.0		**53.0**	50.00	0	105.9	46.34	13.35	06/13/2016
cis-1,3-Dichloropropene	5.0		**57.6**	50.00	0	115.2	49.50	15.11	06/13/2016
Dibromochloromethane	5.0		**56.5**	50.00	0	113.1	48.55	15.19	06/13/2016
Dibromomethane	5.0		**52.0**	50.00	0	104.1	44.62	15.37	06/13/2016
Ethylbenzene	5.0		**53.5**	50.00	0	106.9	46.46	14.03	06/13/2016
Iodomethane	5.0		**52.9**	50.00	0	105.8	42.09	22.78	06/13/2016
Methylene chloride	5.0		**49.5**	50.00	0	98.9	43.24	13.42	06/13/2016
Styrene	5.0		**55.2**	50.00	0	110.3	47.61	14.69	06/13/2016
Tetrachloroethene	5.0		**53.2**	50.00	0	106.5	46.81	12.83	06/13/2016
Toluene	5.0		**52.1**	50.00	0	104.2	45.03	14.56	06/13/2016
trans-1,2-Dichloroethene	5.0		**52.3**	50.00	0	104.7	45.97	12.96	06/13/2016
trans-1,3-Dichloropropene	5.0		**55.6**	50.00	0	111.1	47.83	14.97	06/13/2016
trans-1,4-Dichloro-2-butene	10.0		**53.4**	50.00	0	106.8	46.84	13.09	06/13/2016
Trichloroethene	5.0		**53.5**	50.00	0	107.1	46.41	14.25	06/13/2016
Trichlorofluoromethane	5.0		**57.0**	50.00	0	114.0	46.60	20.08	06/13/2016
Vinyl acetate	10.0		**56.8**	50.00	0	113.7	49.16	14.47	06/13/2016
Vinyl chloride	2.0		**45.3**	50.00	0	90.6	37.33	19.27	06/13/2016
Xylenes, Total	5.0		**163**	150.0	0	108.5	141.6	13.84	06/13/2016

Client: Missouri Geological Survey **Work Order:** 16060536

Client Project: Bridgeton Landfill **Report Date:** 17-Jun-16

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch **119762** **SampType:** **LCSD** Units **µg/L** RPD Limit **40**

SampID: LCSD-R160613A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Surr: 1,2-Dichloroethane-d4			**48.5**	50.00		97.0			06/13/2016
Surr: 4-Bromofluorobenzene			**48.0**	50.00		95.9			06/13/2016
Surr: Dibromofluoromethane			**49.6**	50.00		99.3			06/13/2016
Surr: Toluene-d8			**48.5**	50.00		97.0			06/13/2016

Client: Missouri Geological Survey **Work Order:** 16060536

Client Project: Bridgeton Landfill **Report Date:** 17-Jun-16

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch **119762** **SampType:** **LCS** Units **µg/L**

SampID: LCS-R160613A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1,1,2-Tetrachloroethane	5.0		**47.5**	50.00	0	95.0	81.9	115	06/13/2016
1,1,1-Trichloroethane	5.0		**47.9**	50.00	0	95.9	79.4	124	06/13/2016
1,1,2,2-Tetrachloroethane	5.0		**43.9**	50.00	0	87.8	74.7	116	06/13/2016
1,1,2-Trichloroethane	5.0		**44.6**	50.00	0	89.2	80.8	111	06/13/2016
1,1-Dichloroethane	5.0		**46.1**	50.00	0	92.3	79.4	114	06/13/2016
1,1-Dichloroethene	5.0		**44.6**	50.00	0	89.2	74.1	117	06/13/2016
1,2,3-Trichloropropane	5.0		**41.1**	50.00	0	82.2	77.3	112	06/13/2016
1,2-Dibromo-3-chloropropane	5.0		**42.7**	50.00	0	85.5	76	122	06/13/2016
1,2-Dibromoethane	5.0		**44.4**	50.00	0	88.7	80.8	114	06/13/2016
1,2-Dichlorobenzene	5.0		**44.2**	50.00	0	88.4	78.3	112	06/13/2016
1,2-Dichloroethane	5.0		**45.9**	50.00	0	91.9	70.6	118	06/13/2016
1,2-Dichloropropane	5.0		**46.1**	50.00	0	92.1	79.6	113	06/13/2016
1,4-Dichlorobenzene	5.0		**44.5**	50.00	0	89.1	77.8	114	06/13/2016
2-Butanone	25.0		**110**	125.0	0	88.0	70.7	136	06/13/2016
2-Hexanone	25.0		**112**	125.0	0	89.2	73.3	125	06/13/2016
4-Methyl-2-pentanone	25.0		**111**	125.0	0	89.1	76.3	122	06/13/2016
Acetone	25.0		**104**	125.0	0	83.2	56.4	147	06/13/2016
Acrylonitrile	5.0		**43.8**	50.00	0	87.6	74.1	128	06/13/2016
Benzene	2.0		**45.6**	50.00	0	91.3	80	114	06/13/2016
Bromochloromethane	5.0		**44.5**	50.00	0	89.0	73.3	121	06/13/2016
Bromodichloromethane	5.0		**48.2**	50.00	0	96.5	81.6	121	06/13/2016
Bromoform	5.0		**48.5**	50.00	0	97.0	83.1	127	06/13/2016
Bromomethane	10.0		**37.2**	50.00	0	74.4	44.4	154	06/13/2016
Carbon disulfide	5.0		**41.2**	50.00	0	82.5	73.2	118	06/13/2016
Carbon tetrachloride	5.0		**50.0**	50.00	0	100.1	79.4	130	06/13/2016
Chlorobenzene	5.0		**45.7**	50.00	0	91.4	81.4	110	06/13/2016
Chloroethane	10.0		**38.6**	50.00	0	77.2	52.1	137	06/13/2016
Chloroform	5.0		**43.8**	50.00	0	87.6	82.7	116	06/13/2016
Chloromethane	10.0		**29.7**	50.00	0	59.3	48.2	144	06/13/2016
cis-1,2-Dichloroethene	5.0		**46.3**	50.00	0	92.7	78.2	116	06/13/2016
cis-1,3-Dichloropropene	5.0		**49.5**	50.00	0	99.0	83	119	06/13/2016
Dibromochloromethane	5.0		**48.6**	50.00	0	97.1	81.2	121	06/13/2016
Dibromomethane	5.0		**44.6**	50.00	0	89.2	78.3	118	06/13/2016
Ethylbenzene	5.0		**46.5**	50.00	0	92.9	77.2	113	06/13/2016
Iodomethane	5.0		**42.1**	50.00	0	84.2	61.3	140	06/13/2016
Methylene chloride	5.0		**43.2**	50.00	0	86.5	74.1	114	06/13/2016
Styrene	5.0		**47.6**	50.00	0	95.2	83.4	113	06/13/2016
Tetrachloroethene	5.0		**46.8**	50.00	0	93.6	72.5	125	06/13/2016
Toluene	5.0		**45.0**	50.00	0	90.1	77.5	113	06/13/2016
trans-1,2-Dichloroethene	5.0		**46.0**	50.00	0	91.9	79	114	06/13/2016
trans-1,3-Dichloropropene	5.0		**47.8**	50.00	0	95.7	78	115	06/13/2016
trans-1,4-Dichloro-2-butene	10.0		**46.8**	50.00	0	93.7	63.3	128	06/13/2016
Trichloroethene	5.0		**46.4**	50.00	0	92.8	84.4	114	06/13/2016
Trichlorofluoromethane	5.0		**46.6**	50.00	0	93.2	75.2	132	06/13/2016
Vinyl acetate	10.0		**49.2**	50.00	0	98.3	64.5	127	06/13/2016
Vinyl chloride	2.0		**37.3**	50.00	0	74.7	58	134	06/13/2016
Xylenes, Total	5.0		**142**	150.0	0	94.4	80.1	111	06/13/2016

Client: Missouri Geological Survey **Work Order:** 16060536

Client Project: Bridgeton Landfill **Report Date:** 17-Jun-16

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 119762 **SampType: LCS** Units **µg/L**

SampID: LCS-R160613A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Surr: 1,2-Dichloroethane-d4			**47.9**	50.00		95.8	74.7	129	06/13/2016
Surr: 4-Bromofluorobenzene			**48.1**	50.00		96.3	86	119	06/13/2016
Surr: Dibromofluoromethane			**49.5**	50.00		99.0	81.7	123	06/13/2016
Surr: Toluene-d8			**48.4**	50.00		96.9	84.1	114	06/13/2016

Batch 119762 **SampType: MS** Units **µg/L**

SampID: 16060536-001EMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1-Dichloroethene	5.0		**82.5**	100.0	0	82.5	35.7	136	06/13/2016
Benzene	2.0	E	**297**	100.0	198.3	98.8	62.5	121	06/13/2016
Chlorobenzene	5.0		**85.0**	100.0	0	85.0	78.6	114	06/13/2016
Ethylbenzene	5.0		**89.5**	100.0	0	89.5	74.4	130	06/13/2016
Toluene	5.0		**94.0**	100.0	5.030	89.0	69.5	118	06/13/2016
Trichloroethene	5.0		**91.1**	100.0	0	91.1	69.4	117	06/13/2016
Xylenes, Total	5.0		**175**	200.0	0	87.5	71.1	125	06/13/2016
Surr: 1,2-Dichloroethane-d4			**52.6**	50.00		105.3	74.7	129	06/13/2016
Surr: 4-Bromofluorobenzene			**48.5**	50.00		96.9	86	119	06/13/2016
Surr: Dibromofluoromethane			**48.8**	50.00		97.6	81.7	123	06/13/2016
Surr: Toluene-d8			**47.9**	50.00		95.8	84.3	114	06/13/2016

Batch 119762 **SampType: MSD** Units **µg/L** RPD Limit **20**

SampID: 16060536-001EMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
1,1-Dichloroethene	5.0		**79.0**	100.0	0	79.0	82.47	4.26	06/13/2016
Benzene	2.0	E	**288**	100.0	198.3	89.9	297.2	3.05	06/13/2016
Chlorobenzene	5.0		**84.2**	100.0	0	84.2	84.95	0.92	06/13/2016
Ethylbenzene	5.0		**88.9**	100.0	0	88.9	89.54	0.76	06/13/2016
Toluene	5.0		**92.6**	100.0	5.030	87.5	94.01	1.54	06/13/2016
Trichloroethene	5.0		**89.1**	100.0	0	89.1	91.09	2.21	06/13/2016
Xylenes, Total	5.0		**174**	200.0	0	86.9	175.0	0.72	06/13/2016
Surr: 1,2-Dichloroethane-d4			**52.0**	50.00		104.0			06/13/2016
Surr: 4-Bromofluorobenzene			**48.7**	50.00		97.4			06/13/2016
Surr: Dibromofluoromethane			**48.2**	50.00		96.5			06/13/2016
Surr: Toluene-d8			**48.6**	50.00		97.1			06/13/2016

Receiving Check List

http://www.teklabinc.com/

Client: Missouri Geological Survey
Client Project: Bridgeton Landfill

Work Order: 16060536
Report Date: 17-Jun-16

Carrier: Nick Reed

Received By: KF

Completed by: Kalyn Foecke
On: 08-Jun-16

Reviewed by: Elizabeth A. Hurley
On: 08-Jun-16

Pages to follow: Chain of custody 1 Extra pages included 0

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	Temp °C 1.22
Type of thermal preservation?	None ☐	Ice ☑	Blue Ice ☐	Dry Ice ☐
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Reported field parameters measured:	Field ☐	Lab ☐	NA ☑	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐		

When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.

Water – at least one vial per sample has zero headspace?	Yes ☑	No ☐	No VOA vials ☐
Water - TOX containers have zero headspace?	Yes ☐	No ☐	No TOX containers ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☑	NA ☐
NPDES/CWA TCN interferences checked/treated in the field?	Yes ☐	No ☐	NA ☑

Any No responses must be detailed below or on the COC.

Additional sulfuric acid was needed in PZ-202-SS and PZ-206-SS upon arrival at the laboratory. AMD 6/8/16

Trip Blank collection date and time will be reported as the received date and time (end of trip). KF 6/8/16

CHAIN OF CUSTODY

pg. 1 of 1 Work Order # 16060536

TEKLAB, INC. 5445 Horseshoe Lake Road ~ Collinsville, IL 62234 ~ Phone: (618) 344-1004 ~ Fax: (618) 344-1005

Client: Missouri Atty General / MGS
Address:
City / State / Zip:
Contact: Brenna McDonald Phone: 573-453-4329
E-Mail: brenna.mcdonald@dnr.mo.gov Fax: 573-368-2111

Samples on: ☒ Ice ☐ Blue Ice ☐ No Ice 1.22 °C
Preserved in: ☒ Lab ☐ Field FOR LAB USE ONLY
Lab Notes: 6/8/16
*Added HNO3 to both 125 Amber Glass Bottles
Comments: 6/8/16
OK headspace KF 6/8/16

- Are these samples known to be involved in litigation? If yes, a surcharge will apply. ☒ Yes ☐ No
- Are these samples known to be hazardous? ☐ Yes ☒ No
- Are there any required reporting limits to be met on the requested analysis? If yes, please provide limits in comment section. ☐ Yes ☒ No

Project Name / Number: Bridgeton Landfill
Sample Collector's Name: Lynn Milberg
Results Requested: ☒ Standard ☐ 1-2 Day (100% Surcharge) ☐ Other_____ ☐ 3 Day (50% Surcharge)
Billing Instructions:

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNPRES	HNO_3	NaOH	H_2SO_4	HCL	MeOH	$NaHSO_4$	Other	MATRIX: Water	Drinking Water	Soil	Sludge	Sp. Waste	INDICATE ANALYSIS REQUESTED: MoApp I	
16060536-001	PZ-202-SS *	6/6/16 0907	1	1		2	3				✓					✓	TEKLAB Courier
002	PZ-206-SS *	6/8/16 0930	1	1		2	3				✓					✓	
003	Trip Blank																

Relinquished By	Date / Time	Received By	Date / Time
Lynn Milberg	6/8/2016 1235	Nick Reed	6/8/16 1235
Nick Reed	6/8/16 1410	K Keeche	6/8/16 1410

The individual signing this agreement on behalf of client acknowledges that he/she has read and understands the terms and conditions of this agreement, on the reverse side, and that he/she has the authority to sign on behalf of client.

WHITE – LAB YELLOW – SAMPLER'S COPY

June 13, 2016

Brenna McDonald
Missouri Geological Survey
111 Fairgrounds Road
Rolla, MO 65401
TEL: (573) 368-2163
FAX:

RE: Appendix I **WorkOrder:** 16060281

Dear Brenna McDonald:

TEKLAB, INC received 1 sample on 6/3/2016 5:10:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Emily E. Pohlman
Project Manager
(618)344-1004 ex 44
epohlman@teklabinc.com

Client: Missouri Geological Survey **Work Order:** 16060281

Client Project: Appendix I **Report Date:** 13-Jun-16

Abbr Definition

CCV	Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
DF	Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilutions factors.
DNI	Did not ignite
DUP	Laboratory duplicate is an aliquot of a sample taken from the same container under laboratory conditions for independent processing and analysis independently of the original aliquot.
ICV	Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
IDPH	IL Dept. of Public Health
LCS	Laboratory control sample, spiked with verified known amounts of analytes, is analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. The acceptable recovery range is in the QC Package (provided upon request).
LCSD	Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MBLK	Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
MDL	Method detection limit means the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero.
MS	Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
MSD	Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MW	Molecular weight
ND	Not Detected at the Reporting Limit
NELAP	NELAP Accredited
PQL	Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. The acceptable recovery range is listed in the QC Package (provided upon request).
RL	The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
RPD	Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
SPK	The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
Surr	Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
TIC	Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"
TNTC	Too numerous to count (> 200 CFU)

Qualifiers

# -	Unknown hydrocarbon	B -	Analyte detected in associated Method Blank
E -	Value above quantitation range	H -	Holding times exceeded
I -	Associated internal standard was outside method criteria	J -	Analyte detected below quantitation limits
M -	Manual Integration used to determine area response	ND -	Not Detected at the Reporting Limit
R -	RPD outside accepted recovery limits	S -	Spike Recovery outside recovery limits
T -	TIC(Tentatively identified compound)	X -	Value exceeds Maximum Contaminant Level

Case Narrative

http://www.teklabinc.com/

Client: Missouri Geological Survey
Client Project: Appendix I

Work Order: 16060281
Report Date: 13-Jun-16

Cooler Receipt Temp: 3.22 °C

Locations and Accreditations

	Collinsville	Springfield	Kansas City	Collinsville Air
Address	5445 Horseshoe Lake Road	3920 Pintail Dr	8421 Nieman Road	5445 Horseshoe Lake Road
	Collinsville, IL 62234-7425	Springfield, IL 62711-9415	Lenexa, KS 66214	Collinsville, IL 62234-7425
Phone	(618) 344-1004	(217) 698-1004	(913) 541-1998	(618) 344-1004
Fax	(618) 344-1005	(217) 698-1005	(913) 541-1998	(618) 344-1005
Email	jhriley@teklabinc.com	KKlostermann@teklabinc.com	dthompson@teklabinc.com	EHurley@teklabinc.com

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2017	Collinsville
Kansas	KDHE	E-10374	NELAP	7/31/2016	Collinsville
Louisiana	LDEQ	166493	NELAP	6/30/2017	Collinsville
Louisiana	LDEQ	166578	NELAP	6/30/2017	Collinsville
Texas	TCEQ	T104704515-12-1	NELAP	7/31/2016	Collinsville
Arkansas	ADEQ	88-0966		3/14/2017	Collinsville
Illinois	IDPH	17584		5/31/2017	Collinsville
Kentucky	KDEP	98006		12/31/2016	Collinsville
Kentucky	UST	0073		1/31/2017	Collinsville
Missouri	MDNR	00930		5/31/2017	Collinsville
Missouri	MDNR	930		1/31/2017	Collinsville
Oklahoma	ODEQ	9978		8/31/2016	Collinsville

Laboratory Results

http://www.teklabinc.com/

Client: Missouri Geological Survey
Work Order: 16060281
Client Project: Appendix I
Report Date: 13-Jun-16
Lab ID: 16060281-001
Client Sample ID: MO-3 SD
Matrix: GROUNDWATER
Collection Date: 06/02/2016 13:05

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 350.1 R2.0 (DISTILLED) TOTAL								
Nitrogen, Ammonia (as N)	NELAP	0.50	S	**5.94**	mg/L	5	06/07/2016 16:34	119586
MS and/or MSD did not recover within control limits. Result is verified by reprep and reanalysis.								
EPA 600 353.2 R2.0 (TOTAL)								
Nitrogen, Nitrate-Nitrite (as N)	NELAP	0.050	S	**0.059**	mg/L	1	06/07/2016 12:00	R219614
MS and/or MSD did not recover within control limits. Result is verified by reanalysis at dilution.								
EPA 600 365.4 (TOTAL)								
Phosphorus, Total (as P)	NELAP	0.050		**0.106**	mg/L	1	06/08/2016 9:01	119605
EPA 600 410.4								
Chemical Oxygen Demand	NELAP	50		**96**	mg/L	1	06/08/2016 14:24	R219669
STANDARD METHODS 2540 C (TOTAL)								
Total Dissolved Solids	NELAP	20		**826**	mg/L	1	06/08/2016 19:44	R219722
SW-846 9036 (TOTAL)								
Sulfate	NELAP	100	S	**129**	mg/L	10	06/06/2016 18:29	R219570
MS and/or MSD did not recover within control limits. Results are verified by a further dilution.								
SW-846 9060								
Total Organic Carbon (TOC)	NELAP	10.0		**26.3**	mg/L	10	06/06/2016 16:39	R219566
SW-846 9214 (TOTAL)								
Fluoride	NELAP	0.10		**1.29**	mg/L	1	06/07/2016 15:04	R219623
SW-846 9251 (TOTAL)								
Chloride	NELAP	50		**124**	mg/L	10	06/06/2016 18:28	R219572
STANDARD METHODS 2340 B, HARDNESS (TOTAL)								
Hardness, as (CaCO3)	NELAP	1.00		**421**	mg/L	1	06/08/2016 0:00	R219643
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Antimony	NELAP	0.0500		**< 0.0500**	mg/L	1	06/08/2016 17:35	119566
Arsenic	NELAP	0.0250		**< 0.0250**	mg/L	1	06/08/2016 17:35	119566
Barium	NELAP	0.0025		**0.286**	mg/L	1	06/08/2016 17:35	119566
Beryllium	NELAP	0.0005		**< 0.0005**	mg/L	1	06/08/2016 17:35	119566
Boron	NELAP	0.0200		**0.219**	mg/L	1	06/08/2016 17:35	119566
Cadmium	NELAP	0.0020		**< 0.0020**	mg/L	1	06/08/2016 17:35	119566
Calcium	NELAP	0.0500	S	**94.3**	mg/L	1	06/08/2016 17:35	119566
Chromium	NELAP	0.0050	J	**0.0040**	mg/L	1	06/08/2016 17:35	119566
Cobalt	NELAP	0.0050	J	**0.0031**	mg/L	1	06/08/2016 17:35	119566
Copper	NELAP	0.0050		**0.0059**	mg/L	1	06/08/2016 17:35	119566
Iron	NELAP	0.0200		**1.33**	mg/L	1	06/08/2016 17:35	119566
Lead	NELAP	0.0150		**< 0.0150**	mg/L	1	06/08/2016 17:35	119566
Magnesium	NELAP	0.0500	S	**44.9**	mg/L	1	06/08/2016 17:35	119566
Manganese	NELAP	0.0030		**1.29**	mg/L	1	06/08/2016 17:35	119566
Nickel	NELAP	0.0050		**0.0170**	mg/L	1	06/08/2016 17:35	119566
Selenium	NELAP	0.0400		**< 0.0400**	mg/L	1	06/09/2016 13:36	119651
Silver	NELAP	0.0050		**< 0.0050**	mg/L	1	06/08/2016 17:35	119566
Sodium	NELAP	0.0500	S	**162**	mg/L	1	06/08/2016 17:35	119566
Thallium	NELAP	0.0500		**< 0.0500**	mg/L	1	06/08/2016 17:35	119566
Vanadium	NELAP	0.0100	J	**0.0033**	mg/L	1	06/08/2016 17:35	119566
Zinc	NELAP	0.0100		**0.0164**	mg/L	1	06/08/2016 17:35	119566
MS QC limits for Ca, Mg, and Na are not applicable due to high sample/spike ratio.								

Laboratory Results

http://www.teklabinc.com/

Client: Missouri Geological Survey
Work Order: 16060281
Client Project: Appendix I
Report Date: 13-Jun-16
Lab ID: 16060281-001
Client Sample ID: MO-3 SD
Matrix: GROUNDWATER
Collection Date: 06/02/2016 13:05

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		**< 0.00020**	mg/L	1	06/08/2016 11:06	119568
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	5.0		**ND**	µg/L	1	06/06/2016 13:54	119550
1,1,1-Trichloroethane	NELAP	5.0		**ND**	µg/L	1	06/06/2016 13:54	119550
1,1,2,2-Tetrachloroethane	NELAP	5.0		**ND**	µg/L	1	06/06/2016 13:54	119550
1,1,2-Trichloroethane	NELAP	5.0		**ND**	µg/L	1	06/06/2016 13:54	119550
1,1-Dichloroethane	NELAP	5.0		**ND**	µg/L	1	06/06/2016 13:54	119550
1,1-Dichloroethene	NELAP	5.0		**ND**	µg/L	1	06/06/2016 13:54	119550
1,2,3-Trichloropropane	NELAP	5.0		**ND**	µg/L	1	06/06/2016 13:54	119550
1,2-Dibromo-3-chloropropane	NELAP	5.0		**ND**	µg/L	1	06/06/2016 13:54	119550
1,2-Dibromoethane	NELAP	5.0		**ND**	µg/L	1	06/06/2016 13:54	119550
1,2-Dichlorobenzene	NELAP	5.0		**ND**	µg/L	1	06/06/2016 13:54	119550
1,2-Dichloroethane	NELAP	5.0		**ND**	µg/L	1	06/06/2016 13:54	119550
1,2-Dichloropropane	NELAP	5.0		**ND**	µg/L	1	06/06/2016 13:54	119550
1,4-Dichlorobenzene	NELAP	5.0		**ND**	µg/L	1	06/06/2016 13:54	119550
2-Butanone	NELAP	25.0		**ND**	µg/L	1	06/06/2016 13:54	119550
2-Hexanone	NELAP	25.0		**ND**	µg/L	1	06/06/2016 13:54	119550
4-Methyl-2-pentanone	NELAP	25.0		**ND**	µg/L	1	06/06/2016 13:54	119550
Acetone	NELAP	25.0		**ND**	µg/L	1	06/06/2016 13:54	119550
Acrylonitrile	NELAP	5.0		**ND**	µg/L	1	06/06/2016 13:54	119550
Benzene	NELAP	2.0		**8.7**	µg/L	1	06/06/2016 13:54	119550
Bromochloromethane	NELAP	5.0		**ND**	µg/L	1	06/06/2016 13:54	119550
Bromodichloromethane	NELAP	5.0		**ND**	µg/L	1	06/06/2016 13:54	119550
Bromoform	NELAP	5.0		**ND**	µg/L	1	06/06/2016 13:54	119550
Bromomethane	NELAP	10.0		**ND**	µg/L	1	06/06/2016 13:54	119550
Carbon disulfide	NELAP	5.0	J	**1.0**	µg/L	1	06/06/2016 13:54	119550
Carbon tetrachloride	NELAP	5.0		**ND**	µg/L	1	06/06/2016 13:54	119550
Chlorobenzene	NELAP	5.0		**ND**	µg/L	1	06/06/2016 13:54	119550
Chloroethane	NELAP	10.0		**ND**	µg/L	1	06/06/2016 13:54	119550
Chloroform	NELAP	5.0		**ND**	µg/L	1	06/06/2016 13:54	119550
Chloromethane	NELAP	10.0		**ND**	µg/L	1	06/06/2016 13:54	119550
cis-1,2-Dichloroethene	NELAP	5.0		**ND**	µg/L	1	06/06/2016 13:54	119550
cis-1,3-Dichloropropene	NELAP	5.0		**ND**	µg/L	1	06/06/2016 13:54	119550
Dibromochloromethane	NELAP	5.0		**ND**	µg/L	1	06/06/2016 13:54	119550
Dibromomethane	NELAP	5.0		**ND**	µg/L	1	06/06/2016 13:54	119550
Ethylbenzene	NELAP	5.0		**ND**	µg/L	1	06/06/2016 13:54	119550
Iodomethane	NELAP	5.0		**ND**	µg/L	1	06/06/2016 13:54	119550
Methylene chloride	NELAP	5.0		**ND**	µg/L	1	06/06/2016 13:54	119550
Styrene	NELAP	5.0		**ND**	µg/L	1	06/06/2016 13:54	119550
Tetrachloroethene	NELAP	5.0		**ND**	µg/L	1	06/06/2016 13:54	119550
Toluene	NELAP	5.0		**ND**	µg/L	1	06/06/2016 13:54	119550
trans-1,2-Dichloroethene	NELAP	5.0		**ND**	µg/L	1	06/06/2016 13:54	119550
trans-1,3-Dichloropropene	NELAP	5.0		**ND**	µg/L	1	06/06/2016 13:54	119550
trans-1,4-Dichloro-2-butene	NELAP	10.0		**ND**	µg/L	1	06/06/2016 13:54	119550
Trichloroethene	NELAP	5.0		**ND**	µg/L	1	06/06/2016 13:54	119550
Trichlorofluoromethane	NELAP	5.0		**ND**	µg/L	1	06/06/2016 13:54	119550
Vinyl acetate	NELAP	10.0		**ND**	µg/L	1	06/06/2016 13:54	119550

Laboratory Results

http://www.teklabinc.com/

Client: Missouri Geological Survey
Work Order: 16060281
Client Project: Appendix I
Report Date: 13-Jun-16
Lab ID: 16060281-001
Client Sample ID: MO-3 SD
Matrix: GROUNDWATER
Collection Date: 06/02/2016 13:05

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Vinyl chloride	NELAP	2.0		**ND**	µg/L	1	06/06/2016 13:54	119550
Xylenes, Total	NELAP	5.0		**ND**	µg/L	1	06/06/2016 13:54	119550
Surr: 1,2-Dichloroethane-d4		74.7-129		**104.9**	%REC	1	06/06/2016 13:54	119550
Surr: 4-Bromofluorobenzene		86-119		**98.8**	%REC	1	06/06/2016 13:54	119550
Surr: Dibromofluoromethane		81.7-123		**99.5**	%REC	1	06/06/2016 13:54	119550
Surr: Toluene-d8		84.3-114		**102.5**	%REC	1	06/06/2016 13:54	119550

Allowable Marginal Exceedance of m,p-xylenes in the LCS verified per 2009 TNI Standard (Volume 1, Module 4, section 1.7.4.2).

Sample Summary

http://www.teklabinc.com/

Client: Missouri Geological Survey
Client Project: Appendix I

Work Order: 16060281
Report Date: 13-Jun-16

Lab Sample ID	Client Sample ID	Matrix	Fractions	Collection Date
16060281-001	MO-3 SD	Groundwater	5	06/02/2016 13:05

Dates Report

http://www.teklabinc.com/

Client: Missouri Geological Survey
Client Project: Appendix I

Work Order: 16060281
Report Date: 13-Jun-16

Sample ID	Client Sample ID / Test Name	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
16060281-001A	MO-3 SD	06/02/2016 13:05	06/03/2016 17:10		
	Standard Methods 2540 C (Total)				06/08/2016 19:44
	SW-846 9036 (Total)				06/06/2016 18:29
	SW-846 9214 (Total)				06/07/2016 15:04
	SW-846 9251 (Total)				06/06/2016 18:28
16060281-001B	MO-3 SD	06/02/2016 13:05	06/03/2016 17:10		
	Standard Methods 2340 B, Hardness (Total)				06/08/2016 0:00
	SW-846 3005A, 6010B, Metals by ICP (Total)			06/06/2016 19:49	06/08/2016 17:35
	SW-846 3005A, 6010B, Metals by ICP (Total)			06/09/2016 8:57	06/09/2016 13:36
	SW-846 7470A (Total)			06/06/2016 19:43	06/08/2016 11:06
16060281-001C	MO-3 SD	06/02/2016 13:05	06/03/2016 17:10		
	EPA 600 410.4				06/08/2016 14:24
	SW-846 9060				06/06/2016 16:39
16060281-001D	MO-3 SD	06/02/2016 13:05	06/03/2016 17:10		
	EPA 600 350.1 R2.0 (Distilled) Total			06/07/2016 10:01	06/07/2016 16:34
	EPA 600 353.2 R2.0 (Total)				06/07/2016 12:00
	EPA 600 365.4 (Total)			06/07/2016 22:00	06/08/2016 9:01
16060281-001E	MO-3 SD	06/02/2016 13:05	06/03/2016 17:10		
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				06/06/2016 13:54

Client: Missouri Geological Survey **Work Order:** 16060281

Client Project: Appendix I **Report Date:** 13-Jun-16

EPA 600 350.1 R2.0 (DISTILLED) TOTAL

Batch 119586 **SampType:** MBLK Units **mg/L**

SampID: MBLK 160607 NH3-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Ammonia (as N)	0.10		**0.12**						06/07/2016

Batch 119586 **SampType:** MBLK Units **mg/L**

SampID: MBLK 160607 NH3-2

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Ammonia (as N)	0.10	J	**0.10**						06/07/2016

Batch 119586 **SampType:** LCS Units **mg/L**

SampID: LCS 160607 NH3-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Ammonia (as N)	0.10		**1.89**	2.000	0	94.4	90	110	06/07/2016

Batch 119586 **SampType:** MS Units **mg/L**

SampID: 16060281-001DMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Ammonia (as N)	0.50	S	**8.21**	2.000	5.944	113.3	90	110	06/07/2016

Batch 119586 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 16060281-001DMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Nitrogen, Ammonia (as N)	0.50		**8.08**	2.000	5.944	106.8	8.210	1.61	06/07/2016

EPA 600 353.2 R2.0 (TOTAL)

Batch R219614 **SampType:** MBLK Units **mg/L**

SampID: ICB/MBLK

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)	0.050		**< 0.050**						06/07/2016

Batch R219614 **SampType:** LCS Units **mg/L**

SampID: ICV/LCS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)	2.50		**11.7**	11.50	0	101.3	90	110	06/07/2016

Batch R219614 **SampType:** MS Units **mg/L**

SampID: 16060281-001DMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)	0.050	S	**0.335**	0.2500	0.05900	110.4	90	110	06/07/2016

Quality Control Results

http://www.teklabinc.com/

Client: Missouri Geological Survey
Client Project: Appendix I

Work Order: 16060281
Report Date: 13-Jun-16

EPA 600 353.2 R2.0 (TOTAL)

Batch R219614 **SampType:** MSD Units **mg/L** RPD Limit **10**
SampID: 16060281-001DMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)	0.050		**0.323**	0.2500	0.05900	105.6	0.3350	3.65	06/07/2016

Batch R219675 **SampType:** MBLK Units **mg/L**
SampID: ICB/MBLK

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)	0.050		**< 0.050**						06/08/2016

Batch R219675 **SampType:** LCS Units **mg/L**
SampID: ICV/LCS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Nitrogen, Nitrate-Nitrite (as N)	2.50		**11.6**	11.50	0	101.1	90	110	06/08/2016

EPA 600 365.4 (TOTAL)

Batch 119605 **SampType:** MBLK Units **mg/L**
SampID: MBLK 160607 TP-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Phosphorus, Total (as P)	0.050	J	**0.028**						06/08/2016

Batch 119605 **SampType:** LCS Units **mg/L**
SampID: LCS 160607 TP-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Phosphorus, Total (as P)	0.050		**1.00**	1.000	0	100.1	85	115	06/08/2016

Batch 119605 **SampType:** MS Units **mg/L**
SampID: 16060281-001DMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Phosphorus, Total (as P)	0.050		**1.08**	1.000	0.1060	97.0	85	115	06/08/2016

Batch 119605 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 16060281-001DMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Phosphorus, Total (as P)	0.050		**1.10**	1.000	0.1060	99.9	1.076	2.66	06/08/2016

EPA 600 410.4

Batch R219669 **SampType:** MBLK Units **mg/L**
SampID: MBLK

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chemical Oxygen Demand	50		**< 50**						06/08/2016

Client: Missouri Geological Survey **Work Order:** 16060281

Client Project: Appendix I **Report Date:** 13-Jun-16

EPA 600 410.4

Batch R219669 **SampType:** LCS Units **mg/L**

SampID: LCS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chemical Oxygen Demand	50		**179**	172.0	0	104.3	90	110	06/08/2016

Batch R219669 **SampType:** MS Units **mg/L**

SampID: 16060281-001C MS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chemical Oxygen Demand	100		**1110**	1000	96.25	101.6	90	110	06/08/2016

Batch R219669 **SampType:** MSD Units **mg/L** RPD Limit **10**

SampID: 16060281-001C MSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Chemical Oxygen Demand	100		**1110**	1000	96.25	101.1	1112	0.42	06/08/2016

STANDARD METHODS 2540 C (TOTAL)

Batch R219722 **SampType:** MBLK Units **mg/L**

SampID: MBLK

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids	20		**< 20**						06/08/2016
Total Dissolved Solids	20		**< 20**						06/08/2016

Batch R219722 **SampType:** LCS Units **mg/L**

SampID: LCS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids	20		**954**	1000	0	95.4	90	110	06/08/2016

Batch R219722 **SampType:** LCSQC Units **mg/L**

SampID: LCSQC

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids	20		**944**	1000	0	94.4	90	110	06/08/2016

Batch R219722 **SampType:** MS Units **mg/L**

SampID: 16060281-001A MS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids	20		**1330**	500.0	826.0	101.2	85	115	06/08/2016

Batch R219722 **SampType:** MSD Units **mg/L** RPD Limit **15**

SampID: 16060281-001A MSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids	20		**1350**	500.0	826.0	105.2	1332	1.49	06/08/2016

Client: Missouri Geological Survey **Work Order:** 16060281

Client Project: Appendix I **Report Date:** 13-Jun-16

SW-846 9036 (TOTAL)

Batch R219570 **SampType:** MBLK Units **mg/L**
SampID: ICB/MBLK

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate	10		**< 10**						06/06/2016

Batch R219570 **SampType:** LCS Units **mg/L**
SampID: ICV/LCS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate	10		**20**	20.00	0	99.0	90	110	06/06/2016

Batch R219570 **SampType:** MS Units **mg/L**
SampID: 16060281-001AMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate	100	S	**210**	100.0	129.0	80.7	85	115	06/06/2016

Batch R219570 **SampType:** MSD Units **mg/L** RPD Limit **10**
SampID: 16060281-001AMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Sulfate	100		**224**	100.0	129.0	95.3	209.7	6.70	06/06/2016

Batch R219648 **SampType:** MBLK Units **mg/L**
SampID: ICB/MBLK

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate	10		**< 10**						06/07/2016

Batch R219648 **SampType:** LCS Units **mg/L**
SampID: ICV/LCS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate	10		**19**	20.00	0	96.8	90	110	06/07/2016

SW-846 9060

Batch R219566 **SampType:** MBLK Units **mg/L**
SampID: ICB/MBLK

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Organic Carbon (TOC)	1.0		**< 1.0**						06/06/2016

Batch R219566 **SampType:** LCS Units **mg/L**
SampID: ICV/LCS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Organic Carbon (TOC)	10.0		**69.5**	68.10	0	102.1	90	110	06/06/2016

Client: Missouri Geological Survey **Work Order:** 16060281

Client Project: Appendix I **Report Date:** 13-Jun-16

SW-846 9060

Batch R219566 **SampType:** MS Units **mg/L**

SampID: 16060281-001CMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Organic Carbon (TOC)	10.0		**75.9**	50.00	26.27	99.3	85	115	06/06/2016

Batch R219566 **SampType:** MSD Units **mg/L** RPD Limit **10**

SampID: 16060281-001CMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Organic Carbon (TOC)	10.0		**78.7**	50.00	26.27	104.9	75.93	3.58	06/06/2016

SW-846 9214 (TOTAL)

Batch R219623 **SampType:** MBLK Units **mg/L**

SampID: MBLK

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride	0.10		**< 0.10**						06/07/2016

Batch R219623 **SampType:** LCS Units **mg/L**

SampID: LCS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride	0.10		**1.02**	1.000	0	101.7	90	110	06/07/2016

Batch R219623 **SampType:** MS Units **mg/L**

SampID: 16060281-001AMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Fluoride	0.10		**3.33**	2.000	1.293	101.9	85	115	06/07/2016

Batch R219623 **SampType:** MSD Units **mg/L** RPD Limit **10**

SampID: 16060281-001AMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Fluoride	0.10		**3.33**	2.000	1.293	101.7	3.331	0.12	06/07/2016

SW-846 9251 (TOTAL)

Batch R219572 **SampType:** MBLK Units **mg/L**

SampID: ICB/MBLK

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride	5	J	**2**						06/06/2016

Batch R219572 **SampType:** LCS Units **mg/L**

SampID: ICV/LCS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride	5		**21**	20.00	0	106.3	90	110	06/06/2016

Quality Control Results

http://www.teklabinc.com/

Client: Missouri Geological Survey
Client Project: Appendix I

Work Order: 16060281
Report Date: 13-Jun-16

SW-846 9251 (TOTAL)

Batch R219572 **SampType:** MS Units **mg/L**
SampID: 16060281-001AMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride	50		**324**	200.0	123.9	99.9	85	115	06/06/2016

Batch R219572 **SampType:** MSD Units **mg/L** RPD Limit **15**
SampID: 16060281-001AMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Chloride	50		**337**	200.0	123.9	106.5	323.8	3.98	06/06/2016

Batch R219652 **SampType:** MBLK Units **mg/L**
SampID: ICB/MBLK

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride	5	J	**2**						06/07/2016

Batch R219652 **SampType:** LCS Units **mg/L**
SampID: ICV/LCS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride	5		**20**	20.00	0	99.9	90	110	06/07/2016

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 119566 **SampType:** MBLK Units **mg/L**
SampID: MBLK-119566

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony	0.0500		**< 0.0500**	0.05000	0	0	-100	100	06/08/2016
Arsenic	0.0250		**< 0.0250**	0.02500	0	0	-100	100	06/08/2016
Barium	0.0025		**< 0.0025**	0.00250	0	0	-100	100	06/08/2016
Beryllium	0.0005		**< 0.0005**	0.00050	0	0	-100	100	06/08/2016
Boron	0.0200		**< 0.0200**	0.02000	0	0	-100	100	06/08/2016
Cadmium	0.0020		**< 0.0020**	0.00200	0	0	-100	100	06/08/2016
Calcium	0.0500		**< 0.0500**	0.05000	0	0	-100	100	06/08/2016
Chromium	0.0050		**< 0.0050**	0.00500	0	0	-100	100	06/08/2016
Cobalt	0.0050		**< 0.0050**	0.00500	0	0	-100	100	06/08/2016
Copper	0.0050		**< 0.0050**	0.00500	0	0	-100	100	06/08/2016
Iron	0.0200		**< 0.0200**	0.02000	0	0	-100	100	06/08/2016
Lead	0.0150		**< 0.0150**	0.01500	0	0	-100	100	06/08/2016
Magnesium	0.0500		**< 0.0500**	0.05000	0	0	-100	100	06/08/2016
Manganese	0.0030		**< 0.0030**	0.00300	0	0	-100	100	06/08/2016
Nickel	0.0050		**< 0.0050**	0.00500	0	0	-100	100	06/08/2016
Selenium	0.0400		**< 0.0400**	0.04000	0	0	-100	100	06/08/2016
Silver	0.0050		**< 0.0050**	0.00500	0	0	-100	100	06/08/2016
Sodium	0.0500		**< 0.0500**	0.05000	0	0	-100	100	06/08/2016
Thallium	0.0500		**< 0.0500**	0.05000	0	0	-100	100	06/08/2016
Vanadium	0.0100		**< 0.0100**	0.01000	0	0	-100	100	06/08/2016
Zinc	0.0100		**< 0.0100**	0.01000	0	0	-100	100	06/08/2016

Client: Missouri Geological Survey **Work Order:** 16060281

Client Project: Appendix I **Report Date:** 13-Jun-16

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 119566 **SampType: LCS** Units **mg/L**

SampID: LCS-119566

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony	0.0500		**0.474**	0.5000	0	94.7	85	115	06/08/2016
Arsenic	0.0250		**0.499**	0.5000	0	99.9	85	115	06/08/2016
Barium	0.0025		**2.06**	2.000	0	103.0	85	115	06/08/2016
Beryllium	0.0005		**0.0506**	0.05000	0	101.2	85	115	06/08/2016
Boron	0.0200		**0.485**	0.5000	0	97.1	85	115	06/08/2016
Cadmium	0.0020		**0.0497**	0.05000	0	99.4	85	115	06/08/2016
Calcium	0.0500		**2.52**	2.500	0	100.7	85	115	06/08/2016
Chromium	0.0050		**0.200**	0.2000	0	99.8	85	115	06/08/2016
Cobalt	0.0050		**0.488**	0.5000	0	97.7	85	115	06/08/2016
Copper	0.0050		**0.249**	0.2500	0	99.6	85	115	06/08/2016
Iron	0.0200		**2.03**	2.000	0	101.3	85	115	06/08/2016
Lead	0.0150		**0.513**	0.5000	0	102.6	85	115	06/08/2016
Magnesium	0.0500		**2.40**	2.500	0	96.1	85	115	06/08/2016
Manganese	0.0030		**0.512**	0.5000	0	102.4	85	115	06/08/2016
Nickel	0.0050		**0.499**	0.5000	0	99.7	85	115	06/08/2016
Selenium	0.0400		**0.501**	0.5000	0	100.3	85	115	06/08/2016
Silver	0.0050		**0.0496**	0.05000	0	99.2	85	115	06/08/2016
Sodium	0.0500		**2.35**	2.500	0	93.8	85	115	06/08/2016
Thallium	0.0500		**0.243**	0.2500	0	97.0	85	115	06/08/2016
Vanadium	0.0100		**0.496**	0.5000	0	99.3	85	115	06/08/2016
Zinc	0.0100		**0.498**	0.5000	0	99.7	85	115	06/08/2016

Batch 119566 **SampType: MS** Units **mg/L**

SampID: 16060281-001BMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Antimony	0.0500		**0.473**	0.5000	0	94.6	75	125	06/08/2016
Arsenic	0.0250		**0.498**	0.5000	0	99.7	75	125	06/08/2016
Barium	0.0025		**2.32**	2.000	0.2859	101.6	75	125	06/08/2016
Beryllium	0.0005		**0.0497**	0.05000	0	99.4	75	125	06/08/2016
Boron	0.0200		**0.691**	0.5000	0.2190	94.4	75	125	06/08/2016
Cadmium	0.0020		**0.0476**	0.05000	0	95.2	75	125	06/08/2016
Calcium	0.0500	S	**94.1**	2.500	94.34	-8.4	75	125	06/08/2016
Chromium	0.0050		**0.199**	0.2000	0.004000	97.5	75	125	06/08/2016
Cobalt	0.0050		**0.476**	0.5000	0.003100	94.5	75	125	06/08/2016
Copper	0.0050		**0.255**	0.2500	0.005900	99.7	75	125	06/08/2016
Iron	0.0200		**3.37**	2.000	1.330	101.8	75	125	06/08/2016
Lead	0.0150		**0.494**	0.5000	0	98.7	75	125	06/08/2016
Magnesium	0.0500	S	**46.3**	2.500	44.94	55.6	75	125	06/08/2016
Manganese	0.0030		**1.75**	0.5000	1.293	91.8	75	125	06/08/2016
Nickel	0.0050		**0.497**	0.5000	0.01700	96.0	75	125	06/08/2016
Silver	0.0050		**0.0491**	0.05000	0	98.2	75	125	06/08/2016
Sodium	0.0500	S	**158**	2.500	161.6	-160.0	75	125	06/08/2016
Thallium	0.0500		**0.229**	0.2500	0	91.6	75	125	06/08/2016
Vanadium	0.0100		**0.491**	0.5000	0.003300	97.5	75	125	06/08/2016
Zinc	0.0100		**0.491**	0.5000	0.01640	95.0	75	125	06/08/2016

Client: Missouri Geological Survey **Work Order:** 16060281

Client Project: Appendix I **Report Date:** 13-Jun-16

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 119566 **SampType: MSD** Units **mg/L** RPD Limit **20**

SampID: 16060281-001BMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Antimony	0.0500		**0.471**	0.5000	0	94.2	0.4730	0.40	06/08/2016
Arsenic	0.0250		**0.499**	0.5000	0	99.7	0.4983	0.06	06/08/2016
Barium	0.0025		**2.32**	2.000	0.2859	101.8	2.318	0.17	06/08/2016
Beryllium	0.0005		**0.0497**	0.05000	0	99.4	0.04970	0.00	06/08/2016
Boron	0.0200		**0.696**	0.5000	0.2190	95.5	0.6909	0.81	06/08/2016
Cadmium	0.0020		**0.0477**	0.05000	0	95.4	0.04760	0.21	06/08/2016
Calcium	0.0500	S	**96.1**	2.500	94.34	70.4	94.13	2.07	06/08/2016
Chromium	0.0050		**0.198**	0.2000	0.004000	97.2	0.1990	0.30	06/08/2016
Cobalt	0.0050		**0.476**	0.5000	0.003100	94.6	0.4758	0.02	06/08/2016
Copper	0.0050		**0.256**	0.2500	0.005900	99.8	0.2552	0.12	06/08/2016
Iron	0.0200		**3.41**	2.000	1.330	104.2	3.366	1.39	06/08/2016
Lead	0.0150		**0.495**	0.5000	0	98.9	0.4935	0.24	06/08/2016
Magnesium	0.0500	S	**46.7**	2.500	44.94	72.0	46.33	0.88	06/08/2016
Manganese	0.0030		**1.78**	0.5000	1.293	97.0	1.752	1.47	06/08/2016
Nickel	0.0050		**0.498**	0.5000	0.01700	96.2	0.4968	0.22	06/08/2016
Silver	0.0050		**0.0491**	0.05000	0	98.2	0.04910	0.00	06/08/2016
Sodium	0.0500	S	**160**	2.500	161.6	-48.0	157.6	1.76	06/08/2016
Thallium	0.0500		**0.230**	0.2500	0	92.2	0.2290	0.61	06/08/2016
Vanadium	0.0100		**0.490**	0.5000	0.003300	97.3	0.4907	0.16	06/08/2016
Zinc	0.0100		**0.494**	0.5000	0.01640	95.4	0.4913	0.45	06/08/2016

Batch 119651 **SampType: MBLK** Units **mg/L**

SampID: MBLK-119651

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Arsenic	0.0250		**< 0.0250**	0.02500	0	0	-100	100	06/09/2016
Boron	0.0200		**< 0.0200**	0.02000	0	0	-100	100	06/09/2016
Cadmium	0.0020		**< 0.0020**	0.00200	0	0	-100	100	06/09/2016
Calcium	0.0500		**< 0.0500**	0.05000	0	0	-100	100	06/09/2016
Chromium	0.0050		**< 0.0050**	0.00500	0	0	-100	100	06/09/2016
Copper	0.0050		**< 0.0050**	0.00500	0	0	-100	100	06/09/2016
Iron	0.0200		**< 0.0200**	0.02000	0	0	-100	100	06/09/2016
Lead	0.0150		**< 0.0150**	0.01500	0	0	-100	100	06/09/2016
Magnesium	0.0500		**< 0.0500**	0.05000	0	0	-100	100	06/09/2016
Manganese	0.0030		**< 0.0030**	0.00300	0	0	-100	100	06/09/2016
Nickel	0.0050		**< 0.0050**	0.00500	0	0	-100	100	06/09/2016
Selenium	0.0400		**< 0.0400**	0.04000	0	0	-100	100	06/09/2016
Silver	0.0050		**< 0.0050**	0.00500	0	0	-100	100	06/09/2016
Zinc	0.0100		**< 0.0100**	0.01000	0	0	-100	100	06/09/2016

Quality Control Results

http://www.teklabinc.com/

Client: Missouri Geological Survey
Client Project: Appendix I

Work Order: 16060281
Report Date: 13-Jun-16

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 119651 **SampType:** LCS Units **mg/L**
SampID: LCS-119651

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Arsenic	0.0250		**0.493**	0.5000	0	98.5	85	115	06/09/2016
Boron	0.0200		**0.492**	0.5000	0	98.4	85	115	06/09/2016
Cadmium	0.0020		**0.0498**	0.05000	0	99.6	85	115	06/09/2016
Calcium	0.0500		**2.62**	2.500	0	104.8	85	115	06/09/2016
Chromium	0.0050		**0.202**	0.2000	0	101.0	85	115	06/09/2016
Copper	0.0050		**0.252**	0.2500	0	100.9	85	115	06/09/2016
Iron	0.0200		**2.05**	2.000	0	102.4	85	115	06/09/2016
Lead	0.0150		**0.518**	0.5000	0	103.6	85	115	06/09/2016
Magnesium	0.0500		**2.49**	2.500	0	99.7	85	115	06/09/2016
Manganese	0.0030		**0.516**	0.5000	0	103.1	85	115	06/09/2016
Nickel	0.0050		**0.498**	0.5000	0	99.6	85	115	06/09/2016
Selenium	0.0400		**0.498**	0.5000	0	99.6	85	115	06/09/2016
Silver	0.0050		**0.0500**	0.05000	0	100.0	85	115	06/09/2016
Zinc	0.0100		**0.507**	0.5000	0	101.5	85	115	06/09/2016

Batch 119651 **SampType:** MS Units **mg/L**
SampID: 16060281-001BMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Selenium	0.0400		**0.438**	0.5000	0	87.5	75	125	06/09/2016

Batch 119651 **SampType:** MSD Units **mg/L** RPD Limit **20**
SampID: 16060281-001BMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Selenium	0.0400		**0.430**	0.5000	0	86.1	0.4375	1.64	06/09/2016

SW-846 7470A (TOTAL)

Batch 119568 **SampType:** MBLK Units **mg/L**
SampID: MBLK-119568

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury	0.00020		**< 0.00020**	.000200	0	0	-100	100	06/08/2016

Batch 119568 **SampType:** LCS Units **mg/L**
SampID: LCS-119568

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury	0.00020		**0.00431**	0.00500	0	86.2	85	115	06/08/2016

Batch 119568 **SampType:** MS Units **mg/L**
SampID: 16060281-001BMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury	0.00020		**0.00397**	0.00500	0	79.5	75	125	06/08/2016

Quality Control Results

http://www.teklabinc.com/

Client: Missouri Geological Survey
Client Project: Appendix I

Work Order: 16060281
Report Date: 13-Jun-16

SW-846 7470A (TOTAL)

Batch **119568** **SampType:** **MSD** Units **mg/L** RPD Limit **15**

SampID: 16060281-001BMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury	0.00020		**0.00403**	0.005000	0	80.5	0.003974	1.28	06/08/2016

Client: Missouri Geological Survey **Work Order:** 16060281

Client Project: Appendix I **Report Date:** 13-Jun-16

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch **119550** **SampType:** **MBLK** Units **µg/L**

SampID: MBLK-N160606A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1,1,2-Tetrachloroethane	5.0		**ND**						06/06/2016
1,1,1-Trichloroethane	5.0		**ND**						06/06/2016
1,1,2,2-Tetrachloroethane	5.0		**ND**						06/06/2016
1,1,2-Trichloroethane	5.0		**ND**						06/06/2016
1,1-Dichloroethane	5.0		**ND**						06/06/2016
1,1-Dichloroethene	5.0		**ND**						06/06/2016
1,2,3-Trichloropropane	5.0		**ND**						06/06/2016
1,2-Dibromo-3-chloropropane	5.0		**ND**						06/06/2016
1,2-Dibromoethane	5.0		**ND**						06/06/2016
1,2-Dichlorobenzene	5.0		**ND**						06/06/2016
1,2-Dichloroethane	5.0		**ND**						06/06/2016
1,2-Dichloropropane	5.0		**ND**						06/06/2016
1,4-Dichlorobenzene	5.0		**ND**						06/06/2016
2-Butanone	25.0		**ND**						06/06/2016
2-Hexanone	25.0		**ND**						06/06/2016
4-Methyl-2-pentanone	25.0		**ND**						06/06/2016
Acetone	25.0		**ND**						06/06/2016
Acrylonitrile	5.0		**ND**						06/06/2016
Benzene	2.0		**ND**						06/06/2016
Bromochloromethane	5.0		**ND**						06/06/2016
Bromodichloromethane	5.0		**ND**						06/06/2016
Bromoform	5.0		**ND**						06/06/2016
Bromomethane	10.0		**ND**						06/06/2016
Carbon disulfide	5.0		**ND**						06/06/2016
Carbon tetrachloride	5.0		**ND**						06/06/2016
Chlorobenzene	5.0		**ND**						06/06/2016
Chloroethane	10.0		**ND**						06/06/2016
Chloroform	5.0		**ND**						06/06/2016
Chloromethane	10.0		**ND**						06/06/2016
cis-1,2-Dichloroethene	5.0		**ND**						06/06/2016
cis-1,3-Dichloropropene	5.0		**ND**						06/06/2016
Dibromochloromethane	5.0		**ND**						06/06/2016
Dibromomethane	5.0		**ND**						06/06/2016
Ethylbenzene	5.0		**ND**						06/06/2016
Iodomethane	5.0		**ND**						06/06/2016
Methylene chloride	5.0		**ND**						06/06/2016
Styrene	5.0		**ND**						06/06/2016
Tetrachloroethene	5.0		**ND**						06/06/2016
Toluene	5.0		**ND**						06/06/2016
trans-1,2-Dichloroethene	5.0		**ND**						06/06/2016
trans-1,3-Dichloropropene	5.0		**ND**						06/06/2016
trans-1,4-Dichloro-2-butene	10.0		**ND**						06/06/2016
Trichloroethene	5.0		**ND**						06/06/2016
Trichlorofluoromethane	5.0		**ND**						06/06/2016
Vinyl acetate	10.0		**ND**						06/06/2016
Vinyl chloride	2.0		**ND**						06/06/2016
Xylenes, Total	5.0		**ND**						06/06/2016

Client: Missouri Geological Survey **Work Order:** 16060281

Client Project: Appendix I **Report Date:** 13-Jun-16

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch **119550** **SampType:** **MBLK** Units **µg/L**

SampID: MBLK-N160606A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Surr: 1,2-Dichloroethane-d4			**53.4**	50.00		106.7	74.7	129	06/06/2016
Surr: 4-Bromofluorobenzene			**50.8**	50.00		101.6	86	119	06/06/2016
Surr: Dibromofluoromethane			**49.3**	50.00		98.5	81.7	123	06/06/2016
Surr: Toluene-d8			**52.1**	50.00		104.2	84.3	114	06/06/2016

Quality Control Results

http://www.teklabinc.com/

Client: Missouri Geological Survey
Client Project: Appendix I

Work Order: 16060281
Report Date: 13-Jun-16

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 119550 **SampType:** LCSD Units **µg/L** RPD Limit **40**

SampID: LCSD-N160606A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
1,1,1,2-Tetrachloroethane	5.0		**53.3**	50.00	0	106.6	53.86	1.01	06/06/2016
1,1,1-Trichloroethane	5.0		**49.2**	50.00	0	98.4	49.90	1.37	06/06/2016
1,1,2,2-Tetrachloroethane	5.0		**53.2**	50.00	0	106.5	53.76	0.95	06/06/2016
1,1,2-Trichloroethane	5.0		**50.5**	50.00	0	101.0	50.48	0.04	06/06/2016
1,1-Dichloroethane	5.0		**47.0**	50.00	0	93.9	47.83	1.84	06/06/2016
1,1-Dichloroethene	5.0		**49.8**	50.00	0	99.6	50.29	0.96	06/06/2016
1,2,3-Trichloropropane	5.0		**47.6**	50.00	0	95.2	47.46	0.32	06/06/2016
1,2-Dibromo-3-chloropropane	5.0		**47.1**	50.00	0	94.1	47.19	0.25	06/06/2016
1,2-Dibromoethane	5.0		**48.2**	50.00	0	96.4	48.12	0.17	06/06/2016
1,2-Dichlorobenzene	5.0		**49.6**	50.00	0	99.2	50.10	1.02	06/06/2016
1,2-Dichloroethane	5.0		**50.4**	50.00	0	100.9	50.82	0.77	06/06/2016
1,2-Dichloropropane	5.0		**48.3**	50.00	0	96.6	48.91	1.28	06/06/2016
1,4-Dichlorobenzene	5.0		**52.3**	50.00	0	104.6	53.34	1.99	06/06/2016
2-Butanone	25.0		**141**	125.0	0	113.1	142.1	0.45	06/06/2016
2-Hexanone	25.0		**143**	125.0	0	114.0	142.6	0.04	06/06/2016
4-Methyl-2-pentanone	25.0		**136**	125.0	0	108.8	136.3	0.15	06/06/2016
Acetone	25.0		**133**	125.0	0	106.7	133.9	0.37	06/06/2016
Acrylonitrile	5.0		**50.1**	50.00	0	100.2	50.38	0.56	06/06/2016
Benzene	2.0		**49.6**	50.00	0	99.1	50.63	2.12	06/06/2016
Bromochloromethane	5.0		**48.2**	50.00	0	96.4	48.54	0.68	06/06/2016
Bromodichloromethane	5.0		**50.6**	50.00	0	101.2	51.36	1.53	06/06/2016
Bromoform	5.0		**50.4**	50.00	0	100.9	49.99	0.92	06/06/2016
Bromomethane	10.0		**55.3**	50.00	0	110.6	51.67	6.79	06/06/2016
Carbon disulfide	5.0		**43.4**	50.00	0	86.8	44.09	1.55	06/06/2016
Carbon tetrachloride	5.0		**47.6**	50.00	0	95.2	48.02	0.88	06/06/2016
Chlorobenzene	5.0		**49.0**	50.00	0	98.1	50.07	2.10	06/06/2016
Chloroethane	10.0		**63.9**	50.00	0	127.8	63.45	0.69	06/06/2016
Chloroform	5.0		**47.8**	50.00	0	95.5	48.66	1.89	06/06/2016
Chloromethane	10.0		**46.0**	50.00	0	92.1	45.84	0.46	06/06/2016
cis-1,2-Dichloroethene	5.0		**50.9**	50.00	0	101.8	51.66	1.44	06/06/2016
cis-1,3-Dichloropropene	5.0		**49.6**	50.00	0	99.3	50.24	1.18	06/06/2016
Dibromochloromethane	5.0		**49.6**	50.00	0	99.2	49.58	0.08	06/06/2016
Dibromomethane	5.0		**50.9**	50.00	0	101.8	51.12	0.41	06/06/2016
Ethylbenzene	5.0		**54.8**	50.00	0	109.6	55.75	1.74	06/06/2016
Iodomethane	5.0		**31.9**	50.00	0	63.9	32.46	1.65	06/06/2016
Methylene chloride	5.0		**48.7**	50.00	0	97.5	49.89	2.35	06/06/2016
Styrene	5.0		**52.0**	50.00	0	104.0	52.16	0.35	06/06/2016
Tetrachloroethene	5.0		**46.8**	50.00	0	93.5	47.04	0.58	06/06/2016
Toluene	5.0		**52.0**	50.00	0	103.9	52.43	0.92	06/06/2016
trans-1,2-Dichloroethene	5.0		**50.4**	50.00	0	100.7	51.03	1.30	06/06/2016
trans-1,3-Dichloropropene	5.0		**51.2**	50.00	0	102.4	51.95	1.49	06/06/2016
trans-1,4-Dichloro-2-butene	10.0		**59.0**	50.00	0	118.0	58.43	0.99	06/06/2016
Trichloroethene	5.0		**47.9**	50.00	0	95.8	48.60	1.45	06/06/2016
Trichlorofluoromethane	5.0		**51.4**	50.00	0	102.8	52.09	1.37	06/06/2016
Vinyl acetate	10.0		**53.0**	50.00	0	106.0	50.56	4.69	06/06/2016
Vinyl chloride	2.0		**60.9**	50.00	0	121.8	60.21	1.14	06/06/2016
Xylenes, Total	5.0		**166**	150.0	0	110.4	168.2	1.50	06/06/2016

Client: Missouri Geological Survey **Work Order:** 16060281

Client Project: Appendix I **Report Date:** 13-Jun-16

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch **119550** **SampType:** **LCSD** Units **µg/L** RPD Limit **40**

SampID: LCSD-N160606A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Surr: 1,2-Dichloroethane-d4			**54.7**	50.00		109.5			06/06/2016
Surr: 4-Bromofluorobenzene			**48.3**	50.00		96.6			06/06/2016
Surr: Dibromofluoromethane			**50.2**	50.00		100.4			06/06/2016
Surr: Toluene-d8			**50.7**	50.00		101.4			06/06/2016

Quality Control Results

http://www.teklabinc.com/

Client: Missouri Geological Survey

Client Project: Appendix I

Work Order: 16060281

Report Date: 13-Jun-16

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch **119550** **SampType:** **LCS** Units **µg/L**

SampID: LCS-N160606A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1,1,2-Tetrachloroethane	5.0		**53.9**	50.00	0	107.7	81.9	115	06/06/2016
1,1,1-Trichloroethane	5.0		**49.9**	50.00	0	99.8	79.4	124	06/06/2016
1,1,2,2-Tetrachloroethane	5.0		**53.8**	50.00	0	107.5	74.7	116	06/06/2016
1,1,2-Trichloroethane	5.0		**50.5**	50.00	0	101.0	80.8	111	06/06/2016
1,1-Dichloroethane	5.0		**47.8**	50.00	0	95.7	79.4	114	06/06/2016
1,1-Dichloroethene	5.0		**50.3**	50.00	0	100.6	74.1	117	06/06/2016
1,2,3-Trichloropropane	5.0		**47.5**	50.00	0	94.9	77.3	112	06/06/2016
1,2-Dibromo-3-chloropropane	5.0		**47.2**	50.00	0	94.4	76	122	06/06/2016
1,2-Dibromoethane	5.0		**48.1**	50.00	0	96.2	80.8	114	06/06/2016
1,2-Dichlorobenzene	5.0		**50.1**	50.00	0	100.2	78.3	112	06/06/2016
1,2-Dichloroethane	5.0		**50.8**	50.00	0	101.6	70.6	118	06/06/2016
1,2-Dichloropropane	5.0		**48.9**	50.00	0	97.8	79.6	113	06/06/2016
1,4-Dichlorobenzene	5.0		**53.3**	50.00	0	106.7	77.8	114	06/06/2016
2-Butanone	25.0		**142**	125.0	0	113.6	70.7	136	06/06/2016
2-Hexanone	25.0		**143**	125.0	0	114.1	73.3	125	06/06/2016
4-Methyl-2-pentanone	25.0		**136**	125.0	0	109.0	76.3	122	06/06/2016
Acetone	25.0		**134**	125.0	0	107.1	56.4	147	06/06/2016
Acrylonitrile	5.0		**50.4**	50.00	0	100.8	74.1	128	06/06/2016
Benzene	2.0		**50.6**	50.00	0	101.3	80	114	06/06/2016
Bromochloromethane	5.0		**48.5**	50.00	0	97.1	73.3	121	06/06/2016
Bromodichloromethane	5.0		**51.4**	50.00	0	102.7	81.6	121	06/06/2016
Bromoform	5.0		**50.0**	50.00	0	100.0	83.1	127	06/06/2016
Bromomethane	10.0		**51.7**	50.00	0	103.3	44.4	154	06/06/2016
Carbon disulfide	5.0		**44.1**	50.00	0	88.2	73.2	118	06/06/2016
Carbon tetrachloride	5.0		**48.0**	50.00	0	96.0	79.4	130	06/06/2016
Chlorobenzene	5.0		**50.1**	50.00	0	100.1	81.4	110	06/06/2016
Chloroethane	10.0		**63.4**	50.00	0	126.9	52.1	137	06/06/2016
Chloroform	5.0		**48.7**	50.00	0	97.3	82.7	116	06/06/2016
Chloromethane	10.0		**45.8**	50.00	0	91.7	48.2	144	06/06/2016
cis-1,2-Dichloroethene	5.0		**51.7**	50.00	0	103.3	78.2	116	06/06/2016
cis-1,3-Dichloropropene	5.0		**50.2**	50.00	0	100.5	83	119	06/06/2016
Dibromochloromethane	5.0		**49.6**	50.00	0	99.2	81.2	121	06/06/2016
Dibromomethane	5.0		**51.1**	50.00	0	102.2	78.3	118	06/06/2016
Ethylbenzene	5.0		**55.8**	50.00	0	111.5	77.2	113	06/06/2016
Iodomethane	5.0		**32.5**	50.00	0	64.9	61.3	140	06/06/2016
Methylene chloride	5.0		**49.9**	50.00	0	99.8	74.1	114	06/06/2016
Styrene	5.0		**52.2**	50.00	0	104.3	83.4	113	06/06/2016
Tetrachloroethene	5.0		**47.0**	50.00	0	94.1	72.5	125	06/06/2016
Toluene	5.0		**52.4**	50.00	0	104.9	77.5	113	06/06/2016
trans-1,2-Dichloroethene	5.0		**51.0**	50.00	0	102.1	79	114	06/06/2016
trans-1,3-Dichloropropene	5.0		**52.0**	50.00	0	103.9	78	115	06/06/2016
trans-1,4-Dichloro-2-butene	10.0		**58.4**	50.00	0	116.9	63.3	128	06/06/2016
Trichloroethene	5.0		**48.6**	50.00	0	97.2	84.4	114	06/06/2016
Trichlorofluoromethane	5.0		**52.1**	50.00	0	104.2	75.2	132	06/06/2016
Vinyl acetate	10.0		**50.6**	50.00	0	101.1	64.5	127	06/06/2016
Vinyl chloride	2.0		**60.2**	50.00	0	120.4	58	134	06/06/2016
Xylenes, Total	5.0		**168**	150.0	0	112.1	80.1	114	06/06/2016

Client: Missouri Geological Survey **Work Order:** 16060281

Client Project: Appendix I **Report Date:** 13-Jun-16

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 119550 **SampType: LCS** Units **µg/L**

SampID: LCS-N160606A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Surr: 1,2-Dichloroethane-d4			**55.2**	50.00		110.3	74.7	129	06/06/2016
Surr: 4-Bromofluorobenzene			**48.3**	50.00		96.6	86	119	06/06/2016
Surr: Dibromofluoromethane			**50.4**	50.00		100.8	81.7	123	06/06/2016
Surr: Toluene-d8			**50.8**	50.00		101.6	84.1	114	06/06/2016

Batch 119550 **SampType: MS** Units **µg/L**

SampID: 16060281-001EMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1-Dichloroethene	5.0		**50.0**	50.00	0	100.1	35.7	136	06/06/2016
Benzene	2.0		**59.9**	50.00	8.670	102.5	62.5	121	06/06/2016
Chlorobenzene	5.0		**48.8**	50.00	0	97.7	78.6	114	06/06/2016
Ethylbenzene	5.0		**54.1**	50.00	0	108.1	74.4	130	06/06/2016
Toluene	5.0		**51.8**	50.00	0	103.5	69.5	118	06/06/2016
Trichloroethene	5.0		**50.3**	50.00	0	100.6	69.4	117	06/06/2016
Xylenes, Total	5.0		**104**	100.0	0	103.9	71.1	125	06/06/2016
Surr: 1,2-Dichloroethane-d4			**55.1**	50.00		110.2	74.7	129	06/06/2016
Surr: 4-Bromofluorobenzene			**50.3**	50.00		100.6	86	119	06/06/2016
Surr: Dibromofluoromethane			**49.5**	50.00		99.0	81.7	123	06/06/2016
Surr: Toluene-d8			**50.7**	50.00		101.4	84.3	114	06/06/2016

Batch 119550 **SampType: MSD** Units **µg/L** RPD Limit **20**

SampID: 16060281-001EMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
1,1-Dichloroethene	5.0		**50.2**	50.00	0	100.4	50.04	0.34	06/06/2016
Benzene	2.0		**59.3**	50.00	8.670	101.3	59.91	1.01	06/06/2016
Chlorobenzene	5.0		**48.0**	50.00	0	95.9	48.83	1.80	06/06/2016
Ethylbenzene	5.0		**52.6**	50.00	0	105.2	54.06	2.74	06/06/2016
Toluene	5.0		**50.6**	50.00	0	101.2	51.77	2.25	06/06/2016
Trichloroethene	5.0		**50.0**	50.00	0	100.0	50.28	0.56	06/06/2016
Xylenes, Total	5.0		**102**	100.0	0	101.9	103.9	1.88	06/06/2016
Surr: 1,2-Dichloroethane-d4			**54.7**	50.00		109.5			06/06/2016
Surr: 4-Bromofluorobenzene			**50.5**	50.00		101.0			06/06/2016
Surr: Dibromofluoromethane			**49.6**	50.00		99.3			06/06/2016
Surr: Toluene-d8			**50.3**	50.00		100.6			06/06/2016

Receiving Check List

http://www.teklabinc.com/

Client: Missouri Geological Survey
Client Project: Appendix I

Work Order: 16060281
Report Date: 13-Jun-16

Carrier: Nick Reed

Received By: MAK

Completed by: Kalyn Foecke
On: 06-Jun-16

Reviewed by: Emily Pohlman
On: 06-Jun-16

Pages to follow: Chain of custody 1 Extra pages included 0

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	Temp °C 3.22
Type of thermal preservation?	None ☐	Ice ☑	Blue Ice ☐	Dry Ice ☐
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Reported field parameters measured:	Field ☐	Lab ☐	NA ☑	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐		

When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.

Water – at least one vial per sample has zero headspace?	Yes ☑	No ☐	No VOA vials ☐
Water - TOX containers have zero headspace?	Yes ☐	No ☐	No TOX containers ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☑	NA ☐
NPDES/CWA TCN interferences checked/treated in the field?	Yes ☐	No ☐	NA ☑

Any No responses must be detailed below or on the COC.

Additional sulfuric acid was needed upon arrival at the laboratory for 125ml Amber container. AMD 6/6/16

CHAIN OF CUSTODY

pg. 1 of 1 Work order # 1606028 1

TEKLAB, INC. 5445 Horseshoe Lake Road - Collinsville, IL 62234 - Phone: (618) 344-1004 - Fax: (618) 344-1005

Client: Missouri Geological Survey
Address: 111 Fairgrounds Road
City / State / Zip Rolla, MO 65401
Contact: Brenna McDonald **Phone:** (573) 368-2163
E-Mail: brenna.mcdonald@dnr.mo.gov **Fax:**

Samples on: ☒ ICE ☒ BLUE ICE ☒ NO ICE 3.7°C
Preserved in: ☒ LAB ☒ FIELD
FOR LAB USE ONLY
Lab Notes 6/6/16
Added H2SO4 to 125ml Amber Omm

Client Comments:
Metals: Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Ni Se Ag Na Tl V Zn and Hg
Teklab Inc. 6/6/16 Courier Pick Up
Zero Headspace Omm 6/6/16

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☒ Yes ☐ No
Are these samples known to be hazardous? ☒ Yes ☐ No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☐ Yes ☐ No

Project Name/Number
Appendix I

Sample Collector's Name
Jessie Hahn

Results Requested
☒ Standard ☐ 1-2 Day (100% Surcharge)
☐ Other ____ ☐ 3 Day (50% Surcharge)

Billing Instructions

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNPRES	HNO3	NaOH	H2SO4	HCL	MeOH	NaHSO4	OTHER	MATRIX: Aqueous	Drinking Water	Soil	Sludge	Special Waste	Groundwater	Ammonia	Chloride	COD	Fluoride	Hardness	Mercury	Metals	N3N2	Phosphorous	Sulfate	TDS	TOC	VOCs		
1606028-1	MO-3-SD	6-2-2016 1305	1	1		2	3									X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		

Relinquished By	Date/Time	Received By	Date/Time
Jessie Hahn	6/3/2016 0800	Renee Daniels	8:00 / 6-3-2016
Renee Daniels	6/3/2016 3:45	Trinity Reed	6/3/16 1545
Trinity Reed	6/3/16 1710	M. Ramirez	6/3/16 17:10

The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client.

BottleOrder: 31363

Omm 6/6/16